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A SURVEY OF FINANCIAL LIBERALIZATION

JOHN WILLIAMSON

AND

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INTERNATIONAL FINANCE SECTION
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A SURVEY OF FINANCIAL LIBERALIZATION

It is now almost twenty-five years since Ronald McKinnon (1973) and Edward Shaw (1973) published their seminal works diagnosing the prevalence of what they termed "financial repression" in developing countries and went on to argue the case for financial liberalization. Although a great deal of financial liberalization has occurred since then—in industrial as well as developing countries—there seems to be no convenient summary of that experience and its consequences. Perhaps the closest to such a review is the study by Gerard Caprio, Izak Atiyas, and James Hanson, 1994, but their study focuses largely on only six countries. The present essay, which originated in response to a request voiced by members of the financial community in Mumbai (Bombay), is intended to fill that gap.

Our essay begins by outlining what is meant by financial repression and liberalization. It identifies six distinct dimensions in which repression or liberalization may occur, that is, six matters concerning the organization of the financial sector in regard to which it is possible to envisage decisions being made by either the government or the market. It then contrasts the situation during a recent year, typically 1996, with that during 1973. The third section of the essay describes the process of liberalization, focusing on both the pace of liberalization and its sequencing. The fourth section reviews the effects of liberalization, examining the ways in which various indicators have evolved and summarizing results that have been presented elsewhere in the literature. The fifth section concludes the discussion.

The principal conclusions of our survey are that, first, financial liberalization is, indeed, a remarkably widespread phenomenon; second, the way in which liberalization has been accomplished has varied widely, in both pace and sequencing; third, there is little evidence to support the claim, initially advanced in support of liberalization, that liberalization will increase saving; fourth, there is much more support for two other claims, namely, that liberalization will lead to financial deepening and that it will foster a more efficient allocation of investment; and fifth,

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of the two possible dangers posed by the process of liberalization, there is little evidence that monetary control has been prejudiced, except in the short run, but there is ample reason to believe that the process can spawn financial crisis. Given that there are real advantages in financial liberalization, but that the process of liberalization can be dangerous, the policy question is how to liberalize while avoiding the danger inherent in the process.

1 Concepts

McKinnon and Shaw characterized a financially repressed system as one in which the government determines who gets and gives credit and at what price. A government can exercise or reinforce such control by regulating which financial institutions will be permitted to do business and how they will be permitted to operate, by owning banks and other financial intermediaries, and by exercising control over international capital movements. Conversely, liberalization can be characterized as the process of giving the market the authority to determine who gets and grants credit and at what price. Full liberalization involves the government's also allowing entry into the financial-services industry to any company that can satisfy objectively specified criteria based on prudential considerations (concerning capital, skills, and reputation), giving banks the autonomy to run their own affairs, withdrawing from the ownership of financial institutions, and abandoning control over international capital movements. This characterization suggests six dimensions of financial liberalization:

- The elimination of credit controls.
- The deregulation of interest rates.
- Free entry into the banking sector or, more generally, the financial-services industry.
- Bank autonomy.
- Private ownership of banks.
- Liberalization of international capital flows.

Note that we use the term "bank autonomy" to mean that banks' own internal governance procedures are used to determine matters such as how managers and staff are appointed and what they are paid, where branches may be opened or closed, and in which types of business the bank may engage. This is in contrast to having some government agency—such as the banking divisions of the ministries of finance in

several South Asian countries—make these decisions. It is important to understand that bank autonomy is quite consistent with the government's or central bank's maintaining an important role in bank regulation, in the sense of prudential supervision, something that was not appreciated—with unfortunate consequences—in some of the early liberalization episodes, such as those in the Southern Cone of South America in the late 1970s.

The rationale for a continued public-sector role in bank regulation and supervision lies in the prevalence of asymmetric information. Bankers must lend money to borrowers from whom repayment is uncertain, so they (should) specialize in building up a stock of knowledge on the creditworthiness of potential borrowers. Depositors must entrust money to a bank even though the cost of maintaining updated information about the bank's soundness would be prohibitively high. The depositors bear most of the cost of a bank failure in the absence of deposit insurance, because banks are highly leveraged, maintaining only a modest equity reserve to meet any decline in the net worth of their portfolio. It is therefore rational for individual depositors to stage a run on a bank that they suspect may be unsound in order to exit before the bank has to close its doors. To prevent such runs, governments find it natural to provide deposit insurance, either explicitly or implicitly (to banks that are "too big to fail"). But such insurance implies that, once a bank's equity has been run down, most of its future losses are going to be socialized, whereas future profits will be retained by the bank. This gives a bank facing the risk of failure an incentive to "gamble on resurrection" by making excessively risky loans. Prudential regulation and supervision try to force banks to maintain a sufficiently high level of capital to avoid such temptations and to deter excessively risky activities, prohibit insider lending, and provide adequate information, so as to permit outsiders to appraise an institution's financial health. The key difference between an absence of bank autonomy and prudential supervision is that the latter aims to ensure compliance with rules that are, in principle, abstract (such as "no insider lending"), whereas the former is characterized by decisions that are inherently discretionary, being made by a government agency, rather than by the bank itself.

2 The Contrast between 1973 and 1996

We have chosen, in this survey, to examine financial liberalization in thirty-four countries and economies. The examples selected for our panel are both industrial and developing, the primary criterion being

that they have undertaken a financial-liberalization initiative in the period since 1973.[1] Hong Kong and Singapore, the two developing economies that already had very liberal systems at the beginning of the period, are also included. The panel includes nearly all the economically significant countries; exceptions are some of the smaller industrial countries, the economies in transition (where the financial sector is merely a small subset of those undergoing liberalization), and China (where data availability poses a particular problem.

Table 1 offers our assessment of the positions held by each of the thirty-four economies with respect to the above-mentioned six dimensions in 1973, the year the worldwide debate on financial liberalization was launched by McKinnon and Shaw, and in 1996.[2] Each economy is classified as either repressed (R), partly repressed (PR), liberalized (L), or largely liberalized (LL) in each dimension. A repressed system is one in which virtually all decisions in the relevant dimension were made by the government; a liberalized system is one in which any remaining government role was vestigial. "Partly repressed" expresses the judgment that, although repression was not complete, the system was closer to that end of the spectrum; "largely liberalized" implies that the system was basically market oriented but still displayed an important government role in some sphere. For example, "partly repressed" under interest-rate liberalization would be used to signify that the government was allowing some rates to be determined by market forces but that it still controlled most rates; "largely liberalized" would signify that most rates were determined by market forces. "Largely liberalized" was also used to describe cases (notably the Philippines and Taiwan) where all controls have been lifted but price fixing among banks of deposit and lending rates is still prevalent.

It can be seen from Table 1 that some of the industrial countries already had fairly liberal financial systems in 1973. However, only one of the nine in the panel (Germany) scored either L or LL in all the dimensions for which we have information, whereas five of the nine (Australia, France, Italy, Japan, and New Zealand) were still predominantly repressed. Four of the industrial countries had a number of nationalized commercial banks. Six of the nine still had exchange

[1] Included are Argentina, Australia, Bangladesh, Brazil, Canada, Chile, Colombia, Egypt, France, Germany, Hong Kong, India, Indonesia, Israel, Italy, Japan, South Korea, Malaysia, Mexico, Morocco, Nepal, New Zealand, Pakistan, Peru, the Philippines, Singapore, South Africa, Sri Lanka, Taiwan, Thailand, Turkey, the United Kingdom, the United States, and Venezuela.

[2] The information in Table 1 is the most recent we have been able to assemble. It generally refers to 1996.

TABLE 1

HISTORY OF FINANCIAL LIBERALIZATION, 1973–1996

		Credit Controls	Interest Rates	Entry Barriers	Gov't. Reg. of Operations	Privat-ization	Int'l. Capital Flows
United States	1973	B: L; S&L: R	LL	PR	L	L	LL
	1996	L	L	LL	L	L	L
Canada	1973	L	L	PR	L	L	L
	1996	L	L	LL	L	L	L
Japan	1973	R	PR	R	R	LL	R
	1996	LL	L	D: LL; FB: PR	LL	LL	L
Britain	1973	LL	B: LL	B: LL	L	L	PR
	1996	L	L	L	L	L	L
France	1973	PR	R	D: PR	—	PR	R
	1996	LL	LL	D: LL	—	LL	L
Germany[a]	1973	LL	L	L	—	LL	L
	1996	L	L	L	—	LL	L
Italy	1973	R	LL	PR	—	R	PR
	1996	L	L	L	—	PR	L
Australia	1973	B: R	B: R	R	—	R	R
	1996	L	L	L	—	LL	L
New Zealand	1973	R	R	R	—	PR	R
	1996	L	L	L	—	L	L
Hong Kong	1973	L	LL	B: R; NBFI: LL	L	L	L
	1996	L	L	L	L	L	L
Indonesia	1973	B: R	B: R[b]	R	R	R	LL
	1996	LL	L	LL	R	R	LL
Korea	1973	R	R	R	R	R	R
	1996	LL	LL	B: PR; NBFI: LL	PR	LL	PR
Malaysia	1973	R	R	R	LL	LL	LL
	1996	LL	L	B: PR; NBFI: LL	LL	LL	LL
Philippines	1973	R	R	R	PR	PR	PR
	1996	PR	LL	LL	PR	LL	LL
Singapore	1973	L	L	B: R; NBFI: LL	L	L	LL
	1996	L	L	B: R; NBFI: LL	L	L	L
Taiwan	1973	R	R	R	R	R	R
	1996	PR	LL	B: PR; NBFI: LL	PR	R	PR
Thailand	1973	R	R	R	—	PR	R
	1996	LL	L	LL	—	LL	LL
Argentina	1973	R	R	R	—	R	R
	1996	LL	LL	L	—	PR	L
Brazil	1973	R	R	R	—	PR	R
	1996	PR	LL	PR	—	PR	R

TABLE 1 *continued*

		Credit Controls	Interest Rates	Entry Barriers	Gov't. Reg. of Operations	Privat-ization	Int'l. Capital Flows
Chile	1973	R	R	R	R	R	R
	1996	LL	LL	L	L	L	LL
Colombia	1973	R	R	R	—	LL	R
	1996	LL	LL	PR	—	LL	PR
Mexico	1973	R	R	R	—	LL	LL
	1996	LL	L	LL	—	LL	LL
Peru	1973	R	R	R	—	R	R
	1996	LL	L	—	—	LL	L
Venezuela	1973	R	R	R	—	PR	PR (1975)
	1996	PR	L	D: LL F: PR	—	PR	LL
Egypt	1973	R	R	FB: PR	R	R	R
	1996	LL	L	FB: LL	R	PR	LL
Israel	1973	R	PR	R	LL	LL	R
	1996	L	L	PR	L	PR	LL
Morocco	1973	R	R	R	—	PR	R
	1996	LL	LL	LL	—	PR	LL
South Africa	1973	R (1972)	R	R	—	L	LL
	1996	L	L	L	—	L	LL
Turkey	1973	R	R	R	—	PR	R
	1996	LL	L	L	—	PR	LL
Bangladesh	1973	R	R	R	R	R	R
	1996	PR	LL	PR	PR	PR	PR
India	1973	R	R	R	R	R	R
	1996	PR	PR	PR	PR	PR	PR
Nepal	1973	R	R	R	R	R	R
	1996	PR	LL	PR	B: R[b]	R	LL
Pakistan	1973	R	R	R	R	R	R
	1996	LL	LL	LL	PR	PR	LL
Sri Lanka	1973	R	R	R	R	R	R
	1996	PR	LL	LL	PR	PR	LL

SOURCES: Annual reports of central banks; national economic surveys; OECD economic surveys; IMF staff reports; World Bank staff reports; news articles; Caprio, Atiyas, and Hanson, eds., *Financial Reform* (1994); Edwards, *Crisis and Reform in Latin America* (1995); Inter-American Development Bank, *Economic and Social Progress in Latin America* (1996); World Bank, *The East Asian Miracle* (1993); Zahid, *Financial Sector Development in Asia* (1995).

NOTE: L = liberalized, LL = largely liberalized, R = repressed, PR = partly repressed, B = banks, NBFI = nonbank financial institutions, F = foreign, D = domestic.

[a] Entries for 1973 refer to the former West Germany.

[b] State-owned.

controls on capital movements. The United States was far from being fully liberalized: it maintained Regulation Q, which imposed a maximum on the deposit interest rate, limited the assets that savings and loan institutions (S&Ls) could acquire, and prohibited interstate banking.

In the developing economies, financial repression was almost universal. With the exceptions of Hong Kong and Singapore, all the developing economies in our panel (including the other two tigers, Korea and Taiwan) had directed-credit and interest rates that were regulated by the government. Entry to the banking system was rigidly controlled, and commercial banks, most of which were state owned, had little autonomy. Capital controls were in operation everywhere except in Hong Kong and Singapore. Indeed, exchange controls on current-account transactions were still the general rule; only twenty-four developing economies, including six of those in our panel, had accepted Article VIII status implying current-account convertibility.[3]

Although most developing countries were financially repressed in 1973, there were some significant regional differences in what this implied. For example, Joseph Stiglitz and Marilou Uy (1996) highlight six ways in which East Asian financial repression seems to have differed from repression found in other developing countries. These differences are a willingness to change credit policies rapidly in the event of their failure, the fact that most directed credit in East Asia was funneled to private-sector enterprises, the use of performance criteria to guide directed-credit programs, limitations on the use of outright subsidies, restrictions on the proportion of directed credit, and effective monitoring. Table 2 reveals that effective reserve requirements in Asian countries were much lower than the requirements in Latin America or in most other developing countries in our study. These less restrictive financial policies in many East Asian countries presumably resulted in less severe distortions than were prevalent elsewhere.

The current situation is radically different in both groups of economies (as shown in Figure 1). The restrictions that remain in developed countries are vestigial—for example, U.S. limitations on interstate banking, and even these have been loosened. Remaining entry restrictions and administrative credit guidance will be eliminated in Japan over the next three years as a result of the forthcoming "big bang." Capital flows have been fully liberalized in all the industrial countries.

[3] Because Hong Kong and Taiwan are not members of the International Monetary Fund (IMF), the potential number of acceptees is twenty-three, rather than twenty-five.

TABLE 2
EFFECTIVE RESERVE REQUIREMENTS PRIOR TO LIBERALIZATION

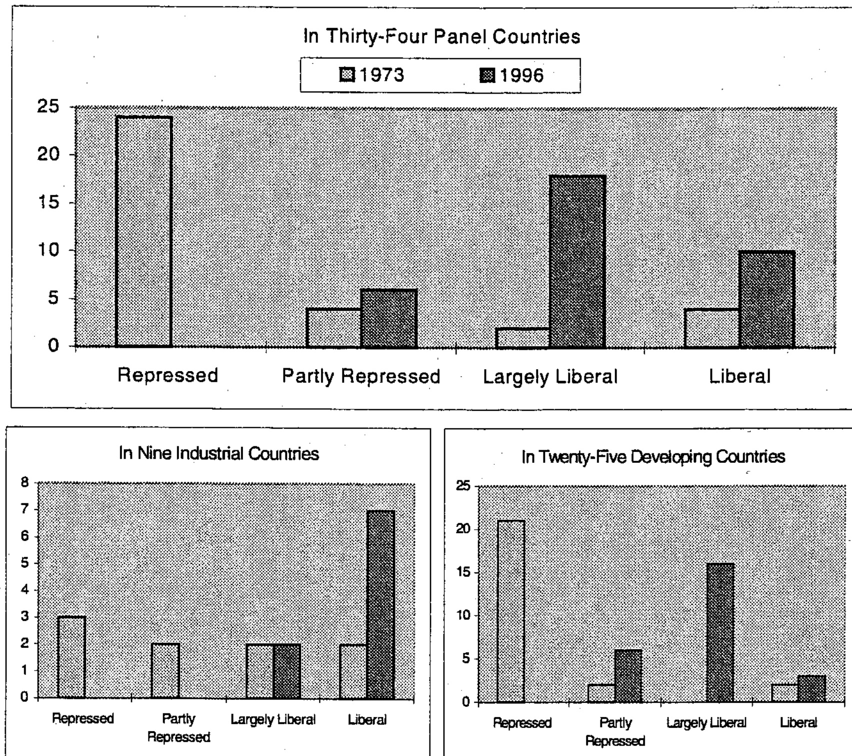
	Effective Reserve Requirements	Year
Argentina	43.8	1985
Brazil	17.3	1985
Chile	31.6	1970
Colombia	37.3	1985
Mexico	38.9	1985
Peru	40.8	1990
Venezuela	28.6	1990
Indonesia	21.8	1980
Japan	2.9	1980
Korea	13.0	1980
Malaysia	7.7	1980
Philippines	14.0	1980
Taiwan	8.8	1985
Thailand	5.5	1980
Egypt	21.0	1990
Israel	40.5	1985
Morocco	10.3	1990
South Africa	5.3	1980
Turkey	33.0	1980

NOTE: Effective reserve requirements are calculated from lines 14, 14a, 34, and 35 of the IMF's *International Financial Statistics*. The formula is (14 – 14a)/([34 + 35] – 14a).

The change in developing countries is even more dramatic. Admittedly, the principles that we used to choose the panel mean that we may have excluded countries in which there was no substantial liberalization, but the fact that we have included all developing economies that had a gross domestic product (GDP) above $43 billion in 1995—except China, Saudi Arabia, and economies in transition—attests to the magnitude of the change.

No country in East Asia maintains a large directed-credit program. Interest-rate controls have been almost universally eliminated, and barriers to entry for most nonbank financial institutions have been lowered (although those for commercial banks remain substantial in many East Asian economies). Most Latin American countries have also eliminated directed-credit programs and interest-rate controls (although

FIGURE 1
THE FINANCIAL SECTOR



programs of directed credit are still present in Brazil and Venezuela). As in many large East Asian countries, barriers to entry remain high for foreign and domestic commercial banks in a number of Latin American countries but have been largely lowered for other types of financial institutions. Chile and Argentina have allowed competition in the commercial-banking sector since the late 1970s and 1980s, respectively. Similarly, Egypt, Israel, Morocco, South Africa, Turkey, and the South Asian countries have all scaled back directed credit, liberalized interest rates, and allowed some competition in the banking sector.

The privatization of state-owned banks has been less sweeping across the developing countries, but important steps have been taken in some. Table 3 reveals that, prior to reforms, the governments of fifteen of our twenty-five developing economies owned banks that held at least 40 percent of the total banking assets or deposits in the country. In

TABLE 3

STATE-OWNED BANKS' SHARE OF TOTAL ASSETS

Country or Economy	A Single Year Prior to Reform[a]	Most Recent Year	Country or Economy	A Single Year Prior to Reform[a]	Most Recent Year
United States	0	0	Argentina	52	39[c]
Canada	0	0	Brazil	50	48
Japan	0	0	Chile	100	14
Britain	0	0	Colombia	n.a.	23
France	n.a.	12	Mexico	100	18
Germany	50	50[b]	Peru	n.a.	n.a.
Italy	n.a.	63	Venezuela	n.a.	30
Australia	43	21	Egypt	50+	50+
New Zealand	47	0	Israel	90	n.a.
			Morocco	n.a.	n.a.
Hong Kong	n.a.	0	South Africa	0	0
Indonesia	76	40	Turkey	50	48
Korea	81	32[c]			
Malaysia	n.a.	8[d]	Bangladesh	74	68[c]
Philippines	28	22	India	90	87
Singapore	n.a.	16	Nepal	85	64[c]
Taiwan	78[c]	58	Pakistan	89	63
Thailand	n.a.	19	Sri Lanka	82	70[c]

SOURCES: BIS, Inter-American Development Bank, Jardine Fleming, World Bank, and central banks.

[a] See Table 4 for start dates of liberalization in each country.

[b] Owned by länder governments.

[c] Share of total deposits.

[d] Jardine Fleming estimated the share of stated-owned banks in total bank assets to be 45 percent in 1996.

Chile, Mexico, Indonesia, Israel, Korea, Taiwan, and all the South Asian countries, this figure was larger than 75 percent. Moreover, private commercial banks in many of these countries were subject to government interference in management decisions. Some countries, such as Chile and Mexico, have substantially reduced the public sector's ownership of commercial banks. Korea, too, has sold off most of its nationalized commercial banks, although these banks continue to be subject to moral suasion. In ten of the twenty-five developing countries in our panel, however, the government continues to occupy a dominant position in the banking sector.

The flow of capital has been freed in most of the developing countries included in the panel. Brazil, Korea, and Taiwan were the only

countries outside South Asia to retain strong capital controls as of 1996, and Korea eliminated a number of these in 1998 under the conditions of the IMF rescue package. There has been some reimposition of controls in East Asian countries, however, following the financial crisis that started in mid-1997. Eighty developing countries now adhere to Article VIII of the IMF Articles of Agreement, including twenty of the twenty-three under discussion here.

3 The Process of Liberalization

We turn now to an examination of the process of liberalization that has occurred over the past quarter-century. Table 4 gives the dates of the main liberalization episodes, and Table 5 describes the principal changes that occurred in each of the six dimensions of liberalization identified above. We begin by describing the pace of liberalization and then turn to the issue of sequencing.

Pace

Comprehensive financial deregulation was carried out over the period in four industrial countries in the panel: Australia, France, Japan, and New Zealand. Australia and New Zealand deregulated their financial sectors rapidly in the mid-1980s. Australia dismantled bank-lending guidance in 1982 and removed all interest controls by 1987. New Zealand removed all credit and interest controls over the two-year period from 1984 through 1985. France and Japan took a more gradual path. Japan began to deregulate interest rates in 1979 but did not free them completely until the mid-1990s. Window guidance was discontinued only in 1991, and directed credit was completely eliminated only in the 1990s. The French government phased out its priority-sector lending during the 1980s, moving to a uniform interest rate on subsidized loans and then gradually reducing the share of subsidized loans in total credit.

The pace of financial liberalization tended to be faster in the Latin American countries than in other developing countries, although there were more instances of the reforms being reversed in Latin America. Chile first liberalized with a big bang in the late 1970s. It privatized nationalized banks, removed all controls on interest rates, and permitted banks to become "universal." Foreign banks and nonbank financial institutions were encouraged to enter the market, and capital controls were eased. Argentina also eliminated directed credit and interest-rate

TABLE 4

DATES OF FINANCIAL LIBERALIZATION, 1973–1996

Country or Economy	Start of Liberal-ization	Largely Liberalized Financial Sector	Country or Economy	Start of Liberal-ization	Largely Liberalized Financial Sector
United States	**1982**	1973–96	Brazil	1989	—
Canada	**1980**	1973–96	Chile	1974	1985–96
Japan	1979	1993–96	Colombia	1980	1995–96
Britain	**1981**	1973–96	Mexico 1	1974	—
France	1984	1985–96	Mexico 2	1989	1992–96
Germany	**1980**	1973–96	Peru	1991	1993–96
Italy	1983	1988–96	Venezuela	1991	—
Australia	1980	1986–96			
New Zealand	1984	1985–96	Egypt	1991	1992–96
			Israel	1987	1991–96
Hong Kong	**1978**	1973–96	Morocco	1991	1996
Indonesia	1983	1989–96	South Africa	1980	1984–96
Korea	1983	—	Turkey 1	1980	—
Malaysia	1978	1992–96	Turkey 2	1988	1990–96
Philippines	1981	1994–96			
Singapore	**1978**	1973–96	Bangladesh	1989	—
Taiwan	1989	—	India	1992	—
Thailand	mid-1980s	1992–96	Nepal	1989	—
			Pakistan	1991	—
Argentina 1	1977	1977–82	Sri Lanka	1978	—
Argentina 2	1987	1993–96			

SOURCE: Table 5.

NOTE: The financial sectors of the United States, Canada, Britain, Germany, Hong Kong, and Singapore were largely liberalized for the entire period, but liberalization of the remaining parts of their financial sectors began in the year indicated.

controls in the late 1970s and liberalized capital flows. Both Chile and Argentina, however, reimposed controls during the financial crisis of the early 1980s, and Chile renationalized ("intervened") a number of banks at that time. Chile removed most controls again by 1984 and reprivatized the renationalized banks in the mid-1980s. Argentina has renewed reform efforts since the late 1980s, this time at a slower pace, resulting in a large reduction in the scope of directed credit and a substantial reduction in reserve requirements (from near 90 percent in 1987 to 15 percent by 1996). Mexico and Peru are two other Latin American countries that liberalized rapidly.

Turkey and South Africa also opted for rapid financial reform. Turkey eliminated interest-rate ceilings in 1980 and eased entry restrictions. A

TABLE 5

CHANGES IN FINANCIAL-SECTOR POLICY, 1973–1996

	Credit Controls	Interest Rates	Entry Barriers	Government Regulation of Operations	Privatization	International Capital Flows
United States	S&Ls deregulated in 1982.	Regulation Q suspended in 1982. S&Ls deregulated in 1982.	Foreign banks brought within federal regulatory framework in 1978. Interstate banking regulations eased in 1995, but restrictions remain.			Limited controls, imposed in the 1960s, abolished in 1974.
Canada	Reserve requirements phased out in the early 1990s.		Foreign banks permitted within certain size regulations in 1980. "Four pillars" system largely eliminated in 1992.			
Japan	Window guidance discontinued in 1991. Special treatment for priority industries largely phased out by the 1990s.	Interest-rate deregulation began in 1979. Interest rates on most fixed-term deposits eliminated by 1993. Non-time-deposit rates freed in 1994. Lending rates market determined in the 1990s.	Bank specialization requirements significantly reduced by 1993. Foreign trust banks and securities companies allowed since the mid-1980s. Further liberalization to be implemented by 2001.	Dividend restrictions eased in 1980. Limits on advertising eliminated in 1993.	Government controls roughly 15% of financial assets through the postal savings system.	Controls on capital inflows eased after 1979. Controls on capital outflows eased in the mid-1980s. Foreign-exchange restrictions eased in 1980. Remaining restrictions on cross-border transactions removed in 1995.
Britain	Supplementary Special Deposits Scheme ("the corset") discontinued in 1980. Reserve-assets ratio abolished in 1981 and replaced by a universal 0.5% liquidity requirement.	Bank of England's minimum lending rate not published after 1981. Government withdrew guidance on mortgage lending in 1986.	Banks allowed to compete with building societies for housing finance after 1981. Building societies allowed to expand their lending business after 1986. All remaining controls on hire-purchase agreements eliminated in 1982. Fixed commissions on trading in government securities			All remaining controls on foreign-exchange purchase eliminated in 1979.

TABLE 5 *continued*

	Credit Controls	Interest Rates	Entry Barriers	Government Regulation of Operations	Privatization	International Capital Flows
Britain *contd.*			abolished in 1984. London stock exchange fully deregulated in 1986.			
France	Subsidized loans for exports, investments, housing, and to local authorities slowly phased out in the 1980s and 1990s but not eliminated.	Interest rates (except those on subsidized loans) freed in 1984. Subsidized loans, subject to a uniform interest ceiling, now available to all banks.	Financial institutions highly specialized until mid-1980s. Universal banks permitted after 1984. Unequal advantages still available to public-sector banks.		Some banks nationalized since 1945. All larger banks nationalized in 1982. Several French banks privatized in 1987 and 1993, including Banque Nationale de Paris.	Capital flows in and out of the country largely liberalized over 1986-88. Liberalization was completed in 1990.
Germany	In 1996, non-interest bearing minimum-reserve requirements stood at 12.1% for demand deposits and at less than 5% for time and savings deposits.	Interest rates freely market determined over entire period.	German banks allowed to enter directly or indirectly into all financial services over the entire period. Foreign banks permitted. New instruments slowly introduced since the 1980s. Stock market regulation eased in the 1980s. Money market funds permitted in 1994.			Most capital controls dismantled in 1973.
Italy	Credit ceilings eliminated in 1983 and reimposed temporarily between 1986 and 1987. Reserve requirements progressively lowered between 1989 and 1994.	Maximum rates on deposits and minimum rates on loans set by Italian Bankers' Association until 1974. Floor prices on government bonds eliminated in 1992.	CDs introduced in the early 1980s. Foreign banks permitted in 1993. Demarcation line between short-term and long-term lending banks abolished in 1993. Bank branching liberalized in 1990. Corporate bond and stock markets remain small compared to other G-7 countries.		Credito Italiano and some other public banks privatized in 1993-94.	Foreign-exchange and capital controls eliminated by May 1990.

Australia	Quantitative bank-lending guidance eliminated in 1982. Reserve requirements on savings banks lowered in 1987. Statutory Reserve Deposit Requirement was abolished and replaced by a new noncallable requirement of 1% of bank assets in 1988.	Deposit-rate controls lifted in 1980. Most loan-rate ceilings abolished in 1985. Deposit subsidy program for savings banks implemented in 1986 and removed in 1987.	Foreign banks permitted in 1985. Universal banking established for large domestic banks in 1980s. Nonbank financial institutions permitted to offer check-like instruments in 1986. Capital markets deregulated in mid-1980s.		Some state-owned banks privatized in the 1990s. Commonwealth Bank of Australia privatized in 1997.	Capital and exchange controls tightened in late 1970s after the move to indirect monetary policy increased capital inflows. Capital account liberalized in 1984.
New Zealand	Credit-allocation guidelines removed in 1984. Reserve requirements for trading banks removed in 1984. Requirement for financial institutions to purchase government securities removed in 1985.	Interest-rate ceilings removed in 1976 and reimposed in 1981. All interest-rate controls removed during summer 1984.	Unlimited entry of domestic and foreign banks meeting Reserve Bank criteria since 1985. Separate requirements for different types of financial institutions removed by 1987. Stock exchange liberalized in 1986.		Bank of New Zealand (one of the four largest banks) privatized in the early 1990s. Development Finance Corporation closed. Government sold all remaining shares in state-owned commercial banks by 1992.	All controls on inward and outward foreign-exchange transactions removed in 1984. Controls on outward investment lifted in 1985. Restrictions on foreign-owned companies' access to domestic financial markets removed in late 1984. Controls on foreign direct and portfolio investment and repatriation of profits eased in 1985.
Hong Kong		Deposit-rate ceilings set by the Hong Kong Association of Banks. Since 1995, only interest rates on savings deposits controlled.	Moratorium on bank licensing lifted in 1978. Minimum-capital requirement and licensing system remain. Some deposit-taking institutions subject to minimum-deposit restrictions.			

TABLE 5 *continued*

	Credit Controls	Interest Rates	Entry Barriers	Government Regulation of Operations	Privatization	International Capital Flows
Indonesia	System of bank credit allocation phased out since 1983. Banks required to allocate 20% of loans to small business after 1990. Reserve requirements lowered to 2% of deposits in 1988. Banks must extend 80% of foreign-currency lending to exporters.	Most deposit and loan rates freed in 1983. Some liquidity credit arrangements for priority sectors remained in place until 1988. Central-bank guidance eliminated in 1991.	The monopoly of state-owned banks over the deposits of state-owned enterprises removed in 1988. Activities of financial institutions broadened in 1988. New foreign banks allowed to establish joint ventures in 1988.	State banks subject to political interference.	Stock exchange privatized in 1990.	Most transactions on the capital account liberalized in 1971. Some restrictions on inflows remain. The regulation requiring exporters to sell their foreign-exchange earnings to banks abolished in 1982. Foreign direct investment regulations eased further in 1992.
Korea	Targeted lending switched from heavy and chemical industries to small and medium-size firms in 1980s. Most policy-based lending phased out by 1996. Bank of Korea's automatic rediscount facility replaced by an aggregate credit ceiling. Large banks still subject to moral suasion.	A series of decontrol measures adopted in the 1980s and later abandoned. All interest rates deregulated by 1995, except demand deposits and government supported lending.	Branching of domestic financial institutions liberalized in 1986. Entry of nonbank financial institutions (NBFIs) permitted in 1982. Limited foreign joint ventures permitted since 1983.	Government abolished or simplified directives regulating personnel, budgeting, and other operational matters in the 1980s.	Government divested its shares in commercial banks in the early 1980s. State-owned banks' share of total financial assets 13% in 1994.	Controls on foreign borrowing under US$200,000 with maturities of less than three years eased in 1979. Restriction on foreign borrowing under US$1 million eased in 1982. Controls on outward and inward foreign investment gradually eased since 1985. Significant restrictions on inward investment in place until 1998.
Malaysia	Fifty percent of net lending required to go to priority sectors in 1975. (Regulation quickly reduced to	Initially liberalized in 1978. Controls reimposed in mid-1980s and completely eliminated in 1991.	No new license for foreign banks since 1973. Some foreign participation in joint ventures permitted recently. Local bank activ-	Bank Negara Malaysia replaced managers of failed financial institutions during crisis (1985-88).	Share of state-owned banks in total assets of the financial sector 8% in 1994 (BIS estimate). Government is the majority	Capital account mostly liberalized in the 1970s. Inward foreign direct and portfolio investment deregulated further in the

	20% and largely nonbinding.) Scope of priority lending reduced in the 1980s. Extension of bank credit below the cost of funds eliminated in the 1980s.		ities broadened in 1990s, but no new commercial banks allowed since the early 1980s. Foreign-currency accounts in selected local banks permitted in 1994.		shareholder in the country's largest bank and wholly owns the second largest bank.	mid-1980s. Controls on short-term and portfolio inflows temporarily reimposed in 1994.
Philippines	Directed credit partly abolished in 1983. Remaining directed credit shifted to the relevant government agency and extended at market-oriented interest rates. Commercial banks still dependent on central-bank rediscount window. Reserve requirements lowered in the early 1980s and again in 1993.	Interest controls mostly phased out over 1981-85. (Some controls reintroduced during the financial crisis of 1981-87.) Cartel-like interest-rate price fixing remains prevalent.	Offshore banking system introduced in 1975. Domestic financial institutions permitted to compete in various markets in 1983. Restrictions on foreign-bank branching lifted in 1993.	Government continued to exert control over management of Philippine National Bank and Development Bank of the Philippines throughout the 1980s.	Government took over some failed financial institutions during the early 1980s. Government's share of total bank assets was lowered to 22% by 1996. Government reduced stake in PNB to 47% in December 1995.	Foreign exchange and investment channeled through the government in the 1970s. Interbank foreign-exchange trading limited to thirty minutes per day after 1983. Off-floor trading introduced in 1992. Restrictions on all current and most capital transactions eliminated over 1992-95.
Singapore			Only banks established prior to 1973 permitted to collect deposits in Singapore. Currently only offshore or foreign representative banking licenses available to nonresidents.			Government freed exchange and capital controls by 1978. (Exception: offshore banks may not transact in Singapore dollars.)
Taiwan	Priority lending to strategic, exporting, and small and medium-size firms widespread since the 1960s. Budgets for subsidized credit continually modified in recent years.	Nominally liberalized in 1989. Remained uncompetitive until new banks were established in 1992.	Some liberalization of entry for foreign and domestic banks in 1989. New financial products introduced in 1989. Sixeen new banks established in 1992. New banks subject to NT$10 billion minimum-capital requirement.	Government employee pool used to staff public and private financial institutions from the 1960s onward.	Privatization effort blocked by controlling interests in 1989.	Foreign-exchange controls removed in 1987. Inward and outward capital flows limited to US$5 million per person per year.

TABLE 5 *continued*

	Credit Controls	Interest Rates	Entry Barriers	Government Regulation of Operations	Privatization	International Capital Flows
Thailand	Government gradually eliminated directed credit after 1980.	Interest-rate ceilings on all types of deposits abolished in 1990. Ceiling on loan rates removed in 1992.	Foreign banks permitted with approval in 1990. Branching requirements for domestic banks loosened in 1986. Finance and securities companies permitted to set up banks outside Bangkok with approval in 1995. Scope of financial instruments for all financial institutions widened in 1992.		Share of state-owned banks in total assets 7% in 1994 (BIS estimate).	Restrictions on inward long-term investment eased in the mid-1980s. Controls on short-term flows and outward investment eased in the 1990s. The reserve requirement on short-term foreign borrowing is 7%. Currency controls introduced in May and June of 1997 to deter currency speculators. Limits on foreign ownership of domestic financial institutions relaxed in October 1997.
Argentina	Credit controls initially removed in 1977 but reimposed in 1982. Controls reduced after 1992 to less than half the level before reforms. 100% reserve requirement freed in 1997. High reserve requirements reimposed in 1982. Reserve requirements on demand deposits lowered from 89.5% in 1987 to 15% by 1996.	Initial liberalization in 1977 reversed in 1982. Deposit rates freed again in 1987. Interest rates on some loans still regulated.	Approval requirements for new banks and bank branching eased in 1977. Free entry of domestic banks permitted since late 1980s. Foreign-owned banks also permitted.		Fifteen percent of the loan market privatized since 1992. Government still owns the largest commercial bank, Banco de la Nacion Argentina.	Multiple exchange-rate system unified between 1976 and 1978. Foreign loans at market exchange rates permitted in 1978. Controls on inward and outward capital flows loosened in 1977. Liberalization measures reversed in 1982. Capital and exchange controls eliminated in 1991.

Brazil	Directed credit partly reduced recently. Reserve requirements rationalized after 1988; requirements differ according to bank size. Reserve requirements remain over 80% on demand deposits.	Interest-rate ceilings removed in 1976 and reimposed in 1979. Deposit rates fully liberalized in 1989. Some loan rates liberalized in 1988. Priority sectors continue to borrow at subsidized rates.	Barriers reduced after 1991.			System of comprehensive foreign-exchange controls abolished in 1984. Most capital outflows restricted in the 1980s. Controls on capital inflows strengthened and controls on outflows loosened in the 1990s.
Chile	Directed credit eliminated and reserve requirements reduced in the mid-1970s. Development assistance from multilateral agencies now auctioned off to eligible financial institutions.	Commercial-bank interest rates liberalized in 1974. Some controls reimposed in 1982. Deposit rates fully market determined since 1985. Most loan rates market determined since 1984.	New NBFIs permitted in 1974. New foreign banks permitted after 1976. Currently, both domestic and foreign new financial institutions encouraged. "Traditional" and branch banking treated as separate.		Nineteen domestic commercial banks privatized in 1974. Banks nationalized during the 1982 crisis were reprivatized in the mid-1980s.	Capital controls gradually eased since 1979. Controls reimposed in 1982 and eased again in mid-1980s. Foreign direct and portfolio investment subject to a one-year minimum holding period. Foreign loans subject to a 30% reserve requirement.
Colombia	Directed lending to agricultural sector reduced to 6% of total loans for large and medium-size farms (1% for small farms). Flexible interest rates implemented for these loans by 1994. Reserve requirements on time deposits drastically reduced in 1990s.	Most deposit rates at commercial banks market determined after 1980; all after 1990. Loan rates at commercial banks market determined since the mid-1970s. Remaining controls lifted by 1994 in all but a few sectors.	Competition and efficiency impeded by specialized banking regulations despite efforts to introduce domestic competition in the 1990s.		Two large banks and a large finance company nationalized in 1982. Government intervened in over twenty financial institutions between 1982 and 1986. Thirty percent of loan market privatized by 1995.	Controls on capital inflows relaxed in 1991. Exchange controls also reduced. Large capital inflows in the early 1990s led to the reimposition of reserve requirements on foreign loans in 1993.

TABLE 5 *continued*

	Credit Controls	Interest Rates	Entry Barriers	Government Regulation of Operations	Privatization	International Capital Flows
Mexico	Credit controls eliminated for commercial banks. Development assistance remains directed. Reserve requirements eliminated on local currency deposits.	Time deposit with flexible interest rates below a maximum rate permitted in 1977. Deposit rates liberalized in 1988-89. Loan rates liberalized after 1988, except at development banks.	Legislation allowing the establishment of universal banks passed in 1974. Legal framework allowing development of NBFIs also passed in 1974. New entry of banks permitted in 1991. Foreign ownership restricted to 30%.		Authorities nationalized eighteen commercial banks in 1982. Nationalized banks privatized in 1991.	Government given discretion over foreign direct investment in 1972. Ambiguous restrictions on foreign direct investment rationalized in 1989. Portfolio flows decontrolled further in 1989.
Peru	Subsidized lending eliminated in 1992. Marginal targeted credit at market rates reimplemented in 1996. Reserve requirements on domestic deposits reduced to 9% in 1990s.	Interest-rate controls abolished in 1991.			All five public development banks closed in early 1990s. All seven public commercial banks liquidated or divested over 1991-95.	Capital controls removed in December 1990.
Venezuela	Targeted-credit programs reduced to about half the pre-reform level over 1991-93. Reserve requirements reduced in early 1990s.	Interest-rate ceilings removed in 1991, reimposed in 1994 and removed again in 1996.	Local barriers eliminated in principle. Barriers to foreign banks remain.		Four small public commercial banks liquidated or privatized in 1989. Public-sector banks' share of total deposits 9% in 1993. Share increased to 29% after the nationalization of several banks over 1994-96.	Foreign direct investment regime largely liberalized over 1989-90. Exchange controls on all current and capital transactions imposed in 1994. System of comprehensive foreign-exchange controls abandoned in April 1996.
Egypt	Ceiling on credit to private sector lifted in 1991.	Interest rates liberalized in 1991.	Foreign banks permitted to take majority stake in banks and to conduct business in foreign currency in 1990s.		Some privatization of smaller state banks. The four largest public banks not slated for privatization as of 1996.	Foreign-exchange system decontroled and unified in 1991. Some controls on inward portfolio and direct investment lifted in 1990s.

Israel	Directed-credit system abolished in 1990. Reserve requirements gradually lowered to international levels after 1987. Restrictions on investment instruments for institutional investors eased after 1987.	Subsidized rates on priority lending phased out by 1990.	Small number of large universal banks dominate banking sector. New licenses to expand small-bank operations issued after 1987.		Government nationalized leading banks in 1983. Union Bank (part of Bank Leumi) privatized in 1990s. Forty-three percent of Bank Hapoalim sold to Israeli-American consortium in 1997.	Capital controls eliminated in 1977 and reimposed in 1979. After 1987, restrictions on capital inflows gradually eliminated and restrictions on capital outflows gradually eased.
Morocco	Compulsory holdings of development bank bonds by commercial banks reduced from 15% to 2% of deposits after 1991. Incentives to provide credit to priority sectors virtually eliminated by 1996. Mandatory commercial bank holding of treasury paper reduced to 10% of short-term deposits over 1986-96.	Interest rates gradually raised to positive real levels in the 1980s. Interest-rate subsidies to priority sectors reduced in the 1980s. Lending rates liberalized in 1996. Deposit rates mostly free by 1996, but some controls and moral suasion remain.	Tangier offshore banking center now fully open to foreign banks. Foreign banks may own a majority share in domestic banks. Distinctions between commercial and specialized banks removed in the early 1990s.		The Casablanca stock market is state owned. One state-owned bank was privatized in 1995.	Current-account convertibility achieved in the 1990s. Surrender requirements for export revenue and outward investment restrictions relaxed in the early 1990s. Restrictions on inward foreign direct and portfolio investment and external borrowing by residents, eased after 1993.
South Africa	Credit ceilings in effect from 1965 to 1972 and 1976 to 1980. Credit ceilings removed and reserve and liquidity requirements lowered in 1980.	Interest-rate controls removed in 1980.	Register of Co-operation (which limited bank competition) eliminated in 1983. Some new banks permitted after 1983; fifty new banks since 1990. Capital and money markets (including derivative markets) exist but remain fairly thin.			Capital controls tightened in 1985. Exchange controls on nonresidents eliminated in 1995. Controls on residents relaxed in 1995.

TABLE 5 *continued*

	Credit Controls	Interest Rates	Entry Barriers	Government Regulation of Operations	Privatization	International Capital Flows
Turkey	Reserve requirement reduced to 15% over 1986-88 but raised to 25% in 1990. Directed credit phased out by 1989.	Interest-rate ceilings on loans and deposits eliminated in 1980 and reimposed on deposits in 1983. Controls eliminated again in 1988.	Foreign banks permitted since 1980, with some restrictions. Scope of banking activities widened in 1980. Interbank money market established in 1987. Istanbul stock market operational again in 1986.		State-owned banks' share in total assets of the banking system remained constant over 1980-90, at approximately 52%.	Capital flows liberalized in 1989.
Bangladesh	Directed and controlled credit largely phased out after 1989. Politically motivated lending remains prevalent. Cash reserve requirements lowered to 5% in the 1990s.	Interest rates raised to positive real levels in the early 1980s. After 1989, deposit rates on savings and time deposits subject to a floor. Floor abolished in 1996. Lending rates for loans freed, except for priority sectors. Priority-sector interest-rate bands fixed by central bank.	Private banks permitted, with approval, since early 1980s. In 1995, seven new banks established, including some foreign joint ventures. New banks largely occupy niche markets. Only public banks may lend to priority and public sectors. Capital and money markets remain weak or nonexistent.	Branching restrictions still in place for private banks.	Commercial banks nationalized in the 1970s. Two state-owned banks sold back to original owners in early 1980s. (These banks remain uncompetitive.)	Foreign-exchange markets unified in 1991-92. Restrictions on current transactions eliminated in 1994. Controls on capital inflows eased after 1991.
India	Cash reserve requirement (CRR) raised rapidly after 1973. Statutory liquidity ratio (SLR) increased to 38.5% by 1991. The Reserve Bank extended discretionary credit to priority sectors and set credit ceilings for banks in the 1970s and 1980s.	Complex system of regulated interest rates simplified in 1992. Interest-rate controls on CDs and commercial paper eliminated in 1993. Minimum-lending rate on credit over Rs 200,000 eliminated in late 1994. Interest rates on term deposits of over two years liber-	Entry restrictions eased in 1993. Ten new banks established in 1994-95, including three foreign banks. Banks permitted to raise capital contribution from foreigners to 20% and from nonresident Indians to 40%. Money and securities markets fairly well developed.	Some branching and staffing regulations eased in the 1990s. Union work rules still represent a major restriction on branching and operations.	All large banks nationalized in 1969. Government divested part of its equity position in some public banks in the 1990s.	Regulations on portfolio and direct investment eased since 1991. The exchange rate was unified in 1993-94. Current-account convertibility achieved in 1994.

	The CRR and SLR stood at 10.5% and 25% respectively in early 1998.	alized in 1995.				
Nepal	SLR of 27% from 1974 to 1989. Directed credit to “small” sector introduced in 1974 and substantially reduced since 1989.	Interest-rate controls introduced in 1966; slowly phased out after 1986. Interest rates liberalized for almost all sectors by 1989, although marginal restrictions remain.	Foreign joint ventures permitted after 1983. The establishment of private-sector banks made legal in 1983. Entry barriers further reduced in 1992.	Government influenced staffing, branching, and other bank managerial decisions. Nepal Bank Limited granted more autonomy through majority private ownership.	Two large public-sector banks hold over half of total bank deposits. Government share of Nepal Bank Limited reduced to 41%.	Dual exchange-rate system introduced in 1992. Current account became fully convertible in 1994. Some capital transactions liberalized in the 1990s, but restrictions remain.
Pakistan	Credit ceilings eliminated in 1995. Subsidized and targeted-credit programs scaled back in the 1990s.	Most lending rates freed in 1995. Interest on working capital and some deposits freed in the early 1980s.	Eleven new private banks, including three foreign, established since 1991. Nineteen branches of foreign banks established by 1997.	Comprehensive reforms in 1997 reduced government interference in public-sector banks.	Muslim Commercial Bank privatized in 1991. Allied Bank privatized in stages between 1991 and 1993. First Women Bank privatized in 1997.	Rupee convertible for current transactions since July 1994. Capital controls eased in the 1990s.
Sri Lanka	Comprehensive Rural Credit Scheme terminated in the late 1970s. Reserve requirements 14% in 1997. Directed credit programs still prevalent.	Deposit rates market determined since 1980. Lending rates for nonpriority lending freed in 1980. Subsidized rates for priority sector lending remained until the 1990s.	Foreign banks permitted since 1979. Restrictions on domestic banks and NBFIs eased after 1978. Private and public banks placed on equal footing in access to public-enterprise deposits in 1990s. Development of stock, bond, and interbank markets increased in 1980s.	Government continues to influence portfolio management and staffing decisions in public banks.	Two development finance banks privatized in 1990s.	Exchange rate unified in 1978. Rupee made convertible for current transactions in 1994. Capital controls on inflows eased in 1978. Foreign portfolio investment restrictions eased further in 1991. Restrictions on capital outflows remain.

SOURCES: IMF staff reports; OECD economic surveys; World Bank staff reports; annual reports of central banks; national economic surveys; news articles; Caprio, Atiyas, and Hanson, eds., *Financial Reform* (1994); Chelliah, *Towards Sustainable Growth* (1996); Edwards, *Crisis and Reform in Latin America* (1995); Inter-American Development Bank, *Economic and Social Progress in Latin America* (1996); World Bank, *The East Asian Miracle* (1993); Zahid, *Financial Sector Development in Asia* (1995).

banking crisis in 1982, however, prompted the reversal of many of Turkey's policies, and from 1983 until 1988, it again regulated the deposit rate. South Africa removed credit ceilings and interest-rate controls in 1980 and allowed greater competition in banking after 1983, but it tightened capital controls in 1985 in response to capital flight following the worldwide imposition of economic sanctions. Egypt also implemented a rapid-paced financial-sector reform program in 1991.

Reform was more gradual in East Asia. A number of countries progressively dismantled their directed-credit programs by introducing market-based rates on the directed loans, increasing the number of categories eligible for special credit access, or reducing the scope of the program. In Thailand, directed credit was eased in 1987 by widening the definition of agricultural credit to include wholesale and small-scale industrial activities, and in 1992, by broadening it again to include exports of farm products and secondary occupations of farmers. In Indonesia, Malaysia, and South Korea, targeted-lending programs were reduced in scope—and subjected to market rates—in the 1980s and 1990s. In the Philippines, however, the government continues to exert influence over credit allocation through commercial-bank dependence on the central bank's rediscount window, and in Taiwan, the program of directed credit remains intact. Indonesia, Malaysia, and the Philippines assumed the lead in interest-rate deregulation, beginning the process in the early 1980s, but they did not complete their reforms until the late 1980s, and in some cases, there were temporary policy reversals along the way.

All five major South Asian countries have adopted a gradual approach to financial-sector reform. Sri Lanka was the first country in the region to begin deregulation, in the late 1970s, when it began to dismantle a number of directed-credit schemes and to ease interest-rate controls. The remaining countries did not begin this process until the 1980s. All five countries had brought interest rates to positive real levels by the early 1990s, but a number of controls remain in place. Although some directed-credit programs have been rationalized, these programs have not been completely eliminated in any of the major countries in the region. Cash-reserve requirements and liquidity requirements have been lowered, but the combination remains above 20 percent in Bangladesh and Pakistan. In India, the cash-reserve requirement is only 10.5 percent, but there is also a statutory liquidity ratio of 25 percent.

Israel is the other country in our panel that has chosen to liberalize the financial sector gradually. After 1987, the Israeli government began to lower reserve requirements, introduce new financial instruments,

ease entry restrictions for smaller-bank operations, and liberalize international capital flows. Directed-credit and interest-rate controls were phased out in the 1990s, but restrictions on entry into banking still remain.

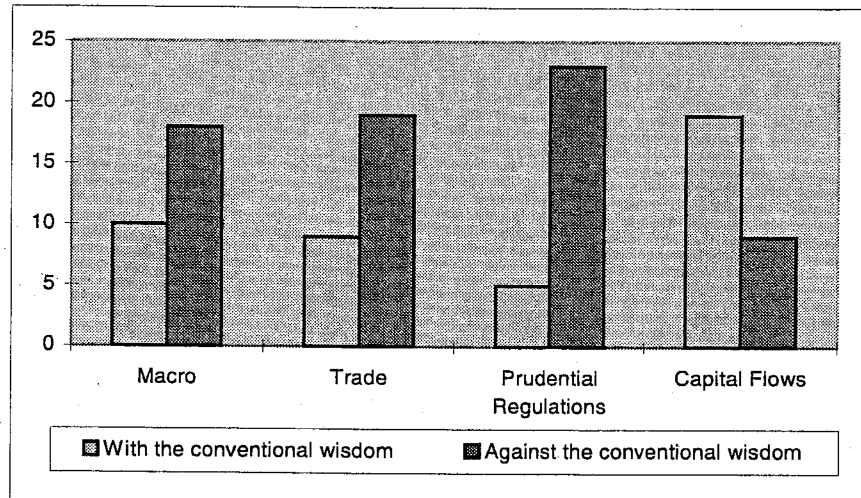
Sequencing: Domestic Financial Liberalization

The first significant efforts to liberalize the financial sector occurred in the Southern Cone of South America in the late 1970s. Both Argentina and Chile (and Uruguay, which is too small to be in our panel) decontrolled interest rates, privatized public-sector banks, and introduced competition in the banking sector during a period of macroeconomic instability and before an adequate supervisory framework was devised. Moreover, they lifted capital controls shortly after financial-sector liberalization, leading to a large inflow of capital and a rapid accumulation of foreign debt. In the early 1980s, both countries encountered severe macroeconomic crises.

Following the crises in Argentina and Chile, a literature developed that sought to explain the failure of the reforms in terms of an incorrect sequencing of the reform programs (see, in particular, Edwards, 1984, and McKinnon, 1993). Conventional wisdom came to argue for stabilizing the macroeconomic environment, implementing real-sector reforms, and developing a sound system of prudential supervision before starting on domestic financial deregulation. Once that groundwork had been laid, policymakers were advised to introduce market-based interest rates and eliminate controls on credit, relying on competition to prevent excessive interest rates and to allocate credit. Most economists recommended that the liberalization of the capital account be placed at the end of the process, reasoning that otherwise there would be a danger that funds flowing in would be misdirected to sectors that were not the most productive, that the inflow might be intermediated by unsound banks tempted to "gamble for resurrection," or both.

The summary diagram in Figure 2 shows that only a (substantial) minority of the countries in our panel implemented macroeconomic reform prior to, or in tandem with, financial liberalization. Chile, New Zealand, Peru, and Turkey began financial-sector deregulation under conditions of macroeconomic instability but implemented their reforms as part of a larger reform and stabilization effort. Argentina, Brazil, Egypt, Mexico, and Venezuela, however, all started to deregulate their financial sectors during periods of high inflation in advance of, or in the absence of, a stabilization program.

FIGURE 2
SEQUENCING OF REFORMS IN COUNTRIES WITH REPRESSED FINANCIAL SECTORS IN 1973



NOTE: Conventional wisdom refers to macroeconomic stabilization (that is, fiscal deficit below 5 percent of GDP, and inflation below 10 percent), trade liberalization, and stronger prudential regulations prior to the start of financial liberalization. Under capital flows, conventional wisdom is interpreted as the maintenance of capital controls until at least two years after financial liberalization has been initiated.

Perhaps the most central element of macroeconomic stabilization is fiscal discipline. Among the twenty-four severely repressed countries in our study, twelve had consistently high budget deficits (5 percent of GDP or higher), but six managed to tighten fiscal policies during or after liberalization (see Table 6).

The literature identifies trade reform as one of the most important real-sector preconditions for financial-sector reform, on the grounds that a deregulated financial system will channel funds to the most profitable industries and that these will be the most socially desirable industries only when the price system conveys accurate information about scarcity, rather than the distorted incentives associated with heavy protection. Canada, Hong Kong, Singapore, the United States, and the four West European countries in our panel all had largely liberal trade regimes over the 1973–96 period. Five countries, Japan, Korea, Morocco, Sri Lanka, and Thailand, followed the conventional wisdom on sequencing and began financial reforms more than three

TABLE 6

OVERALL BUDGET DEFICIT BEFORE AND AFTER REFORM
(*percentage of GDP, five-year average*)

	Before Reform	After Reform
Australia	–2.8	–2.0
New Zealand	–7.8	–1.3*
Argentina 2	–4.3	–0.4
Brazil	–13.6	–4.9*
Chile	–8.2*	1.0
Colombia	–0.6	–3.8
Mexico 2	–10.1	0.9
Peru	–3.9	0.0
Venezuela	–0.8	–3.5
Indonesia	–2.2	–1.4
Korea	–2.3	–0.1
Malaysia	–6.6	–9.9
Philippines	–2.5	–2.9
Thailand	–4.5	0.3
Egypt	–5.8	–1.0*
Israel	–9.7	–5.7
Morocco	–3.4	–1.4
South Africa	–5.0	–4.3
Turkey 1	–3.5	–4.8*
Turkey 2	–4.5	–4.5
Bangladesh	–0.7	n.a.
India	–7.1	–6.5
Nepal	–6.9	–6.3
Pakistan	–7.0	–7.1
Sri Lanka	–6.9	–13.5

SOURCE: IMF, *Government Finance Statistics*.

NOTE: The numbers 1 and 2 following country names refer to the phase of liberalization.

* Starred entries indicate that data for five years were not available, so the figure is the average of two, three, or four years. In Brazil, the overall budget deficit had risen to 9.4 percent of GDP by 1993.

years after trade reform. Of the remaining countries, the majority (fourteen) implemented significant trade reforms during roughly the same period as financial reforms (plus or minus two years). Mexico and Turkey began their second phase of financial reform with fairly open external sectors (but not their first). And Australia, Colombia, Indonesia,

Malaysia, and South Africa all implemented financial-sector reforms before substantially liberalizing imports, although Malaysia had adopted export promotion well before starting financial reform.

Another pertinent real-sector reform concerns the management, or nowadays the privatization, of state enterprises. Liberalization of the banking sector in an economy that continues to be dominated by large, inefficient, state-owned enterprises may not bring much improvement in the lending portfolios of the financial intermediaries, especially if banks continue to be subject to government moral suasion in lending decisions. State enterprises played a large role in three of the industrial countries (France, New Zealand, and the United Kingdom) and in most of the developing economies in our sample, the exceptions being Colombia, Hong Kong, Peru, and Thailand.[4] Many of these countries introduced policies to reform or reduce the role of state enterprises during the period in question. All three of the industrial countries classified as having large public sectors in the early 1980s undertook large-scale privatization during the 1980s, coinciding with the period of financial liberalization. Six of the seven of our panel countries analyzed in the 1995 World Bank Report *Bureaucrats in Business* (Chile, Egypt, India, Korea, Mexico, and Turkey) tackled state-enterprise reform prior to, or in conjunction with, financial-sector reform, although the study rated only three of the reform efforts as being successful (Chile, Korea, and Mexico). At least three other developing countries (Argentina, Malaysia, and Pakistan) implemented substantial privatization programs during or after the initiation of financial liberalization. In general, it seems that state-enterprise reform occurred either coincidentally with or after financial liberalization, rather than as a precondition for financial liberalization.

Note, however, that some of the recent writers on public-enterprise reform (Demirgüç-Kunt and Levine, 1994; World Bank, 1995) urge the development of a deep financial system prior to state-enterprise reform as a condition that helps promote the success of the latter. These

[4] A country is defined as having state enterprise play a large role when at least one of the following criteria is satisfied: the share of GDP produced by state enterprises is at least 10 percent; the state-enterprise share of domestic credit is at least 10 percent or is much greater than the share of GDP (Bangladesh, Nepal, the Philippines); the state-enterprise share of gross domestic investment is at least 30 percent or is much higher than the share of GDP (Taiwan); net financial flows to state enterprises from government are at least 2 percent of GDP. The period used was the average for the 1978–85 period, except for Israel (1987), New Zealand (one year prior to privatization in the mid-1980s), and the United Kingdom (1979).

authors argue that because state banks are generally less effective than private financial intermediaries are in providing financial services, the deregulation and privatization of state enterprises can be expected to proceed more smoothly in an economy with a well-developed, private financial sector that can respond to the needs of the newly privatized enterprises. One might interpret recent history as a vote by policymakers in favor of this view.

Few countries seem to have heeded the advice to precede financial liberalization with the introduction of a system of prudential supervision, staffed by supervisors who have a high degree of independence of the political authorities and whose positions are well enough remunerated to be able to attract highly competent individuals to the job (see Figure 2). Two industrial countries, Germany and Japan, improved supervision prior to reforms, but the level of prudential regulation in Japan is still low by industrial-country standards, and Germany began with an already fairly liberal financial sector. Among the developing countries, only Israel, Morocco, and Peru strengthened prudential supervision prior to reforms, and only Peru raised the level substantially. Six more countries (Australia, Egypt, France, Mexico, New Zealand, and Taiwan) strengthened their systems of prudential supervision at the same time as they liberalized the financial system, but only France and New Zealand brought it to a level comparable to that in other industrial countries. In 1996, New Zealand moved away from traditional prudential supervision to a market-based system under which bank directors are responsible for monitoring and controlling risk and then disclosing comprehensive financial data to the public each quarter. Sixteen countries in the panel (Italy and Korea did not change their regulatory systems much over the period) waited at least two years after liberalization had begun before starting to improve prudential regulation and supervision; in most of these cases, the push for regulatory reform came after the effects of the first wave of reforms could be felt. However, nine of these sixteen countries now have systems of prudential regulation and supervision that are state of the art or that at least reflect where the art was until recently.

But it happens that the art of supervision now seems to be in the middle of its biggest upheaval for many years. This circumstance results from the widespread involvement of banks in the business of derivatives, which means that a bank's risk exposure can vary hour by hour as a result of changes in both its market positions and the market prices of the assets in which it trades. No snapshot of its balance sheet at a moment in time, such as supervisors have traditionally examined,

can hope to provide an adequate picture of its risk exposure. In reaction to a realization of this fact, the new idea is that supervisors should examine the risk-assessment framework employed by a bank to assure themselves that the bank has implemented policies that will suitably limit its risk exposure and then monitor the bank's compliance with its declared policies. The supervisors' monitoring is to be supplemented by the bank's obligation to disclose the nature of the policies it has in place, with severe penalties for misreporting.

Although the conventional wisdom has maintained that countries should liberalize interest rates and the flow of credit as soon as macroeconomic stability has been established, real reforms have been implemented, and a system of supervision has been put in place, an important undercurrent of thought has argued that other conditions are also necessary. Stiglitz (1994), in particular, concludes his influential examination of the policy implications of market failures in the financial market by arguing that the deposit interest rate should be capped at the Treasury bill rate, to prevent banks from exploiting the implicit subsidy provided by their being "too big to fail" and to safeguard against the risk of their gambling for resurrection by competing for deposits. Caprio (1995) argues that interest rates should be liberalized only when banks have positive net worth, bank managers have attained adequate sophistication in terms of their ability to judge credit risks, and financial markets are contestable, in addition to the standard conditions. Few countries have actually followed such a counsel of perfection.[5]

Another argument for "mild financial repression" has been advanced that applies to countries where widespread income-tax evasion and underdeveloped debt markets make it rational to resort to the inflation tax to help finance budget deficits (see, for example, Bencivenga and Smith, 1992). High reserve requirements and subsidized lending to the governments of such countries increase the base for the inflation tax, an increase that yields greater benefits where the need for government spending is high and the possibilities of raising tax revenue are limited. These benefits should be traded off against the efficiency gains that financial liberalization can be presumed to bring. Note that in Brazil, where fiscal deficits have continued to be high during the 1990s, there

[5] Note also that Williamson (1990, p. 13), when trying to summarize the extent of the consensus on the nature of the desirable policy reforms in Latin America as of 1989, included interest-rate liberalization as one of the ten areas of consensus but qualified it by noting that some would advocate maintaining a moderate real interest rate when crisis conditions were pushing the free-market rate up to extreme heights, advice that implies that some sort of ceiling on the interest rate might be needed.

are still high reserve requirements, and the banking system has continued to include a large public sector. Malaysia also ran very high deficits after its initial liberalization, but it has lowered them since the mid-1980s.

Sequencing: Capital-Account Liberalization

The majority of countries in our panel liberalized the capital account gradually—after domestic financial liberalization had occurred—in accord with the prevailing policy recommendation. Figure 2 reveals that this is the only dimension in which a majority of the countries that were financially repressed at the start of the period have followed the conventional wisdom on the sequencing of liberalization.

The traditional sequencing literature tended to regard capital-account liberalization as an all-or-nothing condition, but more recent writing has drawn important distinctions between inflows and outflows and between different kinds of flows. The traditional conditions are those that need to be in place to avoid excessive capital inflows, and meeting these requirements does not necessarily imply that it would be prudent to liberalize outflows. Similarly, liberalizing short- and long-term capital flows has different implications.

Bernhard Fischer and Helmut Reisen (1992) divide capital flows into inward and outward flows, long-term and short-term flows, and bank and nonbank flows. The authors recommend that capital controls on long-term inward flows and trade-related flows be liberalized immediately, because liberalization of these flows can be helpful even in the earliest stages of development. They recommend the removal of controls on both long- and short-term outflows only after sound government finances have been established, bad-loan problems have been resolved, and controls on domestic interest rates have been eliminated so that the differential between domestic and world interest rates is brought down to a low level. After the domestic financial system has been liberalized and weaknesses in domestic banks have been resolved, the authors recommend eliminating the barriers to foreign banks. Finally, the authors do not recommend liberalizing short-term capital inflows until a sufficient level of competition is present in the banking sector and a sound system of banking regulation and supervision is in place.

Williamson (1993) outlines the preconditions for prudent liberalization of inward versus outward capital flows. The preconditions for the removal of restrictions on inward flows are the establishment of nontraditional export industries, fiscal discipline, a liberalized import regime, and a liberalized (and healthy) domestic financial system. The retention of some controls on short-term capital flows (such as variable reserve

requirements on foreign borrowing) is also recommended, in order to guard against periods of excessive capital inflow. The preconditions for the removal of controls on capital outflows are more demanding. These are a policy regime that is regarded as permanent, the ability to manage demand by a measure of fiscal flexibility, and arrangements to limit erosion of the tax base.

Among our panel of thirty-four economies, three industrial countries, the United States, Canada, and Germany, and two developing economies, Hong Kong and Singapore, had largely liberal financial sectors and minimal controls on international capital flows over the entire period examined. Their cases are therefore not considered here. Our analysis of the remaining countries is divided into two categories—inflows and outflows—to more effectively address the issue of sequencing. Under each category, moreover, the liberalization of short-term and long-term flows is distinguished.

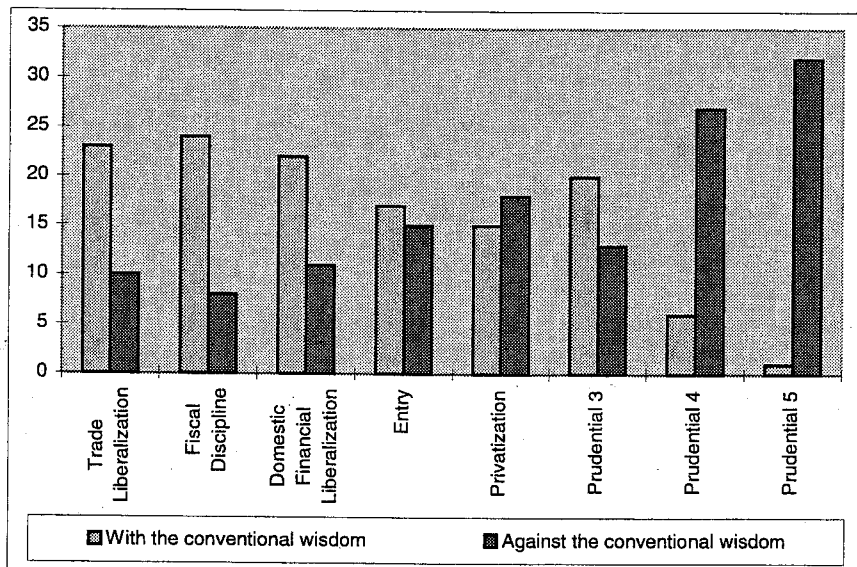
Inflows

According to Fischer and Reisen (1992), the liberalization of inward long-term investment and trade-related finance should be implemented as early as possible in the development process. Our definition of "long-term" includes both foreign direct and portfolio investment as well as borrowing using long-term bonds. Although there is still some debate about whether portfolio inflows are likely to be reversed quickly, we argue that an attempt to sell a large volume would result in a sharp decline in stock prices that would discourage further withdrawal. Most countries in the panel at least partly liberalized controls on trade-related finance and long-term capital inflows early in the liberalization process. Exceptions include Chile, Colombia, Korea, and the Philippines, where restrictions on long-term capital inflows or trade finance remained in place until well after economic liberalization was under way.

Figure 3 shows how often a number of the more conventional preconditions for prudent liberalization of short-term capital inflows were satisfied among the twenty-nine panel countries that began with a closed capital account. These were (1) the initiation of trade liberalization at least two years prior to the removal of capital controls, (2) an average fiscal deficit of less than 5 percent of GDP in the three years leading up to the removal of controls, (3) the introduction of domestic financial liberalization at least two years prior to deregulation, (4) the liberalization of entry into the banking sector (for domestic and foreign banks) at least two years prior to deregulation, (5) the reduction of

FIGURE 3

LIBERALIZATION OF SHORT-TERM CAPITAL INFLOWS



NOTE: See page 60 for a definition of Prudential 3, 4, and 5.

government ownership of the banking sector to less than 40 percent at least two years prior to deregulation, and (6) the presence of a system of prudential regulation and supervision adjusted for a market-based financial system.

It can be seen that most of the twenty-nine countries that began the period with a closed capital account waited until after fiscal discipline had been restored and trade and domestic liberalization had been initiated to relinquish controls on short-term capital inflows. However, many fewer countries introduced competition or prudential regulation of the banking sector before liberalizing short-term inflows. At the time the controls were eased, fifteen countries had significant restrictions on entry into the banking sector, eighteen had public-sector banks that accounted for at least 40 percent of total assets in the banking sector, and thirteen countries did not even meet the minimum standard of setting up a market-based system of financial regulation. Only Chile, in fact, in its second attempt at liberalization, had a well-developed system of prudential regulation and supervision prior to the opening of the capital account for short-term inflows.

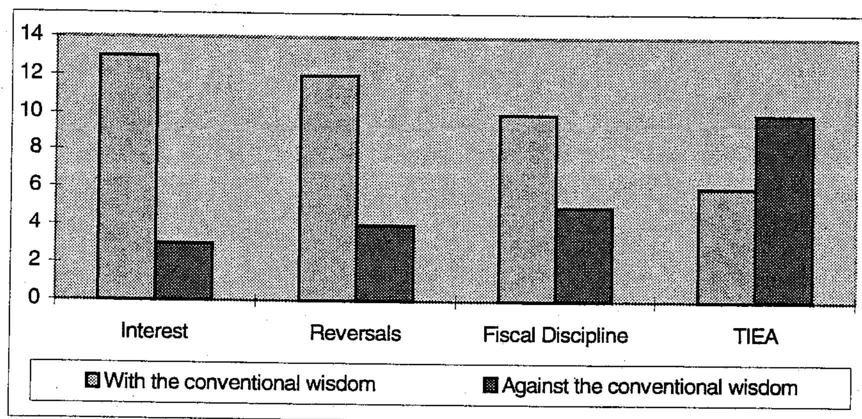
Outflows

According to Fischer and Reisen (1992) and Williamson (1993), the appropriate preconditions for liberalization of capital outflows are (1) the liberalization of domestic interest rates, (2) a policy regime regarded as permanent, measured here by the absence of a significant policy reversal within four years of the lifting of controls, (3) fiscal discipline, again defined as a fiscal deficit of less than 5 percent of GDP in the three years prior to the removal of controls, and (4) arrangements to limit the erosion of the tax base. We use the existence of a tax treaty with an information-sharing component (or an agreement on tax-information sharing) with the United States as a measure of the ability to collect taxes on wealth held abroad. Data on tax-information-sharing treaties were not available for other countries.

Figures 4 through 6 indicate that most of the countries in our panel waited to lift controls on capital outflows until interest rates were liberalized and fiscal discipline was established. Most countries also eased controls on capital flows either before or well after any significant policy reversals had occurred. Those countries that removed capital controls on outflows before interest-rate liberalization had occurred, or after controls on interest rates had been reimposed, are Indonesia, Korea, Malaysia, and Turkey. In addition, Israel, Italy, Japan, Malaysia, New Zealand, Pakistan, South Africa, Sri Lanka, and Turkey eased some

FIGURE 4

LIBERALIZATION OF SHORT-TERM CAPITAL OUTFLOWS



NOTE: TIEA refers to a tax-information-exchange agreement, or a treaty with a tax-information-sharing component, with the United States.

FIGURE 5

LIBERALIZATION OF OUTWARD FOREIGN DIRECT INVESTMENT

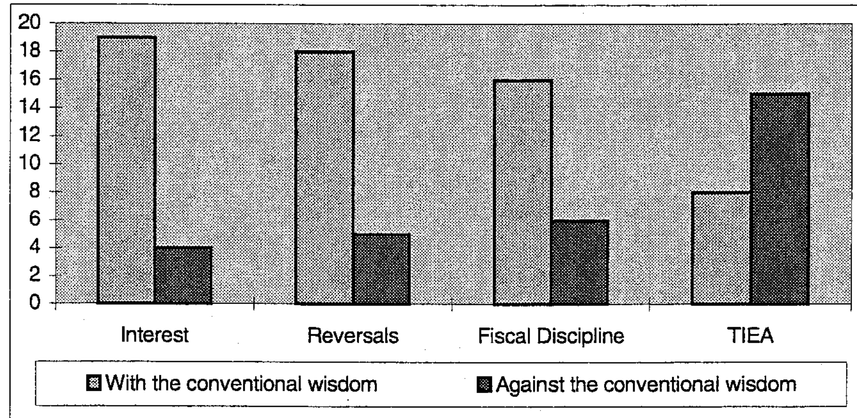
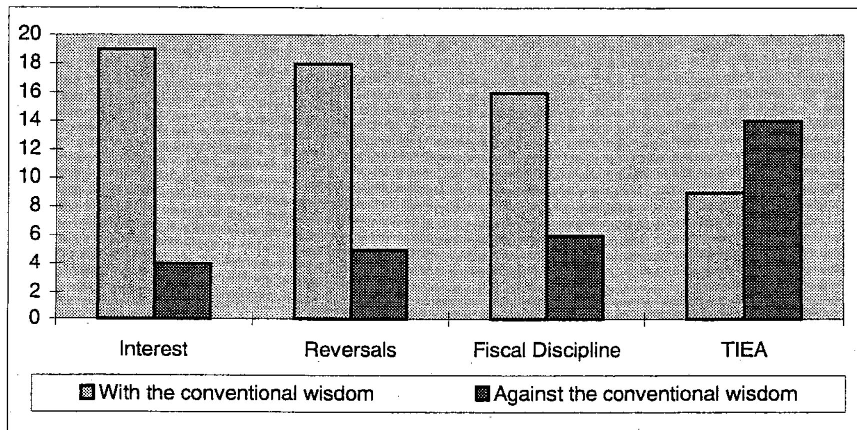


FIGURE 6

LIBERALIZATION OF OUTWARD PORTFOLIO INVESTMENT



controls on capital outflows during periods of high fiscal deficits. Fewer than half of the countries had a tax-information-sharing arrangement with the United States prior to liberalizing both short-term and long-term outflows.

Although it seems that most countries have eased restrictions on capital outflows in accordance with the policy recommendations in the literature, a large number of countries have liberalized short-term

inflows before competition or a reliable system of prudential regulation was in place in the banking sector. Indonesia, which opened its capital account for most inflows and outflows in the early 1970s, prior to domestic financial or trade liberalization, is often cited as a case in which "suboptimal" sequencing may have proven helpful. For a long time, it was common to argue that investors in Indonesia with concerns about the stability of the financial system were hedged against such risks even before the start of domestic financial liberalization in 1983 because of the open capital account (Chant and Pangestu, 1994). It has also been argued that the open capital account provided a helpful discipline on macroeconomic policy. These positive judgments have been sharply revised, however, since the 1997 crisis revealed that the Indonesian corporate sector had taken advantage of the open capital account to incur unhedged foreign-currency debt.

4 The Effects of Financial Liberalization

McKinnon (1973) and Shaw (1973) argued that an economy that holds the interest rate below its market-clearing value will generate less than the optimal amount of saving, thereby detracting from the pool available for investment. A smaller proportion of savings will be channeled through the formal financial system, presumably resulting in a less efficient allocation of investment. In addition, the low interest rate will make low-yielding projects profitable, and therefore, given a degree of randomness in bank lending decisions, there will be many low-yielding investments that will serve to reduce the average rate of return on investment. This section considers the effects of financial liberalization, reviewing the evidence from our thirty-four countries and economies and from recent literature, to assess whether these results have been realized.

Table 7 presents evidence about the impact of financial liberalization in seven areas. The first two columns indicate where there seems to be evidence that the effect of liberalization was to redirect the flow of credit from one sector to another. Although there are many cases in which credit seems to have been redirected, there is very little systematic pattern to the entries: for example, although manufacturing is claimed to have lost in three countries, it reportedly gained in Thailand. The third column asks whether there is country evidence of a more efficient allocation of credit among investments: the evidence is limited, but the bulk of our findings are consistent with the expectation that efficiency was improved.

Column 4 presents the evidence for financial deepening, by seeing what happened to the ratio of M2 to GDP.[6] In most cases, this ratio rose. Column 5 records instances in which there is evidence that liberalization had an impact on saving or consumption. Experience seems to be distinctly mixed: although liberalization permitted a consumption boom and reduced saving in several countries, econometric evidence suggests that saving was increased in Egypt. The sixth column records impacts on interest rates. Again, the evidence appears to be of surprisingly disparate impacts, with rates sometimes rising after the elimination of binding ceilings, sometimes being forced down by increased pressure on margins, and sometimes reversing over time, and not always in the same direction. There does seem to be agreement, however, that liberalized rates are rarely negative in real terms.

The last two columns show instances in which two possible negative effects of financial liberalization materialized. Column 7 records financial crises that have occurred since liberalization. Only Britain and Singapore were spared systemic crises, and several countries experienced more than one crisis. Column 8 examines whether there was a loss of monetary control. It seems that, although a number of countries experienced "teething problems" while they got used to new arrangements, the end result has almost always been to leave countries with a more effective, rather than less effective, system of monetary control.

Evidence for Financial Development and Growth

Several recent studies conclude that financial development contributes to economic growth. Using cross-country analysis, Robert King and Ross Levine (1993) find a significant, robust, and positive correlation between higher levels of financial development and faster current and future levels of economic growth, physical-capital accumulation, and economic efficiency.[7] Alan Gelb (1989) finds a positive correlation between the real interest rate (which he argues is a proxy for financial intermediation) and growth for thirty-four countries for 1965 to 1985. José De Gregorio and Pablo Guidotti (1992) find a positive correlation between credit to the private sector and growth for a sample of ninety-eight

[6] M2 is the sum of M1 (currency, travelers' checks, demand deposits, and other checkable deposits) plus savings deposits, small-denomination time deposits, and retail money-fund balances.

[7] Financial development in their study is proxied by four measures: M2 and M3 (M2 plus large time deposits, institutional money-fund balances, RP liabilities, and Eurodollars), bank deposits, bank credit to the private sector, and claims on the nonfinancial private sector.

TABLE 7

EFFECTS OF FINANCIAL LIBERALIZATION

	Reallocation of Credit Flows From	To	Efficiency of Investment Allocation	Financial Deepening	Impact on Saving and Consumption	Impact on Interest Rates	Financial Crisis	Monetary Control
United States	Home-building	Commercial real estate	No evidence	M2/GDP grew from 60% to 70% over 1980-87 but fell to 60% again by 1995.		Higher mortgage rates after liberalization, at least for a while.	S&L crisis, 1980-92.	
Canada				M2/GDP grew rapidly after "four pillars" abolished in 1992. The ratio increased from 52% in 1992 to 59% by 1995.			No bank failures over 1924-80. Financial crisis, 1983-85. Fifteen members of the Canadian Deposit Insurance Corporation failed, including two banks.	
Japan	Short-term lending	Long-term lending		M2/GDP increased from 84% in 1979 to 113% by 1995.		Short-term lending rates exceeded long-term rates over 1989-91. Home loan rates dropped fifty basis points following deregulation in 1994, and a wider variety of loans emerged.[a]	Crisis, 1992 to present. All types of financial institutions affected. Over $6 billion spent on bail-out of Jusen in 1996. The number of bad or potentially bad loans estimated at 12.3% of total loans from April to September 1997.	Timing and scope of short-term treasury bill sales by central bank improved. Buying of short-term treasury bills still limited, due to the thinness of the market.
Britain				M2/GDP stood at 37% in 1981 and grew to 46% by 1986. The series was redefined after 1987. M2/GDP under the new definition grew	Econometric evidence that financial liberalization contributed to the British consumption boom in the late 1980s presented in three re-	Real deposit rates positive in 1982, after at least ten years of negative real rates. Gap between lending and deposit rates fell in the mid-	No systemic problems. Three major banks (Johnson Matthey, Bank of Credit and Commerce International, and Barings) failed since	Improved. Loosening of exchange controls and integration of world markets reduced effectiveness of direct controls. Bank of England uses short-

				from 81% in 1987 to 109% in 1996.	cent studies.[b] Financial deregulation increased consumption by an estimated average of 2.9% per year (actual consumption growth was 3.8% per year).[c]	and late 1980s.	1984.	term interest rates to conduct monetary policy indirectly and more efficiently.
France				M2/GDP fell gradually from near 70% in 1980 to below 65% in 1995. Stock and bond market capitalization rose by 383% over 1980-90.		Positive real interest rates from 1985-96, following more than a decade of negative real deposit rates.	Nonperforming loans (NPLs) 8.9% of total loans in 1994. 15% of Credit Lyonnais' loans nonperforming. Other banks posted large losses in the 1990s.	Somewhat improved. Credit ceilings replaced by indirect monetary controls.
Germany[a]							Major problems with state-owned banks in East Germany after unification.	
Italy				M2/GDP declined rapidly in the early 1980s, prior to reform. The ratio stayed near 60% in the years following reform.		Spread between lending and deposit rates initially sticky but declined markedly after 1987. The spread dropped to a new low of under 6% over 1993-94.[d]	Financial institutions in south faced difficulties in the 1990s. NPLs 10% of total loans in 1995. Fifty-eight banks suffered setbacks and merged with other institutions over 1990-94. Ten banks were undercapitalized in 1994.	
Australia	Personal	Business		M2/GDP nearly doubled over 1980-95, increasing from 36% in 1980 to 61% in 1995. The ratio of credit to private final demand grew three		Some evidence of narrower margins between deposit and lending rates in the 1980s. Real interest rates near 10% between 1989 and 1991.	State governments forced to rescue several state-owned banks, amounting to 1.9% of GDP, over 1989-92. One large building society also failed.	Somewhat improved. Monetary policy now conducted through indirect instruments. Reduced-form relationships among interest rates, employ-

TABLE 7 *continued*

	Reallocation of Credit Flows From	To	Efficiency of Investment Allocation	Financial Deepening	Impact on Saving and Consumption	Impact on Interest Rates	Financial Crisis	Monetary Control
Australia *contd.*				times faster on average in the eight years followng deregulation than in the previous eight years.				ment growth, inflation, and growth of real credit not substantially changed after deregulation.[e]
New Zealand				M2 /GDP increased from 25% in 1984 to 77% in 1995. Econometric evidence suggested financial liberalization was positively related to growth in ratios of M3 to GDP and household credit to GDP.[f]	Financial liberalization contributed to decline in household saving since 1984, through better access to credit, lower inflation, and gain in income from stock and property market booms. Fall in corporate savings ratio in the late 1980s attributed to a shift in profits toward rentiers due to high real interest rates.[g]	Higher real interest rates in the late 1980s and early 1990s. Interest-rate spread fell initially and then rose over 1985-86.	One large state-owned bank required a capital injection of nearly 1% of GDP because of bad-loan problems in 1989-90. NPLs grew by 670% from April 1987 to April 1989.	Following liberalization, the Reserve Bank attempted to control the monetary base and was largely unsuccessful. However, interest rates began to lead monetary growth in 1988.[h]
Hong Kong				M3 grew 27% annually on average between 1981 and 1986.			Between 1982 and 1986, nine deposit-taking companies failed and eight banks experienced setbacks.	Currency board in place since 1982.
Indonesia	Manufacturing and agriculture.	Other (especially lending by private banks).	Despite weaker economic conditions, private investment grew relative to public investment over 1985-89. Firm-	M2/GDP increased steadily from 16% in 1983 to 39% in 1993.		After 1983, real interest rates no longer negative. Public-bank interest rates lagged behind private-bank rates	Difficulties, 1992 to present. NPLs (primarily from state-owned banks) 25% of total loans in 1993. NPLs declined to	Reforms eliminated the central bank's main credit-control tool without providing an immediate replacement. Open-

			level panel data confirm that credit was directed toward more efficient firms after liberalization and small firms were less financially constrained after reforms.[i]			until the 1990s. Flexibility in short-term interest rates helped manage liquidity crises in 1984 and 1987.	12% of total loans by late 1995.	market operations based on central-bank bills increasingly effective in the 1990s.
Korea	Manufacturing (especially light industries).	Services, utilities, construction, and other.	Variance of average cost of credit among firms decreased after liberalization.[j] Small firms' access to external finance improved after liberalization.[k]	M2/GDP increased from 33% in 1981 to 41% in 1995.		No significant change in nominal interest rates in the formal sector after liberalization in the mid-1980s. Real interest rates positive over 1983-96.	National commercial bank NPLs fell from 10.5% of total loans in the mid-1980s to 5.9% of total loans in 1989.	Indirect measures somewhat improved. Authorities imposed new credit ceilings in the late 1980s. Limited open-market operations in the 1990s.
Malaysia	Priority sectors	Real estate		M2/GDP increased from 42% in 1979 to 85% by 1995.		No negative real interest rates since 1974. Historically high interest rates during 1985-86.	Crisis, 1985-88. NPLs estimated at over 30% of total loans in 1988.	Somewhat improved with liberalization of the government securities market in 1986.
Philippines				M2/GDP fell from 28% in 1983 to 25% in 1988. The ratio jumped to 46% by 1995.	Growth of private-sector credit far outweighed growth of deposits after initial liberalization (1981-83). Bank credit to the private sector fell sharply in 1983.	Commercial-bank interest rates increased rapidly after 1984 but remained negative in real terms until 1986.	Crisis, 1981-87. NPLs 19% of total loans in 1986. Three commercial banks, 128 rural banks, and 32 thrift institutions failed during crisis.	Somewhat improved. Open-market operations conducted on limited scale in the 1990s. Secondary market more competitive recently.
Singapore	Manufacturing and general commerce. Began to decline in mid-1980s.)	Professionals and private individuals.		M2/GDP grew rapidly over 1978-95, increasing from 58% to 83%.		Determined by world interest rates since late 1970s.		Somewhat improved. Some open-market operations in secondary market.
Taiwan	Public enterprises	Individuals and government		M2/GDP rose by 230% from 1985 to		Bank-deposit and lending rates rose in	Fraud resulted in runs at two deposit-	

TABLE 7 *continued*

	Reallocation of Credit Flows From	To	Efficiency of Investment Allocation	Financial Deepening	Impact on Saving and Consumption	Impact on Interest Rates	Financial Crisis	Monetary Control
Taiwan *contd.*				the present.		1989. Lending rates fell after 1991-92.	taking institutions in 1995.	
Thailand	Wholesale and retail trade	Manufacturing and construction	Bank bills, loans, and overdrafts to private sector increased 5.8 times over 1981-94.	M2/GDP increased from 54% in 1985 to 74% in 1995.		Interest rates rose sharply over 1989-91.	Crisis, 1983-87. More than 25% of the financial system's assets affected. Crisis, 1997 to present. Bangkok Bank of Commerce rescued in May 1996. Trading of bank and finance company shares on stock exchange temporarily suspended in March 1997, in response to a high volume of bad loans. Fifty-eight finance companies shut down in 1997.	Somewhat improved. Open-market operations on limited scale.
Argentina			Econometric testing suggested a positive effect of financial liberalization on the quality of investment and a negative and weak effect on the quantity of investment.[l]	M2/GDP grew slightly from 1977 to 1981, from 14% to 19%. The ratio fell in the 1980s and fluctuated below 15% until 1994. The ratio reached 19% in 1996.	Bank credit to the private sector rose more rapidly than private-sector deposits, leading to declining private-sector savings rates in the late 1970s.[m]	Positive real interest rates in 1977 and 1981. Gap between deposit and lending rates widened after liberalization in 1977. Positive real interest rates since 1992.	Crisis, 1980-82. 9% of loans nonperforming in 1980. Crisis, 1989-90. 27% of loans nonperforming. Crisis, 1995 to present. Forty-five financial institutions closed or merged.	Improved
Brazil				M2/GDP increased from 13% in 1987 to 40% by 1993. The			Crisis, 1994 to present. Twenty-nine banks representing	

				ratio fell back down to 21% the following year.			over 15% of total deposits experienced difficulties.	
Chile				M2/GDP increased from 9% in 1974 to 34% in the 1990s.	Growth of private credit (over 1,000% in real terms over 1973-81) greatly exceeded that of private-bank deposits after the initial liberalization period, leading to lower private savings rates.	Real interest on loans rose sharply in 1975. Deposit rates positive in real terms after 1977.	Crisis, 1981-87. Thirteen banks and six NBFIs subject to intervention over 1981-83. Many others assisted.	Indirect monetary instruments introduced in 1975.
Colombia				M2/GDP stayed between 17% and 20% over 1980-95.			Fifteen percent of loans nonperforming in 1985-96. Some insolvent banks nationalized.	
Mexico			Financial constraints eased for small manufacturing firms after financial liberalization in 1989.[n]	M2/GDP fell from 25% in 1979 to 12% in 1988 but rose to 30% by 1995.		Positive real interest rates on deposits in the mid-1990s.	Crisis, 1982. Government nationalized troubled banks. Crisis, 1994 to present. NPLs 12% of total loans in 1995.	
Peru				M2/GDP doubled since 1991, reaching 22% in 1996.			High levels of NPLs over 1983-90. Two major banks failed during the same period.	
Venezuela				M2/GDP declined from 31% in 1991 to 23% in 1995.		Interest rates positive in real terms over 1991-93. Negative real interest rates over 1994-95.	Crisis, 1994 to present. Authorities intervened in thirteen banks that held 50% of all deposits in 1994.	

TABLE 7 *continued*

	Reallocation of Credit Flows From	To	Efficiency of Investment Allocation	Financial Deepening	Impact on Saving and Consumption	Impact on Interest Rates	Financial Crisis	Monetary Control
Egypt				Considerable financial deepening prior to liberalization in 1991. M2/GDP increased from 91% in 1991 to 97% in 1995.	In the three years after liberalization, financial saving increased on average LE 7 billion, or 6% of GDP, over that which would have occurred in the absence of liberalization.[o]	High real interest rates since 1991. Large differential between international and Egyptian interest rates following liberalization.	Four large public-sector banks given assistance over 1991-95.	Government treasury bills, introduced in 1991, now the main source of deficit finance.
Israel				M2/GDP increased from 61% in 1987 to 67% in 1995, below the 1984 level of 74%.		Spread between lending and deposit rates fell to 7% in 1993 (down from 34% in 1987). Interest rates on foreign-currency borrowing now within 1% of international rates. Positive real interest rates after 1993.	Crisis, 1983-84. Crisis brought on by difficulties in stock market. Banks largely undercapitalized prior to crisis. Government nationalized major banks in 1983.	Improved. Monetary policy now conducted through market-based instruments.
Morocco				M2/GDP increased rapidly after 1991, from 51% in 1991 to 65% in 1995				
South Africa				M2/GDP grew only slightly over the deregulation period from 1980 to 1989, from 50% to 53%.		Interest rates highly negative in the two years prior to deregulation. Real deposit rates slightly negative or positive until 1985. Positive real deposit rates in the	Official moratorium on external capital repayments in response to large short-term foreign liabilities of banks in 1985. One major bank (holding 15% of total	Improved. In 1990s, widespread use of indirect controls and lower inflation.

						1990s.	bank assets) recapitalized and several small banks liquidated or put under curatorship since 1989.	
Turkey				M2/GDP grew from 14% in 1980 to 24% in 1987. The ratio fell in the late 1980s and did not recover to its 1987 level until 1995. Foreign-exchange deposits grew 10% over 1984-90.		Negative real interest rates in the 1970s. Real interest rate on deposits climbed to near 20% over 1982-83.	Crisis, 1982. Several small banks and many brokerage houses failed. Crisis, 1991. Several bank runs. In 1994, three medium-size banks closed.	Open-market operations began in 1987.
Bangladesh				M2/GDP grew from 30% to 36% from 1989-95.		High real interest rates at nationalized commercial banks in the 1990s.	Difficulties, 1980s to present. 35% of loans of four major banks nonperforming in 1987. All domestic banks suffering from bad-loan problems since 1980.	
India				M2/GDP increased moderately over 1992-95, from 42% to 46%.			Almost 20% of the loans at twenty-seven public banks nonperforming in 1995. NPLs at public banks fell to 15% of total loans recently.	Not improved. Government continues to rely on direct controls. Agreement to end monetization of treasury's cash deficit over three years signed in 1994.
Nepal				Inefficiency among commercial banks resulted in low deposit mobilization in the 1990s. The loan-to-deposit ratio rose dramatically in the mid-1990s.		Intermediation spreads increased in the late 1980s and the 1990s.		Not improved. Government financing needs met by the central bank, undermining monetary discipline. Government successfully increased nonbank demand for govern-

TABLE 7 *continued*

	Reallocation of Credit Flows From	To	Efficiency of Investment Allocation	Financial Deepening	Impact on Saving and Consumption	Impact on Interest Rates	Financial Crisis	Monetary Control
Nepal *contd.*								ment securities with introduction of 1-year and 3-year government securities.
Pakistan				M2/GDP increased from 39% in 1991 to 44% in 1993. The ratio fell to 42% by 1997, mainly in response to the sharp slowdown in growth of rupee deposits during the 1996-97 crisis.			NPLs estimated to be about 30% of total loans in the 1995.	Open-market operations introduced in 1994-95.
Sri Lanka	Agriculture	Households and industry. Share of lending to commerce, industry, and housing sectors 70% in 1995.	Some evidence of higher variation among lending rates.[p]	M2/GDP and M3/GDP increased after 1977. Growth in both ratios flattened after 1981.		Higher real interest rates following liberalization. Large disparity between favored and unfavored interest rates in the 1980s. High lending rates attributed to high cost of business at inefficient state-owned commercial banks.	Thirty-five percent of the loans of two state-owned commercial banks nonperforming in 1993. Bonds totaling close to 5% of GDP issued to recapitalize these banks in the 1990s. NPLs declined to about 20% of total loans by 1997.	Somewhat improved. Greater emphasis placed on indirect instruments and open-market operations since 1992. Insufficient scope to conduct open-market operations in the early 1990s. Some control regained by the mid-1990s.

SOURCES: IMF, *International Financial Statistics*; IMF staff reports; Japan Economic Institute reports; OECD, *Economic Surveys*; World Bank development indicators; World Bank staff reports; annual reports of central banks; national economic surveys; news articles; also: Caprio, Atiyas, and Hanson, eds., *Financial Reform: Theory and Experience* (1994); Edwards, *Crisis and Reform in Latin America* (1995); Gupta, ed., *Experiences with Financial Liberalization* (1997); Inter-American Development Bank, *Economic and Social Progress in Latin America* (1996); Lindgren, Garcia, and Saal, *Bank Soundness and Macroeconomic Policy* (1996); World Bank, *The East Asian Miracle* (1993); Zahid, *Financial Sector Development in Asia* (1995); and as follows.

[a] OECD

[b] Lopez-Mejia, "Excess Smoothness, Excess Sensitivity of Consumption and Financial Liberalization"(1991); Bayoumi, "Financial Deregulation and Consumption in the United Kingdom" (1993); Darby and Ireland, "Consumption, Forward Looking Behavior, and Financial Deregulation" (1994).

[c] Darby and Ireland, "Consumption, Forward Looking Behavior, and Financial Deregulation" (1994).

[d] Cottarelli and Generale, "Bank Lending Rates and Financial Structure in Italy" (1995).

[e] Fahrer and Rohling, "Financial Deregulation and the Monetary Transmission Mechanism" (1990).

[f] Margaritis, Hyslop, and Rae, "Financial Policy Reform in New Zealand" (1994).

[g] Chapple, "Financial Liberalization in New Zealand" (1991).

[h] Margaritis, Hyslop, and Rae, "Financial Policy Reform in New Zealand" (1994).

[i] Harris, Schiantarelli, and Siregar, "The Effect of Financial Liberalization on Firm's Capital Structure and Investment Decisions" (1992).

[j] Cho, "Effect of Financial Liberalization on the Efficiency of Credit Allocation" (1988).

[k] Atiyas, "Financial Reform and Investment Behavior in Korea: Evidence from Panel Data"(1992).

[l] Morisset, "Does Financial Liberalization Really Improve Private Investment in Developing Countries?" (1993).

[m] Bisat, Johnston, and Sundararajan, "Issues in Managing and Sequencing Financial Sector Reforms" (1992).

[n] Gelos, "How Did Financial Liberalization in Mexico Affect Investment?" (1997).

[o] Hussain, "Financial Liberalization, Currency Substitution, and Investment" (1996).

[p] Athukorala and Rajapatirana, "Domestic Financial Market and the Trade Liberalization Outcome" (1993).

countries for 1960 to 1985, although their regressions for twelve Latin American countries for 1950 to 1985 find that credit had a significantly negative correlation with growth (the correlation was not significant in the 1950s and 1960s but became strongly negative in the 1970s and 1980s). Woo Jung (1986) finds that the causality between financial-sector development and economic growth runs in both directions, although slightly more often from financial development to growth. In sum, a positive impact of financial development on economic growth seems moderately well established.

Interest Rates

There is an empirical literature on the interest elasticity of saving and investment using a large cross-section of countries, but it yields contradictory evidence. Joshua Greene and Delano Villanueva (1991) find a negative and significant effect of real interest rates on investment, using twenty-three developing countries for the 1975–87 period. Alan Gelb (1989) finds a positive though weak relationship between aggregate investment and real interest rates. Panicos Demetriades and Michael Devereux (1992), with a sample of sixty-three developing countries and data spanning 1961 to 1990, find that the effect of higher interest rates on the cost of capital was stronger than the effect of an enhanced supply of investible funds, so that a higher interest rate diminished investment.

Maxwell Fry (1978, 1980, 1995) finds that, across a sample of fourteen Asian developing countries (including Turkey), the gross national savings rate is positively affected by increases in real interest rates. However, this finding was not robust to changes in the time period or region used (Giovannini, 1983, 1985). Fry (1995) himself concedes that the effect is small, diminishes in more recent years (perhaps in response to financial liberalization in those countries), and is more prevalent in Asia. A number of studies argue that in the cases of Japan and other East Asian countries, the high level of saving was the result, not of high interest rates, but of bank expansion into rural areas and the availability of low-yielding but safe deposit instruments. This assessment and the mixed quantitative results have led to an additional group of studies that test for nonlinear effects of interest rates on saving. Alejandro Reynoso (1989) finds evidence that saving increases rapidly as real interest rates move from sharply negative to just below zero, but that the effect levels off at low positive real rates of interest and becomes negative as real rates become highly positive.

If positive but low real interest rates show the most promise for increasing saving, has financial liberalization produced them? All the

countries in the panel moved away from negative real rates after liberalization, but some moved quickly to interest rates that were not only positive but very high in real terms. Following deregulation, Australia, Chile, Malaysia, New Zealand, Taiwan, Thailand, Turkey, and the United States all experienced sharp increases in some interest rates. In Sri Lanka, high real interest rates have emerged, doubtless partly as a result of the civil war, but arguably also of continued inefficiency at state-owned banks. This has led to increased disparity between favored and unfavored interest rates. Bangladesh has also experienced high real interest rates since the start of liberalization.

But there are also countries in which interest rates have fallen. Interest-rate spreads fell in Australia, Israel, Italy (after initial stickiness), New Zealand (although spreads rose again in 1986), and the United Kingdom, as a result of more competition. In Hong Kong and Singapore, which have had liberalized financial sectors over all or most of the period, interest rates have in general been positive and moderate in real terms.

Efficiency and Allocation of Investment

As reported above, a number of econometric studies have found a positive relationship between financial-sector development and economic growth. This raises the question of the mechanism through which the increased growth was achieved. Theoretical studies such as those by Jeremy Greenwood and Boyan Jovanovic (1989), Valerie Bencivenga and Bruce Smith (1991), Ross Levine (1992), and Gilles Saint-Paul (1992) present models in which the gains from increased financial development stem from increased efficiency in the allocation of investment rather than from a larger volume of investment. Gregorio and Guidotti (1992) estimate that some 75 percent of the positive correlation between financial intermediation and growth is due to increased investment efficiency, rather than an increased volume of investment. Gelb (1989) also finds that most of the positive association between real interest rates and growth stemmed from the efficiency effect rather than the level of investment.

The gains in investment efficiency after financial liberalization have been documented in a number of individual country studies using firm-level data. In the case of Ecuador, Fidel Jaramillo, Fabio Schiantarelli, and Andrew Weiss (1992) find that, after controlling for firms' other characteristics, there was an increase in the flow of credit to technologically more efficient firms after financial liberalization. This result was shown to be robust to changes in assumptions about production func-

tions and in estimation methods. It was the larger Ecuadorian firms that were the more technologically efficient, so that the flow of credit moved from smaller to larger firms after liberalization. The small-scale firms had been subsidized during the period prior to reform. The shift in credit toward large firms was therefore a case in which credit shifted to the area that had been discriminated against under the system of repression.

In Indonesia, credit was reallocated from manufacturing and agriculture to other sectors after financial deregulation. Studies by Siregar (1992), John Harris, Fabio Schiantarelli, and Miranda Siregar (1992), both cited in Caprio, Atiyas, and Hanson (1994, p. 77), find that, after liberalization, the more technologically efficient the firm, the greater the proportion of new credit it received. Credit tended to increase for both small and large firms, whereas it decreased for medium-size firms. Prior to liberalization, small firms had received some special access to credit, but this subsidy was given on only a small portion of total credit. In fact, most credit subsidies went to large firms with political connections. The primary groups that faced restricted credit access in the pre-reform regime were the small, young, non-Chinese-owned companies.[8]

For Korea, Atiyas (1992), again cited in Caprio, Atiyas, and Hanson (1994, p. 79), presents evidence that small firms gained improved access to external finance after liberalization. Credit flows moved from light industrial manufacturing to services, utilities, and construction. In a similar study, Gaston Gelos (1997) provides econometric evidence that financial constraints were eased for small firms in the Mexican manufacturing sector following financial liberalization. Jacques Morisset (1993) finds that although the effect of financial liberalization on the quantity of investment was weak (and even negative in some tests) in Argentina, the effect on the quality of investment was consistently positive. Hatice Pehlivan (1996) finds that Turkish banks have put more effort into gathering information on creditworthiness since liberalization. In Sri Lanka, there is some evidence of greater variation among the lending rates faced by different borrowers as risk has begun to be reflected in the terms of lending.

Although the bulk of the evidence seems to point to more efficient credit allocation, it is not unanimous. As mentioned above, Gregorio and Guidotti (1992) find that credit to the private sector was negatively related to growth in the 1970s and 1980s in Latin America; they attribute this negative correlation to inefficient lending by banks in light of poor

[8] Chinese-owned firms had access to foreign credit.

regulatory incentives. Following liberalization in Australia, firms increased their debt levels, and banks took on more risky loans. Although these outcomes do not in themselves mean that loans were inefficiently allocated, Philip Lowe (1992) presents evidence that Australian banks underinvested in effective screening methods in the 1980s and therefore lacked the capacity to engage prudently in high-risk lending.

Financial Deepening

The traditional measure of financial depth that we examined is the ratio of M2 to GDP, but it should be noted that this has been criticized on two grounds. First, in countries with well-developed capital markets, a deeper financial market may actually lead to a reduction in the ratio of M2 to GDP (this is less of a problem in developing countries, where the banking sector dominates the financial sector). Second, the M2 measure contains currency in circulation and demand deposits, which are highly liquid. It might therefore make more sense to use M2 – M1, quasi-money, to measure the size of the banking sector.

The ratio of M2 to GDP increased in six industrial countries after liberalization and fell only in France and Italy. In the case of New Zealand, Dimitri Margaritis, Dean Hyslop, and David Rae (1994) present econometric evidence showing that financial liberalization is positively related to growth in the ratio of M3 to GDP. The ratio of M2 to GDP increased substantially in eleven of the developing countries in our sample following liberalization and increased moderately in eight more, but it declined following liberalization in Colombia, the Philippines, Turkey, and Venezuela, and remained fairly constant in Sri Lanka. Overall, the expected positive impact of liberalization on the depth of the financial system seems reasonably well confirmed.

Saving and Consumption

Data on the correlation between financial liberalization and saving are, again, not completely consistent across countries. Although the evidence reviewed above suggests that financial-savings levels increased in most countries—and Nureldin Hussain (1996) calculates that, in the three years following reforms, financial savings in Egypt increased on average 7 billion Egyptian pounds (approximately 6 percent of GDP) over the level that would have occurred in the absence of financial liberalization—we found no persuasive evidence that total private savings tended to increase.

Tamim Bayoumi (1993a) estimates that financial deregulation in the United Kingdom resulted in a decline in the personal savings ratio of 2.3 percentage points over the 1980s. Simon Chapple (1991) finds that both household and corporate saving has fallen since liberalization in New Zealand. In the United States, the savings rate has fallen steadily since deregulation in the 1980s. Econometric estimates of the determinants of the ratio of private savings to disposable income in Turkey from 1971 to 1990 indicate that a negative income effect from higher interest rates offsets or exceeds the positive substitution effect on the private savings ratio (Uygur, 1993). There is also evidence of lower private savings rates following liberalization in Argentina, Chile, Colombia, and the Philippines. The case of Chile, however, suggests a possible indirect relationship between financial liberalization and savings rates. As suggested by Klaus Schmidt-Hebbel, Luis Servén, and Andrés Solimano (1994), the higher growth resulting from an increase in the efficiency of investment allocation could eventually lead to higher private saving. Savings rates did begin to recover in Chile in the mid-1980s, and they are now the highest in Latin America.

In addition to the evidence that savings rates might actually decrease after financial liberalization, there have been several cases in which financial liberalization seems to have led to a consumption boom. Evidence that financial liberalization contributed to the U.K. consumption boom in the late 1980s is offered in three separate studies (Lopez-Mejia, 1991; Bayoumi, 1993b; Darby and Ireland, 1994). Similarly, Mexico and Thailand experienced large increases in consumer lending after financial liberalization. Mexican banks rapidly expanded credit-card issues and loans for mortgages and automobile purchases after privatization. Thai lending for car purchases helped make Bangkok the largest market for Mercedes Benz automobiles outside of Germany prior to the 1997 crisis! The evidence therefore does not support the original McKinnon-Shaw claim that financial liberalization will increase saving.

Financial Crises

The fear that financial liberalization was destined to breed crises was first given wide currency by the title of Carlos Díaz-Alejandro's 1985 paper "Good-Bye Financial Repression, Hello Financial Crash." The penultimate column in Table 8 records that almost all of the thirty-four economies in our panel experienced some form of systemic financial crisis between the beginning of the 1980s and July 1997, and several suffered a new and severe crisis later that year (these last crises are not

TABLE 8

CAPITAL-ACCOUNT LIBERALIZATION AND FINANCIAL CRISES

Country (First Year of Financial Difficulties)	Capital Inflows		Liberalization within 5 Years Prior to Crisis
	Short-Term	Portfolio	
Severe Crisis			
Argentina (1980)	Open	Open	Yes
Argentina (1989)	Closed	Closed	n.a.
Argentina (1995)	Open	Open	Yes
Chile (1981)	Open	Open	Yes
Mexico (1994)	Open	Open	Yes
Venezuela (1994)	Closed	Closed	n.a.
Malaysia (1985)	Open	Open	No
Philippines (1981)	Closed	Closed	n.a.
Thailand (1997)	Open	Open	Yes
South Africa (1985)	Closed	Open	No
Turkey (1985)	Open	Closed	No
Turkey (1991)	Open	Open	Yes
Less Severe Crisis			
United States (1980)	Open	Open	No
Canada (1983)	Open	Open	No
Japan (1992)	Open	Open	No
France (1991)	Open	Open	Yes
Italy (1990)	Open	Open	Yes
Australia (1989)	Open	Open	Yes
New Zealand (1989)	Open	Open	Yes
Brazil (1994)	Closed	Closed	n.a.
Indonesia (1992)	Open	Open	No
South Korea (mid-1980s)	Closed	Open	Yes
Turkey (1994)	Open	Open	Yes
Sri Lanka (early 1990s)	Closed	Open	Yes

included in our data). Not all of these crises were associated with financial liberalization, but it seems fairly clear that the majority were.[9]

[9] Our classification of banking crises was taken from Lindgren, Garcia, and Saal (1996). Countries that experienced bank runs or other substantial portfolio shifts, collapses of financial firms, or massive government recapitalization are recorded as severe-crisis countries. Countries that experienced extensive unsoundness in the banking system short of a full-blown crisis are recorded as less-severe-crisis countries. Severe-crisis countries are listed in bold print.

No systemic problems: Britain, Morocco, Singapore.

Crises not associated with financial liberalization: Bangladesh, Colombia, Germany, Hong Kong, India, Israel, **Mexico** (1982), Pakistan, Peru, Taiwan, **Thailand** (1983).

Crises following financial liberalization: **Argentina** (1980, 1989, 1995), Australia, Brazil, Canada, **Chile**, Egypt, France, Indonesia, Italy, Japan, Korea, **Malaysia**, **Mexico** (1994), New Zealand, the **Philippines**, **South Africa**, Sri Lanka, **Thailand** (1997), **Turkey** (1982, 1991, 1994), the United States, **Venezuela**.

It is probably true that not all of the twenty-five crises recorded as following financial liberalization were a direct consequence of liberalization. In particular, it seems likely that in a number of cases, banks already had a large number of nonperforming loans at the time liberalization occurred, as a result of previous directed lending, and that the liberalization simply exposed portfolio weaknesses that had previously been hidden. Furthermore, some of these loans may have been serviced on time until trade liberalization occurred, but the shift in relative prices resulting from import liberalization may have been more than a weak enterprise could manage. Nevertheless, financial liberalization was at least a contributory factor in many cases. Certainly, Argentina (1980), Chile, Mexico (1994), the Philippines, Thailand, Turkey, the United States, and Venezuela are cases in point. The costs of these crises have run into the billions of dollars.

Two recent studies evaluate the correlation between financial-sector liberalization and banking crises. Carmen Reinhart and Graciela Kaminsky (1996) use cross-country probit estimations to detect causality between banking crises, balance-of-payments crises, and financial liberalization. Their results indicate that, although banking crises tend to precipitate balance-of-payment crises, the reverse is not true. It remains to be seen if this finding will continue to hold up after the recent experience in East Asia has been factored in; we suspect not. Importantly, however, Reinhart and Kaminsky find that financial-sector liberalization is positively and significantly related to subsequent banking crises.

Asli Demirgüç-Kunt and Enrica Detragiache (1997a), in a study that covers sixty-five countries from 1980 to 1994, use a number of macroeconomic and institutional variables to determine the probability of a banking crisis. They use three separate variables, which they argue are related to financial liberalization: the real interest rate, the share of

credit to the private sector, and growth in credit. Although all three variables are positively and significantly related to the probability of a banking crisis occurring, the study neither lays out a macroeconomic model capturing the interaction of these and other macroeconomic variables nor attempts to incorporate the extent of prudential regulation and supervision in the financial sector into the analysis. In addition, the real interest rate, credit to the private sector, and growth in credit are certainly also influenced by factors other than financial liberalization. In Demirgüç-Kunt and Detragiache (1997b), the authors revise their model by adding a dummy variable to capture the effect of financial liberalization, the coefficient of which is positive and significant, again indicating that liberalization increases the probability of a banking crisis.

Patrick Honohan (1997) alleges that the causes of banking crises span a wide spectrum. He classifies banking crises into three "syndromes": macroeconomic epidemics, microeconomic deficiencies, and endemic crises in a government-permeated system. The two latter categories describe the underdeveloped and government-managed financial systems often found under financial repression. Yet Honohan does not blame either repression or liberalization of the financial sector per se for the recent spate of banking crises. Instead, he points to regime changes as the primary culprit. According to Honohan (p. 10), these regime changes "altered the nature, scale, frequency, and correlation pattern of shocks to the economic and financial system, increasing the riskiness of traditional behavior, or introducing new and inexperienced players." Looking back on a number of developing-country cases, he defines the types of regime changes as financial repression, financial liberalization, macroeconomic instability, structural transformation, political developments, privatization, and technological innovation and globalization in finance. Of these, financial liberalization, structural transformation, privatization, and technological innovation and globalization often result from the financial-reform process.

The Honohan story can be traced through a number of countries in our panel. Argentina, Chile, the United States, and Venezuela all experienced rapid changes in the size of the financial sector following liberalization and saw a series of new and sometimes inexperienced players enter the financial sector. In Argentina, the financial sector grew faster than GDP grew in 1977, the year entry restrictions were eased. The number of financial intermediaries more than doubled in Chile during the 1974–80 period. In the United States, a number of new banks that entered after restrictions were loosened in the 1980s

subsequently failed. In Venezuela, banks that aggressively expanded after interest rates were liberalized rapidly bid up real interest rates to levels that began to erode the banks' capital (García-Herrero, 1997). Morris Goldstein and Philip Turner (1996) also cite inadequate preparation for financial liberalization as one of eight leading factors behind banking crises.

Michael Gavin and Ricardo Hausmann (1996) see the origin of banking crises as residing in a credit boom that allows almost any borrower to service its debt by borrowing from another source, thus depriving lenders of the information that they need in order to discriminate between sound and risky borrowers. If followed by a macroeconomic crisis, continued debt servicing becomes problematic, and many borrowers default on their loans. Elements of this story have clearly been seen following financial liberalizations in Chile, Mexico, and Thailand. In Chile during the late 1970s and early 1980s, recently privatized banks rapidly expanded lending, which "went bad" after the onset of macroeconomic turbulence, prompting a crisis. There is evidence of widespread distress borrowing in both Argentina and Turkey after liberalization. In both countries, the corporate sector experienced a decline in earnings during the early stages of liberalization. The liberalization of interest rates created a vicious cycle of unsustainably high interest rates at banks to cover growing numbers of nonperforming loans, and further distress borrowing by the corporate sector.

A recent paper by Gerard Caprio, Berry Wilson, and Anthony Saunders (1997) presents evidence that a rapid expansion of lending to consumers was a leading factor behind the collapse of Mexican banks in 1994. The authors observe that the boom in lending for consumption was partly a response to pent-up demand from previous financial repression and partly a response to the fact that exporters had grown accustomed to other methods of financing during the years of nationalization. They also cite inadequate supervision, a lack of proper incentives, and the existence of broad deposit insurance as factors that limited the need for bankers to diversify risks in the newly liberalized environment. (The current Thai financial crisis has also been attributed to rapidly expanding and concentrated lending in the property and consumer sectors under conditions of weak regulation and limited transparency.) All of these studies suggest that financial-sector vulnerability frequently develops after liberalization, even though it can also be argued that in some sense, the root cause of the weak banks was the preceding financial repression.

There seems to be little discernible pattern in the pace or sequence of reforms among the crisis countries. Of the nine countries that experienced severe crises after liberalization (Argentina, Chile, Malaysia, Mexico, the Philippines, South Africa, Thailand, Turkey, and Venezuela), six liberalized rapidly and three gradually. Five countries liberalized their financial systems in a stable macroeconomic environment, but three others stabilized during the process of liberalization. Malaysia had a significantly high fiscal deficit before and after liberalization. Seven countries liberalized their trade regimes before or during financial liberalization, and two had relatively closed regimes throughout the process. In the eight severe-crisis countries with large public-enterprise sectors, only three successfully reformed prior to, or in conjunction with, financial liberalization.

Many observers have argued that capital-account liberalization, especially liberalization of short-term flows, played a prominent role in propagating contagion in East Asia in 1997. The maintenance of capital controls seems, for example, to be the obvious reason why the South Asian countries escaped the crisis largely unscathed, when the much stronger economies of East Asia fell like dominoes after the original Thai crisis. Table 8 (p. 53) shows which of our crisis countries had open capital accounts at the time of their crises. It can be seen that in the majority of cases, the capital account was indeed open, but that there were also crises in countries where the capital account was closed, so that an open capital account is certainly not a necessary condition for a crisis. Furthermore, some of the crises in countries with open capital accounts (such as the savings and loan crisis in the United States) had nothing to do with an open capital account. It can also be seen (in the final column of Table 8) that in the majority of cases where the capital account was open, it had been opened rather recently (within the preceding five years), although there were again a significant number of exceptions. Of course, a more interesting comparison would examine the relative probability of a crisis occurring in a country with an open, rather than closed, capital account, instead of examining how many crisis episodes occurred in countries that had open, rather than closed, capital accounts. Demirgüç-Kunt and Detragiache (1997b) examine this question by including in their regression (which tests for the factors that increase the probability of a banking crisis) a dummy variable for the existence of capital controls interacted with the ratio of M2 to international reserves. Although the sign on the ratio of M2 to international reserves alone was positive, the interacted variable produced a negative sign of approximately the same magnitude. The authors

conclude that a high ratio of bank deposits to foreign-exchange reserves only increased the risk of a banking crisis occurring when the capital account was open.

Table 9 displays net private-capital inflows as a percentage of GDP in each of the severe-crisis countries during the first year of the crisis, and for two years and four years (2-year averages) prior to the crisis. If 3 percent of GDP is the threshold for a large capital inflow, only six of the fourteen episodes were marked by large capital inflows during the year of the crisis, and only seven during the year two years prior to the crisis. In sum, net private inflows exceeded a 3 percent threshold either in the years leading up to the crisis or during the crisis itself in nine of the fourteen episodes. Net private-capital inflows increased dramatically in the years leading up to the crisis in only four of the fourteen episodes. Ilan Goldfajin and Rodrigo Valdes (1997), cited in Reinhart and Kaminsky (1996, p. 14), point out that banking crises may also be fueled by a reverse in capital flows. The ratio of net private-capital inflows to GDP during the crisis year had fallen by over 35 percent from the average value during the two years prior to the crises in seven of the

TABLE 9

CAPITAL INFLOWS AND FINANCIAL CRISES

(*percentage*)

Country (First Year of Financial Difficulties)	Net Private-Capital Inflows / GDP			Short-Term Debt Stock / Exports
	Crisis Year	1 to 2 Yrs. Prior (Av.)	3 to 4 Yrs. Prior (Av.)	Crisis Year
Argentina (1980)	4.52	4.31	1.52	92.7
Argentina (1989)	0.40	0.89	2.28	70.8
Argentina (1995)	3.23	4.29	2.00	35.9
Chile (1981)	11.77	9.14	6.20	53.2
Mexico (1982)	4.62	5.01	4.13	85.2
Mexico (1994)	4.92	3.89	3.48	50.4
Venezuela (1994)	0.23	2.07	1.90	19.3
Malaysia (1985)	2.52	10.37	16.14	15.1
Philippines (1981)	2.52	2.59	4.11	106.6
Thailand (1983)	1.90	2.96	4.05	35.8
Thailand (1997)	7.30*	4.52	4.95	49.9*
South Africa (1985)	−0.81	0.70	0.31	n.a.
Turkey (1985)	0.15	0.48	0.22	36.2
Turkey (1991)	0.71	1.69	2.65	35.3

Sources: World Bank, *Global Development Finance 1998*.

* Crisis-year figures for Thailand are for 1996.

fourteen episodes. In Malaysia, the ratio dropped by over 75 percent during that period. The final column of Table 9 shows the ratio of the stock of short-term debt to exports during the year of the crisis. This ratio exceeded 50 percent in six of the thirteen episodes for which we have data, and it exceeded 30 percent in eleven of the thirteen cases. Once again, however, the more revealing comparison would focus on the likelihood of a crisis occurring in countries that have different levels of capital inflow or short-term debt, rather than on how many crises are associated with large inflows or high debt stocks.

A lack of prudential regulation and supervision seemed to be almost universal among the crisis countries. Evaluating the soundness of financial systems, Carl-Johan Lindgren, Gillian Garcia, and Matthew I. Saal (1996) provide a qualitative description of the status of prudential regulation and supervision in thirty-four countries in the years leading up to banking crises. They conclude that five of the countries had an adequate legal and supervisory framework on the books, but that even in these countries (Bolivia, France, Indonesia, Japan, and the United States), enforcement and supervision were weak. The rest of the countries had weak and inadequate regulatory systems and even weaker systems of supervision. Problems listed include confusion among various government agencies and the central bank about their respective responsibilities, weak licensing laws (especially in transitional economies), exclusion of certain loans under the regulatory umbrella, and, perhaps most prevalent, undertrained supervisory staff.

Regulation and supervision are important because of the previously noted problems of market failures stemming from limited information and limited liability. Bank managers who do not face an adequate regulatory framework will be tempted to engage in excessively risky lending when capital and franchise value decline. Banks may also be tempted to extend credit to groups with whom they have a relationship, or in a sector with which they are familiar, because of the high cost of obtaining information about other potential borrowers. A number of countries that allowed greater competition and autonomy in the banking sector without taking steps to minimize these perverse incentives quickly faced insolvency problems. Low capital-adequacy requirements, weak constraints on connected or concentrated lending, poor supervisory and legal systems, or some combination of these, were present in all of the countries that experienced difficulties after liberalization.

In the United States, the deregulation of the S&L institutions increased deposit-insurance levels, reduced minimum-capital levels, and allowed nonresidential real estate and consumer loans to comprise 70

percent of the S&Ls' loan portfolio. These changes encouraged the highly leveraged investments that became a primary cause of the failure of so many S&Ls in the 1980s. In Chile prior to 1982, and in the Philippines, banks were largely controlled by the corporate sector. After partial liberalization in the 1990s, the Venezuelan banking system was characterized by insider lending and loan concentration. And as noted above, the recent crises in Mexico and Thailand have been at least partly attributed to inadequate diversification of lending. It is perhaps significant that two of the three developing countries in our panel that strengthened prudential regulation and supervision before liberalizing (Peru and Israel) have not experienced a banking crisis since liberalization. The third country in this category, Morocco, has liberalized too recently to permit conclusions about the effects.

In order to evaluate each economy's preparedness for liberalization, we constructed an index of the level of prudential regulation and supervision in thirty-three of our economies for the period from 1973 to 1995 (Nepal is not included).[10] The index ranges from 5 to 1, as follows:

- 5 Indicates that a complete set of prudential regulations based on sound bank accounting standards is in place, that capital-adequacy norms conform to the standards of the Bank for International Settlements, and that strong bank supervision exists on and off site.
- 4 Means that the country has established the above-mentioned system of regulation and supervision but that the program has not been entirely implemented.
- 3 Signifies that regulatory laws have been adjusted for a market-based financial system but that the laws are not fully enforceable. In addition, supervision remains in an embryonic state.
- 2 Indicates that at least a minimal program of prudential regulation is in place and that legal and organizational arrangements for bank supervision have been adjusted for a market-based system.
- 1 Means that there are almost no appropriate prudential regulations or facilities to supervise banks.

First, we looked at the average level of prudential regulation and supervision in all the countries that experienced financial crises, regardless of whether the crisis occurred before or after liberalization. Table 10 confirms that the level of prudential regulation and supervision before

[10] Data were gathered from government and central-bank reports where available. IMF and World Bank staff reports were also used. For the Latin American countries, heavy use was made of Morris et al. (1990) for the earlier years.

TABLE 10
AVERAGE LEVEL OF PRUDENTIAL REGULATION AND SUPERVISION IN FIVE YEARS PRECEDING EVENT

		Preceding Crisis		Preceding Liberalization*
Severe-Crisis Countries		2.0		1.8
Less-Severe-Crisis Countries		2.5		2.2
Less-Severe-Crisis Developing Countries		2.1		2.0
Noncrisis Countries	1970s		1980s	1973–1995
Britain	3.0		3.6	3.8
Singapore	3.1		4.0	3.8
Morocco	2.0		2.0	2.1

Chi-Square Tests for Independence

1981–1985	Not Significant
1986–1990	Not Significant
1991–1995	Significant (5 to 10 percent)

SOURCES: Government and central-bank reports where available; IMF and World Bank staff reports; for earlier years in the Latin American countries, Morris et al., *Latin America's Banking System in the 1980s: A Cross-Country Comparison* (1990).

NOTES: The regulation and supervision variable ranges from 1 to 5 and was constructed from individual country studies. The chi-square test tests the null hypothesis that a banking crisis is independent of the average level of prudential regulation in the five years preceding the crisis.

* Countries not experiencing a crisis after financial-sector liberalization are excluded.

trouble started was higher in countries that experienced less severe crises than in those that suffered more severe crises, and it was higher still in two of the three economies (Singapore and the United Kingdom) that experienced no systemic banking difficulties over the entire 1973–95 period.[11] It is also apparent that countries that experienced severe crises after financial liberalization had lower levels of prudential regulation and supervision prior to liberalization than countries that experienced non-severe crises. Both these relationships also hold, albeit marginally, if we remove the industrialized countries from the non-severe-crisis group.

We also conducted chi-square tests using the entire panel over three five-year periods from 1981 to 1995. The test examines whether the occurrence of a banking crisis over the five-year period is independent of the average level of prudential regulation and supervision in the

[11] The severe crisis in Thailand in 1997 is not included in this analysis.

previous five-year period. The results are not significant for the first two periods. An examination of the raw data reveals that most countries in the study had low levels of regulation and supervision until the mid-1980s. In the late-1980s, however, a number of countries made efforts to improve their regulatory framework. Interestingly, the results become significant in the last period. There is thus some empirical support for the widespread belief that good supervision is a crucial element in avoiding the progression from liberalization to crisis.

Monetary Control

Another danger that people used to fear would result from financial liberalization is a loss of monetary control. When countries conduct monetary policy through direct credit controls, there is no need for sophisticated money and bond markets. Moving to indirect monetary controls, however, requires the existence of competitive primary and secondary markets for government bonds.

Several countries in our panel did suffer from a loss of monetary control immediately following liberalization. New Zealand had problems controlling the monetary base following its rapid financial-sector liberalization. Indonesia, too, lost monetary control when it lifted credit controls and lacked any tool to replace them immediately. Korea was forced to impose new credit ceilings in the late 1980s to reestablish some monetary control. In Sri Lanka, the move toward indirect monetary-policy instruments in the early 1990s initially reduced monetary control because the market for government debt was still underdeveloped.

As open-market operations became more effective, however, monetary discipline was subsequently restored in most of these countries. Indeed, monetary control has improved since liberalization in thirteen of our panel countries. In Japan, the Bank of Japan has had more freedom to determine the timing and volume of sales of short-term treasury bills since liberalization. In the United Kingdom, direct controls became unreliable as international capital markets were further integrated in the 1980s, and the move to indirect controls has reestablished monetary control. And in Indonesia, financial liberalization has resulted in a deeper market for central-bank bills in the 1990s, making monetary control more effective. Malaysia has seen improved monetary control since liberalization of the Malaysian government securities market. Egypt has successfully introduced government treasury bills as the main source for deficit finance. Both Israel and South Africa have improved monetary control since the introduction of indirect controls. Finally, Sri Lanka had regained control over monetary expansion by 1997.

5 Conclusion

Financial-sector liberalization can be seen to have occurred across a wide range of countries since 1973, even without considering the most dramatic cases, namely, the economies in transition. Most developing countries have now at least partly liberalized their financial sectors. The process has varied widely, however, in terms of both speed and sequencing.

The evidence suggests that financial liberalization has yielded positive results in terms of greater financial depth and increased efficiency in the allocation of investment but that it has not brought the boost in saving predicted by McKinnon and Shaw. There is suggestive, but as yet inconclusive, evidence that a positive, but modest, real interest rate may be the most conducive route to securing a high level of saving, and it also seems likely that a positive rate is the optimal outcome from the standpoint of avoiding financial crises. The danger that liberalization will lead to such a crisis is by far the most important drawback in the process; the other potential danger, a loss of monetary control, tends to be a strictly temporary phenomenon.

The policy problem is therefore that of designing a liberalization program that does not bring with it the danger of a financial crisis. There do not seem to be many generally accepted conclusions as to how this can be done, beyond the advice to start with macroeconomic stabilization and improved supervision and to leave capital-account liberalization until the end. The main additional recommendation is to create a period of what has been termed "mild financial repression," meaning the maintenance of a ceiling on the deposit interest rate. Three arguments have been advanced in favor of this suggestion (Stiglitz, 1994):

- Banks do not, in any event, auction off loans to the highest bidder; they lend, instead, to the potential borrower that offers the most attractive combination of return and risk, so that the nature of the lending process is not fundamentally changed. So long as the real interest rate is positive, so that all credit goes to projects that are expected to yield a positive real rate of return, the harm done to the efficiency of investment allocation may be no more than marginal. If the real interest rate is very high, only borrowers with high-return, high-risk projects are likely to be willing to borrow (and a bank may wish to "gamble for resurrection" by lending to such borrowers), a scenario that will result in an excessively risky portfolio.
- Given that banks have to be bailed out by the government when they fail (even in the absence of *de jure* deposit insurance), it is inappropriate

for a bank to borrow at a higher interest rate than that paid by the government. A bank in trouble that enjoys deposit insurance, however, has a motive to "gamble for resurrection" by offering high interest rates.

- A below-market interest rate redistributes income from households to firms or banks, which may well raise saving and may (if the government follows some of the better practices pursued in East Asia) allow the government to sharpen entrepreneurial incentives.

The first of these arguments is convincing, although it is an argument that not much damage is done rather than that the proposal is positively desirable, at least unless interest rates become extremely high. The second argument is more controversial, because not everyone agrees that it is good policy to bail out as automatically as is implied (because of moral-hazard concerns). Furthermore, a careful examination of the historical record in five cases where depositors were required to bear some of the losses incurred by banks does not suggest that the outcome need be bad, provided that the authorities undertake a comprehensive restructuring that assures the public that the banks that remain open will indeed be viable (Baer and Klingebiel, 1995). The third argument depends on other governments emulating those East Asian countries, such as Korea, that succeeded in designing their credit policies so as to provide prizes to the entrepreneurs that exerted the greatest effort. But even if one is not convinced that a permanent ceiling on the deposit rate would make sense, a temporary ceiling—maintained until such time as a free market backed up by transparent reporting, effective supervision, and free entry (including by foreign banks) can be relied on to compete interest spreads down—would seem to offer the most hopeful safeguard against the development of a financial crisis.

Another argument for limiting the speed of liberalization relates to the possible need to maintain high spreads during a transitional period, until banks have been able to work off the legacy of bad debts inherited from the period of repression. Free entry may preclude adopting this strategy. In particular, this consideration may argue against an immediate move to allow foreign banks to enter freely into a country where the banks are suffering financial fragility. The need to keep the franchise value high enough to prevent gambling for resurrection would seem to be a more urgent issue than free entry.

A third consideration relates, not to the process of liberalization, but to the design of the incentives to be imposed on banks in the steady state. The incentive to "gamble for resurrection" arises because the leveraging of the bank's capital gives bank owners all of the benefits if

things go well, whereas all of the costs, except an initial quota, fall on others if things go badly. The obvious solution is to limit the permissible leverage by imposing a minimum required ratio of capital to assets. This would mean that owners continue to bear a substantial loss if things turn out badly. The 8 percent capital-asset ratio mandated by Basle has now become an international norm; this is certainly an improvement over the previous absence of any international norm, but it can be argued that, in most developing countries, an even higher figure would be appropriate to reflect the riskier environment in which these countries operate (Caprio, Atiyas, and Hanson, 1994). Another interesting idea, which is now being introduced in Argentina, is to obligate the banks to issue at least half of their capital in the form of subordinated debt, with the aim of introducing a market in which pricing directly reflects assessments of the risks that each bank is running, without the contamination of this information by the hopes of upside gains that are inherent in the pricing of the bank's equity.

The record of financial liberalization to date has been distinctly mixed. We have argued that the gains offered by liberalization are very real but that liberalization does carry risks. We have also argued that those risks can be much reduced, specifically by giving proper attention to regulation and supervision, by maintaining a ceiling on the deposit interest rate, at least until the liberalized system is well established, and by delaying, and perhaps limiting, capital-account convertibility.

References

Athukorala, Premachandra, and Sarath Rajapatirana, "Domestic Financial Market and the Trade Liberalization Outcome: Evidence from Sri Lanka," *World Development*, 21 (July 1993), pp. 1191–1201.

Atiyas, Izak, "Financial Reform and Investment Behavior in Korea: Evidence from Panel Data," Development Economics Department, Washington, D.C., World Bank, 1992.

Baer, Herbert, and Daniela Klingebiel, "Systemic Risk When Depositors Bear Losses, Five Case Studies," *Research in Financial Services: Private and Public Policy*, 7 (1995), pp. 195–305.

Bayoumi, Tamin, "Financial Deregulation and Consumption in the United Kingdom," *Review of Economics and Statistics*, 75 (August 1993a), pp. 536–539.

———, "Financial Saving and Household Saving," *Economic Journal*, 103 (November 1993b), pp. 1432–1443.

Bencivenga, Valerie R., and Bruce D. Smith, "Financial Intermediation and Endogenous Growth," *Review of Economic Studies*, 58 (April 1991), pp. 195–209.

———,“Deficits, Inflation, and the Banking System in Developing Countries: The Optimal Degree of Financial Repression,” *Oxford Economic Papers*, 44 (October 1992), pp. 235–258.

Bisat, Amer, R. Barry Johnston, and V. Sundararajan, “Issues in Managing and Sequencing Financial Sector Reforms: Lessons from Experiences in Five Developing Countries,” International Monetary Fund Working Paper No. 92/82, Washington, D.C., International Monetary Fund, October 1992.

Caprio, Gerard, Jr., “Banking on Financial Reform? A Case of Sensitive Dependence on Initial Conditions,” in Caprio, Atiyas, and Hanson, eds., *Financial Reform*, 1994, pp. 49–63.

———,“Interest Rate Deregulation,” DEC Policy Review Note 3, Development Economics Department, Washington, D.C., World Bank, April 1995.

Caprio, Gerard, Jr., Izak Atiyas, and James Hanson, eds., *Financial Reform: Theory and Experience*, New York, Cambridge University Press, 1994.

Caprio, Gerard, Jr., Barry Wilson, and Anthony Saunders, “Mexico’s Banking Crisis: Devaluation and Asset Concentration Effects,” Development Economics Department, Washington, D.C., World Bank, October 1997.

Chant, John, and Mari Pangestu, “An Assessment of Financial Reform in Indonesia, 1983-90,” in Caprio, Atiyas, and Hanson, eds., *Financial Reform*, 1994, pp. 223–275.

Chapple, Simon, “Financial Liberalization in New Zealand, 1984-90,” United Nations Conference on Trade and Development Discussion Paper No. 35, Geneva, UNCTAD, March 1991.

Chelliah, Raja J., *Towards Sustainable Growth: Essays in Fiscal and Financial Sector Reforms*, New Delhi, Oxford University Press, 1996.

Cho, Yoon Je, “Effect of Financial Liberalization on the Efficiency of Credit Allocation: Some Evidence from Korea,” *Journal of Development Economics*, 29 (July 1988), pp. 101–110.

Cottarelli, Carlo, Giovanni Ferri, and Andrea Generale, “Bank Lending Rates and Financial Structure in Italy: A Case Study,” International Monetary Fund Working Paper No. 95/38, Washington, D.C., International Monetary Fund, April 1995.

Darby, Julia, and Jonathan Ireland, “Consumption, Forward Looking Behavior, and Financial Deregulation,” Discussion Paper No. 20, Glasgow, University of Strathclyde, March 1994.

De Gregorio, José, and Pablo E. Guidotti, “Financial Development and Economic Growth,” International Monetary Fund Working Paper No. 92/101, Washington, D.C., International Monetary Fund, December 1992.

Demetriades, Panicos O., and Michael P. Devereux, “Investment and ‘Financial Repression,’ Theory and Evidence from 63 LDCs,” Working Paper in Economics 92/16, Keele University, December 1992.

Demirgüç-Kunt, Asli, and Ross Levine, “The Financial System and Public Enterprise Reform: Concepts and Cases,” Policy Research Working Papers No. 1319, Washington, D.C., World Bank, July 1994.

Demirgüç-Kunt, Asli, and Enrica Detragiache, "The Determinants of Banking Crises: Evidence from Developed and Developing Countries," International Monetary Fund Working Paper No. 97/106, Washington, D.C., International Monetary Fund, September 1997a.

———, "Banking Crises Around the World: Are There Any Common Threads?" Development Economics Department, Washington, D.C., World Bank, October 1997b.

Díaz-Alejandro, Carlos, "Good-Bye Financial Repression, Hello Financial Crash," *Journal of Development Economics*, 19 (September-October 1985), pp. 1–24.

Edwards, Sebastian, *The Order of Liberalization of the External Sector in Developing Countries*, Princeton Essays in International Finance No. 156, Princeton, N.J., Princeton University, International Finance Section, December 1984.

———, *Crisis and Reform in Latin America: From Despair to Hope*, New York, Oxford University Press, 1995.

Fahrer, Jerome, and Tom Rohling, "Financial Deregulation and the Monetary Transmission Mechanism," Research Discussion Paper No. 9008, Sydney, Reserve Bank of Australia, November 1990.

Fischer, Bernhard, and Helmut Reisen, "Towards Capital Account Convertibility." OECD Development Centre Policy Brief No. 4, 1992.

Fry, Maxwell J., "Money and Capital or Financial Deepening in Economic Development?" *Journal of Money, Credit, and Banking*, 10 (November 1978), pp. 464–475.

———, "Saving, Investment and Growth, and the Cost of Financial Repression," *World Development*, 8 (April 1980), pp. 317–327.

———, *Money, Interest, and Banking in Economic Development*, 2nd ed., Baltimore and London, Johns Hopkins University Press, 1995 (previously published 1988).

García-Herrero, Alicia, "Banking Crises in Latin America in the 1990s: Lessons from Argentina, Paraguay, and Venezuela," International Monetary Fund Working Paper No. 97/140, Washington, D.C., International Monetary Fund, October 1997.

Gavin, Michael, and Ricardo Hausmann, "The Roots of Banking Crises: The Macroeconomic Context," in Ricardo Hausmann, and Liliana Rojas-Suarez, eds., *Banking Crises in Latin America*, Washington, D.C., Inter-American Development Bank, 1996.

Gelb, Alan H., "Financial Policies, Growth, and Efficiency," World Bank Research Working Papers No. 202, Washington, D.C., World Bank, June 1989.

Gelos, Gaston, "How Did Financial Liberalization in Mexico Affect Investment? Evidence from the Manufacturing Sector," Department of Economics, Yale University, 1997.

Giovannini, Alberto, "The Interest Elasticity of Savings in Developing Countries: The Existing Evidence," *World Development*, 11 (July 1983), pp. 601–607.

———, "Saving and the Real Interest Rate in LDCs," *Journal of Development Economics*, 18 (August 1985), pp. 197–217.

Goldfajn, Ilan, and Rodrigo O. Valdes, "Capital Flows and the Twin Crises: The Role of Liquidity," International Monetary Fund Working Paper No. 97/87, Washington, D.C., International Monetary Fund, July 1997.

Goldstein, Morris, and Philip Turner, "Banking Crises in Emerging Economies: Origins and Policy Options," BIS Economic Papers No. 46, Basle, Bank for International Settlements, October 1996.

Greene, Joshua, and Delano Villanueva, "Private Investment in Developing Countries: An Empirical Analysis," *International Monetary Fund Staff Papers*, 38 (March 1991), pp. 33–58.

Greenwood, Jeremy, and Boyan Jovanovic, "Financial Development, Growth, and the Distribution of Income," National Bureau of Economic Research Working Paper No. 3189, Cambridge, Mass., National Bureau of Economic Research, December 1989.

Gupta, Kanhaya L., ed., *Experiences with Financial Liberalization*, Boston, Kluwer, 1997.

Honohan, Patrick, "Banking System Failures in Developing and Transitional Countries: Diagnosis and Prediction," BIS Working Papers No. 39, Basle, Bank for International Settlements, January 1997.

Harris, John R., Fabio Schiantarelli, and Miranda G. Siregar, "The Effect of Financial Liberalization on Firm's Capital Structure and Investment Decisions: Evidence for a Panel of Indonesian Manufacturing Establishments 1981-88," World Bank Working Paper No. 997, Washington, D.C., World Bank, October 1992.

Hussain, M. Nureldin, "Financial Liberalization, Currency Substitution, and Investment: The Case of Egypt," African Development Bank Economic Research Papers No. 24, Addis Ababa, African Development Bank, 1996.

Inter-American Development Bank, *Economic and Social Progress in Latin America*, Baltimore, Johns Hopkins University Press, 1996.

Jaramillo, Fidel, Fabio Schiantarelli, and Andrew Weiss, "The Effect of Financial Liberalization on the Allocation of Credit: Evidence from a Panel of Ecuadorian Firms," World Bank Working Paper No. 1092, Washington, D.C., World Bank, February 1992.

Jung, Woo S., "Financial Development and Economic Growth: International Evidence," *Economic Development and Cultural Change*, 34 (January 1986), pp. 333–346.

King, Robert G., and Ross Levine, "Finance, Entrepreneurship, and Growth: Theory and Evidence," *Journal of Monetary Economics*, 32 (December 1993), pp. 513–542.

Levine, Ross, "Financial Intermediary Services and Growth," *Journal of Japanese and International Economies*, 6 (December 1992), pp. 383–405.

Lindgren, Carl-Johan, Gillian Garcia, and Matthew I. Saal, *Bank Soundness and Macroeconomic Policy*, Washington, D.C., International Monetary Fund, 1996.

Lopez-Mejia, Alejandro, "Excess Smoothness, Excess Sensitivity of Consumption and Financial Liberalization: The U.K. Evidence," Department of Economics Paper No. 239, University of London, Queen Mary and Westfield College, July 1991.

Lowe, Philip, "The Impact of Financial Intermediaries on Resource Allocation and Economic Growth," Research Discussion Paper No. 9213, Sydney, Reserve Bank of Australia, December 1992.

Margaritis, Dimitri, Dean Hyslop, and David Rae, "Financial Policy Reform in New Zealand," in Caprio, Atiyas, and Hanson, eds., *Financial Reform*, 1994, pp. 140–183.

McKinnon, Ronald I., *Money and Capital in Economic Development*, Washington, D.C., Brookings Institution, 1973.

———, *The Order of Economic Liberalization: Financial Control in the Transition to a Market Economy*, Baltimore, Johns Hopkins University Press, 1993.

Morisset, Jacques, "Does Financial Liberalization Really Improve Private Investment in Developing Countries?" *Journal of Development Economics*, 40 (February 1993), pp. 133–150.

Morris, Felipe, Mark Dorfman, José Pedro Ortiz, and Maria Claudia Franco, *Latin America's Banking System in the 1980s: A Cross-Country Comparison*, Washington D.C., World Bank, 1990.

Pehlivan, Hatice, "Financial Liberalization and Bank Lending Behavior in Turkey," *Savings and Development*, 20 (No. 2, 1996), pp. 171–187.

Reinhart, Carmen, and Graciela Kaminsky, "The Twin Crises: The Causes of Banking and Balance-of-Payments Problems," International Monetary Fund Seminar Series No. 96/12, Washington, D.C., International Monetary Fund, December 1996.

Reynoso, Alejandro, "Financial Repression, Financial Liberalization, and the Interest Rate Elasticity of Developing Countries," Ph.D. diss., Massachusetts Institute of Technology, 1989.

Saint-Paul, Gilles, "Technological Dualism, Incomplete Financial Markets, and Economic Development," *Journal of International Trade and Economic Development*, 1 (June 1992), pp. 13–26.

Schmidt-Hebbel, Klaus, Luis Servén, and Andrés Solimano, "Saving, Investment, and Growth in Developing Countries: An Overview," Policy Research Working Papers No. 1382, Washington, D.C., World Bank, November 1994.

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

Siregar, Miranda G., "Financial Liberalization, Investment, and Debt Allocation," Ph.D. diss., Boston University, 1992.

Stiglitz, Joseph E., "The Role of the State in Financial Markets," in Michael Bruno and Boris Pleskovic, eds., *Proceedings of the World Bank Conference on Development Economics, 1993: Supplement to The World Bank Economic Review and The World Bank Research Observer*, Washington, D.C., World Bank, 1994, pp. 19–52.

Stiglitz, Joseph E., and Marilou Uy, "Financial Markets, Public Policy, and the East Asian Miracle," *World Bank Research Observer*, 11 (August 1996), pp. 249–276.

Uygur, Ercan, "Liberalization and Economic Performance in Turkey," United Nations Conference on Trade and Development Discussion Papers No. 65, Geneva, UNCTAD, August 1993.

Williamson, John, ed., *Latin American Adjustment: How Much has Happened?* Washington, D.C., Institute for International Economics, 1990.

———, "A Cost-Benefit Analysis of Capital Account Liberalisation," in Bernhard Fischer and Helmut Reisen, eds., *Financial Opening: Policy Issues and Experiences in Developing Countries*, Paris, Organisation for Economic Co-operation and Development, 1993, pp. 25–34.

World Bank, *The East Asian Miracle: Economic Growth and Public Policy*, New York, Oxford University Press, 1993.

———, *Bureaucrats in Business: The Economics and Politics of Government Ownership*, New York, Oxford University Press, 1995.

———, *Global Development Finance*, 2 vols., Washington, D.C., World Bank, 1998.

Zahid, Shahid N., ed., *Financial Sector Development in Asia: Country Studies*. Manilla, Asian Development Bank, 1995.

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