3

The Poor Countries' International Financial Transactions

Poor countries have benefited from the growth of global capital flows

The globalization of production and financial services has provided the opportunity for poor countries to increase their reliance on private sector international financial transactions.[1] Poor countries lack access to capital markets and official flows have fallen, while total aid has declined along with the share of the poor countries. However, foreign direct investment (FDI) flows have risen substantially: while the poor countries remain dependent on official external finance, they now receive the same amount of FDI as other developing countries, in relation to the size of their economies (table 3.1). FDI flows to the poor countries have become more diversified: the share of the mineral- and oil-exporting countries in total FDI to the poor countries fell from almost half in 1991 to 20 percent in 1997. Poor countries have participated in the global expansion of commercial banks: foreign banks' assets now account for 40 percent of total bank assets in the poor countries, twice as high as in 1995. Despite capital controls, poor countries' residents have placed significant amounts of capital abroad: the stock of capital outflows from the poor countries were larger relative to cumulated domestic savings and the stock of reserves, and only slightly smaller relative to gross domestic product (GDP), than outflows from other developing countries.

As in middle-income countries, the quality of the investment climate determines the extent of poor countries' access to capital and the extent to which foreign capital benefits the domestic economy. Countries with sound investment climates tend to attract more FDI, limit capital outflows, and enjoy greater productivity of both foreign and domestic capital than countries with weak investment climates. Those countries that established the stable macroeconomic policies and effective regulatory regimes necessary to attract foreign bank participation increased the access of domestic banks to trained personnel and technological advances, while rising competition from foreign banks helped reduce the costs of financial intermediation. Poor countries' greater openness to capital flows means that they have to cope with the macroeconomic effects of capital mobility. Sustainable macroeconomic policies marked by low inflation and debt levels are essential to limit capital outflows, and sharp changes in outflows (or capital repatriation) can complicate efforts at stabilization.

Financial integration in the poor countries

Financial integration has increased since the 1980s

The poor countries' private international financial transactions increased substantially during the 1990s. Official flows have fallen with the decline in total aid and the fall in the poor countries' share of aid (see chapter 4), while capital market flows (bank lending, bond issues, and portfolio equity) have remained relatively small. By contrast, FDI has risen seven-fold, and now represents over 40 percent of all long-term resource flows (table 3.2).[2] Nevertheless, the poor countries' reliance on private flows remains somewhat below that of other developing countries, where private flows averaged about 4 percent of GDP in the late 1990s.

One indicator of the extent of integration with the rest of the world is the correlation be-

Table 3.1 Net external financial flows to developing countries, 1999
(percent of GDP)

	FDI	Capital market flows[a]	ODA[b]	Capital outflows
Poor countries	2.8	–0.6	5.6	1.6
Other developing countries	2.8	0.7	0.4	3.2

a. Includes bonds, portfolio equity, and bank lending.
b. Official development assistance.
Source: World Bank Debtor Reporting System (DRS) and staff estimates.

tween investment and savings.[3] Countries that are tightly integrated into global financial markets should exhibit a low correlation between domestic savings and gross investment. For example, if a natural disaster reduces domestic savings but does not affect the return on new investment, firms in well-integrated economies can rely on international capital markets to maintain investment levels. At the extremes, in an autarkic economy savings and investment are identical (the correlation is one), while in a perfectly integrated economy the correlation would in theory be zero.[4] In the poor countries, the correlation between savings and investment declined sharply in 1995–99, after a steep rise from the late 1980s to the mid-1990s (figure 3.1). The variability in the series over time makes it difficult to say whether the recent decline will be sustained over the medium term. Again, the correlation in the poor countries remains above that of other developing countries, although the difference has narrowed since the mid-1980s.[5]

The preference for FDI reflects high risks—

While FDI to the poor countries has surged since the mid-1980s, net capital market flows to the poor countries has remained near zero. In other developing countries these resources represent an average of 1.4 percent of GDP. Albuquerque (2001) has noted that countries with worse international credit ratings tend to have greater difficulties in attracting capital market flows than in attracting FDI. This dependence on FDI rather than capital market flows reflects a range of higher risks associated with investing in poor countries, notably less stable macroeconomic conditions, weaker institutions, and a less favorable environment for private sector activity. Moreover, the economies of most poor countries are relatively undiversified. For example, primary commodities account for 70 percent of exports from Sub-Saharan Africa. The poor countries are thus more prone to exogenous shocks, such as changes in the terms of trade and, in the case of agricultural products, adverse weather conditions. Higher risk leads to a bias toward equity finance, in part because FDI typically includes management expertise and branding, which help to compensate for greater risk. Perhaps more important, banks face difficulties in raising interest rates sufficiently to compensate for risk, owing to adverse selection. Different entrepreneurs have different (and unobservable) probability of repaying loans. The more risky entrepreneurs are willing to pay a higher interest rate, so banks limit risk by rationing credit through quantity limits, rather than through changes in interest rates.

—including asymmetric information

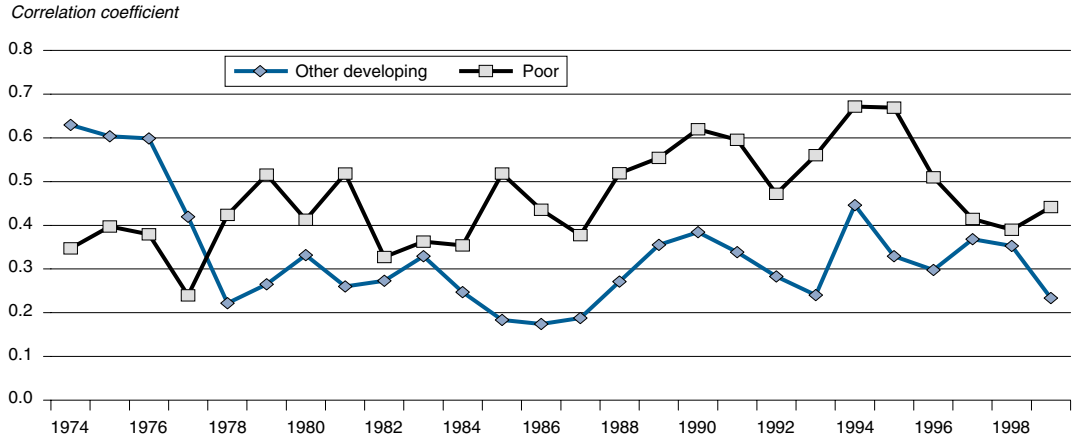
International investors often have little information on poor-country borrowers. Most poor countries often have relatively small markets, little coverage in the international media, and significant geographic and cultural distance from high-income countries. Thus external investors are particularly subject to asymmetric information with respect to opportunities in poor countries: that is, the owners of firms tend to have much more information on the firms' profitability than lenders or

Table 3.2 Net long-term capital flows to poor countries, 1986–99

	Billions of dollars			Percent of GDP		
	1986–88	1991–93	1997–99	1986–88	1991–93	1997–99
Total	15.7	20.9	22.2	6.1	7.8	6.6
Official flows	13.9	17.4	13.0	5.4	6.5	3.9
Private flows	1.8	3.5	9.2	0.7	1.3	2.8
Capital markets	0.7	0.5	–0.3	0.3	0.2	–0.1
Foreign direct investment	1.1	2.9	9.5	0.4	1.1	2.7

Source: World Bank DRS.

Figure 3.1 Five-year rolling correlation between savings and investment, 1974–1999



Source: World Bank data.

outside investors, particularly foreign ones. High risk in the presence of asymmetric information leads to quantity constraints on loans (Stiglitz and Weiss 1981), and debt contracting may not be feasible or desirable (Trester 1998). Lending to poor countries is thus severely constrained, and much of the bank lending that occurs must be guaranteed (see chapter 4). By contrast, when foreign firms take an ownership stake through FDI they can exert more control over local managers, and thus obtain better access to information (compared with banks) about a project's current and potential profitability (Razin, Sadka, and Yuen 1997).

The preference for FDI also reflects institutional weakness in debt and capital markets

The institutional and legal structures required to reliably enforce contracts in the debt and capital markets are often lacking in poor countries. Protection of minority shareholders is often limited, disclosure standards are inadequate, and the administrative processes necessary to buy and sell shares impose high costs and delays, so issuance on the capital markets is discouraged. Stock markets tend to be very small in the poor countries. For example, of the 19 African stock markets, almost half have market capitalization of less than $1 billion, compared to the $220 billion capitalization of the Johannesburg exchange (Oxford Analytica 2001). On the debt side, the laws and infrastructure necessary to collect on collateral in the case of loan defaults are often inadequate, so that banks are often unwilling to lend.[6] While increased securitization of loans is a potential approach to improving access to debt flows, the cost and complexity of arranging such deals, and the risks involved in reducing the flexibility of foreign exchange management and taking on large debts at market rates, limit the use of securitization by the poor countries (box 3.1).

Trade credit is often an attractive financing option

Another means of increasing credit to risky countries in the presence of asymmetric information is to borrow from suppliers rather than banks. Trade credit, a financial agreement under which an exporter (or supplier) extends credit to finance the purchase by an importing firm, offers a good alternative for firms that lack access to banks. Suppliers are often better placed than banks to lend to firms in developing countries because suppliers have considerable information on the firm and its markets, and thus are less affected by asymmetric information. Suppliers can impose greater sanctions in the case of default by cutting off access to supplies and repossessing goods against which credit has been granted. Suppliers have an advantage over financial intermediaries in selling repos-

Box 3.1 Improving market access through future-flow securitization

Securitization—the conversion into tradable securities—of future hard-currency receivables is a potential means of improving the access of poor countries to international capital markets. At the same time, securitization in the poor countries must be handled cautiously, due to the limits imposed on government's access to foreign exchange and the risks of incurring debt at market rates.

In a typical future-flow transaction, the borrower pledges the future revenues from sales of a product (for example, oil) as collateral. By a legal arrangement between the borrower and major international customers, payments for the future product are directly deposited in an offshore collection account managed by a trustee. The debt is serviced from this account, and excess collections are forwarded to the borrowing entity in the developing country. This transaction structure reduces the ability of the government to interfere with debt servicing, while the market risk arising from price and volume volatility is mitigated by setting the amount of collateral higher than the debt service liability. So far, there have been no debt defaults on rated future-flow asset-backed securities issued by developing-country borrowers, even during crises. For example, in the telecommunications transaction mentioned below, Pakistan continued to service this debt even in the face of selective default on its sovereign debt.

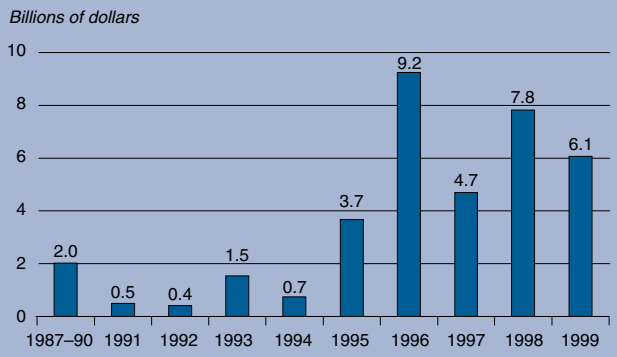
Future-flow securitization in developing countries. Since the first important future-flow securitized transaction in a developing country (by Mexico's Telmex in 1987), 150 future-flow securitizations (that were rated by major rating agencies) have raised more than $36 billion. The issuance of future-flow receivable-backed securities increased especially after the Mexican crisis in 1994–95 (see figure). About 45 percent of rated future-flow transactions in U.S. dollar terms (and one-sixth in terms of number of deals) are backed by oil and gas export receivables. Hard-currency future receivables such as credit card and telephone receivables, and workers' remittances, and even export receivables to be generated in the future by new investment projects have also been securitized. In Argentina, some provinces have securitized portions of their future tax receivables from the federal government.

Future-flow securitization. Future-flow securitization has been used rarely in the poor countries. One example is the 1997 transaction in which Pakistan Telecommunications Company Limited, a state-owned company, raised $250 million in bonds backed by future telephone settlement receivables from international telephone companies. This issue was rated investment grade, four notches higher than the sovereign rating. Given their revenues from commodities, tourism, and remittances, poor countries could potentially raise as much as $11 billion by securitizing exports (using a conservative 5:1 overcollateralization ratio on 1998 receivables),[7] in addition to the potential for securitization of telephone receivables.

Securitized lending may be useful at the margin to increase access to finance and to gain entry to capital markets. There may also be positive externalities associated with securitization: the close scrutiny of the legal and institutional environment involved in these transactions may identify priorities for reform. Public policy to facilitate future-flow-backed securitizations could focus on clarifying bankruptcy laws, reducing transaction costs by facilitating the pooling of receivables generated by several issuers, and educating policymakers and potential issuers about the benefits and risks involved. A number of factors, however, constrain the growth of future-flow transactions in the poor countries, including the high preparation costs and long lead times involved, and the lack of legal clarity on bankruptcy procedures in many countries.

Securitized lending also presents some risks to poor-country governments. Securitized arrangements that commit a substantial share of a country's foreign exchange resources may also reduce the attractiveness of nonsecuritized debt. A country's securitizations may violate negative pledge commitments to multilateral lenders. Escrow accounts reduce the authorities' flexibility in mobilizing and managing foreign exchange. For example, escrow account arrangements made by a public sector company may make it impossible for a government to draw on the company's foreign exchange receipts to support imports during a temporary decline in the terms of trade, thus imposing a costly and perhaps unnecessary adjustment. Committing a large share of the public sector's foreign exchange receipts to securitized arrangements can significantly increase the economic contraction required due to a withdrawal of flight capital. There is also a danger of proliferation: governments that agree frequently to the use of such arrangements may see creditors insist on them in most cases. This concern may be more muted in the case of a private company, although even here governments with foreign exchange surrender requirements may see their access to foreign exchange decline. The major issue is that poor-country governments, and in particular heavily indebted governments, must remain cautious about contracting debt at market rates. Securitized arrangements may facilitate access to capital markets, but they do not necessarily make it prudent for poor countries to borrow on hard terms.

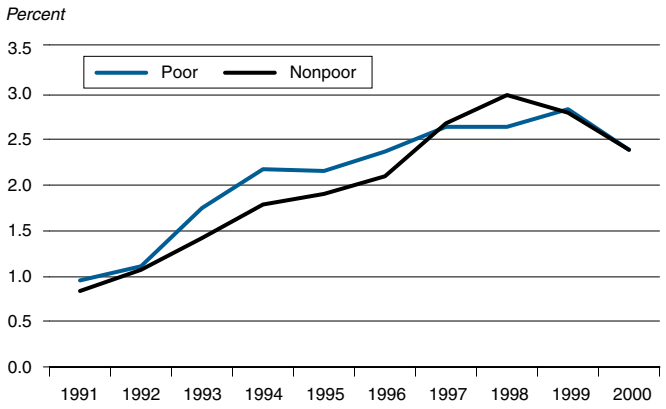
Future-flow securitization, 1987–99



Source: Fitch, Moody's, Standard & Poor's.

sessed goods, since usually the supplier already has a network for selling its goods, especially if they have not been transformed by the buyer. By contrast, a bank's threat to cut off future finance may have little influence on the buyer's immediate operations (Petersen and Rajan 1994). Moreover, the prospect of a close and continuing trade relationship with the supplier reduces the likelihood that a solvent buyer would default, as the cost of obtaining goods from a single firm can be lower than purchasing them through separate transactions (Mian and Smith 1994).

Figure 3.2 FDI-to-GDP ratios, 1991–2000



Source: World Bank, *Global Development Finance: Country Tables* and sources cited therein, various years.

FDI to the poor countries

Poor countries benefit from a global surge in FDI flows—

The surge in FDI reflects both the increase in global FDI flows and improvements in the investment climate in the poor countries. Global FDI flows increased by 24 percent per year during 1991–2000 as reduced trade barriers and technological innovations encouraged the growth of globally integrated supply networks (World Bank 2001a). Developing countries as a group saw FDI flows rise 20 percent at constant prices, and the rise in FDI as a share of GDP during the 1990s was virtually identical in the poor and other developing countries (figure 3.2), although the share of the poor countries in total FDI to developing countries declined during the 1990s. FDI flows to the poor countries increased to almost 3 percent of GDP and 15 percent of domestic investment, about the same ratios as in other developing countries.

—and improvements in their investment climates

The rise in FDI flows to the poor countries over the 1990s in part reflects significant progress in improving the investment climate, a term which refers to the numerous ways in which government policies affect the productivity of investment by fostering openness to trade and FDI, macroeconomic stability, fair and efficient public sector administration, low corruption and effective law enforcement, strong financial institutions, the provision of effective infrastructure, sound regulation, and measures to ensure the health and education of the work force. Several empirical studies have confirmed the importance of the investment climate in determining the level and efficiency of domestic investment (box 3.2).

The poor countries have made significant progress in improving the investment climate. The median inflation rate in the poor countries fell to under 5 percent by the late 1990s, compared with almost 8 percent early in the decade. The poor countries' average fiscal deficit fell from 7 percent of GDP in the early 1990s to 4 percent in the late 1990s. Almost half of a sample of 44 poor countries (the choice of countries was based on data availability) reduced their fiscal deficit by more than 2 percent of GDP, and only 12 saw a deterioration in the fiscal deficit. Some countries achieved broader reforms to encourage private sector activity. Restrictions on foreign entry and ownership were either eased or removed, and export processing zones (EPZs) and various tax and duty reductions were introduced. Twenty-two out of a sample of 24 poor countries either introduced EPZs or provided other forms of tax- or duty-exemption for imports, or reduced taxes on imports over the 1990s. Several countries eased rules on foreign currency transactions, at least as far as the current account is concerned (see below). The poor countries also have made some progress in health and education indicators that reflect improvements in human capital, a critical component of a strong investment climate. For example, the adult illiteracy rate declined from 45 percent in 1990 to 37 percent in

Box 3.2 The investment climate and domestic investment

The economic literature provides considerable empirical evidence regarding the impact of the investment climate on the level and productivity of private investment. The elements of the investment climate covered in empirical studies include macroeconomic policy, the legal framework, political instability, infrastructure, and health and education services. Both the policy framework and uncertainty concerning its administration are important.

Poor *macroeconomic policies* have a negative impact on the level of investment. Pfeffermann and Kisunko (1999) list inflation among the major deterrents to investment worldwide. Ndikumana (2000) shows that inflation has had a negative effect on investment in Sub-Saharan Africa, while Oshikoya (1994) gets the same results for a sample of low-income countries. Other authors have found that uncertainty about macroeconomic policies reduces investment (Alesina and Tabellini 1989). Several authors have shown that real exchange rate volatility, a proxy for uncertainty, is negatively related to private investment (Aizenman and Marion 1995; Servén 1996 and 1998; Servén and Solimano 1993; Brunetti and Weder 1998; Hausmann and Gavin 1996).

An *appropriate legal framework* and its fair enforcement have an important impact on investment. Uncertainty in property rights enforcement (Knack and Keefer 1995) and corruption (Mauro 1995) have significant negative effects on investment.[8] Brunetti and Weder (1998), in a cross-sectional study of 60 countries, find that the lack of rule of law and a high level of corruption are especially detrimental to investment. Analyses based on surveys (Pfeffermann and Kisunko 1999) and panel data (Bubnova 2000) emphasize corruption, crime, and unpredictable public administration as deterrents to investment. Individual country studies also provide evidence of the impact of the policy environment on investment in Africa. For example, Devarajan, Easterly, and Pack (2001) find that inappropriate public policies severely reduced the productivity of the Tanzanian manufacturing sector.

Empirical studies also have found that *political instability* has a significant negative effect on investment (see studies of large cross-country data sets by Barro [1991] and Alesina and Perotti [1996]). A survey of foreign-owned firms in 24 African countries found political and policy stability to be the most important factors affecting their investment decisions (Sievers 2001). Gyimah-Brempong and Traynor (1999) also provide evidence on the negative effect of political instability on investment for a cross-section of 39 Sub-Saharan African countries during 1975–88. Studies on individual countries in Africa have provided similar evidence (Thomas 1994 for Tanzania, and Jenkins 1998 for Zimbabwe). In a study of 18 Latin American countries over the period 1970 to 1981, Gyimah-Brempong and Muñoz de Camacho (1998) show that political instability reduces investment in both human and physical capital. Using a sample of 40 countries, Bubnova (2000) points out that political disorder aggravates risk and therefore reduces private infrastructure investment.

The lack of adequate *infrastructure and human capital* has been found to reduce private investment. Pfeffermann and Kisunko (1999) report that inadequate infrastructure constitutes one of the major obstacles to doing business. Reinikka and Sevensson (1999) identify the role of unreliable and inadequate power supply in reducing investment in Uganda, despite considerable progress in establishing macroeconomic stability and structural reform. Oshikoya (1994) finds a positive relationship between the infrastructure component of public sector investment and private investment in low-income countries. A study on Pakistan shows the complementary effect of public infrastructure investment on private sector investment (Sakr 1993). Likewise, a study of the Caribbean region (Clements and Levy 1994) shows that public education investment have significant effects on private investment.

Analyses of subnational impediments to investment have also emphasized the importance of the investment climate. In a study of Indian states Dollar, Iarossi, and Mengistae (2001) find that after controlling for establishment size and industry type, the variation in factor productivity across the states can in part be attributed to the variation in regulatory burden. The study also shows that the average annual fixed capital formation is four times higher in states with better investment climates (based on business managers' rankings) than in others. A survey of perceptions of business environment in five regions of Russia identified inflation, lack of access to financing, poorly functioning judiciary systems, and administrative barriers to investment (that is, high tax rates, tax regulations, and corruption in the public sector) as the most serious obstacles to investment (Coolidge, Kisunko, and Rahman 2001).

1999, and the infant mortality rate dropped from 85 per 1,000 live births in 1990 to 73 in 1999.

Nevertheless, the investment climate in most poor countries remains less attractive than in many middle-income countries. The average fiscal deficit is one percentage point of GDP higher in the poor countries than in the other developing countries. Health sector indicators are worse, despite the progress outlined above. For example, life expectancy at birth remains 13 years below the level in other developing counties, and the adult illiteracy rate is more than twice as high. Growth in the poor countries has been slower: per capita GDP rose by only 0.3 percent per year in the 1990s, compared with 1.9 percent in other developing countries.[9]

Improved investment climate is associated with rapid growth of FDI

Poor countries that made progress in improving the investment climate during the 1990s attracted large FDI increases. In the countries where policy and institutional performance improved most, FDI as a ratio to GDP increased by 25 percent per year, while in the countries whose policies improved least, the FDI-to-GDP ratio increased by less than 6 percent annually (table 3.3). The countries that showed relatively good policy and institutional performance in 1995 received more FDI as a ratio to GDP during 1996–99 (table 3.4).

The relationship between improvements in the investment climate and increases in FDI flows can also be seen in the experience of individual poor countries. Uganda, Tanzania, and Mozambique achieved the greatest improvement in the investment climate for a sample of 23 African countries during 1992–97 (World Economic Forum 1998), and the ratio of FDI to GDP rose by 81 percent in Uganda, 35 percent in Tanzania, and 33 percent in Mozambique.[10] Armenia pushed ahead with opening sectors to foreign investors and promoting privatization, which led to an 80 percent upsurge in FDI as ratio to GDP over the past decade. Privatization transactions accounted for a significant share of FDI inflows in some of these countries (15 percent in Uganda from 1992–97, and 25 percent in Bolivia from 1995–99).

Table 3.3 Annual change in policy performance and FDI as ratio to GDP, 1991–99

(percent)

	Highest group	Lowest group
Improvement in policy performance index	6.6	–3.2
Increase in FDI as ratio to GDP	25.5	5.7

Note: Highest and lowest groups of countries are based on the order of improvement in the policy performance index during the period of 1991–99. Policy performance is measured by the Bank's Country Policy Performance Rating.
Source: World Bank, *Global Development Finance: Country Tables* and sources cited therein, various years; World Bank, *World Development Indicators,* various years; World Bank staff estimates.

Table 3.4 FDI as ratio to GDP and policy performance index in poor countries

	FDI-to-GDP ratio	Policy performance index
High	8.9	3.4
Middle	4.6	3.0
Low	0.5	2.5

Note: This excludes oil and mineral exporters. The policy performance index is measured in 1995. FDI as ratio to GDP is an average during the 1996–99 period. The sample for this figure consists of 30 countries.
Source: World Bank, *Global Development Finance: Country Tables* and sources cited therein, various years; World Bank, *World Development Indicators,* various years; and World Bank staff estimates.

Policy measures that attract FDI—

In addition to overall improvements in the investment climate, policy measures that are specifically designed to ensure equal treatment of foreign and domestic investors have been important in attracting FDI to the poor countries. New laws on foreign investment have been formed to permit profit repatriation since the early 1990s, while accessions to international agreements and institutions as well as conclusions of bilateral investment treaties and double taxation treaties have accelerated (UNCTAD 2001a). According to a survey conducted by UNCTAD in 1997, 26 of the 32 least developed countries in Africa in the survey had a liberal or relatively liberal regime toward the repatriation of capital.

—and factors that discourage it

Some of the poor countries have not achieved the improvements in the investment climate necessary to encourage higher FDI flows. Civil strife, which affected 13 poor countries during the 1990s, can

depress foreign investment (although some of the countries affected by conflict have continued to receive foreign investment in protected natural resource projects). Some countries continue to impose restrictions on foreign entry and ownership and foreign exchange transactions, as well as discriminatory tax provisions. In Kenya, where foreign investors face multiple licensing requirements and high withholding taxes on royalties, FDI remained less than 0.2 percent of GDP during 1991–99 (Pigato 2001). Similarly, in Yemen, where sizable outflows of FDI have been recorded since the mid-1990s, licensing requirements discouraged new investments, despite incentives such as tax holidays and customs exemptions. Pakistan has seen a steady decline in FDI inflows since 1996 due to investor concerns over political developments.

FDI can boost investment and productivity—
Recent empirical work indicates a strong link between the volume of FDI and domestic investment. Bosworth and Collins (1999) and Mody and Murshid (2001) find that a dollar of FDI results in an almost one-dollar increase in investment. By contrast, international portfolio flows and bank loans have a much smaller impact on investment. In addition to the impact of FDI on the volume of investment, the presence of foreign firms can generate important benefits for domestic firms by increasing their knowledge of—and access to—advanced technology, by improving the overall skills of the work force, and by increasing demand for domestic firms' products and the supply of inputs.[11] These "spillover" benefits of FDI are greatest in countries with sound investment climates marked by well-developed human capital, efficient infrastructure services, sound governance, and strong institutions.[12]

The presence of foreign firms also can be important in the poor countries by improving local firms' access to international markets. The role of foreign firms as export catalysts has been examined for some 2000 Mexican manufacturing plants for the period 1986–90. Controlling for factor costs, output prices, and other variables, Aitken, Hanson, and Harrison (1994) found that the presence of foreign affiliates significantly increases the probability that domestic firms export. To the extent that growth in Sub-Saharan Africa is reduced by foreign investors' lack of information (Collier and Gunning 1999), exposure to foreign firms may help eliminate an important constraint on the market access of African firms.

—but only if the investment climate is sound
Nevertheless, estimates of the average impact of FDI on growth in poor countries are mixed, in contrast to comparable estimates for developing countries as a group, which often show a positive impact of FDI on growth.[13] Kumar and Pradhan (2001) find that a 1 percent rise in the ratio of FDI to GDP in the poor countries is associated with an increase in GDP growth of about 0.18 percent, compared with a rise of 0.12 percent in the case of domestic investment.[14] By contrast, Blomström, Lipsey, and Zejan (1994) found the impact of FDI on growth of the lower-income countries to be positive but not statistically significant.

These mixed results reflect weak investment climates in some countries. Even if FDI is strongly linked to higher investment, increased investment may generate limited benefits for growth if the investment climate is poor. Devarajan, Rajkumar, and Swaroop (1999) present some cross-country evidence for Africa in which neither public nor private investment is correlated with growth due to low capacity utilization and a distorted policy environment.[15] Bhagwati (1978) and Balasubramanyam, Salisu, and Sapsford (1996) find that the effect of FDI on growth is stronger in countries that pursue export-oriented trade policies than in those adopting inward-oriented policies. Even in poor countries with sound macroeconomic policies and limited public sector interventions in competitive markets, low levels of education and skills may limit the benefits of FDI. Borensztein, De Gregorio, and Lee (1995) and UNCTAD (1999b) find that the interaction between FDI and an indicator of human capital in cross-country regressions has a significant impact on growth in developing countries, but that FDI alone does not.[16]

The size of the technological gap between domestic and foreign firms may limit the benefits of FDI to poor countries. FDI can be highly growth-enhancing when FDI and domestic investment are closer substitutes, which is more likely in technologically advanced countries than in developing countries (de Mello 1999). If local firms have insufficient capacity to absorb technology and skills from foreign affiliates, then the poor-country firms might lose out in the face of competition from foreign firms (Kokko 1994; Kokko, Tansini, and

Zejan 1996; Kathuria 1998; Fry 1992; Agosin and Mayer 2000). In addition, resource- or labor-seeking FDI—which is the most common form of FDI in the poor countries—is likely to generate fewer backward or forward linkages for domestic enterprises compared to FDI in intermediate or capital goods industries—the type more common in middle-income countries (Ozawa 1992; Porter 1990).

Even when the short-term impact of FDI is limited by a poor investment climate, the medium-term impact on growth may be positive. Initially domestic firms may see an erosion of their market share due to the entry of foreign firms with superior technology. Subsequently, however, domestic firms may regain market share as they absorb spillovers of technology and skills through vertical—backward and forward—linkages of foreign firms with domestic enterprises (Marksun and Venables 1997). In a study of 55 poor countries for the 1980–99 period, a 1 percent increase in FDI as ratio to GDP in the current period reduces domestic investment as ratio to GDP by 0.8 percent. However, a 1 percent increase in the FDI-to-GDP ratio in the previous period results in 0.7 per cent increase in the domestic investment ratio of the current period (Kumar and Pradhan 2001).

Effective competition policies are critical

In the absence of effective competition policies, FDI also can have a negative impact on the domestic economy by establishing a local monopoly and reducing production to maintain high prices, thus generating rents for foreign investors. There are two types of situations where firms might be able to keep prices higher than competitive levels over a considerable length of time. The first is in competitive markets in small economies where the government maintains barriers to entry, for example through high trade barriers or by limiting foreign entry to particular firms. Here the obvious remedy is to reduce trade barriers and establish an open regime for FDI. As many of the poor countries have small markets that could be dominated by a few firms, ensuring low barriers to entry is a high priority. Opening the economy to import competition tends to lower domestic market concentration and reduce price differentials between the local and international markets (Harrison 1994; Levinsohn 1993; Tybout 2000; and Hoekman, Kee, and Olarreaga 2001). Economies with more active policies toward fighting monopoly power tend to grow faster, even after controlling for the height of trade barriers (Hayri and Dutz 1999).

Research on the impact of foreign entry on market concentration in competitive markets is limited. Several studies have found little evidence of anticompetitive practices, including studies in the Republic of Korea after the opening to FDI in 1998 (Yun 2000), in Mexico on the competitive effects of foreign acquisitions of domestic firms (Mexico Federal Commission on Competition 1997), and in the Czech Republic on the impact of sales of domestic firms to foreigners on market concentration in manufacturing (Zemplinerova and Jarolim 2000).

The second area where foreign entry may act to stifle competition is in natural monopolies that are subject to economies of scale and have limited potential for cross-border provision of services (such as telecommunications and power). For example, the privatization of state-owned monopolies, without either removing barriers to entry or establishing an effective regulatory framework to maintain competitive prices, can lead to a private monopoly. Here efforts to maintain efficient markets are more difficult than in competitive markets such as manufacturing, as poor countries often lack the institutional capacity required to effectively regulate natural monopolies. Thus building adequate rules and institutions to regulate natural monopolies may be necessary before privatization. However, once the decision is made to privatize, fear of natural monopolies is not a reason to bar foreign participation in bidding for privatized firms.

FDI in the mining sector has risen with policy reform

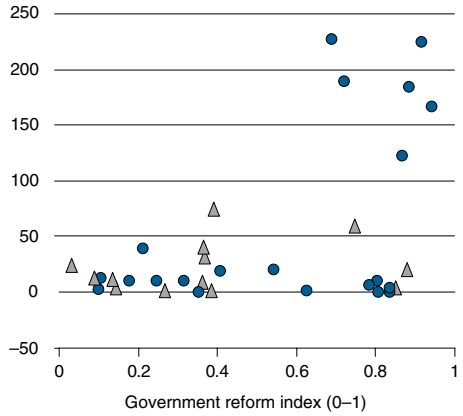
The investment climate is not the only determinant of the allocation of FDI among the poor countries. Some countries receive significant levels of FDI simply because they have natural resources that are not widely available. The rents associated with the exploitation of these resources may be so high as to compensate for weaknesses in the overall investment climate. In some cases, investment in natural resource sectors can be isolated by imposing special regulations, building dedicated infrastructure, or even providing special security in regions affected by conflict. Nevertheless, with improvements in the in-

vestment climate in non–natural-resource-exporting countries and the increase in privatization programs, the share of oil- and mineral-exporting countries in the poor countries' FDI flows fell from almost 50 percent in 1991 to 20 percent in 1997.

Even in mineral-exporting countries, the quality of the investment climate is an important determinant of access to FDI. Global surveys indicate that efficient and stable policies, liberal and transparent mining legislation, and accountable and nondiscriminatory tax regimes play a key role in the international mining companies' investment decision making, second only to geological conditions (Naito and others 1998; Clark and Naito 1997; Otto 1992; Johnson 1990). According to a 1997 survey of 35 countries, long-term success in attracting FDI in mining exploration depends on the quality of the legal, fiscal, and institutional framework, in addition to the existence of mining resources and a favorable geographic location. Eight of the 10 countries that received the highest FDI in exploration in 1997 had better-than-average policies, as measured by an index of reforms in the mining sector (Naito and Remy 2001).[17] One major obstacle facing the poor countries in increasing minerals production is the poor quality of policies in many countries. Of the 13 poor countries in the survey, 10 scored less than 0.4 on the reform index (indicating worse-than-average policies) and only three scored more than 0.7. In middle-income countries, by contrast, 8 scored below 0.5 and 13 above (figure 3.3).

Nevertheless, some poor countries have undertaken significant reforms of their mining sectors during the 1990s in order to attract foreign investment in mineral resource development (World Bank 1992 and 1996; Otto 1995; Smith and Naito 1998; Naito, Remy, and Williams 2001). According to recent forecasts by World Bank staff, some countries that have launched substantial reform programs are expected to achieve significant increases in exploration investment and—subsequently—increases in the value of the minerals produced and exported (table 3.5).[18] For example, Mali had historically attracted very little foreign investment in mining. In the 1990s the country undertook a reform of the rules governing mining and strengthened government oversight and service institutions. As a result, new investment started to flow in, leading to two new operating mines, and gold has become the largest contributor to Mali's export earnings, accounting for over 40 percent of total exports in 1999. Mining sector reform has typically addressed the establishment of an appropriate legal framework for private sector activities, including the fiscal regime; modernization of government institutional arrangements in the mining sector; public enterprise reform and privatization; and establishment of a sound environmental management system.

Figure 3.3 Foreign direct investment in mining exploration and government policies



Note: Triangles represent poor countries, while circles represent other developing countries.
Source: Naito, Remy, and van der Veen 2001.

The participation of foreign banks in poor countries' financial systems

Foreign bank presence in the poor countries increased in the 1990s—

In addition to capital flows, poor countries are tied to the international financial system through foreign banks. During the 1990s, the liberalization of financial markets in combination with rapid trade growth (which increased banks' ties with exporters from developing countries) spurred the global expansion of banks. Cross-border mergers and takeovers of banks rose from 320 over the course of the 1980s to about 2,000 in the 1990s. The middle-income countries of Latin America and East Asia and the transition economies experienced

Table 3.5 Mining sector performance in three countries, before and after reforms

(millions of dollars)

	Exploration		Production		Exports	
	Before	After	Before	After	Before	After
Ghana	<1	n.a.	125	700	125	650
Mali	<1	30	<1	242	<1	230
Tanzania	<1	35	53	350	53	350

n.a. Not applicable.
Sources: Naito, Remy, and van der Veen 2001 and sources cited therein. Staff projections based on ongoing projects and price forecasts.

a rapid increase in the number of foreign banks.[19] These recipients accounted for the biggest share of banks going to the developing world. However, the poor countries have also seen a substantial rise in foreign bank entry, as the failure of state-directed financial systems led to the privatization of many financial institutions and the removal of obstacles to the establishment of new banks in many countries. For example, in Africa cross-border mergers between financial institutions in the 1990s surged to 96, up from only seven in the 1980s (Buch and Delong 2001).[20] In 2000 only 15 of the 58 low-income countries had no reported foreign bank activity, down from almost half in 1995. Foreign banks represent 38 percent of the total number of banks in the poor countries, up from 13 percent in 1995 (figure 3.4). Foreign banks' assets account for more than 40 percent of total bank assets in the poor countries, twice as high as in 1995. It is possible, however, that the sizeable losses incurred by foreign banks in the Argentine crisis may discourage a continued expansion of foreign banks in developing countries, at least in the near term.[21]

Some poor countries have had significant foreign bank presence for a long time (beginning with colonial domination of local banking systems), and colonial ties remain an important determinant of the home country of foreign banks. U.K. banks account for about one-third of all foreign bank capital in English-speaking Africa, and French banks enjoy a similar presence in French-speaking Africa. In low-income transition economies, the home countries of the foreign banks are more diverse, reflecting weaker cultural or colonial ties, although geographic proximity is an important determinant of foreign bank presence. For example, Turkish banks are important in a number of Central Asian countries, Arab banks are present in the Republic of Yemen and Pakistan, and banks

Figure 3.4a Foreign bank presence in poor countries

Average across countries (percent)

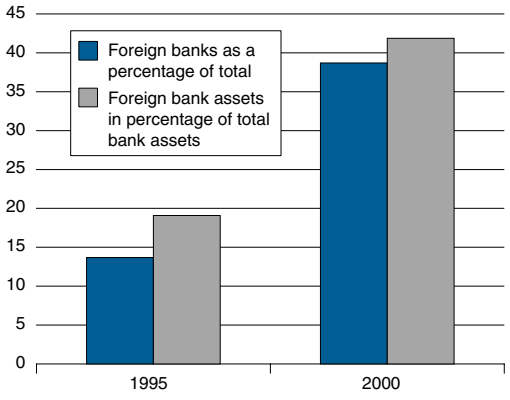
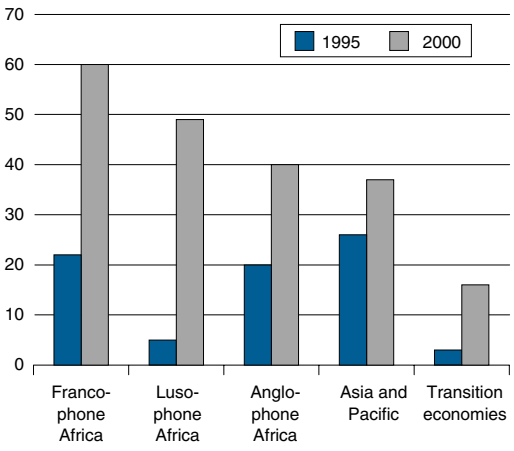


Figure 3.4b Foreign bank presence in Africa

Foreign bank assets as a percentage of total bank assets



Note: Data include only low-income countries that allow foreign bank presence and have not witnessed open conflict from 1995 through 2000.
Source: World Bank staff calculations based on Bankscope.

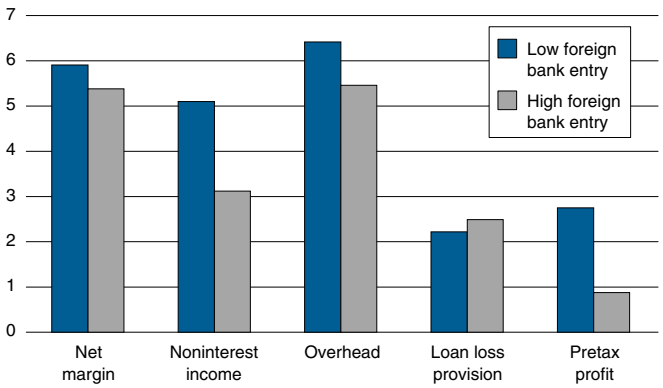
from middle-income East Asian countries have established subsidiaries in low-income East Asia.

—but regulatory barriers limit opportunities

Despite the rise in the presence of foreign banks in many poor countries, regulatory barriers and the limited opportunities in poor countries' financial systems continue to constrain foreign bank participation. Regulatory barriers are higher in poor countries than in other developing countries. On an index that ranges from 0 (closed) to 1 (fully open), middle- and high-income countries scored, on average, 0.77—well above the average (0.54) for all countries.[22] The main determinants of differences in commitments made to the World Trade Organization concerning the liberalization of financial services were found to be income level, openness to trade, and the depth and competitiveness of the financial sector (Qian 2000; Sorsa 1997). On these indicators, poor countries generally score worse than middle-income countries. Many poor countries also have limited scope for the provision of financial services, owing to the small scale of trading, the low level of savings, and competition from traditional and informal methods of savings collection (such as rotating savings and credit associations). The high cost of doing business—despite low wages—is an additional obstacle, reflecting poor business infrastructure, and greater difficulties in evaluating loans in low-income countries. Finally, the weak regulatory framework and the frequent policy reversals in the financial sector—including nationalizations of foreign banks—increase the regulatory risk perceived by investors, while the effective subsidy to loss-making state banks distorts competition and creates an additional entry barrier.

Figure 3.5 Effect of greater foreign bank presence on intermediation costs and domestic bank profitability

Percentage of domestic bank assets (average, 1995–2000)



Source: World Bank.

Foreign bank presence is associated with higher efficiency of banking systems in the poor countries

The presence of foreign banks is associated with improvements in the efficiency of banking systems in the poor countries. Increased competition from foreign banks may reduce intermediation costs by eroding excess profits that domestic banks can enjoy due to the small size of the financial systems of many poor countries (see World Bank 2001b). In poor countries where foreign bank presence is greater than average, financial intermediation costs tend to be lower, as reflected in domestic banks' lower net margins and noninterest income. At the same time, domestic banks' overhead costs are lower in countries with substantial foreign bank presence, perhaps indicating improved practices learned from the foreign banks. On balance, domestic banks' pretax profitability in high-foreign-entry markets is much lower than in markets with low foreign bank presence (figure 3.5).

Differences in domestic bank performance across markets with varying levels of foreign bank entry are also likely to reflect other factors, apart from the presence of foreign banks—for example, differences in macroeconomic conditions that affect bank profitability. Taking into account differences in country circumstances and the financial characteristics of individual banks, econometric results confirm that stronger foreign bank presence is associated with significantly lower domestic bank net interest margins, noninterest income, and overhead costs (see annex 3.1). The net impact of higher foreign bank presence is a decrease in domestic bank profitability, after controlling for the influence of other factors.[23] This decline is a *partial* influence, which may be offset in the long term to the extent that foreign bank entry is associated with lower financial intermediation costs, which could improve credit provision to the private sector and thus foster higher growth and bank profitability (Levine 1996).

Foreign bank entry can help improve the quality of domestic bank staff by training staff that

then move to domestic banks. For example, Citibank is said to have trained an estimated 5,000 bankers in developing countries. In Pakistan, the government hired personnel from Citibank, Bank of America, Société Générale, and ABN-AMRO to help rehabilitate its national commercial banks, starting in 1997. French and British banks that have long been active in Africa have also contributed to training of banking personnel there. Foreign banks also can facilitate the provision of certain financial services, such as international syndications, letters of credit confirmations for exports to third countries, treasury products for commodity hedgers, depositary receipts, and international mergers and acquisitions possibilities for local corporate customers.

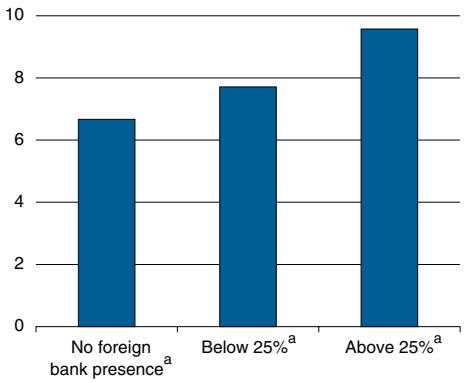
Foreign banks have also contributed to the soundness of domestic banking systems by participating in the privatization of failed state banks. For example, the sale of Tanzania's National Bank of Commerce (NBC) to ABSA, a South African bank, led to a sharp acceleration in the pace of restructuring and in loan recovery efforts. When ABSA took over NBC in March 2001 it launched an aggressive loan recovery effort that generated immediate results. Whereas previously NBC had been continually thwarted in its collection efforts by court injunctions and other avoidance tactics, ABSA successfully overcame many of these obstacles, thereby establishing its credibility and eliciting more constructive behavior from borrowers.[24]

Despite the improvements in efficiency brought about by greater foreign bank penetration, policymakers in developing countries are often concerned that access to credit may be impaired for some sectors of the economy—in particular small and medium enterprises (SMEs)—because foreign banks tend to serve primarily large customers compared with domestic banks. However, evidence from a survey of over 4,000 enterprises in 38 developing and transition economies—including 8 poor countries—suggests that, though large enterprises seem to take better advantage of foreign bank presence, benefits appear to also accrue to SMEs (Clarke, Cull, and Soledad Martinez Peria 2001). In countries with high foreign bank penetration, SMEs tended to rate interest rate costs and access to long-term loans as lesser constraints than in countries with low foreign bank entry. Medium-size enterprises also appear to finance a larger share of investment through commercial bank loans in countries with higher foreign bank presence. The benefits perceived by SMEs may reflect, first, the lower interest margins spurred by foreign bank entry, which may help expand the *amount* of lending to SMEs even if the share of lending to them declines. Second, foreign bank competition for large customers may displace some domestic banks, forcing them to more actively seek new market niches. This could potentially improve credit access for small borrowers in the medium term. On the whole, based on a sample of 59 countries, Barth, Caprio, and Levine (2001b) concluded that limitations on foreign bank entry (captured by a cross-country comparable survey of national regulatory agencies) tend to be associated with a smaller share of bank credit to the private sector in GDP.

Greater foreign bank presence may also help attract foreign bank lending to poor countries, although the evidence is limited. Increased foreign bank presence can facilitate project selection and screening of borrowers, thus improving foreign banks' access to information, a critical input to lending decisions. Poor countries with high foreign bank presence attracted nearly 50 percent more international bank lending as a share of their GDP than countries with no foreign banks (figure 3.6).

Figure 3.6 Effect of greater foreign bank presence on international bank lending to poor countries

Percentage of debtor countries' GDP (average across countries, 1995–2000)



Note: Total claims of BIS reporting banks on poor countries.
a. Foreign bank assets as a percentage of total bank assets in poor countries, 1995–2000 (average).
Source: World Bank, based on Bank for International Settlements data.

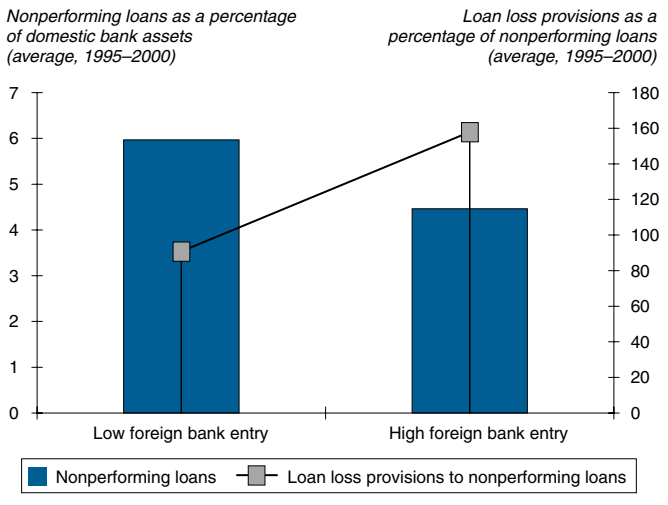
Of course, this relationship may be due to other factors. For example, countries with high foreign bank presence may also have better investment climates, which would explain the higher level of foreign loans. Countries with low foreign bank presence may also restrict private borrowing from abroad, thus limiting the amount of outstanding international bank claims.

Foreign bank entry does not appear to be associated with greater risk taking by domestic banks—

While the fall in domestic bank profitability that is associated with foreign bank entry may signal reduced financial intermediation costs for bank clients, it may also engender instability: banks that see a decline in their franchise value may have an incentive to take on greater risks (Hellmann, Murdock, and Stiglitz 2000). Pressure on domestic banks may also increase if foreign banks capture the most lucrative segments of the market (such as loans to export-oriented manufacturing), thus leaving domestic banks more exposed to the low-end, less profitable segments. This problem could be particularly severe in many poor countries, where domestic banks may lack the expertise to compete effectively with foreign banks and domestic banks may already be weakened by poor supervision, a history of high nonperforming loans, and government pressure for unprofitable lending to loss-making state enterprises. On the other hand, foreign bank presence may have a positive impact on financial stability, because it helps introduce better risk management practices, while foreign banks are likely to be better supervised by home country regulators.

One approach to investigating the impact of foreign banks on stability is to examine whether the domestic banks' portfolio and performance characteristics that have been shown to affect the chances of a financial crisis differ significantly in "low" and "high" foreign bank entry environments (Demirgüç-Kunt and Detragiache 2000; Goldstein, Kaminsky, and Reinhart 2000).[25] Analysis suggests that poor-country banking systems with high foreign bank presence had, on average, a smaller share of nonperforming loans in the late 1990s (figure 3.7). Provisions for nonperforming loans are also higher in countries with large foreign bank presence. While domestic banks in low-entry countries provision less than 100 percent for each nonperforming loan, banks in high-entry markets provision, on average, 150 percent. To be sure, lower nonperforming loans and better provisioning may partly reflect better prudential requirements and supervision in countries that are more attractive to foreign banks. On balance, domestic banks in poor countries with high foreign bank presence do not appear to have taken on particularly high risk.

Figure 3.7 Effect of greater foreign bank presence on nonperforming loans



Source: World Bank; Claessens and Lee 2001.

—but a banking system that is more competitive and open to foreign entry can increase risks

While on average foreign bank presence is not associated with collateral damage to domestic banks, on occasion foreign banks have increased domestic financial instability by pulling out of host countries or by contagion from problems in the home country. A foreign bank affiliate may be forced to cut back on its local asset portfolio, in response to a deterioration of the parent bank's balance sheet. The impact of a decline in lending by a foreign bank may be particularly great in poor countries, where the number of banks is limited and foreign banks are often major players. For example, Kentbank of Turkey, which had purchased the National Commercial Bank of Albania in 1999 (with 60 percent market share in deposits and loans), had to be taken over by the Turkish Deposit Insurance

Fund. Fears over instability were calmed, however, when the Turkish Fund lent $10 million to the Albanian bank. In Romania, rumors that the Turkish shareholder in Banco Turco (24 percent market share) was directing the funds of Banco Turco Romano back to Turkey led to a run on the bank in 2000. The run was stopped when the Turkish government persuaded Vakifbank of Turkey, a bank partially owned by the government, to support the bank. The sale of Uganda Commercial bank, the main state bank, to a Malaysian industrial and real estate company had to be cancelled when the parent bank got into difficulties.

These events point to the potential transmission of instability from foreign banks, particularly those from countries subject to substantial instability and without strong regulation and supervision. Diversification of the home countries of foreign banks is particularly important to reduce exposure to financial contagion. However, to minimize risks of contagion, the host country regulators also should be careful in screening entrants on the basis of two criteria: the quality of the foreign bank's domestic supervisory framework and the foreign bank's reputational risk exposure (to protect its reputation, a large international banking group is more likely to recapitalize a subsidiary than to let it fail).

With increased presence of foreign banks, maintaining effective cross-border supervision has become important to reduce the risk of contagion.[26] However, enforcing effective cross-border supervision raises difficult policy challenges for poor countries, as it requires a regular exchange of high-quality financial information between the home and host country regulators. The host supervisors should also be ready to permit on-site inspections by the home country supervisors. Many poor countries lack the resources and capabilities to effectively align their prudential regulation with best practice and comply with cross-border supervision guidelines. Moreover, almost all poor countries have relatively small financial systems, so that the fixed cost of establishing effective supervision can be high. Regional cooperation among poor countries could help, by upgrading and harmonizing standards of prudential regulation in financial services, pooling resources and expertise, and intensifying information exchange. For example, despite the need to further reinforce the regulatory framework, the West African Banking Commission established in 1990 has been an important step toward ensuring uniform and more efficient supervision of financial institutions in the eight member countries of the West African Economic and Monetary Union (IMF 2001a).

Capital outflows

Most poor countries have de facto open financial systems, in the sense that residents are able to place assets abroad—although these transactions, referred to as capital outflows, are not always legal. Since most capital outflows are not recorded, they are measured by inference, as the difference between recorded capital inflows and the sum of the current account deficit and increases in international reserves. This measurement is inevitably imprecise.[27] Despite these difficulties, there is no doubt that outflows are large relative to economic activity in many, if not most, of the poor countries, which has important implications for the volume of domestic investment and the conduct of macroeconomic policy. This section discusses the determinants of capital outflows and their implications for the domestic economies of the poor countries.

Capital outflows are high relative to domestic savings for the poor countries

The poor countries have experienced substantial capital outflows over the past two decades. Nevertheless, capital outflows remain smaller than inflows, and in most poor countries net external finance makes a positive contribution to domestic investment. Cumulated outflows totaled $62 billion, equivalent to 17 percent of GDP, almost 12 percent of cumulated savings for 1980–99, nearly a fifth of cumulated official flows during 1980–99, and nearly two-and-a-half times international reserves in 1999 (table 3.6).[28] Capital outflows from the poor countries were larger relative to domestic savings and reserves, and only slightly smaller relative to GDP, than outflows from other developing countries (which generally are viewed as more financially integrated with the rest of the world).

Capital outflows are extremely volatile, however, and these aggregate data conceal considerable variation over time and across countries. Since 1985, capital outflows from the poor countries have varied from less than 3 percent of GDP to just

Table 3.6 Cumulated outflows during 1980–99

	Cumulated outflows (billions of dollars)	As share of 1999 GDP (percent)	As share of cumulated domestic savings (percent)	As share of cumulated domestic capital formation (percent)	As share of cumulated official inflows (percent)	As share of net international reserves in 1999 (percent)
Poor countries	62	17	11.5	8.1	19	242
Other developing countries	1,182	20	6.5	6.6	278[a]	175

a. This ratio is high because aid flows to middle-income countries are very small.
Sources: IMF Balance of Payments; World Bank staff estimates.

over zero (meaning capital repatriation) (figure 3.8). Moreover, the cross-sectional standard deviation of the ratio of capital outflows to GDP is greater than the average over the period. Another way of gauging cross-sectional variability is that capital outflows averaged $8 billion a year during 1995–99, but 20 countries have outflows that total over $10 billion, while 6 countries account for more than $2 billion of reverse outflows (repatriation of residents' capital).

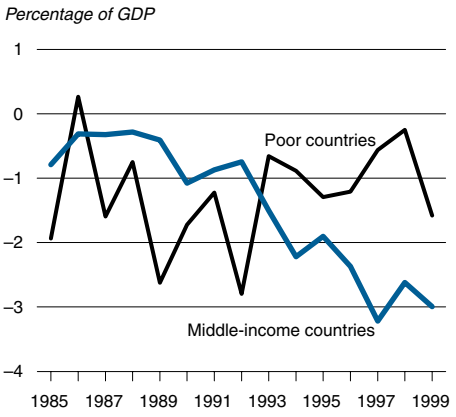
Indeed, capital outflows from the poor countries are more volatile than outflows from the middle-income countries, while inflows are less volatile (presumably because the poor countries receive little of the more volatile capital market flows) (table 3.7). This highlights an important point: many poor countries face the same issues surrounding capital flows volatility and the implications for macroeconomic stabilization as the middle-income countries. Moreover, at lower levels of income, volatility is likely to be more costly in terms of welfare (a decline in income can push more people to subsistence levels or below). Poor countries typically lack the range of instruments (for example, an efficient government bond market) available to middle-income countries to deal with macroeconomic volatility, and they are also more subject to volatility from the external sector due to their dependence on primary commodities. The average volatility of the poor countries' terms of trade (as measured by the coefficient of variation) in 1990–99 was about 40 percent higher than in other developing countries. Thus the poor countries face higher levels of volatility, volatility is more costly for them, and they are less equipped to deal with it, compared with middle-income countries.

Table 3.7 Volatility of capital flows, 1990–99

	Inflows as share of GDP (coefficient of variation)	Outflows as share of GDP (coefficient of variation)
Poor countries	0.12	3.6
Other developing countries	0.30	2.1

Note: For each country group, the mean is estimated by dividing the sum of flows by the sum of GDP for each year, and then taking the mean over the decade. Standard deviation is computed using the annual averages for the decade. Coefficient of variation is the ratio of standard deviation to the mean. Resource flows include short-term debt flows and are taken from GDF. Outflows are estimated using IMF BOP.
Source: World Bank staff estimates.

Figure 3.8 Capital outflows from developing countries, 1985–99



Source: IMF Balance of Payments (BOP); World Bank staff estimates.

A poor investment climate encourages capital outflows

The quality of the investment climate in the poor countries is the main determinant of the level of capital outflows. War and civil conflict, corruption, macroeconomic instability, uncertainty over property rights, high tax rates, weak governmental

institutions, financial sector repression, and unnecessary constraints on private sector economic activity encourage outflows by limiting the opportunities for profitable domestic investment (box 3.2) and increasing the risk of confiscation or capital losses on funds held domestically (Tornell and Velasco 1992).[29] Several authors have mentioned that capital flight is driven by the desire to safeguard incomes derived from corruption and crime (see Varman-Schneider 1995 in the case of India, and Loungani and Mauro 2000 in the case of the Russian Federation). In poor countries with better than average economic policies (as measured by the Bank's Country Policy Performance Rating), the stock of capital outflows totaled only 6 percent of GDP, compared with 30 percent of GDP in countries with worse than average policies (table 3.8). Sheets (1996) found that inflation, budget deficits, and low interest rates were associated with increased capital flight. Schineller (1997, 1999) also found that the fiscal deficit was an important determinant of capital outflows, and reversals of outflows were associated with macroeconomic stabilization and structural adjustment programs. A high debt-to-GDP ratio raises the risk of future taxation, and also the risk of default on sovereign liabilities to residents. Cumulative capital outflows averaged 39 percent of GDP in poor countries with higher than average debt-to-GDP ratios, but only 5 percent of GDP in countries with lower than average debt ratios.

Table 3.8 Cumulated outflows as a share of GDP, 1999
(percent)

		Poor countries	Other developing countries
Investment climate			
Policy environment[a]	High	–5.9	–19.8
	Low	–30.3	–20.1
GDP growth	High	–16.4	–17.3
	Low	–19.7	–28.7
Debt/GDP	High	–39.2	–23.9
	Low	–5.1	–19
M2/GDP	High	–6.3	–20.5
	Low	–37.7	–20.2
Trade/GDP	High	–40.7	–28.2
	Low	–7.6	–16.8
Income effects			
Per capita income	High	–6.1	–20.8
	Low	–21.2	–19.4
Gini	High	–49.7	–22.1
	Low	–6.7	–14.2
Discrimination of resident capital			
Exchange premium	Positive	–21.6	–23.4
	Zero	–7.6	–17.5

Note: Outflows cumulated over the 1980–99 period. High and low usually refer to above and below median of the concerned variable. The numbers reported are sum of cumulated outflows for countries above median (say) divided by sum of GDP of the same countries.
a. Policy environment is measured by World Bank's country policy performance rating.
Source: World Bank staff estimates.

In some countries, preferential treatment of foreign capital versus domestic capital also boosted outflows in the form of round tripping (see example of round-tripping in China in chapter 2). Preferential treatment for foreigners may include tax breaks, preferential access to prime land and other inputs, and exemption from exchange controls faced by residents (Dooley 1986; Khan and Ul-Haque 1985; Eaton 1987; Ize and Ortiz 1987).[30] Such discriminatory treatment of resident capital relative to nonresident capital may encourage investors to deposit their wealth in a foreign bank, and then raise debt financing from the same bank for their domestic investments (Lessard and Williamson 1987).

Just as a poor investment climate encourages outflows, improvements in the investment climate can encourage capital repatriation. Ajayi (1997) describes how improvements in macroeconomic stability and better governance encouraged the reversal of capital flight in Côte d'Ivoire, Central African Republic, Uganda, Ghana, and Kenya during the 1980s and 1990s. Olopoenia (2000) estimated that capital flight from Uganda rose during periods of political instability (1971–74, 1976–79, and 1981–87), but there was a "reflow" of flight capital following a return to peace and economic liberalization (including exchange rate unification and lifting of exchange controls) during the 1990s. In Kenya, Tanzania, and Uganda, high Treasury bill rates offered by governments have attracted funds from returning emigrants (Bhinda, Griffith-Jones, and Martin 1999). Tax amnesty programs have been used as another means of attracting inflows (see Ng'eno 2000 for the example of Kenya). However, such programs can only provide one-off, short-term effects (Das-Gupta and Mookherjee 1995), and are effective only if accompanied by measures to reduce the distortions that encouraged outflows in the first place. If repeated, tax amnesty programs increase incentives for evasion, as taxpayers wait for the next amnesty.

Outflows are also associated with increased wealth and globalization

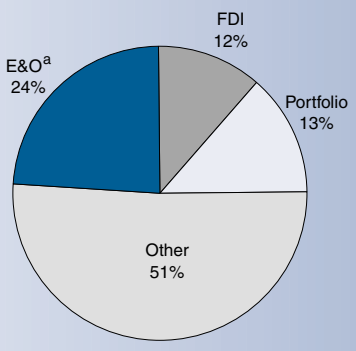
Capital outflows do not always signal a poor investment climate. In many middle-income countries, the rise in capital outflows before the East Asian crisis appeared to be tied to increases in wealth that increased the demand for international portfolio diversification (box 3.3). By contrast, the poor countries with higher than average per capita incomes (for the poor-country group) experienced smaller outflows (table 3.8), perhaps because wealth levels, while higher than those of the aver-

Box 3.3 Capital outflows from the middle-income countries

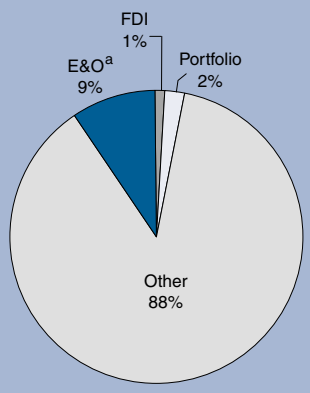
Capital outflows from the middle-income countries have a different composition than outflows from the poor countries, and the predominant motivations are different as well. Many middle-income countries became more integrated into the global economy over the course of the 1990s. In the first half of the decade, the official data showed a sharp rise in private capital inflows, but this was substantially offset by an increase in capital outflows, as increased wealth and trade transactions boosted the desire for portfolio diversification (Gordon and Levine 1988). About one-quarter of capital outflows from middle-income countries took the form of foreign direct or portfolio investment (see figures). Thus, in the early 1990s, growing capital outflows from many middle-income countries were consistent with economic progress, while in the poor countries capital outflows often reflected a poor climate for investment and slow growth. In the second half of the 1990s, capital outflows by residents increased from countries affected by crises, for example Mexico in 1995, Indonesia, Korea, and Thailand in 1997–98,[31] and the Russian Federation in 1998. A significant portion of capital outflows may also represent round-tripping. For example, the experience of the crises may also have encouraged domestic investors to try to benefit from explicit and implicit guarantees on foreign debt.

The different motivations of capital outflows from the middle-income countries have meant that some of the relationships outlined in the main text concerning poor countries do not hold. For example, middle-income countries with better policies and with higher per capita income have experienced almost the same level of cumulative capital outflows as middle-income countries with poor policies and low income. Thus, good policy environments in some of the more successful middle-income countries have facilitated growth while still allowing residents to diversify their portfolios internationally. On the other hand, middle-income countries with high debt-to-GDP levels, greater openness to trade, and greater inequality have had relatively high levels of capital outflows, as in the poor countries.

Composition of cumulated outflows from middle-income countries during 1980–99



Composition of cumulated outflows from poor countries during 1980–99



Note: Other includes trade credit, bank deposits, and currency holdings.
a. Errors and omissions.

age poor country, had not reached levels where substantial international diversification was necessary. Higher trade openness may also encourage outflows as residents have more contact with international markets, there is a rising incentive to hold foreign exchange as a hedge against changes in the exchange rate, and the scope for misinvoicing of exports and imports increases. Capital outflows from poor countries with higher than average ratios of trade to GDP equaled 41 percent of GDP, compared with 8 percent in countries with lower than average trade-to-GDP ratios.[32]

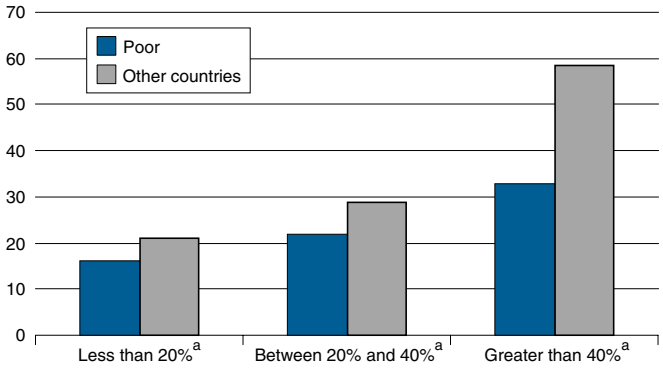
Income inequality also can have an important impact on outflows. Cumulated outflows from poor countries with high inequality, as measured by the Gini coefficient, averaged 50 percent of GDP, compared with 7 percent for poor countries with low inequality. A high concentration of wealth may mean that some residents have large individual portfolios that make them more likely to diversify their assets and more able to pay the implicit and explicit transaction costs associated with capital outflows. High income inequality may also be associated with greater sociopolitical risks, which would in turn encourage outflows. The size of outflows is positively related to large mineral resources (such as oil, gold, and diamonds [figure 3.9]), and countries with large natural resource endowments also tend to have higher income inequality (Goreux 2001). For example, the largest source of capital outflows from Sub-Saharan Africa is Nigeria, where outflows seem to be highly correlated with oil exports (Ajayi 2000).

It is difficult to determine whether simple comparisons of the investment climate and capital outflows, as shown in table 3.8, reflect causality (and in which direction) or the influence of some third factor that determines both indicators. For example, large capital outflows may be associated with high debt ratios because residents place funds abroad in order to escape the potential for higher taxes to service the debt. Alternatively, high capital outflows may reduce growth, thus increasing debt-to-GDP ratios. Or, high levels of corruption may mean that large inflows of official finance end up in private hands and are then transferred abroad—thus increasing both external public debt and private outflows. An analysis of the relationship between capital outflows and other macroeconomic variables that takes into account the mutual interactions among endogenous variables (such as growth, capital outflows, capital inflows, the real exchange rate, and fiscal deficits) and controls for the role of other influences (such as degree of inequality and structure of trade) can improve our understanding of the forces at work. This analysis uses panel vector autoregression (explained in more detail in annex 3.1), in which each of the endogenous variables is related to lagged values of the other endogenous variables.

The results for all developing countries indicate a two-way relationship between capital outflows and the government's track record in fostering growth and maintaining economic stability. Higher growth rates are associated with reduced capital outflows in the next period, while higher capital outflows appear to contribute to reduced growth rates in the next period. Similarly, a higher fiscal surplus is associated with smaller capital outflows in the next period. Capital outflows are also significantly related to capital inflows, which may either reflect round-tripping or the tendency for financially integrated economies to engage in both external borrowing and lending. Thus there is strong support for the existence of virtuous (and vicious) cycles, in which, for example, a fall in capital outflows increases the domestic resources available for growth, which in turn lowers outflows. The qualitative results for poor countries follow a similar pattern, although the statistical significance of the coefficients is found to be weaker than the results for all developing countries.[33]

Figure 3.9 Cumulated outflows and minerals exports

Outflows (1980–99) as a percentage of GDP



a. Percentage of ores and metals exports in merchandise exports.
Source: World Bank, *World Development Indicators,* various years; World Bank staff estimates.

Most poor countries have controls on capital account transactions—

While many poor countries have achieved a significant reduction in restrictions on current account transactions since the 1980s, most continue to impose restrictions on capital account transactions. Four indicators that have often been used to measure trends in foreign exchange restrictions over time are: (a) existence of multiple exchange rates, (b) export earnings surrender requirements, (c) controls on current account transactions, and (d) controls on capital account transactions.[34] The first two of these indicators are available over a long time series through the most recent year, while the latter two are available on a comparable basis only through 1995.[35]

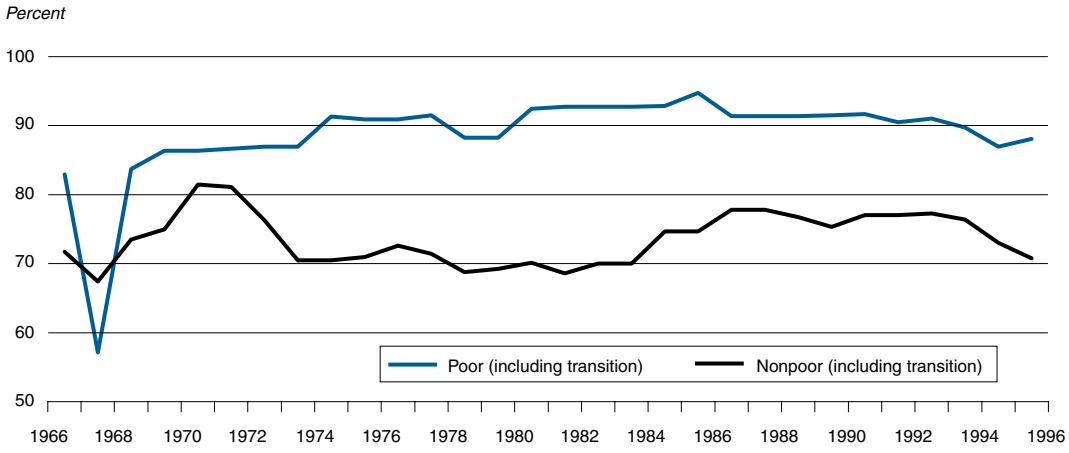
The poor countries have made progress in reducing current account restrictions. The share of reporting poor countries that imposed current account restrictions fell from 75 percent in 1985 to 44 percent in 1995. It appears that the trend toward liberalization of current account restrictions continued in the second half of the 1990s: the share of reporting poor countries that require exporters to surrender foreign exchange earnings to the government dropped from 64 percent in 1995 to 52 percent in 2000. Moreover, the share of reporting poor countries with multiple exchange rates fell from 29 percent in 1995 to only 10 percent in 2000.[36]

By contrast, the share of poor countries reporting capital account restrictions has remained at about 90 percent since the mid-1970s, with a slight rise during the mid-1980s and a slight decline in the mid-1990s when a few countries liberalized capital account transactions (figure 3.10). In addition, there has been almost no change in the share of poor countries reporting various capital account restrictions in the more detailed format used since 1995. While it is impossible to make a precise comparison of the late 1990s with earlier years, the broad conclusion is that most poor countries have maintained capital account restrictions over the course of the last 30 years. The share of other developing countries reporting capital account restrictions also has changed little since the early 1970s, but it remains well below the share of poor countries imposing capital account restrictions.

—but capital controls are porous

Controls often have only a limited impact on capital outflows in the context of a weak investment climate, where domestic investment opportunities are limited and fears of confiscation or reduction in the value of assets give residents considerable incentive to put their money abroad. Controls have had some success in the middle-income countries when they are limited in time or in purpose (see box 3.4). But they have had particularly lim-

Figure 3.10 Capital account restrictions



Source: IMF Exchange Arrangements and Exchange Restrictions.

Box 3.4 Narrowly focused capital controls in emerging markets

Thailand's and Malaysia's experiences with capital controls on outflows, and Chile's experience with capital controls on inflows, provide some evidence that controls can be effective if narrowly focused and adjusted in response to attempts at circumvention.

In 1991 the Chilean government imposed controls on inflows to lengthen the maturity of inflows and increase the capacity of the central bank to conduct an independent monetary policy. The controls consisted of unremunerated reserve requirements (URRs) that (initially) mandated that 20 percent of the deposit remain in a non–interest-paying account for the duration of the credit. "Minimum stay" requirements of three years were placed on FDI and portfolio flows. While subsequent changes were made in the specifics of the controls (changes in the URR percentage, reductions in the minimum stay, extensions or exemptions from coverage), the underlying restrictions remained in place until 1998. The controls elicited a tug-of-war between the authorities and the private sector, in which periodic success by the private sector in diluting the effectiveness of the controls led to efforts by government to close the loopholes. Evidence suggests that there was some lengthening of the maturity of inflows with little impact on the aggregate value of inflows. In addition, domestic interest rates were marginally "delinked" from international markets, providing the authorities with an increased space for policy maneuver (De Gregorio, Edwards, and Valdes 2000). The benefits must be balanced off against the costs, though, which included raising the cost of borrowing for domestic firms (especially those without access to international markets).

Both Thailand and Malaysia resorted to controls on capital outflows as part of their response to the Asian crisis. In *Thailand,* the controls were first adopted early in the crisis, in an effort to limit offshore speculation against the baht. The controls were intended to be narrow, and did not apply to legitimate commercial and financial transactions (including trade flows, FDI, and portfolio flows). The initial controls were modified on several occasions, including both loosening in response to changing economic conditions as well as tightening to close loopholes that the private sector had begun to exploit. Measured against the objective of "punishing" speculation by limiting offshore liquidity, the controls were at least partially successful, as they contributed to a wide and persistent gap between onshore and offshore swap rates (IMF 2000a).

Capital controls were adopted in *Malaysia* in September 1998, when the exchange rate had already depreciated sharply, making sizable further outflows unlikely. Moreover, as in Thailand, the Malaysian controls were selective in nature, designed to curtail (if not eliminate) the possibility of speculation against the ringgit while leaving ordinary trade and FDI flows unaffected. The controls were immediately effective. The prohibition on interaccount transactions virtually halted offshore ringgit trading, while the mandatory 12-month holding period on portfolio repatriation shut down outflows. But in retrospect it is also clear that the Malaysian controls were imposed after the worst of the crisis had passed, so that their major contribution was one of safeguarding against further turbulence rather than limiting the direct impact of the crisis itself (see also Dornbusch 2001; and Kaplan and Rodrik 2001). The control system relied heavily on comprehensive regulation and bureaucratic intervention, and active adjustment and fine-tuning of the controls by the authorities occurred in response to private sector efforts to evade the impact (Hood 2001).

What lessons can be drawn from these experiences of capital controls? First, the success of controls depends in part on defining a sufficiently narrow objective. Both Malaysia and Thailand had some success in limiting speculation through offshore markets. Second, the control system must remain dynamic: the private sector will inevitably strive to minimize or avoid the impact of controls, necessitating administrative responses to fine-tune the regulations.

ited success in the poor countries, where controls are typically imposed over an extended period, so that individuals and firms have ample opportunity to find means of getting around them.

Means of circumventing capital controls include:

- Trade misinvoicing. A portion of the export earnings may not be reported to the authorities in an effort to bypass foreign exchange surrender requirements. Similarly, imports may be overinvoiced to gain access to larger amounts of foreign exchange. Residents also may falsify import letters of credit and customs declarations to bypass exchange controls.
- Smuggling. Goods may be smuggled and the proceeds deposited in banks. Sometimes, barter may be arranged for trading contra-

band (for example, diamonds for arms in Sierra Leone [see Goreux 2001]).

- Changes in transfer prices and leading and lagging of intracompany transfers are used for shifting funds abroad (Mathieson and Rojas-Suarez 1993).

A common method of effecting fund transfers in the presence of exchange controls is *hawala* (meaning "trust" in Hindi), also known as *hundi* in Pakistan, or *fei ch'ien* (literally "flying money") in China. In a *hawala* transaction, a developing-country resident who wants to transfer funds to a transferee abroad deposits local currency with an agent and obtains a "chit." The agent instructs his colleague in a foreign country to pay an equivalent amount of foreign currency to the transferee upon presentation of the chit (or simply a code). It is believed that the net amount outstanding at the end of a long period of time is settled through smuggling. Thus *hawala* is not a distinct means of evading capital controls, but rather a means of effecting international payments transactions when desired, with ultimate settlement done by the means of capital outflows outlined above. This method (believed to have originated in China during the T'ang dynasty) is fairly common in South Asia, the Middle East, Sub-Saharan Africa, and Southeast Asia.[37]

Controls on capital outflows not only have limited success over the medium term, they may also discourage capital inflows. Foreigners will be unwilling to invest where there is significant uncertainty regarding their legal ability to repatriate profits and ultimately liquidate the investment. The presence of capital controls, even if they are widely evaded, will create such uncertainty, because foreigners are typically less knowledgeable about the feasibility and risks involved in committing technical violations of the law. Also, multinationals are usually unwilling to undertake illegal transactions because of the harm to their reputations and the likelihood of being made an example if enforcement of controls is tightened in the future. Conversely, removing capital controls can encourage inflows (Laban and Larrain 1997). Several countries have eased controls on outflows when faced with large inflows (to limit currency appreciation and loss of export competitiveness, see Calvo, Leiderman, and Reinhart 1993), but the liberalization actually resulted in increased inflows. Examples include Chile, Colombia, and Egypt in the early 1990s (Schadler and others 1993).

As one motivation for capital outflows is to guard against a real devaluation of the domestic currency, several middle-income countries have allowed local deposits denominated in foreign currencies to reduce capital flight and induce nonresident inflows (for example, India, Mexico, Uruguay, and Turkey [see Rojas-Suarez 1990]). Moves toward capital account liberalization such as allowing foreign currency deposits may reduce distortions and corruption that studies find to be associated with capital controls (Edwards 1999; Loungani and Mauro 2000), and can increase the supply of capital to help governments manage difficult times. In Turkey, for example, worker remittances doubled between 1988 and 1989 in response to such a policy. Remittances also doubled between 1992 and 1994 in India when nonresident workers were allowed to hold foreign currency deposits onshore.

Some of the poor countries have also moved toward liberalizing controls on inflows. In the 1990s liberalization of exchange regulations led to rapid growth of foreign currency accounts in a few countries in Sub-Saharan Africa (for example, Ghana, Tanzania, and Uganda), and a significant part of these funds reflected the return of flight capital (Bhinda, Griffith-Jones, and Martin 1999). According to Stryker (1997), foreign currency deposits held by residents onshore in Ghana increased significantly over the early 1990s, to make up a third of total deposits by the end of 1996. Private transfers to Uganda increased from $80 million in 1991 to $415 million in 1996, following capital account liberalization that permitted residents to open foreign exchange denominated accounts; deposits in such accounts accounted for one-quarter of broad money in Uganda in April 2000 (Kasekende 2000). In Kenya, the legalization of foreign currency deposits in the early 1990s in the context of high real interest rates attracted large short-term flows: the level of international reserves rose from $81 million at the beginning of the second quarter of 1993 to $685 million a year later.

Liberalization of the capital account, however, can prove costly, especially when combined with interest rate liberalization in the context of a weak macroeconomic policy environment and underdeveloped financial markets. Capital account liberalization (including allowing local foreign currency

accounts) has to be complemented by sound macroeconomic policy and prudential banking regulations, but poor-country governments often lack the resources to obtain the information required for effective supervision, and corporate governance and accountability can be weak. If liberalization induces a large repatriation of flight capital by residents, or attracts significant nonresident inflows, the currency may appreciate and, at the same time, domestic liquidity may expand, generating inflationary pressures. Liquidity management in such a situation may not be easy, especially since many poor countries do not have sufficient instruments of monetary policy to conduct sterilization. (Sterilization may also prove to be very expensive, as in the case of Indonesia before the crisis in 1997.) Increased dollarization of domestic liabilities through allowing foreign currency accounts may also complicate monetary and exchange rate management.[38]

Moreover, allowing unrestricted capital flows can increase the risks assumed by domestic banks and corporations, as happened in East Asia before the 1997 crisis (Corsetti, Pesenti, and Roubini 1998; Krugman 1998). In the presence of a pegged exchange rate and relatively high domestic interest rates, capital account liberalization can encourage residents to take unhedged foreign currency exposure (if the pegged exchange rate is expected to be maintained, borrowers can take low interest rate foreign loans and place the funds in high-yielding domestic accounts). This can result in significant currency mismatches on banks' balance sheets, which in turn can lead to huge losses if a fall in confidence triggers capital outflows (or if devaluation of the currency is required for any reason) (Eichengreen and others 1999; World Bank 1999a). Even with a floating exchange rate (so that the incentive for unhedged exposures is reduced), sharp changes in the exchange rate can introduce considerable volatility in the balance sheets of banks with large foreign currency exposure. Middle-income countries have suffered very severe consequences from capital account liberalization combined with weak financial institutions and insufficient supervision. Poor countries with even greater financial sector weaknesses could confront serious difficulties with open capital accounts.

There is some evidence that the liberalization of capital inflows in Sub-Saharan African countries was associated with both macroeconomic and financial sector difficulties. Bhinda, Griffith-Jones, and Martin (1999) found that increased private capital inflows contributed to real effective exchange rate (REER) appreciation in Tanzania, Uganda, Zambia, and Zimbabwe during 1990–97.[39] The domestic liquidity expansion that resulted from capital inflows may also have been a factor behind the imprudent lending and borrowing behavior by banks in these countries. In Uganda, despite prudent fiscal policy and attempts to supervise banks and regulate corporate borrowings (the Financial Institutions Statute of 1993), two banks had to be taken over for restructuring in 1995. The accumulation of short-term foreign liabilities was a source of distress in these problem banks (Kasekende 2000). In Kenya, nonperforming loans as a share of total loans rose from 20 percent in 1994 to over 30 percent in 1997 (Ngugi 2000; Brownbridge 1998)—the resulting banking crisis may have been related to the surge in repatriated outflows (from $177 million in 1994 to $682 million in 1997).

Moreover, most of the poor countries are small economies with heavy dependence on primary commodities (and are thus subject to severe terms-of-trade shocks, as noted above), and they have relatively shallow capital markets. A completely open capital account could magnify the impact of external shocks. For example, a sharp fall in the price of a major export commodity could lead to large capital outflows in anticipation of a devaluation, potentially leading to overshooting of the exchange rate. The same process would occur with capital controls, but to a lesser degree. In addition, short-term controls that exempt FDI transactions may be an attractive option for poor countries that lack market access and hence do not have to take into account the impact of controls in discouraging portfolio inflows.

Thus the poor countries need to move cautiously toward liberalizing capital account transactions. Countries that have already opened the capital account, established sustainable macroeconomic policies, and made the difficult adjustments required to maintain stability in the face of capital inflows (particularly establishment of strong corporate and financial sector institutions and effective supervision) should not backtrack by imposing controls. Many poor countries continue to confront weak financial sector institutions and difficult challenges in achieving strong governance and sustainable macroeconomic policies. Liberalizing capital inflows under such conditions can lead to excessive

risk taking and exacerbate macroeconomic instability. Poor countries need to take into account the degree of volatility of their economies, and be confident in the quality of their policies and institutions, before undertaking the risks involved in capital account liberalization.

Annex 3.1: Econometric analysis of foreign bank participation

The effects of foreign bank presence on the operation of domestic banks can be more completely examined by formal econometric evidence. The regressions in table 3A.1 investigate how foreign bank presence affects five performance indicators of domestic banks: (a) net margin, (b) noninterest income, (c) before-tax profits, (d) overhead expenses, and (e) loan loss provisions. All of these variables are measured as a share of total domestic bank assets.

Apart from foreign bank presence, the regressions relate the domestic banks' performance indicators to the financial characteristics of individual banks (such as equity capital and other earning assets) and their apparent cost-efficiency (as measured by the overhead expense ratio). The regressions also control for the impact of the macroeconomic environment on bank performance. Macroeconomic factors that may affect interest margins, profitability, and provisioning for bad loans include the rate of GDP growth, inflation, and the real interest rate. In addition to the observed share of foreign banks, an attempt is made to capture the contestability of the domestic market, as measured by the country commitments on commercial presence in banking under the General Agreement on Trade in Services (GATS) financial services agreement of 1997. Re-

Table 3A.1 Foreign bank presence and domestic bank performance

	(1) Net margin/ta	(2) Nonint. income/ta	(3) Before tax profits/ta	(4) Overhead/ta	(5) Loan loss prov./ta
Foreign bank share	–0.076[a]	–0.128[a]	–0.320[a]	–0.124[a]	0.166[b]
	(0.026)	(0.021)	(0.063)	(0.020)	(0.065)
Index on degree of entry	0.150	–0.046[a]	0.008	–0.097[a]	–0.037[c]
	(0.010)	(0.010)	(0.023)	(0.010)	(0.020)
Equity/ta	0.129[a]	0.037[a]	0.365[a]	–0.025[c]	–0.210[a]
	(0.031)	(0.011)	(0.100)	(0.014)	(0.079)
Other earning. assets/ta	0.010	0.013[b]	0.096[a]	–0.012[b]	–0.081[a]
	(0.010)	(0.007)	(0.022)	(0.006)	(0.021)
Cust. & short-term funding/ta	0.040[b]	0.001	0.020	0.004	0.010
	(0.020)	(0.012)	(0.058)	(0.009)	(0.048)
Overhead/ta	0.508[a]	0.444[a]	–0.168		0.222
	(0.084)	(0.059)	(0.247)		(0.273)
Growth rate of GDP/cap	0.063	–0.049	0.670[a]	–0.150[a]	–0.690[a]
	(0.059)	(0.035)	(0.155)	(0.029)	(0.142)
Inflation rate	0.027[a]	0.007	0.060[a]	0.008	–0.031[a]
	(0.009)	(0.007)	(0.011)	(0.008)	(0.009)
Real interest rate	0.069[a]	0.010	0.131[a]	0.029[b]	–0.073[a]
	(0.017)	(0.012)	(0.032)	(0.012)	(0.025)
Constant	–0.030	0.045[a]	–0.075	0.137[a]	0.084[c]
	(0.023)	(0.011)	(0.060)	(0.009)	(0.050)
Adjusted R^2	0.368	0.429	0.503	0.233	0.423
No. of obs.	1349	1349	1342	1362	1213

Note: Regressions are estimated using weighted least squares pooling bank level data across 36 countries for the 1994–2000 period. Only domestic bank observations were used. The number of domestic banks in each period is used to weight the observations. Heteroskedasticity-corrected standard errors are given in parentheses.
a. Significance level of 1 percent.
b. Significance level of 5 percent.
c. Significance level of 10 percent.
Source: Claessens and Lee 2001.

gressions thus also include a "liberalization index"—first created by Sorsa (1997) for the 1995 financial services negotiations, and adapted by Qian (2000) for the 1997 GATS negotiations. The index runs from 0 to 1.

The estimated regression is as follows:

$$I_{ijt} = \alpha_o + \beta\ FS_{jt} + \beta_i\ B_{ijt} + \beta_j\ X_{jt} + \beta_4\ S_{jt} + \varepsilon_{ijt}$$

I_{ijt} is the dependent variable (for example, before tax profits/total assets) for domestic bank i in country j at time t. FS_{jt} is the number of foreign banks in country j at time t as a share of the total number of banks. B_{ijt} are financial variables for domestic bank i in country j at time t. X_{jt} are country variables for country j at time t, and S_{jt} is the "liberalization index." Further, α_o is a constant, and β, β_i, β_j and β_4, are coefficients, while ε_{ijt} is an error term.

Estimating a regression in levels—as opposed to differences—can be a correct approach provided it is the presence, rather than entry, that causes the local banking systems to behave differently. Moreover, the foreign bank presence at time t should be determined by entry incentives as of period $t–1$. If the foreign bank share is only endogenous to lagged bank variables, the regression can be estimated separately using cross-country time-series data (see further Claessens and others 1998).[40]

Variable definitions and sources

Net margin/ta = Interest income minus interest expense over total assets.

Noninterest income/ta = Other operating income such as trading costs, advisory fees, and so on over total assets.

Before-tax profits/ta = Before-tax profits over total assets.

Overhead/ta = Personnel expenses and other noninterest expenses over total assets.

Other expenses/ta = Nonoverhead, noninterest, other expenses over total assets.

Equity/ta = Book value of equity (assets minus liabilities) over total assets.

Other earning assets/ta = Assets other than loans and non-interest-earning assets such as cash and non-interest-earning deposits at other banks, over total assets.

Customer and short-term funding/ta = All short-term and long-term deposits plus other nondeposit short-term funding over total assets.

Foreign bank share = Number of foreign banks to total number of banks. A bank is defined as a foreign bank if it has at least 50 percent foreign ownership.

GDP/cap = Real GDP per capita in thousands of U.S. dollars.

Inflation = Annual increase of the GDP deflator.

Liberalization Index = Degree of commercial presence in banking as allowed in the financial services negotiations of 1997 and as reported in Qian 2000.

All individual bank-level variables are obtained from the Bankscope database of IBCA; additional data are obtained from various sources. All macro data are from the World Bank.

Econometric analysis of capital outflows

Capital outflows can be both the cause and the effect of macroeconomic variables. While a macroeconomic variable (such as growth or fiscal deficit) may cause outflows, it may also be affected by outflows. This relationship would, of course, depend on the extent to which capital outflows are offset by capital inflows. In turn, inflows may cause outflows and vice versa.[41]

The presence of such interactions among variables would violate the standard ordinary least squares assumption that the explanatory variables are exogenous (that is, not correlated with the error term). This endogeneity problem can be partially addressed by using instrumental variable regressors, but single-equation models cannot fully capture the dynamic interactions among several endogenous variables. A popular method that can capture such interactions is the vector-autoregression (VAR) technique. For our purpose, we applied the dynamic panel-VAR technique that combines the advantages of the VAR model with the advantages of panel data analysis that can admit observable and unobservable country fixed effects. Such fixed effects would include variables that vary a great deal across countries but remain relatively "fixed" over time for each country—for example, financial development, or demographic patterns.

We estimate a panel-VAR model with five variables in the following order: capital inflows; capital outflows (negative = capital repatriation); the REER (an increase implies erosion of export competitiveness); growth; and the fiscal balance (positive = surplus, negative = deficit). This ordering im-

plies that the capital flow variables can affect the macroeconomic variables without restriction (contemporaneously or lagged as the data dictate) but that the macroeconomic variables are restricted to affecting the capital flows variables only through a lag.

Results

We ran a panel-VAR regression for all (137) developing countries for 1980–99 (546 observations), and a separate regression for the poor countries (142 observations) for the same period. The regression coefficients of the five equations are summarized in table 3A.2 for all developing countries and in table 3A.4 for the poor countries. The impulse response functions are summarized in table 3A.3 for all developing countries and in table 3A.5 for the poor countries. (The impulse responses illustrate the effect of a one standard deviation shock to each variable on all the other variables, taking into account the knock-on effects through the system over time.) This summary details any significant effect over several years at the 5 percent level and the sign of that effect.

Table 3A.2 Panel-VAR results for all developing countries

	Dependent variables				
	Inflows	Outflows	REER	Growth	Fiscal balance
Inflows	0.509	–0.049	–0.079	0.073*	–0.092
Outflows	–0.029	0.202*	0.086	–0.043*	–0.028
REER	–0.027*	–0.051*	0.555*	–0.003	–0.033*
Growth	0.010	–0.259*	0.600*	0.320*	0.024
Fiscal balance	0.127	–0.119*	–0.388	0.036*	0.115

Note: An asterisk indicates significance at 5 percent level or higher.
Source: World Bank staff estimates.

Table 3A.3 Summary of impulse response functions, all developing countries

	Dependent variables				
	Inflows	Outflows	REER	Growth	Fiscal balance
Inflows	+	+			+
Outflows		+	–	–	+
REER	–	–	+		–
Growth		–	+	+	+
Fiscal balance	+	–		+	+

Source: World Bank staff estimates.

Table 3A.4 Results of panel-VAR regression for poor countries

	Dependent variables				
	Inflows	Outflows	REER	Growth	Fiscal balance
Inflows	0.503	–0.042	–0.362*	0.056	–0.146
Outflows	–0.046	0.137	0.195*	–0.013	–0.001
REER	–0.016	–0.040	0.487*	0.001	–0.026
Growth	–0.070	–0.319	1.094*	0.371*	0.176
Fiscal balance	0.141	–0.112*	–0.414	0.028*	0.056

Note: An asterisk indicates significance at 5 percent level or higher.
Source: World Bank staff estimates.

Table 3A.5 Summary of impulse response functions, poor countries

	Dependent variables				
	Inflows	Outflows	REER	Growth	Fiscal balance
Inflows	+	+	–		+
Outflows		+			
REER	–		+		–
Growth			+	+	+
Fiscal balance	+	–		+	+

Source: World Bank staff estimates.

The results for all developing countries provide support for the existence of virtuous (and vicious) cycles among the five variables under consideration (for example, outflows lead to lower growth which in turn causes further outflows). The qualitative results for poor countries follow a similar pattern, although the statistical significance of the regression coefficients and impulse responses is found to be weaker than in the case of all developing countries.[42]

However, these results from the panel-VAR exercise tend to be sensitive to the choice of time period or the presence of outliers. The data on macroeconomic variables and, in particular, on capital flows, display considerable volatility over time and also suffer from substantial cross-sectional variation. The volatility is even worse in the case of poor countries.

Measuring capital outflows from developing countries

Measuring capital outflows is inherently difficult and imprecise. Typically, outflows are measured indirectly, as the residual of "sources of funds" over

the "uses of funds" from the balance of payments (World Bank 1985; Morgan Guaranty 1986; Cline 1985). This is the procedure adopted here. The sources of funds include all identified inflows and credit items in the capital account of the balance of payments, while uses of funds are the current account deficit and increase in international reserves. By the balance of payments identity, this residual estimate yields identical estimates to capital outflows calculated directly as the sum of FDI outflows, debt outflows, portfolio equity outflows, other outflows, and debit items on the capital account. All data are taken from the International Monetary Fund Balance of Payments Statistics database.

One of the shortcomings of the residual measure is that it treats all errors and omissions in the balance of payments as capital outflows. In reality, errors and omissions may reflect unrecorded current account transactions as well (Chang, Claessens, and Cumby 1997), and also measurement and recording errors and lagged registration (Eggerstedt, Hall, and van Wijnbergen 1995). Another shortcoming is that this measure ignores outflows taking place through export underinvoicing or import overinvoicing (Chang, Claessens, and Cumby 1997). It is hard to estimate capital flight through trade misinvoicing. Even if estimates of over- and underinvoicing were accurate, not all misinvoicing represents funds used for capital flight. For example, exports may be overinvoiced to take advantage of export subsidies, and imports may be underinvoiced to reduce import tariffs (Eggerstedt, Hall, and van Wijnbergen 1995; Ajayi 1997).

The residual approach is less restrictive than other measures that are defined according to the motives behind capital flight. For example, the "hot money measure" suggested by Cuddington (1986) attempts to separate the "speculative" or short-term components of capital outflows from "normal" outflows. Dooley's method measures only that part of capital outflows that does not generate a corresponding investment income reported to the domestic authorities (Dooley 1986). Interestingly, Claessens and Naudé (1993) show that the World Bank residual and Dooley methods actually produce similar estimates of capital flight. We have not attempted to measure the magnitude of capital outflows according to motives (for example, speculative reasons, tax evasion, or simply portfolio diversification) given that motives are highly subjective and difficult to distinguish on the basis of available data (Lessard and Williamson 1987; Collier and others 2001; Varman-Schneider 1991).

Finally, estimates of the *stock* of outflows used in this chapter are calculated simply by cumulating annual flows over time. This is the lower bound for an estimate of the stock of outflows, as the calculation ignores interest earnings. Some authors assume that all interest earnings on flight capital are reinvested abroad, and use the U.S. Treasury bill rates for estimating interest earnings (Collier, Hoeffler, and Pattillo 2001). This may provide some further information on the stock of outstanding assets. However, for the purposes of this chapter we prefer to emphasize the size of flows leaving the economy over time (rather than residents' current holdings), and therefore do not adjust the cumulative stock for any estimate of earnings.

Notes

1. See the overview for a definition of poor countries.

2. Even so, private capital flows remain well below the average of 5 percent of GDP achieved during the late 1970s.

3. Calculated as correlation between savings/GDP and investment/GDP across countries, in each year.

4. In reality even in the highly integrated industrial economies the correlation between investment and saving is far from zero (see Feldstein and Horioka 1980).

5. Data weaknesses (particularly on savings in developing countries) mean that these figures can provide only a general indication of trends in integration. Also, note that the correlation between savings and investment in the middle-income countries does not decline over the 1990s, despite the massive rise in capital inflows. In part this is due to the fact that a large portion of these inflows were used to increase reserves or capital outflows, and thus had only a limited role in supporting domestic investment.

6. Fleisig (1996) outlines how lack of appropriate laws and institutions constrains bank lending in developing countries. Weak institutions likely make these problems most severe in the poor countries.

7. The overcollateralization ratio of 5:1 is taken from Ketkar and Ratha 2000.

8. Knack and Keefer (1995) use a large cross-country time-series dataset; and Mauro's (1995) cross-country dataset covers 58 countries.

9. Slow growth in the poor countries results in part from declines in output in countries affected by conflict. However, even excluding the conflict countries, the poor countries' per capita output rose by only 0.6 percent per year in the 1990s.

10. UNCTAD (1999a) confirms that the three African countries that were most successful in attracting FDI flows (Ghana, Mozambique, and Uganda) achieved significant reductions in inflation rates and the government deficit (as a ratio to GDP).

11. See World Bank 1999b, chapter 3; and UNCTAD 2001b, chapter 4 for detailed discussions of spillover effects in developing countries.

12. See World Bank 2001a.

13. The positive impact on growth in developing countries in general is discussed in World Bank 2001a.

14. This result is based on a study of 55 poor countries during 1980–99 based on a Solow-type production that makes output a function of stocks of capital, labor, human capital, and productivity (see Mankiw, Romer, and Weil 1992; Benhabib and Spiegel 1994).

15. Private investment is only correlated with growth if Botswana is included in the sample.

16. Borensztein, De Gregorio, and Lee (1995) include 69 developing countries for 1970–89. UNCTAD (1999b) analyzes the lagged impact of FDI inflows on the average growth rates of about 100 developing countries for five 5-year periods over 1970–95.

17. Underachievers in attracting FDI among the countries with a high reform index can be explained by limited availability of geological and technical information, inadequate supporting services and infrastructure, and inconvenient geographical location of major mines.

18. Mineral resources are finite, so an accurate measurement of the benefit of minerals exploitation would subtract from these production data the change in asset values associated with the depletion of the stock of minerals in the ground (see estimates of "genuine savings" in World Bank 2001d, p. 183). Thus the data on production overstate the true benefits to the economy of minerals exploitation.

19. The share of bank assets controlled by foreign banks in the Czech Republic, Poland, and Hungary rose from 12 percent in 1994 to 57 percent in 1999. Similarly, in Latin America, by the end of the decade, foreign banks controlled more than half of the banking systems of several countries (Argentina, Chile, Mexico, and the República Bolivariana de Venezuela), up from between 10 and 20 percent in 1994 (Mathieson and Roldos 2001).

20. These numbers refer to mergers where at least one partner is a commercial bank, and thus include cases where a foreign bank acquires a nonbank financial institution. The data cover only those banks reporting to Bankscope, which includes only locally incorporated foreign-owned banks, not the branches of foreign banks.

21. To cushion domestic debtors from the currency devaluation, the government originally sought to convert dollar debts under $100,000 into pesos, while pledging to refund dollar-denominated deposits in dollars. According to estimates, the cost of the currency mismatch for banks could well exceed their total equity—coming on top of losses due to borrowers defaulting. Most of these losses are being incurred by Spanish banks, which had gained a prominent position in Argentina since the liberalization of the country's banking system in the early 1990s.

22. The index is calculated by: (a) assigning a number to a qualitative judgment of the nature of World Trade Organization commitments in three areas (cross-border supply, consumption abroad, and commercial presence); and (b) taking the average of these numbers (Qian 2000).

23. Among other control variables, overhead costs tend to be passed on to customers, in the form of higher margins and fees. In terms of country characteristics, GDP growth improves bank profitability, but also makes banks less conservative in their provisioning policies. Inflation is associated with higher net interest margins, profitability, and overheads, consistent with the notion that high inflation requires higher bank margins and profitability to maintain real bank capital, and that the cost of operating in those environments is also higher.

24. World Bank staff.

25. Levine (1999)—building on earlier work by Demirgüç-Kunt and Detragiache (1998) that controls for the effects of other factors that are likely to produce banking crises—has found that the probability that a crisis would occur is lower in countries with a higher share of foreign bank participation. Moreover, Barth, Caprio, and Levine (2001a) have estimated that the likelihood of a major banking crisis is higher in countries with greater limitations on foreign bank presence.

26. The Basel Committee on Banking Supervision (1996) has elaborated guidelines for supervision of cross-border banking that make the solvency of foreign subsidiaries the joint responsibility of home and host supervisory authorities (see also IMF 2000b). Under these guidelines, the home country supervisor is responsible for the consolidated supervision of the bank on a global basis, while the host countries are responsible for maintaining the liquidity of foreign branches and subsidiaries, based on their better knowledge of local market conditions.

27. The problems involved with this and other approaches to measuring capital outflows are discussed in annex 3.1.

28. This calculation underestimates the stock of residents' assets held abroad. The stock is calculated by cumulating over the 1980–99 period, which ignores the stock of capital outflows as of 1980 because of lack of data. The calculation also excludes interest earned on outflows held abroad as well as any outflows through underinvoicing of exports and overinvoicing of imports (see annex 3.1).

29. See Collier, Hoeffler, and Pattillo 2000; Cuddington 1986; Dornbusch 1985; Dooley 1988; Rojas-Suarez 1990; Meyer and Bastos-Marquez 1990; Sheets 1996; Lessard and Williamson 1987.

30. If foreigners are exempt from exchange controls, then residents may have an incentive, for example, to place receipts from trade flows abroad by under- or overinvoicing, and to then use a foreign front to invest these funds domestically. In this way the resident investor gains greater control over the use of profits without forgoing domestic investment opportunities.

31. Indonesia does not record a net outflow in 1998, but net inflows were strongly negative.

32. This is despite the fact that trade misinvoicing is not included in these estimates of outflows (see annex 3.1).

33. The results from the panel-VAR exercise should be treated with some caution, as the data display considerable volatility over time and also suffer from substantial cross-sectional variation. As a result, the results tend to be sensitive to the choice of time period or the presence of outliers.

34. See IMF 2001b. Examples of controls on current account transactions include restrictions on the repatriation of capital and limits to the amount of foreign exchange that can be obtained for travel.

35. Beginning in 1996, the classification system used to characterize current and capital account restrictions was changed, with the single "yes/no" variable replaced by a more disaggregated assessment that is not comparable to the earlier measures.

36. Multiple exchange rates are typically used either to impose different prices for current versus capital account transactions, or to discriminate among different types of current transactions.

37. For more information on this and other "alternative remittance systems," see Financial Action Task Force 2000; and United Nations 1998.

38. Indeed, the presence of extensive dollarization of liabilities has been advanced as a principal reason why some countries that on paper have exchange rate flexibility appear not to use that flexibility in practice (the "fear of floating" in the language of Calvo and Reinhart 2000). Baliño, Bennett, and Borensztein (1999) review the additional complications of monetary management in dollarized economies.

39. In Tanzania, after controlling for the effects of terms of trade, a 1 percent increase in net capital inflows is estimated to lead to an appreciation of 4 percent in the REER (Kimei and others 1997).

40. Should these assumptions be false, two equations should be estimated simultaneously—one explaining the entry decision, and the other explaining the impact of entry on contemporaneous local banking profits (Claessens and Lee 2001).

41. For example, the proceeds from the sale of a company to nonresidents may be deposited offshore by the resident seller; or residents may indulge in round-tripping of flows, so that outflows are brought back as inflows.

42. The coefficient of the real exchange rate in the outflows equation has a negative sign, implying that an appreciation of the currency reduces outflows with a lag. This result is counter-intuitive, and may reflect the use of the official exchange rate, rather than a market rate, to calculate the real exchange rate. Many of the countries in the sample had exchange controls and substantial differences between market and official rates, especially during the 1980s.

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