



Private Capital Flows in Historical Perspective

THE PAST 130 YEARS HAVE SEEN AT LEAST four major surges in private capital flows to emerging markets.¹ The first, from about 1870 to the outbreak of World War I, was a boom in bond finance, largely to labor-scarce and resource-abundant economies of recent European settlement. The second was the post-World War I recovery, lasting until the Great Depression, of bond lending to finance public sector deficits. The third was the surge in international bank lending to developing country governments from the 1973 oil price shock until the 1982 Mexican crisis. The most recent surge was the 1990s boom in private-to-private portfolio flows and foreign direct investment in emerging market economies. All four episodes were accompanied by solid growth in world trade and investment, were punctuated by currency and financial instability in the capital receiving countries, and eventually ended in global political or economic crisis.

Although the economic, technological, and institutional settings changed dramatically over those 130 years, the last of these booms was no less beset by crisis than the first. This historical review asks what has changed and what has remained the same over this span of history. It also examines the implications for the future of capital flows—and asks what policies and institutional arrangements are required at the dawn of the new millennium to achieve greater stability. The chapter's main messages are the following:

Capital surges to emerging markets have typically been part of a larger, periodic process of rapid expansion of the global economy. They occur when the worldwide diffusion of technological changes improves communications and transport, growth is buoyant, world trade is expanding,

financial innovation is rapid, and the political climate is supportive.

Expansion of the global economy raises demand for emerging markets' exports. Increased export volumes improve these countries' creditworthiness and help establish banking relationships that can facilitate longer-term finance. At the same time, domestic economic expansion raises emerging markets' demand for loans, both to finance investment and to allow residents to consume part of the anticipated increases in their incomes in advance.

Technological progress that improves the timeliness, accuracy, and analysis of information has often helped encourage capital flows to more distant parts of the world. Lack of access to good information has always been a constraint on cross-border lending and investment, especially to emerging markets that are at some distance from the world's financial centers. Thus the development of the telegraph and the telephone and the laying of the transatlantic cable may have facilitated capital flows in the nineteenth century, as did the invention of the microprocessor and the use of fiber optics in telecommunications in the late twentieth century.

The capital flows boom of the 1990s was similar to earlier episodes in terms of its size (relative to the borrowing countries' economies) and its close relationship with rapid growth and technological progress. But it was strikingly different in the variety of financial instruments used and the variety of recipients, in the increasing importance of equity flows, and in the greater differences between creditor and debtor countries.

A series of technological advances that have improved communications and the processing of information contributed in the 1990s to a rise in

portfolio equity and foreign direct investment flows, compared with earlier episodes. Technological innovation, coupled with the spread of education and increasing cultural ties between developing and industrial countries, has increased the range and variety of participants among emerging market countries in recent cross-border capital flows. In addition, the growing importance of the private sector in many developing economies has increased the share of total capital flows that go to private borrowers.

All past episodes of surges in capital flows to emerging markets have ended in severe international financial crises. Hard landings rather than soft landings have been the rule.

Booms in private capital flows to emerging markets have been punctuated by frequent banking and exchange rate crises in the capital-receiving countries, and have usually ended in severe economic dislocation or political conflict. By contrast, financial crises and debt overhangs were relatively rare during the Bretton Woods era, when capital controls and stringent financial sector regulation limited capital flows to emerging markets (although several exchange rate crises did occur).

It remains extremely difficult to determine to what extent these periodic reversals of capital flows have been themselves the cause of crises or a response to fundamental economic problems in the borrowing economies. Certainly such reversals have responded to excessive levels of debt, terms-of-trade shocks, or other events that reduce the prospects for economic growth in the borrowing countries. However, actions by creditor countries or lending institutions also have contributed. Crises have been sparked by monetary tightening in creditor countries and sudden changes in tolerance for risk on the part of lenders. Creditors have also contributed to crises by continuing to lend even in the face of evidence that funds were being directed to activities that could not generate sufficient returns with which to repay the debts created. Motivations for such apparently irrational lending booms include institutional investors' desire to gain market share and the expectation that creditor governments, debtor governments, or multilateral institutions would make good any losses.

The crises that ended these capital booms tended to have their origin in systemic shocks to the global economic or political system, and were not exclusively the result of excessive capital

flows. World War I and the Great Depression were driven by events and decisions at the center of the global economy, although the heavily indebted recipients of capital were particularly affected by the depression-induced fall in demand and rise in real interest rates. The 1980s crisis reflected both high levels of debt in major borrowers and a severe macroeconomic shock, namely, the abrupt tightening of monetary policy in key creditor countries. Finally, the 1997 financial crisis in East Asia had its roots in excessive private sector debt and weak financial and corporate institutions in the countries most affected, as well as abrupt changes in risk perceptions on the part of creditors.

The next decade may well see another capital boom to emerging markets, accompanied again by high volatility of capital flows.

The current pause in capital flows could last for some years. But continued technological progress, rapid economic growth, a favorable political climate, and the aging of industrial country populations (compared to the much younger age structure of most emerging markets) are likely to support a renewed boom in capital flows to emerging markets over the next decade. However, if these inflows continue to be as volatile as they have been in the past, their benefits to the developing world may be reduced. Also, the spread of capital flows to countries with weak institutional capacity may increase the likelihood of crises in those economies. The great differences in incomes, legal and institutional frameworks, and cultural backgrounds between creditors and borrowers will tend to heighten the effects of asymmetric information and encourage herding among lenders. The growing role of banking systems in emerging markets in intermediating volatile capital flows could lead to greater risk to financial systems and could intensify the devastating effects of crises on economic output, particularly given the weakness of banking systems in many countries. Finally, continued financial innovation is likely to facilitate speculation and the rapid shifting of flows in and out of emerging markets.

Greater understanding of the link between capital surges and crises is likely to lead to changes in countries' policies. It may encourage a more cautious approach to the opening of capital accounts, increase interest in measures designed to reduce the volatility of flows (for example, the use of taxes to discourage short-term flows), and spur

efforts to strengthen financial institutions and improve corporate governance. Crises tend to have a severe impact on the poor, since the poor's ability to borrow to sustain their consumption during a crisis is limited, and the alternative, reducing consumption, is most painful when incomes are already low. Thus the potential for crises should focus governments' attention on building domestic safety nets and funding them adequately.

Patterns of booms in private capital flows before 1990

The twentieth century witnessed a sharp rise in the volume of private capital flows to emerging markets. In volume terms (that is, correcting for inflation but not for changes in the size of economies), capital flows to developing countries increased eight-fold from 1914 to 1995, or by 2.6 percent per year (Twombly 1998).² But this progression was not smooth; rather it came in successive waves of investment, each of which was followed by financial or political crisis.

Timing, size, and composition of capital flows during booms

By some criteria, global financial integration has never been greater than it was during the gold standard era (1880–1913). British capital exports averaged 5 percent of GDP during those years and reached nearly twice that level toward the end of the period. The capital exports of the other leading creditor countries, France and Germany, were

about half British levels. By 1913 nearly one-third of British-owned assets were overseas (Harley 1995, pp. 26–28). The current account deficits of the borrower countries averaged 3.8 percent of GDP from 1890 to 1913 (table 6.1), peaking at more than 5 percent shortly before World War I. Capital inflows financed fully a third of domestic investment in Canada and New Zealand and a quarter in Australia. By contrast, capital flows financed less than a tenth of investment in developing countries in the first half of the 1990s. Other indicators of financial integration, including correlations between savings and investment, interest rate differentials, calculations of covered interest parity, and measurements of capital mobility, generally find that the pre-World War I period and the 1990s exceeded all other periods in the extent of global financial integration (Bordo, Eichengreen, and Kim 1998; Hogendorn 1998; Obstfeld 1998).

The pre-1914 boom. The boom in capital flows to emerging markets that began in the 1870s ended, not due to financial crisis or excessive debt, but rather in the collapse of the European political system with the onset of World War I. Recipients of capital flows in that period were mainly relatively advanced economies and overseas regions of recent settlement—reasonably high-income countries all—that shared cultures and institutions with the capital-exporting countries. Prominent examples included Australia, Canada, New Zealand, and the United States. Many borrowers also were experiencing large waves of immigration from the creditor countries, so that the boom in capital flows in effect supported an expansion of European populations and

Table 6.1 Selected economic indicators of major borrowing countries during lending booms
(percentage of GDP)

Indicator	1890–1913	1920s	1975–81	1993–97
Current account deficit	3.8	3.0 ^a	3.5	2.3
Long-term private flows	3.9	4.3
Exports	4.0 ^b	6.2 ^b	10.1	17.3
<i>Memo items</i>				
World output (average annual percent change)	2.7	4.0 ^c	4.0 ^d	3.0 ^e
World trade (average annual percent change)	3.4	6.0	9.0	7.7
Current account deficit (percent of investment)	.. ^f	..	15.3	9.3

Note: Major borrowing countries are defined differently for each lending boom.

a. Data are for 1919–26.

b. As of the end of the period.

c. Data are for 1920–29.

d. Data are for 1973–81.

e. Data are for 1990–97.

f. Comprehensive data are not available; the figure is about 33 percent for Canada and New Zealand and 25 percent for Australia.

Source: Maddison 1995; World Bank staff calculations.

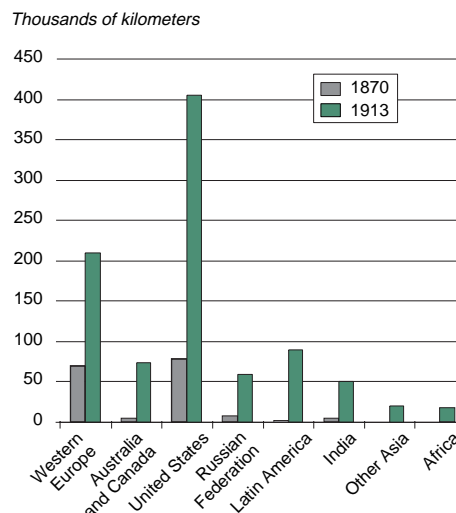
institutions to the recently settled territories.³ These waves of immigration were strongly associated with capital inflows to the countries receiving the immigrants. By contrast, Japan (which did not welcome immigrants) was not a significant recipient of foreign capital inflows during this episode, despite its relatively high income and rapid technological advancement during this period.

Twombly (1998) shows that income per capita in 1913 has a positive, large, and statistically significant effect on the level of capital inflows, after controlling for other factors. This is a different pattern than that of the 1990s, when large amounts of capital went to middle-income countries as well as to a few low-income countries such as China, India, and Indonesia. The only significant low-income recipients of capital inflows in the earlier episode were colonies of the European empires, such as India and Indonesia.

Infrastructure and railway investment were the preeminent use of foreign capital in the period before World War I (figure 6.1). According to Davis and Gallman (1999), 90 percent of British investment in Argentina, Australia, Canada, and the United States between 1865 and 1890 went into railroads or government bonds.⁴ As late as 1913, 70 percent of British overseas investment was in issues of governments, municipalities, or railways (Bordo and others 1998). Twombly finds that “railroadization” (the number of kilometers of railroads in operation divided by GDP) was a significant determinant of both total and portfolio capital inflows in this period, although one can argue that causality also ran in the opposite direction. Railroads and other infrastructure (electric power, water, tramlines and, to a lesser extent, mining) were particularly attractive to foreign investors because the assets of these companies were transparent and easier to monitor, compared, for example, with those in manufacturing. At the same time, the enormous improvement in cost, speed, and reliability of transport implied by the new technology promised high returns, and the local monopoly captured by a successful railroad reduced business risks compared with more competitive sectors such as manufacturing.

FDI played a smaller role in capital flows before 1914 than it does today. Dunning’s (1983) estimates suggest that the stock of FDI was less than a third of total overseas investments on the eve of World War I.⁵ The still relatively slow speed of communications made it difficult to obtain de-

Figure 6.1 Expansion of railroads, 1870–1913



Source: DeLong 1999.

tailed and current information about projects. This led investors to favor debt instruments, with their fixed repayment streams, over equity, with its more variable and difficult to calculate returns (Bordo, Eichengreen, and Irwin 1999). FDI was dominated by purchases of controlling equity interests in foreign companies by European corporations and individual investors. The higher cost of communication, especially before the laying of the transatlantic cable, impeded the close coordination of branch operations. In addition, the insecurity of property rights in many newly independent countries gave direct investors an understandable preference for chartering or incorporating their foreign investments as free-standing companies under source-country law (Wilkins 1998).⁶

The 1920s. Capital flows increased again following the hiatus of World War I, and then collapsed with the Great Depression. The volume of lending during the 1920s was less than before (borrowers’ current account deficits averaged about 3 percent of GDP; table 6.1) and not as neatly integrated into the larger process of economic development. Nearly two-thirds of new capital issues in the United Kingdom and 80 percent in the United States were for governments.⁷ Only in a relatively few cases—such as China, Cuba, and the Republica Bolivariana de Venezuela—was a large part of foreign investment not in the form of government

bonds. Many governments ran substantial budget deficits in the 1920s, and they borrowed to finance public consumption and investment. Frequently that investment did not translate into an increase in export capacity or generate the foreign exchange needed to service and repay these debts. Latin American governments superficially continued to adhere to the nineteenth century developmental model, borrowing for the construction of railways and ports and, increasingly, for schools, hospitals, gas and electrical works, sewer systems, and street and highway paving. But the resulting investments were often ill planned. In Peru, for example, streets were paved “out in the desert” (Lewis 1978, p. 383); two paved roads were sometimes built where only one was required. These inefficiencies reflected the more prominent role of politics in allocating foreign finance, and in particular the use of foreign loans to consolidate the power of incumbent politicians (Marichal 1989, p. 190). Nor were the increased output and exports that were supposed to result from these capital inflows supported any longer by complementary flows of labor, as the capital importers restricted immigration.

The 1970s. The surge of capital flows in the 1970s ended when a shift in international economic conditions—the rise in real interest rates in response to disinflationary policies in key industrial countries—made it clear that debt levels in several developing countries were unsustainable. The boom of that period was comparable to the earlier episodes in size but was different in its purpose: to finance the balance of payments adjustment in developing countries, in part driven by the oil price shock. Current account deficits of major developing country recipients of private-source flows averaged about 3.5 percent of GDP from 1975 to 1981 (table 6.1), peaking at 7 percent in 1981.⁸ The current account deficit was equivalent to 15 percent of domestic investment in the major borrowers. Bank loans made up more than half of all capital flows to emerging markets. The international bond market had remained quiescent since World War II, reflecting both the lenders’ experience in the 1930s, when two-thirds of all foreign dollar loans lapsed into default, and the strict controls placed on securities markets in developing and industrial countries. This memory encouraged the belief that institutional investors (in this case, banks) had an informational advantage over individual investors. And the deregulation of the banks’ international

activities, under pressure from the growth of the Eurodollar market, allowed them to expand into this new business even before the first oil shock. The flood of petrodollars then provided them with resources to lend. With slowing growth in the industrial countries, banks had an even stronger incentive to search out higher-return investment opportunities in other parts of the world.

Determinants of lending booms

Capital flows to emerging markets have typically been part of a larger process of development of the global economy. Lending and other forms of capital flows have tended to surge when technological changes improve communications, growth is buoyant, trade is expanding, financial innovation is rapid, and the political climate is supportive.

Technology. Lack of adequate and timely information is an important constraint on foreign investment, which can involve long distances and lack of familiarity with local institutions and customs. Overseas investors may be further deterred by the difficulty of monitoring and controlling management’s actions, of detecting malfeasance, and of preventing owner–managers from devoting borrowed funds to excessively risky projects (Bordo, Eichengreen, and Irwin 1999). Technological improvements in the transmission and organization of information, including the increasing use of the telegraph, the laying of the transatlantic cable, and the radio telephone, greatly increased investors’ access to timely information and thus may have contributed to the pre-1914 surge in private capital flows. The cable, for example, cut the time involved in asking a question and receiving a response from weeks to a single day. Nevertheless, the information problems remained greater before World War I than they are today, and this had a significant impact on the composition of capital flows. Lending tended to be directed to enterprises with tangible assets (such as railroads) or to governments.

Financial innovation. Lending booms have been accompanied by innovations that increased the efficiency of financial intermediation. The late nineteenth century saw the construction of an intricate institutional matrix to channel capital flows. These institutions acquired information on investment opportunities, signaled the creditworthiness of borrowers to potential lenders, monitored the agents who carried out the investment, and sanctioned opportunistic behavior. At the same time,

they provided diversification services to small savers, who would have otherwise found it impossible to acquire diversified portfolios. An example is the growth in the United Kingdom, starting in the late 1880s, of investment trusts, which catered to a clientele of high-income investors. As of 1914, as much as 90 percent of the assets of British investment trusts were overseas holdings (Cassis 1990, p. 145). The lending boom also strengthened ties between the banking systems in creditor and debtor countries. Each of the seven leading London merchant banking houses established a North American counterpart to gather market intelligence and arrange local transactions. Australian banks opened branches in the United Kingdom to raise deposits. The boom was also associated with enhanced dissemination of information on emerging markets through both general and specialized publications and the development of rating agencies.

The capital boom that began in the 1870s was also marked by the development of new insurance products, with new premium and payout structures designed to attract working-class customers. From the 1870s on, British insurance companies increasingly invested in marketable securities and abroad. Thus a growing number of working-class savers held foreign securities indirectly, through the agency of their insurance companies.

The resumption of portfolio capital flows to emerging markets at the beginning of the 1970s derived its impetus from the growth of the Eurodollar market and the relaxation of capital controls. This prompted the rise of the syndicated bank loan, which became the principal vehicle for capital transfer to emerging markets for the better part of a decade.

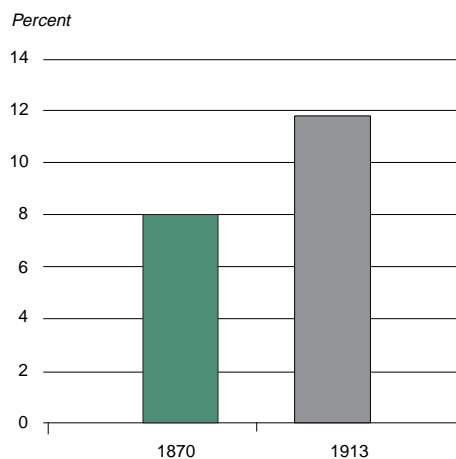
Growth in world trade and output. Lending booms have tended to occur during periods of economic expansion worldwide. In the late nineteenth century, the economic context was the spread of modern forms of industrial organization and the incorporation into the world economy of new regions producing mainly raw materials and agricultural goods. Following World War I, the reconstruction of Europe and the infrastructure requirements of production stimulated by the collapse in European output and trade during the war gave some impetus to capital flows. Global manufacturing production, according to data collected by the League of Nations, increased by 6 percent per year from 1924 to 1929. Primary production (agriculture and raw materials)

expanded rapidly as well. After 1973, capital flows to Latin America and Asia responded to improving growth performance in both regions. Growth of global GDP averaged 3 percent per year from 1973 to 1981, despite being interrupted by major world recessions in 1973–75 and 1980. But the oil shocks prompted rapid borrowing and lending.

Lending booms have tended to occur during periods of expanding international trade. Expanding export markets help debtors earn the foreign exchange they need to service their debts and provide them an incentive to stay on good terms with their creditors, who are also their customers. The free-trade era of the nineteenth century was ushered in by the United Kingdom's elimination of tariff barriers after 1840, which was followed by tariff reductions by France and Germany. Trade was not entirely free during this period, however: the protection of infant industries in the United States and the alliance of iron and rye in Germany and France were prominent counterexamples. Nevertheless, Western European exports rose from 10 percent of GNP in 1870 to 16 percent by 1913 (Maddison 1995, table 2.4); over the same period a group of 10 industrial countries increased their manufactured exports from 8 percent to 12 percent of GDP (figure 6.2).

Furthermore, the expansion of trade helped to create a financial infrastructure with which for-

Figure 6.2 Manufactures exports as a share of GDP, 1870 and 1913



Note: Sample is comprised of 10 industrial countries.
Source: DeLong 1999.

eign investment opportunities could be identified and funds disbursed (O'Rourke and Williamson 1999, chapter 13). By discounting bills of exchange for exporters, banks gained familiarity with foreign markets. Providing financial services to British exporters led to providing analogous services to foreign importers. And from providing trade credits, it was a short step to underwriting foreign investments.

The expansion of trade was more limited from 1924 to 1929, when world trade rose no faster than world manufacturing production.⁹ Efforts to roll back many of the trade barriers adopted during World War I and the early 1920s came to naught. The decade saw increased pressures for protection, due in part to increased supply: new sources of agricultural and industrial goods (from the Americas, Asia, and Australia), encouraged by the interruption of production during the war, competed with the resurgent traditional European producers. Also, the postwar settlement created new nation-states in Central and Eastern Europe, which tended to rely on import taxes for public-sector revenues. The overhang of \$33 billion in German war reparations and of \$27 billion in Allied war debts weakened the debtors' balance of payments, augmented gold outflows, and threatened exchange-rate stability. Countries became "balance-of-payments conscious," as one study put it (United Nations 1965, p. 15).

Although the two oil shocks of the 1970s caused serious balance-of-payments dislocations, world trade still expanded by 9 percent per year from 1973 to 1981, more than twice as fast as world income. The Tokyo Round of negotiations (1973–79) under the General Agreement on Tariffs and Trade (GATT) led to substantial reductions in trade barriers. These measures were agreed to only at the end of the 1970s and phased in over several years, but the fact that negotiations were ongoing discouraged backsliding (Winham 1986, p. 363). Latin American countries had already begun turning away from the policies of import substitution to which they had been driven in the 1930s. The 1960s saw the birth of the East Asian "miracle," with the shift from import substitution to export promotion, and with growth in countries like Korea and Taiwan (China) accelerating dramatically (see Rodrik 1995 for details). At the same time, high and rising commodity prices increased developing countries' export receipts. The exports

of non-oil developing countries rose by a striking 21 percent per year in dollar terms from 1974 through 1980, while the nominal interest rates they paid averaged less than 13 percent.

A supportive political and institutional environment. Lending booms have tended to occur under supportive political conditions. In the nineteenth century, the government of the leading creditor country, the United Kingdom, took a hands-off policy toward overseas lending. Nevertheless, the political context shaped capital flows. Default by the colonies was not an option, and default by the self-governing dominions was virtually inconceivable. Analogous links did not tie the other leading lenders—France, Germany, and, after 1890, the United States—to their borrowers, but in their absence, Paris, Berlin, and Washington sometimes applied political pressure for the counterparties to meet their contractual obligations. Whether financial problems merely provided a pretext for intervention desired on strategic grounds is disputed, but the convergence of political and economic interests is clear (Nearing and Freeman 1925, p. 133). The debt overhang created by World War I meant that postwar lending was more politicized than before. In the early 1920s the U.S. and British governments used reconstruction and development loans to strengthen the competitive position of their banks and firms. The post-1973 surge of syndicated bank lending did not develop under equally active encouragement by the U.S. government, but when the developing-country debt crisis of the 1980s threatened the stability of the U.S. banking system, officials stepped in to orchestrate a solution designed to protect the money-center banks.

The 1990s surge in private capital flows

Capital flows boomed once again in the 1990s, until the crises in East Asia and Russia led to a general retreat from emerging markets. During the surge in capital flows from 1993 to 1997, the current account deficits of the major developing country private-source borrowers averaged 2 percent of GDP, a large rise compared with the last decade of the 1980s, but well below the average of the gold standard era (table 6.1). The determinants of the 1990s surge in private capital flows were similar to those of previous episodes in some

respects. Technological improvements reduced the costs of communications, permitted the almost instantaneous transfer of large blocks of data, and increased the power of computers by reducing processing time and upgrading software. These advances improved investors' ability to analyze information, enhanced the control of branch operations in far-distant places, and facilitated the outsourcing to developing countries of stages in the production process that previously could only be located close to home.

Global output and trade expanded rapidly during the 1990s, supported by further progress in trade liberalization. Lending responded to the resumption of growth in Latin America following the lost decade of the 1980s and the further ratcheting up of growth rates in East Asia. Global output expanded at an annual rate of 3 percent, despite a persistent slump in the world's second-largest economy, Japan, and the collapse of the old, state-led heavy industrial sectors in the transition economies of Eastern Europe and the former Soviet Union. Multilateral and regional trade liberalization initiatives, together with unilateral liberalization on the part of many developing countries, created another boom period in trade. World exports expanded as rapidly as world output, facilitated by the Uruguay Round of GATT negotiations and a series of regional free trade agreements. The Uruguay Round reduced average tariff rates on imported manufactured goods to 3.6 percent in the European Union (compared with 5.7 percent before the Round) and 3 percent in the United States (versus 4.6 percent before the Round). These tariff rates were well below those in most major industrial countries in 1913 (44 percent in the United States and 18 to 20 percent in France, Germany, and Italy), although the United Kingdom's tariff rate was zero in 1913 (Bordo, Eichengreen, and Irwin 1999).

The 1990s were also marked by significant financial innovation. Derivatives markets mushroomed (including in developing countries), with the development of numerous products that supported or substituted for cross-border flows (such as different forms of swaps). Mutual funds specializing in emerging markets enabled investors to more easily diversify their holdings, and in conjunction with depositary receipts on foreign stocks, they helped moderate the impact of poor clearance and settlement procedures and other administrative

constraints in developing countries on portfolio equity flows. Some hedge funds and investment banks have assumed large exposures to developing country risk through the use of derivatives. Securitization helped borrowers enhance their access to international financial markets, for example through collateralized obligations, under which unrated developing-country bonds or loans are packaged together and used as collateral for notes. Multilateral institutions and governments used innovative guarantee arrangements to encourage capital flows, particularly for infrastructure projects.

The political climate for capital flows was extremely favorable. The Cold War had ended, and several developing countries had implemented policies that strengthened the environment for private investment and had taken steps to loosen regulation of financial markets and reduce or remove capital controls.

Finally, like previous episodes, the 1990s were punctuated by currency and banking crises and ended in severe financial collapse in East Asia, which affected much of the developing world. These crises were of comparable severity to those of the gold standard but were milder and apparently more short-lived than the Great Depression. Several crises were initiated by the withdrawal of external finance, particularly short-term outflows.

The past 10 years also saw important differences from earlier periods of globalization. First, the composition of private capital flows is greatly altered. Whereas bonds had dominated the gold standard era, and syndicated bank lending the 1970s, the technological changes outlined above have made equity flows (direct and portfolio) the dominant form of long-term private flows to developing countries in the 1990s (table 6.2). The form of equity has also changed considerably. Portfolio equity flows, negligible before 1990, ac-

Table 6.2 Composition of private capital flows, 1973–81 and 1990–97

(percentage of total)

Type of flow	1973–81	1990–97
Bonds	3.5	15.2
Bank lending	63.9	11.7
Foreign direct investment	16.8	50.3
Portfolio equity	0.3	16.4

Source: World Bank.

Table 6.3 Income per capita in creditor and debtor countries, selected years

(U.S. dollars)

	1913	1929	1980	1997
Major creditors ^a	4,779	6,025	10,976	28,474
Top 10 borrowers ^b	1,698	2,200	2,485	3,756
Low-income borrowers ^c			492	808
<i>Memo item</i>				
Share of low-income borrowers in total private capital flows to emerging markets			14	29

a. For 1913 and 1929, France, Germany, United Kingdom, and United States; for 1980 and 1997, the same countries plus Japan; average reflects GDP weights.

b. Top 10 recipients of net long-term private flows. Average weighted by GDP in 1913 and 1929, and by net long-term flows in 1980 and 1997.

c. Top 10 low-income recipients of long-term private flows. Average weighted by net long-term flows.

Source: Maddison 1995; World Bank staff calculations.

counted for 16 percent of private flows in 1997. FDI has become by far the largest source of flows and has diversified from being primarily directed at natural resource development into manufacturing, finance, and nonfinancial services.

Second, the disparity in incomes between creditors and debtors has increased. During the gold standard era, the major borrowers were relatively high-income countries with close institutional and cultural ties to European creditors, and even in the 1970s private flows were concentrated in middle-income countries. By contrast, in the 1990s several low-income countries received substantial amounts of private flows relative to the size of their economies. The ratio of average income per capita between the major creditors and debtors was slightly less than 3 to 1 before the Great Depression, and 4 to 1 in 1980, but almost 8 to 1 in 1997 (table 6.3). Low-income countries captured 29 percent of total private flows in 1997 (but only 7 percent if China is excluded), compared with half that share in 1980.

Third, the share of private sector borrowers in private-source flows has increased dramatically from two decades ago, essentially returning to levels seen prior to World War I (according to the limited available data). From 1865 to 1913, about 40 percent of British capital went to governments or public utilities (Stone 1999), and 60 percent to private sector borrowers (table 6.4). By the 1920s, however, governments had become the dominant borrowers, capturing 80 percent of New York capital issues and 62 percent of London's. The share of governments in total long-term, private-source debt flows rose to almost 80 percent in 1980, but

then plummeted to only 33 percent in 1997, as private-to-private transactions became the largest form of borrowing. If FDI and portfolio equity investment are included, the private sector in capital-recipient countries accounted for almost 90 percent of total private-source flows in 1997.

These differences in capital flow surges to developing countries in the 1990s have both positive and negative implications for future capital flows. On the positive side, FDI flows tend to be of longer duration than other types of flows and are not as easily susceptible to rapid and large reversals (see *Global Development Finance* 1999). On the other hand, the greater role of developing country financial institutions in intermediating capital flows implies much greater systemic risks at the country level. Also, the larger differences in cultures, political institutions, and legal and regulatory frameworks between creditor and debtor countries may imply continuing volatility of foreign capital inflows, as small changes or shifts in policies and institutions may lead to rapid changes in lenders' perceptions of risk.

Table 6.4 Share of private-source debt flows, by recipient sector

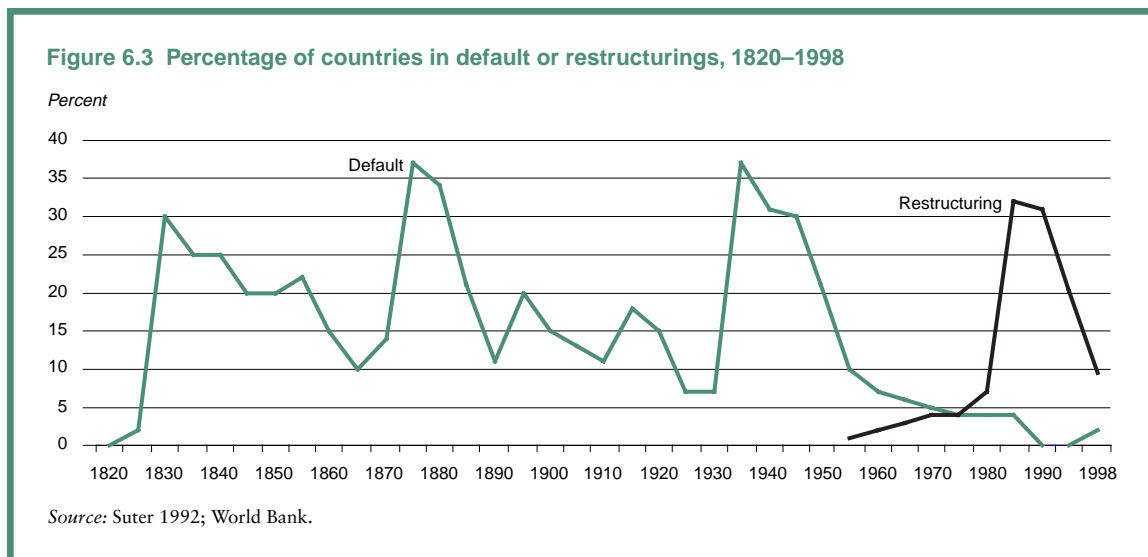
(percent)

Sector	1865–1913 ^b	1921–31		1980	1997
		London	New York		
Public sector ^a	40	62	80	80	33
Private sector	60	38	20	20	67

a. Includes government-guaranteed borrowing where data are available.

b. Refers to British overseas investments only.

Source: Stone 1999; Madden, Nadler, and Sauvain 1937; Atkin 1977; World Bank Debtor Reporting System.



Characteristics of crisis episodes

The incidence of crises

Capital flows and crises were linked even before the gold standard era. The first wave of British capital to Latin America to finance infrastructure and mining ended with the crisis of 1825, and the second wave ended with the 1873 financial crisis in Europe. The inflow of foreign capital to the United States in the 1820s and 1830s ended with the depression of 1837–43 (Bordo, Eichengreen, and Irwin 1999). Booms in private capital flows have generally been punctuated by banking and exchange rate crises, and have ended in severe economic dislocation or political conflict. Figure 6.3 shows that debt defaults were widespread during the late nineteenth century and jumped sharply following the 1920s and 1970s booms in capital flows.

The gold standard era saw a small number of exceptionally severe crises, but a large number of milder episodes. One recent study counts 22 crises between 1880 and 1913 in the 15 emerging markets for which reasonably good data are available (table 6.5).¹⁰ Thus the incidence of emerging-market crises in these 510 country-years was 4.3 percent. This is strikingly similar to the rate at which crises occurred in the lending boom of 1990–96, although the larger sample in the latter period means that the number of crises was greater.¹¹

The depression that ended the 1920s lending boom affected more countries than any economic downturn before or since. As output and prices

spiraled downward, one country after another endured banking crises. And as production and trade imploded, one country after another was forced to suspend the convertibility of its domestic currency into gold and to allow the currency to depreciate (Argentina’s experience was somewhat different from that of other devaluing countries; see box 6.1). Bernanke and James (1991) list three dozen banking crises between 1929 and 1936. Banking crises were then few and far between in the post-World War II period, reflecting the maintenance of strict controls on capital flows and tight financial regulation.¹² Crises returned with a vengeance in the 1980s following financial liberalization and the resumption of international lending. And the frequency and severity of crises has, of course, been one of the most worrisome aspects of the 1990s.

The costs of crises

Changes over time in the consequences of crises is a topic on which research has just begun.¹³ Although

Table 6.5 Frequency of crises and average output loss in emerging markets

	1880–1913	1929–36	1975–82	1990–96
Number of crises	22	36 ^a	61	38
Average output loss (percentage of GDP)	2	6	3 ^b	3 ^b

a. Number of banking crises.

b. Average for 1972–96.

Source: IMF 1998; Bernanke and James 1991; Bordo and Eichengreen 1999.

Box 6.1 Argentina's experience with independent monetary policy in the Great Depression

The Great Depression affected Argentina by 1929, with a 24 percent decline in its exports terms of trade and severe balance of payments problems. The exchange rate was floated after a mere two-year resumption of the gold standard. But recovery began quickly in 1932 and by 1934–35 output had recovered to its 1929 level. Argentina did resort to defaults on external obligations, a path chosen by other Latin American creditors during this period. How did Argentina achieve this recovery in the midst of worldwide depression? Della Paolera and Taylor (1999)

argue that a remarkable event was Argentina's resort to independent monetary policy to stimulate domestic output and reverse deflationary expectations: high interest rates were lowered by liquidity injections from 1931 onwards. Gold backing of the money stock fell from 78 percent in 1929 to only 43 percent by 1932, and rediscounting of notes rose from zero to 30 percent of the monetary base. The authors argue that Argentina was able to depart from the then-prevailing orthodoxy mainly because of its 1890s crisis experience when deflation was severe.

the fragility of historical data precludes strong comparative statements, some regularities seem evident. Bordo and Eichengreen (1999) estimate that annual growth declined by an average of two percentage points relative to trend before 1914, by six percentage points during the Great Depression, and by three percentage points in the typical post-1972 crisis. Still, the two most disruptive pre-World War I crises in emerging markets, in Argentina in 1890 and in the United States in 1893, were even worse than the recent Asian crisis and rivaled the experience of the Great Depression. In the United States, growth in the crisis year dropped by 14 percentage points from the preceding year (and by nine percentage points relative to its previous five-year trend). For Argentina the output loss is estimated at 24 percentage points (17 percentage points from trend). By comparison, the 1995 decline in Mexico's output as a result of the peso crisis was 6 percent, and the 1998 collapse in Indonesia, the worst-hit of the East Asian crisis countries, was 14 percent.

The contrast is sharper for crises with both banking and currency components, which have been exceptionally disruptive since 1972 but were less so prior to 1914. In banking-cum-currency crises since 1972, annual growth has fallen by an average of five percentage points, versus two percentage points for such crises before 1914. During the 1930s, however, growth fell on average by six percentage points in the year following a banking crisis (Bordo and Eichengreen 1999).

Part of the explanation for the less devastating effects of crises before World War I may lie in the degree of financial development. In the early stages

of modern economic growth, the macroeconomic effects of banking crises were limited because the extent of intermediation was modest. Since the real economy did not depend so heavily on intermediation for the provision of financial services, a financial crisis had only limited macroeconomic effects.¹⁴ Banking systems had developed further by the 1920s, however, magnifying the effects of financial-sector disruptions. More recently, the development of lenders of last resort has moderated the depth and duration of the decline in output associated with banking crises. However, the greater tendency for the authorities to intervene to support the banking system, and the combination of support with regulatory forbearance, have increased the costs of resolution to the taxpayer. For example, the IMF (1998) estimates that the costs of resolving emerging market crises may have ranged as high as 55 percent of GDP, in the case of the Argentine banking crisis of the 1980s. In addition, the provision of guarantees and frequent bailouts encourages risky behavior and contributes to less than optimal allocation of capital.

Countries appear to have recovered from currency crises more quickly before 1914 than they do today, perhaps in part due to the monetary regime providing the framework for capital flows. Before 1913, countries driven off their gold-standard pegs often committed themselves to restoring convertibility at the previously prevailing exchange rate once the crisis had passed. Gold and capital began flowing back in at an early date in anticipation of gains as the currency recovered to its traditional parity, thus stimulating recovery (Delargy and

Goodhart 1999). Evidence for the importance of the gold standard is the fact that countries that adhered to it (or that returned to the previous parity after a temporary suspension) enjoyed better terms on loans than did countries that spent prolonged periods off of the gold standard (Bordo and Rockoff 1996; Bordo, Eichengreen, and Kim 1998). Rapid recovery may also have reflected greater flexibility in labor and output markets, although the historical debate on whether market flexibility was greater before World War I than after has not been resolved (Bayoumi and Eichengreen 1994; Bordo, Eichengreen, and Kim 1998).

The costs of crises that led to default on foreign debts included reduced access to capital markets. Suter (1992) estimates that the time from default to the restoration of market access averaged 14 years between 1821 and 1870, but just six years in the latter part of the century. This improvement is plausibly attributable to the development of mechanisms for orderly restructuring of debts, such as standing bondholders' committees representing the creditors. So organized, the bondholders could negotiate effectively, bar the debtor from the market, and lobby for the application of diplomatic or military force. The British Council of Foreign Bondholders may have been the most effective of these organizations, which developed in several creditor countries.¹⁵

The defaults of the 1930s took on average 10 years to clear away, a disappointingly long time by the standards of the pre-World War I decades. Some countries waited until the 1950s to settle. World War II, of course, provides part of the explanation for the duration of these difficulties. Also, in the face of the generalized collapse of international lending that occurred in the 1930s, the incentive to settle was greatly reduced.

Causes and triggers of capital flows reversals

Despite the frequency of crises associated with surges in capital flows, it remains difficult to determine the extent to which capital flows reversals have been an exogenous cause of crisis, have worsened crises that would have occurred in any event, or have been a purely endogenous response to borrowers' economic problems. However, recent studies have made progress in this question. For example, Herreira, Perry, and Santiago (2000) suggest that external shocks accounted for about two-thirds of domestic output fluctuations in Latin

America during the 1990s. Emerging markets are typically marginally creditworthy borrowers, so that a deterioration in their prospects can result in their being shut out of capital markets. Lenders often respond to such disturbances by rationing credit (as well as by increasing interest rates). Information problems in international financial markets make it difficult to distinguish good and bad credit risks, and this encourages adverse selection (where the average credit quality of the pool of borrowers declines with increases in interest rates) and, therefore, credit rationing. One can point to several different reasons for capital flow reversals over the past century, including shocks affecting individual countries, excessive debt owing to the poor use of past inflows, monetary tightening in creditor countries, revisions of expectations, and pure contagion.

Shocks to individual countries. Capital flows reversals can be caused by surprise events, particularly bank failures and financial instability, that reduce the prospects for growth in individual countries. For example, the panic of 1893 in the United States resulted when uncertain political support for the monetary standard precipitated a stock market crash, capital outflows, and dangerous losses of bank deposits and reserves. Political concerns relating to the assassination of a prominent politician contributed to the Mexican peso crisis in 1994. Harvest failures and commodity-market disturbances can have similar results.

Overlending. History provides many examples of the uneconomical investment of massive amounts of capital inflows leading to a collapse in lending. For example, the Argentine crisis of 1889–90 followed a sharp rise in lending that financed mainly consumption and was marked by a rise in the fiscal deficit, the issuance of gold-guaranteed short-term debt, and political instability (Bordo 1998). The failure of foreign investors to take up a loan to the Buenos Aires Water Supply and Drainage Company threatened to bring down not just the Argentine financial system but an overextended Baring Brothers, placing the international financial system at risk. Many of the foreign loans made during the 1920s appear to have been excessively risky. As Sessions (1992, p. 11) summarizes the view, “The chronicle of American private investment abroad during the twenties, with all its insanity, tells a story of unbelievably foolhardy purchases on the part of investors and irresponsible flotations on the part of foreign governments and

their collaborators in the issue house establishment in the United States.”¹⁶ The poor use of capital inflows is frequently cited as an important reason for the 1980s debt crisis and for the capital outflows from Thailand that triggered the East Asian crisis.

It is no surprise that imprudent lending frequently leads to crises. However, it would be useful to understand why creditors sometimes act so imprudently, particularly given the long history of crises induced by capital booms. One explanation is that the large intermediaries lending internationally are concerned about market share, since a substantial presence in foreign markets helps generate new business. Pressures to expand or retain market share can erode the credit criteria applied to loans. Mintz (1951) shows that U.S. financial institutions new to the business of floating foreign bonds accounted for a disproportionate share of the issues that went bad in the 1930s. This may have reflected their desire to gain a foothold in the market, although it could also have resulted from lack of adequate skills on the part of banks with less experience in foreign lending. The enthusiasm for sovereign lending by money-center banks and smaller regional banks alike during the 1970s has also been attributed to aggressive competition for market share (Diaz-Alejandro 1984), although other observers credit lender irrationality (Guttentag and Herring 1985).

Another reason for excessive lending is moral hazard. Risky lending can be rational from the creditors' point of view to the extent that they anticipate official support in the event of difficulties. The prospect of a bailout was smaller during the gold standard era and the 1920s, although even then political support for loans by U.S. and European firms (as well as occasional military intervention) might have encouraged lenders.

Lending during the 1970s may have been buoyed by the prospect of government support. After the trauma of the 1930s, regulators in industrial countries allowed no banking crises to occur in the 1950s and 1960s. (However, there were a few such crises in the developing world, for example, in Brazil in 1964.) There may have been few concrete assurances to the money-center banks that they would be bailed out in the event of problems (Johnson 1983), but there might still have been the belief that industrial country governments would intervene rather than permit significant numbers of banks to fail. Also, the large pres-

ence of U.S. banks in Latin America and of West German banks in Eastern Europe may have been related to the belief that strategic interests would force government intervention on behalf of troubled borrowers (Kahler 1986, p. 20).

The sharp rise in lending to emerging markets and the fall in secondary market spreads in 1996–97 may have been due in part to the encouragement provided by the rescue package for Mexico, although a general reduction in risk perception was also probably present.¹⁷ Also, some of Russia's creditors prior to August 1998 may have believed that strategic interests would compel industrial country governments to provide funds to prevent a default.

Monetary tightening in creditor countries. One recurring source of crises has been a shift in policies in creditor countries toward more stringent credit conditions. This was less frequently an issue during the gold standard era, when monetary policy was largely passive. When activity in the United Kingdom turned down (and thus demand for emerging markets' exports fell), interest rates declined to restore equilibrium to the money market, which in turn made lending abroad more attractive. However, there were exceptional cases when adjustments to interest rates in England had procyclical impacts on borrowers. In 1906, the United Kingdom's demand for funds for its war in southern Africa, along with the fiscal consequences of the Russo-Japanese conflict and the accelerating European arms race, put upward pressure on global interest rates. The fact or prospect of gold losses then caused European central banks to raise their discount rates. A rise in the London discount rate tended to increase the cost of holding inventories of staple foods and raw materials, forcing quicker liquidation and thus reducing prices of developing countries' exports (Triffin 1985). So discount rate increases resulted in both curtailed capital flows and deterioration of the terms of trade for emerging markets. Exceptional stringency in credit markets and a fall in export prices were important reasons for the 1907 crises in Canada, Chile, Italy, and the United States.

Industrial country governments pursued more activist monetary policies during the 1920s. Hence capital flows to emerging markets tended to be more procyclical, which contributed eventually to crises in those markets. The United States cut interest rates in 1924 and 1927 to help the United Kingdom join and remain on the gold standard.

The result was both increased demand for developing country exports, owing to the stimulus to U.S. growth, and increased capital flows as domestic yields became less attractive. When the Federal Reserve raised interest rates in 1928 and early 1929 to rein in the stock market, it reduced demand for developing country exports and at the same time discouraged foreign lending. One result of the decline in U.S. capital flows in 1928 was that capital-importing countries like Argentina, Brazil, Canada, Germany, and Poland were among the first to enter the Great Depression.

Tightening credit policies also helped end the boom of the 1970s. Real interest rates soared with monetary disinflation in the United States, the United Kingdom, and other capital-exporting countries. The three-month London interbank offered rate (LIBOR) nearly doubled, from 9 percent in 1978 to 17 percent in 1981, despite the concurrent decline in inflation. Net transfers to developing countries slowed at the beginning of the 1980s, as commercial banks completed the process of stock adjustment in response to deregulation that had allowed them to diversify their portfolios internationally in the first place. The industrial countries entered a severe recession starting in 1979. Their demand for imports from developing countries and the terms on which they provided finance deteriorated simultaneously, although not as sharply as 50 years before. Growth in exports of non-oil developing countries fell by half between 1976–79 and 1980–81. The debt-export ratios of non-oil developing countries rose by 23 percentage points between 1980 and 1983, and by 38 percentage points for the non-oil exporters of Latin America. Net private capital inflows peaked slightly later, in 1981, but they were in decline even before Mexico threatened default in August 1982.

Revisions of expectations. A crisis in one country may cause investors to reevaluate the risks involved in countries with similar weaknesses. For example, the Barings crisis of 1889 had major repercussions in Australia despite the fact that the investment banks that were so prominent in Latin America played little role in mediating capital flows to Oceania. However, there were troubling similarities between the Argentine and the Australian development models. Both emphasized pastoral development, with the pastoral regions linked to urban entrepot centers by an extensive railway network. Argentina's financial difficulties

in the second half of the 1880s revealed the dependence of this model on favorable climatic conditions, high commodity prices, and efficient infrastructure development. It would therefore not be surprising if British depositors in colonial banks and British investors in Australian bonds, having seen things go wrong in Argentina, drew back from Australian investments in response. Similarly, the rapid spread of the 1997 financial crisis from Thailand to other East Asian countries has been attributed to investor concerns over similarities among these economies (Goldstein 1998).

Pure contagion. Pure contagion may be defined as the tendency for a crisis in one country to increase the probability of a crisis in another country, holding other determinants of crisis risk constant. It is difficult in practice to distinguish crises resulting from contagion from those resulting from shocks that hit a number of countries simultaneously, or from revisions of expectations based on countries' shared characteristics.¹⁸ At times of severe financial disturbances, creditors who have suffered losses have curtailed their lending to all high-risk borrowers, either because of the need to raise cash or because the reduction in wealth makes the creditors more risk averse. Kindleberger (1978) lays the blame for the 1873 crisis in the United States on a financial crash and crisis in Germany and Austria four months earlier and on the distress sale by German investors of U.S. railroad bonds and real estate. Problems in 1890 in the United States, which Otto Sprague (1910), the chronicler of American financial crises of that period, describes as a period of financial stringency if not a full-blown crisis, have similarly been ascribed to distress sales by British investors of U.S. stocks. These sales were necessary to raise liquidity in the wake of losses on Argentine and Brazilian loans. More recently, the August 1998 flight to quality and the spike in secondary market spreads on developing countries' debt were similarly attributed, at least in part, to investors' desire to restore their cash holdings following their losses from the Russian debt moratorium.

Medium-term prospects for capital flows and their volatility

The main drivers of capital flows—technology, financial innovation, economic progress, and a supportive political environment—are expected

to remain strong over the next decade. The establishment of an open trading environment, improved policies in many developing countries, steps toward monetary and fiscal consolidation in Europe and the United States, and the emergence of a broad consensus on economic policies among the industrial countries point to rapid growth in output and trade over the next decade (as projected in *Global Economic Prospects 2000*). Demographic factors, too, should give an impetus to increased savings in many industrial countries. All else equal, the aging of the baby-boom generation will imply a greater excess of savings over investment, hence a larger current account surplus, and thus increased capital flows to emerging markets.¹⁹

Technological advances in communications have reduced costs and introduced new services (including electronic mail, video conferencing, electronic commerce, and the Internet; figure 6.4). These advances, together with increased speed of computer processing and falling transportation costs, have significantly reduced the transactions costs of foreign lending and investment. The diffusion of existing technology alone, not to mention the likely impact of inventions still to come, will provide an enormous impetus to capital flows.

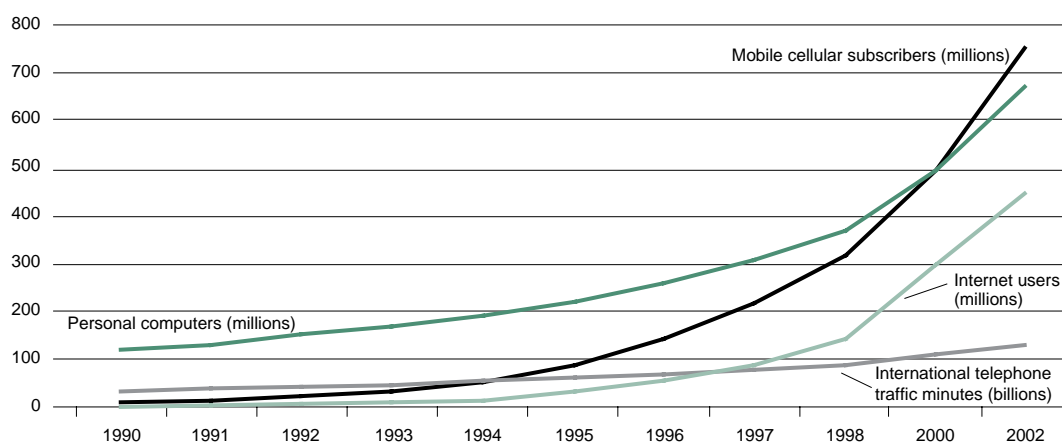
This rise in capital flows is likely to be dominated by equity investment, as the new technologies greatly increase the ability of managers to control their foreign operations and of portfolio equity investors to obtain and analyze information

on foreign stocks. At the same time, steps are underway to strengthen property rights in many emerging markets. This is being done in several ways: by improving the legal framework and administrative procedures associated with bankruptcy, by speeding clearance and settlement procedures for equity and bond transactions, by instituting safeguards for the protection of minority shareholders, and by increasing the transparency of administration.

An immediate and rapid takeoff in capital flows is unlikely, however (see chapter 2). On the demand side, potential borrowers are wary about the high volatility of private capital flows. For their part, investors are concerned about instability in emerging markets and about weak minority shareholder rights, poor corporate governance, and lack of transparency, all of which the East Asian crisis highlighted. Steps taken by creditor governments and international institutions to reduce moral hazard, for example the support provided for the suspension of payments on Ecuador's Brady bonds, may also discourage increases in flows. The perception of increased risk in emerging markets is evidenced by continued high levels of secondary market spreads on developing-country debt.

Nevertheless, the recent increase in flows to East Asia is one indication that investors' memories continue to be relatively short, and that once a recovery is underway in Latin America, and assuming progress on the policy front, capital flows

Figure 6.4 The revolution in international telecommunications and Internet, 1990–2002



Source: International Telecommunications Union 1999.

will return. The next boom could be a long one, if FDI remains a high percentage of capital flows and if countries are able to contain the risks involved in international capital market financing.

Will capital flows be less volatile?

The increase in flows may well be accompanied by continued high volatility and frequent crises, as in the 1990s. Several reasons suggest why this is likely, despite some ameliorating factors:

- *Marginally creditworthy borrowers and volatility in risk assessments.* The greater differences between debtor and creditor countries today (noted above) may contribute to continued high volatility. During the gold standard era, London bankers dealt with American or Australian borrowers who were remarkably similar to themselves in terms of income, legal and institutional framework, cultural background, and often place of birth. Today, however, creditors and debtors come from countries with widely disparate income levels, legal structures, and cultures. These differences exacerbate the information problems inherent in cross-border capital flows, increasing volatility as investors follow the market transactions of specialists or simply react to market performance, buying when prices rise and selling when they fall, and thus accentuating market swings (Brennan and Cao 1997). As earlier chapters have shown, credit and risk ratings for developing countries considered only marginally creditworthy tend to change sharply, especially in adverse times, and these swings can result in large reversals of capital flows.
- *Herding and contagion.* The increased speed of communications raises the premium on reacting quickly to new information, which further increases investors' incentive to follow the herd. In addition, the practice of indexing returns and measuring the performance of any investment fund against the index is likely, as in the recent past, to heighten volatility, again by encouraging herding. Any investment manager whose performance is evaluated relative to some industrywide benchmark will be tempted to exit an emerging market investment whenever returns fall below that benchmark, even if the longer-term returns on that investment are promising.
- *Systemic risks and moral hazard.* The greater participation in capital flows of countries with weak institutional capacity may also contribute to heightened volatility. The East Asian financial crisis demonstrated that the financial position of the banking and corporate sectors, particularly the level of short-term debt and foreign exchange exposure, are critical to the sustainability of flows. As more countries with relatively undeveloped financial systems and scant capacity for effective supervision and regulation take on greater foreign exposure, and as domestic banking systems play an increasing role in intermediating flows, the potential for financial crises and capital flows reversals rises. The moral hazard problem of implicit or explicit government guarantees in this context is also likely to be heightened.
- *Financial innovations.* Aspects of the rapid financial innovation now underway may also serve to increase volatility of capital flows. Important examples include the increased diversification made possible by mutual funds and by financial instruments developed by hedge funds and investment banks. In general, although such innovations can increase the efficiency of capital allocation, they also appear to facilitate the taking of speculative positions and the rapid movement of short-term funds into and out of emerging markets.
- *FDI as a stabilizing factor.* Aspects of the coming surge in capital flows may act to reduce the volatility of capital flows. FDI, in particular, tends to be more stable than portfolio flows and bank lending (see *Global Development Finance 1999*)—in or out of crises—so that the expected increased importance of FDI could reduce the overall volatility of capital flows. Some evidence of this was already evident in the most recent crises, from which countries such as Hungary and Poland were relatively insulated because of the predominance of FDI in their inflows.
- *Policy factors.* Governments may rein in capital flows or at least delay further capital account liberalization. Regulatory authorities in both creditor and debtor countries may be more wary of the risks to their banking systems posed by cross-border lending, particularly short-term lending. New regulations promulgated by the Bank for International

Box 6.2 Achieving high rates of growth without heavy reliance on foreign borrowing

The past century has seen many examples of countries that have achieved rapid economic development without recourse to substantial portfolio investment from abroad or open capital accounts. Throughout its modern history, for example, Japan has largely avoided recourse to substantial reliance on foreign savings to achieve rapid growth. Much of Western Europe grew very rapidly during the Bretton Woods era without deep financial integration and in the presence of tight capital controls and financial regulation. In the developing world, most East Asian countries managed to post exceptionally rapid economic growth from the 1960s to the 1990s without opening their capital accounts, and in the presence of tight regulation of their domestic financial markets. China and India are two low-income countries that have both significantly boosted their longer-term growth rates without opening their capital accounts to portfolio flows. Rodrik (1998) suggests that there is little evidence (from a sample of 100 countries between 1975 and 1989) that capital account restrictions hurt economic growth. Indeed, the evidence may even point the other way: such restrictions may reduce the incidence and the costs of externally induced crises. Why and under what circumstances, then, can countries grow rapidly without substantial external borrowing?

- Countries with rapid export growth can finance economic development by ensuring adequate foreign earnings to support critical import needs, without the need for substantial foreign borrowing (Japan and Western Europe did so during the Bretton Woods era).
- Countries that have relatively open trade regimes and that avoid overvaluation of their currencies can ensure that exports grow rapidly, that domestic production is competitive with imports, and that learning

and innovation from foreign sources are not disadvantaged by closed capital accounts (East Asia and post-war Western Europe pursued this strategy).

- Countries can promote a high rate of domestic savings and use those savings to finance high rates of investment by fostering the efficient development of domestic financial markets. This means maintaining positive real interest rates, ensuring adequate domestic regulation of financial institutions, limiting public borrowing, and ultimately, maintaining high rates of growth (East Asia succeeded with such policies until the late 1990s).
- Countries can access knowledge, markets, and skills from abroad, without the pitfalls of capital market volatility or the systemic financial risks of open capital accounts, by maintaining open-door policies toward FDI (as did postwar Western Europe and as China has done more recently). Indeed, *Global Economic Prospects 1998/99* reported evidence that there is little connection between non-FDI capital flows and total factor productivity growth, and even found a negative association between the two in low-savings countries. FDI flows, on the other hand, were associated with a crowding in of domestic investment and productivity growth.

Consequently, although episodes of capital surges to emerging countries during the past 130 years have often been associated with significant rises in investment and growth in capital-receiving countries, openness to capital flows is not the only, or even necessarily the most important, means of achieving faster growth. And openness to capital flows carries real costs in terms of the sharply increased risks of externally induced financial crisis.

Settlements are seeking to raise banks' risk-capital requirements and encourage a better assessment of risks by lenders to emerging markets. And in the wake of the East Asian crisis, governments are now more sensitive to the potential impact of capital flows reversals on output growth and poverty reduction. This should encourage a more cautious approach to the opening of capital accounts, greater attention to means of reducing reliance on the more volatile categories of flows, and a greater emphasis on policies that help compensate for the volatility of capital flows. (Pol-

icy issues involved in managing the volatility of capital flows are discussed in chapter 5.)

- *Improvements in the international financial architecture.* Discussions of the international financial architecture have focused on measures that creditor countries and the multilateral institutions can take to reduce the volatility of capital flows. Considerable progress could be made in establishing international standards for transparency and reducing the impact of moral hazard in encouraging excessive lending. But it is important to be realistic about the potential impact of changes in the

international financial architecture in dampening volatility. One lesson of the past century is that international financial systems in an environment of open capital accounts are subject to volatility. The frequency of crises over the past 130 years under very different international institutional settings attests to the potential pitfalls of heavy reliance on foreign borrowing, and warns against emerging market economies relying solely on international solutions to protect them against volatile capital flows.

In one sense, the past half-century has demonstrated considerable progress in moderating the impact of financial crises on output. The increasing use of automatic stabilizers in fiscal policy, the development of deposit insurance, the growing role of central banks as lenders of last resort, and the adoption of more activist monetary and fiscal policies have all worked to lessen the swings in output that accompany financial crises, at least compared with the experience of the 1930s. These measures, however, have been successful only in industrial countries, in part because their greater wealth makes it easier to run countercyclical policies (and adopt risk-management measures) to smooth fluctuations in income. One can hope that further economic progress in emerging markets, coupled with appropriate measures to reduce capital flows volatility, will over time reduce the scale of output losses that have accompanied crises during the 1990s. The fact that volatility of output has an important impact on poverty underlines the importance for developing countries of taking steps to reduce the volatility inherent in capital flows (see *Global Economic Prospects 2000*). But developing the full set of instruments, policies, and institutions necessary to attain this outcome will likely take some years, if not decades, and be quite expensive.

Clearly, many of the issues raised in this chapter, as well as other aspects of capital surges to emerging markets, would benefit from further exploration. For example, work on the determinants of FDI flows could deepen our understanding of why FDI was negligible prior to the 1920s, yet now is the largest source of long-term capital to emerging markets. Further research is needed to sort out the extent to which private capital flow reversals cause or exacerbate crises, as opposed to

simply reflecting changes in economic fundamentals. In this context, it is critical to identify the policy regimes and institutional structures that lead to a more efficient use of capital flows, to ensure that these flows contribute to growth and development rather than to a cycle of boom followed by crisis.

Notes

1. The historical material in this chapter draws heavily on a background paper by Barry Eichengreen and comments by Jeffrey Williamson, supplemented by ongoing work at the World Bank. Views expressed and any errors are the responsibility of the World Bank staff alone.

2. From 1995–99 private capital flows increased by 6 percent per year in real terms, reflecting the sharp rise to 1997 and decline since then. Flows remain well above the trend estimated by Twombly.

3. The half century before 1925 saw perhaps 100 million people migrate from Europe (largely eastern and southern Europe) and Asia, with a large proportion settling in the Americas (DeLong 1999).

4. The percentages range from 86 percent in Australia to 92 percent in Canada (Davis and Gallman 1999, p. 7).

5. In the case of the United Kingdom, the country with the most highly developed securities markets, it was even less (Platt 1986).

6. Consistent with this interpretation, Twombly (1998) shows that FDI outside the railway sector circa 1914 was significantly less in independent countries than in the British Commonwealth and other political dependencies, even when other determinants are controlled for.

7. These figures are for 1920–31, from Madden, Nadler, and Sauvain (1937) and Atkin (1977).

8. This compares with an average deficit of about 1.5 percent of GDP for the top 12 private flows recipients (which accounted for 60 percent of private flows to developing countries in the early 1970s) during 1956–74.

9. Both grew by 33 percent, according to League of Nations figures, although Maddison's revisions suggest that trade grew more slowly than manufacturing output (Lamar-tine Yates 1995, p. 32; Maddison 1995, table I-4).

10. Bordo and Eichengreen (1999, table 1).

11. See *Global Economic Prospects 1998/99*. Statements about trends over time are likely to be sensitive to the sample of countries under consideration (not to mention to the way crises are measured, which is not something on which economists agree; see Schwartz 1986).

12. Although financial crises were rare during the Bretton Woods era, Edwards and Santaella (1992) list 48 devaluation episodes in emerging markets (often accompanied by IMF intervention) from 1954 to 1971.

13. The speculations here draw on Bordo and Eichengreen (1999) and Calomiris (1998).

14. The same phenomenon was evident in the transition economies in the early 1990s: since their banking and financial systems were relatively underdeveloped, the macroeconomic effects of their severe financial crises were mild

compared with the likely effects of comparable financial disasters in other regions.

15. The entire population of creditors' protective committees and their operation are reviewed by Winkler (1933).

16. The transcripts of the hearings of the Foreign Bond Investigation of 1931–32, headed by Senator Hiram Johnson, are a particularly graphic source of contemporary criticism.

17. Eichengreen and Mody (1998) find that the improvement in secondary market spreads was in excess of improvements in fundamentals. Calomiris (1998) discusses the moral hazard implications of the rescue package for Mexico.

18. This problem of observational equivalence is discussed in Eichengreen, Rose, and Wyplosz (1996).

19. Note, however, that the influence of demography may be swamped by other factors, particularly in the short term. For example, the United States has experienced a widening of its current account deficit over the past few years despite its aging population, because of an investment boom and a rise in consumption resulting from increased stock market and housing prices.

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