Benefits and Costs of International Financial Integration: Theory and Facts

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Abstract

This paper provides a selective review of the recent analytical and empirical literature on the benefits and costs of international financial integration. It discusses the impact of financial openness on consumption, investment, and growth, as well as the impact of foreign bank entry on the domestic financial system. As in some recent studies, it argues that financial integration must be carefully prepared and managed to ensure that benefits outweigh short-run risks. Prudent macroeconomic management, adequate supervision and prudential regulation of the financial system, greater transparency, and improved capacity to manage risk in the private sector, are important requirements for coping with potentially abrupt reversals in pro-cyclical, short-term capital flows. It differs, however, from some existing assessments by adopting a more skeptical view in two areas. First, only foreign direct investment appears to provide "dynamic gains" and improved prospects for growth; the evidence on the benefits of other types of capital flows remains weak. Second, empirical research on the net benefits associated with foreign bank penetration is far from being conclusive; in particular, the possibility that such penetration may lead to adverse changes in the allocation of credit among domestic firms cannot be dismissed on the basis of the existing evidence.

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I. INTRODUCTION

The degree of integration of financial markets around the world increased significantly during the late 1980s and 1990s. A key factor underlying this process has been the increased globalization of investments seeking higher rates of return and the opportunity to diversify risk internationally. At the same time, many countries have encouraged inflows of capital by dismantling restrictions, deregulating domestic financial markets, and improving their economic environment and prospects through the introduction of market-oriented reforms. In particular, many developing and transition economies in East Asia, Latin America, and Eastern Europe have removed restrictions on international financial transactions, at the same time that they were relaxing regulations on the operation of domestic financial markets and moving away from regimes of financial repression. Policies aimed at increasing the openness of domestic financial markets to foreign investors have included the removal of controls on capital outflows and the liberalization of restrictions on foreign direct investment.

The increase in the degree of integration of world capital markets has been accompanied by a significant increase in private capital flows to developing countries. As shown in Figure 1, foreign direct investment flows and portfolio flows (which consist of equities, bonds, and certificates of deposit) to developing countries started growing in the 1980s but expanded at an accelerated rate after 1990, until the late 1990s for the former component and until the mid-1990s for the latter. This pattern reflected to a large extent the increased incidence of financial volatility and currency crises in the second half of the 1990s, as discussed below. At the same time, bank-intermediated flows fell significantly in proportion of total flows.[1] Short-term, cross-border capital flows have also become more responsive to changes in relative rates of return, as a result of technological advances and increased linkages among capital markets.

[1] In addition to the growing trend toward integration of world capital markets and changes in policies and prospects in the recipient countries, global cyclical factors (such as the drop in short-term interest rates in industrial countries in the early 1990s) also played an important role in explaining the

Financial openness is often regarded as providing important potential benefits. Access to world capital markets, as noted earlier, expands investors' opportunities for portfolio diversification and provides a potential for achieving higher risk-adjusted rates of return. From the point of view of the recipient country, there are potentially large benefits as well. It has been argued that access to world capital markets allows countries to borrow to smooth consumption in the face of adverse shocks, and that the potential growth and welfare gains resulting from such international risk sharing can be large (Obstfeld (1994)). At the same time, however, it has been recognized that the risk of volatility and abrupt reversals in capital flows in the context of highly open capital account may represent a significant cost. Concerns associated with such reversals were heightened by a series of recent financial crises--including the Mexican peso crisis of December 1994, the Asian crisis triggered by the collapse of the Thai baht in July 1997, the Russia crisis of August 1998, and the collapse of the Brazilian real in January 1999. In fact, both domestic and international financial liberalization appear to have been associated with costly financial crises, as documented by Williamson and Mahar (1998). Although misaligned fundamentals of some sort played a role in all of the above crises, they have called attention to the inherent instability of financial markets and the risks that cross-border financial transactions can pose for countries with relatively fragile financial systems and weak regulatory and supervision structures.

In that perspective, a key issue has been to identify the policy prerequisites that may allow countries to exploit the gains, while minimizing the risks, associated with financial openness. The purpose of this paper is to provide a selective and synoptic view of the recent analytical and empirical literature on the benefits and costs of international financial integration, and to identify some key policy lessons for small open economies, particularly those that are pondering their options before embarking in programs aimed at increasing financial openness.[2] It is organized as follows. Section II

surge in capital flows. See Agénor (2000, Chapter 6) for a review of the evidence on “push” and “pull” factors in the determination of the surge in capital flows during the 1990s.

[2] See Yusuf (2001) for a recent discussion of other aspects of globalization, such as trade and international public goods.

reviews analytical arguments related to the benefits and costs of integration, with particular attention paid to the determinants of capital flows to small countries and the role of foreign bank penetration. Section III provides an assessment of the empirical evidence on the benefits and costs of financial integration, highlighting in the process areas in which this evidence appears to lack robustness. Section IV concludes and draws together some of the policy implications of the analysis.

I. BENEFITS AND COSTS OF INTERNATIONAL FINANCIAL INTEGRATION: THEORY

The benefits and costs of financial integration can be viewed either from the point of view of individual investors (such as, for instance, the opportunity for international risk diversification, as indicated earlier) or from the point of view of the countries initiating the process of integration. This paper focuses solely on the second perspective, ignoring in the process issues such as the home-bias puzzle in the behavior of private capital flows (see Obstfeld (1998) and Stultz (1999)). It begins by reviewing the potential benefits of financial openness and then reviews its potential costs.

1. Potential Benefits

Analytical arguments supporting financial openness (or, equivalently, an open capital account) revolve around four main considerations: the benefits of international risk sharing for consumption smoothing; the positive impact of capital flows on domestic investment and growth; enhanced macroeconomic discipline; and increased efficiency, as well as greater stability, of the domestic financial system associated with foreign bank penetration.

a. Consumption Smoothing

Access to world capital markets may allow a country to engage in consumption smoothing, by allowing the country to borrow in "bad" times (say, during a recession or a sharp deterioration in the country's terms of trade) and lend in "good" times (say, in an expansion or following an improvement in the country's terms of trade). By enabling domestic households to smooth out their consumption over time, capital flows can therefore increase welfare. This "counter-cyclical" role of world capital markets allows international risk sharing and is fully justified if shocks are **temporary** in nature.

b. Domestic Investment and Growth

The ability to draw upon the international pool of resources that financial openness gives access to may also affect domestic investment and growth. In many developing countries, the capacity to save is constrained by a low level of income. As long as the marginal return from investment is at least equal to the cost of capital, net foreign resource inflows can supplement domestic saving, increase levels of physical capital per worker, and help the recipient country raise its rate of economic growth and improve living standards.[3] These potential benefits can be particularly large for some types of capital inflows, most notably foreign direct investment (FDI).

In addition to this direct effect on growth, FDI may also have significant indirect long-run effects. As emphasized early on by MacDougall (1960), and more recently by Berthélemy and Démurger (2000), Borensztein, De Gregorio, and Lee (1998), and

[3] In general, foreign resource inflows can be viewed as an income transfer that can be either consumed or invested. In Obstfeld's (1999) model, for instance, a foreign resource inflow is no different from any other increase in income. Unless the rate of intertemporal substitution is very high, the representative agent will respond to a permanent resource inflow with an increase in consumption. Because the inflow affects income as well as consumption, saving may rise or fall. If the resource transfer is temporary or takes the form of a loan that must be repaid, the consumption effect is somewhat damped, but it is still likely to exceed the effect on investment. Thus, resource inflows may raise utility by allowing households to smooth consumption rather than by leading to a rise in investment and growth. However, it should be noted that this type of utility-based models misses some essential features of foreign capital inflows. In particular, the assumption of a single representative agent assumes a degree of capital market development--equalization of lending and borrowing rates--that does not exist in most developing countries.

Grossman and Helpman (1991), FDI may facilitate the transfer or diffusion of managerial and technological know-how--particularly in the form of new varieties of capital inputs--and improve the skills composition of the labor force as a result of "learning by doing" effects, investment in formal education, and on-the-job training. In addition, as suggested by Markusen and Venables (1999), although the increased degree of competition in the product and factor markets induced by FDI may tend to reduce profits of local firms, spillover effects through linkages to supplier industries may reduce input costs, raise profits, and stimulate domestic investment.

To highlight the complementarity (through productivity effects) between FDI and skilled human capital in the growth process consider, following Borensztein, De Gregorio, and Lee (1998), an economy in which the source of technological progress is an increase in the number of varieties of capital goods available to producers, which consist of local and foreign firms. Suppose also that the economy produces a single final consumption good using the following technology:

$$Y = S^{\alpha}K^{1-\alpha},$$

where $0 < \alpha < 1$ and S is the economy's endowment of skilled labor (assumed given) and K is the stock of physical capital, which is itself a composite of a continuum of different varieties of capital goods, each one denoted by $x(j)$:

$$K = \left[\int_0^N [x(j)^{1-\alpha}dj\right]^{1/(1-\alpha)},$$

with N denoting the total number of varieties. Physical capital accumulation therefore takes place through an increase in the number of varieties of capital goods produced domestically.

Suppose that there are two types of firms producing capital goods: foreign firms, which produce $n^* < N$ varieties, and domestic firms, which produce the other $N - n^*$

varieties. Specialized firms produce each variety j of capital goods and rent it out to producers of final goods at a rate $m(j)$. The optimal demand for each variety j is thus determined by equating the rental rate and the marginal productivity of j in the production of the final good:

$$m(j) = (1 - \alpha)S^{\alpha}x(j)^{-\alpha}. \qquad (1)$$

An increase in the number of varieties of capital goods available to producers is assumed to require the adaptation of technology available in more advanced countries. This adaptation to local needs is assumed to require a fixed setup cost, F, which is assumed to depend negatively on the ratio of foreign firms operating domestically to the total number of firms, n^*/N. Thus, $F = F(n^*/N)$, with $F' < 0$.[4] This assumption captures the idea that foreign firms make it easier to adopt the more advanced technology required to produce new varieties of capital, by bringing in the "knowledge" already available elsewhere.

In addition to this fixed cost, once a capital good is introduced, its owner must spend a constant maintenance cost per period of time. This is equivalent to assuming that production of $x(j)$ involves a constant marginal cost equal to unity and that capital goods depreciate fully. Assuming that the interest rate r that firms face is constant, profits for the producer of a variety j, denoted $\Pi(j)$, are given by

$$\Pi(j) = -F + \int_0^{\infty} [m(j)x(j) - x(j)]e^{-rs}ds. \qquad (2)$$

[4] Borensztein, De Gregorio, and Lee (1998) also discuss a second possible effect on F, namely, the possibility of a "catch-up" effect in technological progress reflecting the fact that it may be cheaper to imitate products already in existence than to create new ones at the cutting edge of innovation. This notion is implemented in their model by assuming that setup costs depend positively on the number of capital varieties produced domestically, compared to those produced in more advanced countries.

Maximization of (2) subject to (1) yields the equilibrium level of production of each capital good:

$$x(j) = S(1 - \alpha)^{2/\alpha},$$

which shows that, given the assumption of symmetry among producers, the level of production of the different varieties of capital is the same.[5] Assuming free entry, it can be shown that the zero-profit condition implies that

$$r = \phi S/F, \tag{3}$$

where $\phi \equiv \alpha(1 - \alpha)^{(2-\alpha)/\alpha} > 0$.

To close the model requires specifying savings decisions, which determine the process of capital accumulation. Suppose that households face a rate of return also equal to r and that they maximize a standard intertemporal utility function given by the discounted present value of consumption. It can be shown (see *e.g.* Barro and Sala-i-Martin (1995)) that the optimal solution is such that the rate of growth of consumption, g_c, is driven by:

$$g_c = (r - \rho)/\sigma, \tag{4}$$

where ρ is the rate of time preference and $1/\sigma$ measures the intertemporal elasticity of substitution. In a stationary state, the rate of growth of consumption must be equal to the rate of growth of output, g, that is, $g = g_c$. Substituting (3) in (4) yields therefore the economy's growth rate:

$$g = [\phi S/F(n^*/N) - \rho]/\sigma. \tag{5}$$

[5] Substituting the optimal level of production into equation (1) yields the constant equilibrium rental rate, $m(j) = 1/(1 - \alpha)$, as a markup over maintenance costs.

Equation (5) shows that FDI, as measured by the fraction of capital goods produced locally by foreign firms in the total number of these goods, n^*/N, has a positive effect on the economy's long-term growth rate. The reason is that FDI reduces the cost of introducing new varieties of capital, thereby increasing the rate at which these goods are introduced.[6] Moreover, the effect of FDI on the economy's growth rate is positively related to the existing stock of skilled labor employed in production--this is the complementarity effect mentioned earlier. Put differently, absorbing the more advanced technologies that FDI provides requires the presence of a sufficiently high level of human capital.

Another channel through which international financial integration may affect positively the rate of economic growth is through its effect on total factor productivity. Levine (2000) has argued that, in principle, the liberalization of international portfolio capital flows may lead to higher rates of economic growth because it may tend to accelerate the development of domestic equity markets and that, it turn, may lead to increased factor productivity.[7]

c. Enhanced Macroeconomic Discipline

It has also been argued that by increasing the rewards of good policies and the penalties for bad policies, the free flow of capital across borders may induce countries to follow more disciplined macroeconomic policies and thus reduce the frequency of policy mistakes (Obstfeld (1998)). To the extent that greater policy discipline translates into greater macroeconomic stability, it may also lead to higher rates of economic growth, as emphasized in the recent literature on endogenous growth. A related argument is that external financial liberalization can act as a "signal" that a country is willing (or ready to) adopt "sound" macroeconomic policies, for instance by reducing

[6] In addition to reducing costs associated with innovation activity, FDI can also have a more direct effect on growth—if, for instance local firms involved in research activities are able to use ast least in part the advanced knowledge that foreign firms possess. As discussed by Berthélemy and Démurger (2000), it would then be the *number* of varieties of capital goods, and not the rate of change the capital stock, that would affect long-run growth.

budget deficits and foregoing the use of the inflation tax (Bartolini and Drazen (1997)). From that perspective, an open capital account may also encourage macroeconomic and financial stability, ensuring a more efficient allocation of resources and higher rates of economic growth.

d. Increased Banking System Efficiency and Financial Stability

An increasingly common argument in favor of financial openness is that it may increase the depth and breadth of domestic financial markets and lead to an increase in the degree of efficiency of the financial intermediation process, by lowering costs and "excessive" profits associated with monopolistic or cartelized markets, thereby lowering the cost of investment and improving resource allocation.[8] Levine (1996) and Caprio and Honohan (1999), for instance, have argued that foreign bank penetration may

- improve the quality and availability of financial services in the domestic market, by increasing the degree of bank competition and enabling the application of more sophisticated banking techniques and technology (such as more advanced risk management systems), which may improve efficiency by reducing the cost of acquiring and processing information on potential borrowers;

- serve to stimulate the development of the domestic bank supervisory and legal framework, if the local foreign banks are supervised on a consolidated basis with their parent;

- enhance a country's access to international capital, either directly or indirectly through parent banks;

- contribute to the stability of the domestic financial system (and reduced volatility in capital flows) if, in periods of financial instability, depositors shift their funds to foreign

[7] A similar effect may be associated with a higher degree of penetration of foreign banks in domestic financial markets, as discussed below.

[8] Indeed, the need to improve banking sector efficiency in order to reduce the cost of financial intermediation and promote investment is a key policy objective in many developing countries. It was

institutions that are perceived to be more sound than domestically-owned banks, rather than transferring assets abroad and engage in capital flight.

In addition, foreign banks may also contribute to an improvement in the overall quality of the loan portfolios of domestic banks because they are less susceptible to government pressure to lend to "preferred" borrowers--as may be the case with domestic financial institutions, particularly those in which the state is involved.

2. Potential Costs

The experience of the past two decades has led economists and policymakers to recognize that, in addition to the potential benefits just discussed, open financial markets may also generate significant costs. Such potential costs include the high degree of concentration of capital flows and the lack of access to financing for small countries, either permanently or when they need it most; an inadequate domestic allocation of these flows, which may hamper their growth effects and exacerbate pre-existing domestic distortions; the loss of macroeconomic stability; the pro-cyclical nature of short-term capital flows and the risk of abrupt reversals; a high degree of volatility of capital flows, which relates in part to herding and contagion effects; and risks associated with foreign bank penetration.

a. Concentration of Capital Flows and Lack of Access

There is ample historical evidence to suggest that periods of "surge" in cross-border capital flows tend to be highly concentrated to a small number of recipient countries. The dramatic increase in capital inflows in the early 1990s, for instance, was directed to only a small number of large, middle-income countries of Latin America and Asia (see Fernandez-Arias and Montiel (1996)). The share of total private capital flows going to low-income countries actually fell during the 1990s (from levels that were already quite low), whereas the share going to the top ten recipients increased

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emphasized, for instance, in a recent report of the International Monetary Fund on the economic prospects of the Caribbean region (see Itam et al. (2000)).

significantly (see World Bank (2001*a*)). Little foreign capital flows to sub-Saharan Africa as a whole, and most of what is directed to the region is limited to a few countries (such as Nigeria and South Africa) with significant natural resources (see Bhattacharya, Montiel, and Sharma (1997)).

At the same time, however, it should be noted that although many countries received a relatively small fraction of flows in *absolute* terms, several of them received sizable inflows in *relative* terms (that is, adjusting for country size). This was the case for instance for Costa Rica as well as several other small countries in Latin America. Consider, for instance, the data shown in Figure 2 for a large group of small states. They indicate that capital flows (which consist mostly of FDI) to several small states have been rather sporadic, responding to specific incentives such as the introduction of tax free zones or investment in offshore financial activities. At the same time, the data suggest that some of these countries (taking into account the size of their GDP) did indeed benefit from the surge in inflows to developing countries in the early 1990s. Overall, however, it remains true that many low-income countries simply do not have access to world capital markets.

Moreover, access to these markets tends to be **asymmetric**. Many developing countries (including oil producers) are able to borrow on world capital markets only in "good" times, whereas in "bad" times they tend to face credit constraints. Access is thus pro-cyclical, as discussed further below. Clearly, in such conditions, one of the alleged benefits of accessing world capital markets (the ability to borrow to smooth consumption in the face of temporary adverse shocks), is simply a fiction. Pro-cyclicality may, in fact, have a perverse effect and increase macroeconomic instability: favorable shocks may attract large capital inflows and encourage consumption and spending at levels that are unsustainable in the longer term, forcing countries to over-adjust to adverse shocks as a result of abrupt capital reversals.

b. Domestic Misallocation of Capital Flows

Although the capital inflows that are associated with an open capital account may raise domestic investment, their impact on long-run growth may be limited (if not negligible) if such inflows are used to finance speculative or low-quality domestic investments--such as investments in the real estate sector. Low-productivity investments in the nontradables sector may reduce over time the economy's capacity to export and lead to growing external imbalances.

The misallocation of capital inflows may in part be the result of **pre-existing distortions** in the domestic financial system. In countries with weak banks (that is, banks with low or negative net worth and a low ratio of capital to risk-adjusted assets) and poor supervision of the financial system, the direct or indirect intermediation of large amounts of funds by the banking system may exacerbate the moral hazard problems associated with (explicit or implicit) deposit insurance. That is, lenders may engage in riskier and more concentrated (or outright speculative) loan operations.

An example of how asymmetric information problems can affect the benefits of capital inflows is provided by Razin, Sadka, and Yuen (1999), who focus on the impact of FDI flows. They argue that through FDI and the transfer of control that it entails, foreign investors may gain inside information about the productivity of the firm(s) that they are investing in. This gives them an informational advantage over less informed domestic investors (whose holdings of share may be insufficient to give them corporate control)—an advantage that they may be tempted to exploit by retaining the high-productivity firms and selling the low-productivity ones to partially-informed domestic savers. This type of adverse selection problems can lead to over-investment by foreign direct investors.

c. Loss of Macroeconomic Stability

The large capital inflows induced by financial openness can have undesirable macroeconomic effects, including rapid monetary expansion (due to the difficulty and

cost of pursuing aggressive sterilization policies), inflationary pressures (resulting from the effect of capital inflows on domestic spending), real exchange rate appreciation, and widening current account deficits. Under a flexible exchange rate, growing external deficits tend to bring about a currency depreciation, which may eventually lead to a realignment of relative prices and induce a self-correcting movements in trade flows. By contrast, under a fixed exchange rate regime, losses in competitiveness and growing external imbalances can erode confidence in the viability and sustainability of the peg and thus precipitate a currency crisis and increase financial instability.

d. Pro-cyclicality of Short-Term Flows

There is evidence that *short-term* capital flows to developing countries appear to be **pro-cyclical**, A recent World Bank study, for instance, based on data for 33 developing countries during 1986-98, found that such flows tend to increase when economic growth is cyclically faster and decline when growth rates fall (Dadush, Dasgupta, and Ratha (2000)).[9] In contrast, medium- and long-term debt appeared to be **weakly counter-cyclical** to GDP shocks. By itself, this pro-cyclical behavior may not be a cause for concern if it results from changes in demand in the developing countries themselves. In practice, however, it often arises from external, supply-side factors, such as a sudden change in the country's terms of trade, which raises the risk perceptions of lenders; it tends therefore to magnify the impact of a shock. Indeed, the same study found that the pro-cyclical response to be twice as large when a country faces an adverse terms-of-trade shock relative to when it faces a positive shock.

There are essentially two reasons that may explain the pro-cyclical behavior of short-term capital flows. First, economic shocks tend to be larger and more frequent in developing countries, reflecting these countries' relatively narrow production base and greater dependence on primary commodity exports. A common adverse shock to a

[9] The study found that the elasticity of short-term debt with respect to GDP was about 0.9 when GDP growth experiences a positive shock (defined as a rate of growth that is one-half standard deviation or more above the mean growth rate), but 1.8 when an adverse shock occurs (that is, when GDP growth

group of countries may cause a deterioration in some countries' creditworthiness, as a result of abrupt changes in risk perception. This can lead to marginally creditworthy borrowers being ”squeezed out” of world capital markets. Dadush, Dasgupta, and Ratha (2000) found indeed evidence of a nonlinear relationship between a measure of of creditors’ risk perception and economic shocks in developing countries; perceived risk appears to increase more during a large adverse shock than it declines during a small adverse or a positive shock. Second, asymmetric information problems may trigger herding behavior (as further discussed below) because partially-informed investors may rush to withdraw “en masse” their capital in response to an adverse shock whose economic consequences for the country are not fully understood.

e. Herding, Contagion, and Volatility of Capital Flows

A high degree of financial openness may also be conducive to a high degree of volatility in capital movements, a specific manifestation of which being large reversals in short-term flows associated with speculative pressures on the domestic currency. The possibility of large reversals of short-term capital flows raises the risk that borrowers may face costly "liquidity runs", as discussed for instance by Chang and Velasco (2000). The higher the level of short-term debt is relative to the borrowing country's international reserves, the greater the risk of such runs will be. High levels of short-term liabilities intermediated by the financial system also create risks of bank runs and systemic financial crises.

In general, the degree of volatility of capital flows is related to both actual and perceived movements in domestic economic fundamentals, as well as external factors, such as movements in world interest rates.[10] More generally, the fact that investor sentiment (particularly that of highly leveraged, speculative trading institutions, such as

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is one-half standard deviation or more below the mean). In other words, the rate of decline of short-term debt during an adverse shock was twice as high as its rate of increase during a positive shock.

[10] Volatility can also be magnified by domestic market distortions. To the extent that private capital flows are channeled to the domestic economy through commercial banks, credit market inefficiencies can magnify the effect of changes in, say, external interest rates, and lead to fluctuations in domestic output that may have feedback effects on capital flows (see Agénor and Aizenman (1999)).

hedge funds) is constantly changing in response to new information creates the potential for markets to overshoot on a scale that can generate financial crises with very large economic and social costs. Short-term portfolio flows, in particular, tend to be very sensitive to herding among investors and contagious factors. Although investor herding is seen by some as evidence of irrationality, some recent literature suggests differently. Herding can be a "rational" response in the presence of several effects (Devenow and Welch (1996)):

- **payoff externalities**, which are related to the fact that the payoff to an agent (investor) adopting a specific action may be positively related to the number of other agents adopting the same action;

- **principal-agent considerations**, which result from the fact that a portfolio manager, in order to maintain or improve his or her reputation when markets are imperfectly informed, may prefer either to "hide in the herd" to avoid evaluation and criticism, or to "ride the herd" to generate reputational gains;

- **information cascades**, which are due to the fact that (small) agents that are only beginning to invest in a country may find it optimal to ignore their own information and follow the behavior of larger and more established investors.[11]

Nevertheless, rational or irrational, herding behavior often translate into large movements into and out of certain types of assets and exacerbate fluctuations in asset prices and capital movements.

[11] Consider, for instance, the model of Calvo and Mendoza (1997), which assumes a global market with many identical investors forming decisions simultaneously. Investors determine (for given means and variances of asset returns) the optimal trade-off between diversification and costly-information collection. With informational frictions, rational herding behavior may become more prevalent as the world capital market grows. The reason is that globalization reduces the incentives to collect country-specific information to discredit rumors and increases the likelihood that fund managers who worry about their relative performance will each select the same portfolio. Consequently, small rumors can induce herding behavior and lead to large capital outflows (seemingly unrelated with a country's economic fundamentals) and a self-fulfilling speculative currency attack.

Volatility of capital flows can also result from contagion effects. Financial contagion may occur when a country suffers massive capital outflows triggered by a perceived increase by international investors in the vulnerability of a country's currency, or, more generally, a loss of confidence in the country's economic prospects, as a result of developments elsewhere (see Dornbusch, Park, and Claessens (2000), and Masson (2000)). It may also occur through two other channels, with indirect effects on the volatility of capital flows: through terms-of-trade shocks or competitiveness effects. An example of the former effect is provided by the events that followed the Asia crisis, which led to a sharp reduction in the demand for imports by crisis-stricken countries and a sharp drop in world commodity prices. By increasing the degree of uncertainty regarding the short-term economic prospects of a country, terms-of-trade shocks may translate into financial contagion--as appeared to have happened in the case of Chile in late 1997 and early 1998. As an example of the latter effect, the sharp depreciation of the Thai baht that began in July 1997 put pressure on the currencies of neighboring countries that maintained a pegged exchange rate, in part because it implied a loss of competitiveness for these countries (see Alba et al. (1999)).

f. Risk of Entry by Foreign Banks

Although foreign bank penetration can yield several types of benefits (as discussed earlier), it also has some potential drawbacks as well. First, foreign banks may ration credit to small firms (which tend to operate in the nontradables sector) to a larger extent than domestic banks, and concentrate instead on larger and stronger ones (which are often involved in the production of tradables). If foreign banks do indeed follow a strategy of concentrating their lending operations only to the most creditworthy corporate (and, to a lesser extent, household) borrowers, their presence will be less likely to contribute to an overall increase in efficiency in the financial sector. More importantly, by leading to a higher degree of credit rationing to small firms, they may have an adverse effect on output, employment, and income distribution.

Second, entry of foreign banks, which tend to have lower operational costs, can create pressures on local banks to merge in order to remain competitive. The process of

concentration (which could also arise as foreign banks acquire local banks) could create banks that are "too big to fail"--as monetary authorities may fear that the failure of a single large bank could seriously disrupt financial markets. Although these potential problems could be mitigated through enhanced prudential supervision or an outright ban on mergers that are perceived to increase systemic risks sharply, they may lead to an undesirable extension of the scope and cost of the official safety net. A too-big-to-fail problem may, in turn, increase moral hazard problems: knowing the existence of an (implicit) safety net, domestic banks may be less careful in allocating credit and screening potential borrowers. Concentration could also create monopoly power that would reduce the overall efficiency of the banking system and the availability of credit. In particular, a high degree of banking system concentration may adversely affect output and growth by yielding both higher interest rate spreads (with higher loan rates and lower deposit rates relative to competitive credit and deposit markets) and a lower amount of loans than in a less concentrated, more competitive system.

Third, entry of foreign banks may not lead to enhanced stability of the domestic banking system, because their presence *per se* does not make systemic banking crises less likely to occur--as may happen if the economy undergoes a deep and prolonged recession, leading to a massive increase in default rates and an across-the-board increase in nonperforming loans, and because they may have a tendency to "cut and run" during a crisis.[12] To some extent, the latter effect could in principle be mitigated by strengthening prudential supervision in domestic markets and improving information sharing between supervisors in industrial and receiving countries. In practice, however, countries have very few options to prevent foreign banks from, say, cutting lines of credit to domestic borrowers in a crisis.

[12] Some observers have argued that the fact that foreign banks may withdraw abruptly after a period of time if they fail to establish profitable operations is also a potential drawback associated with foreign bank entry. However, what is problematic is the *context* in which a foreign bank is withdrawing (whether it is during a crisis or not), not the fact that it chooses to close its doors because it is unable to make profits (which, in itself, may actually be a desirable outcome).

III. WHAT IS THE EVIDENCE?

The foregoing discussion suggests that, from a purely analytical point of view, it cannot be established a priori whether the benefits of financial openness are likely to outweigh its potential costs. This section examines the empirical evidence on the various costs and benefits identified earlier in order to determine if, on balance, unambiguous conclusions can be offered. At the outset, it is important to note that the task is far from being straightforward, although the historical evidence for smaller industrial countries appears to suggest substantial net benefits.[13] The reason is that to quantify the gains countries can reap from international financial integration would require, to be rigorous, a fully-articulated model in which the counterfactual of financial autarky could be simulated. So far there has been no such ambitious attempt. Nevertheless, a selective review of the evidence, both formal (econometric) and informal (country experiences), is provided here, beginning with a review of the determinants of the volatility of capital flows and continuing with the impact of the degree of financial openness and capital flows on domestic investment and growth; the macroeconomic effects of large capital inflows (dwelling mostly on the experience of the early 1990s); and the effect of foreign bank entry on the performance and stability of the domestic financial system.[14]

a. Volatility of Capital Flows

As discussed earlier, it has been argued that short-term capital flows tend to be more unstable than longer-term flows, and thus more conducive to financial crises. Several studies have attempted to examine the degree of volatility (or, conversely,

[13] See Obstfeld (1998). The evidence gathered by Lewis (1996) also suggests that, historically, economies with closed capital accounts have tended to experience a higher degree of volatility of domestic consumption.

[14] I abstract in what follows from discussing empirical studies of the indirect effect of international financial integration (namely, the liberalization of portfolio investment rules) on domestic stock market development, factor productivity, and growth. See, most notably, Levine (2000) and the World Bank (2001*b*, pp. 169-78). In my view, the existing evidence is far from compelling, in part because of the notorious difficulties involved in estimating accurately total factor productivity.

persistence) of cross-border capital flows during the past two decades. In one of the early studies on this topic, Claessens, Dooley, and Warner (1995) were unable to detect significant differences in the volatility patterns of FDI, portfolio equity, long-term debt, and short-term debt flows. Several subsequent studies, however, have reached different conclusions; most of them have found that FDI tends to be less volatile than other forms of capital flows. Chuhan, Perez-Quiros, and Popper (1996), for instance, found that short-term capital flows respond more dramatically to financial disturbances than FDI flows. Another recent analysis by Brewer and Nollen (2000) of 17 developing countries that were major recipients of FDI during the past two decades yielded similar results. On the basis of annual data for FDI flows and total portfolio flows for the period 1985-94, they found that in 11 of the 13 countries for which comparisons could be made, the coefficient of variation was greater for portfolio flows than for FDI flows. Finally, Sarno and Taylor (1999), using a decomposition of various types of capital flows into permanent (trend) and transitory (cyclical) components, found that FDI has a higher permanent component than other flows.[15]

Many countries suffered large reversals in short-term capital flows during the recent financial crises, precipitating severe external liquidity crises. For instance, in the wake of the Asia crisis, whereas developing countries received short-term capital inflows from BIS-reporting banks of $43.5 billion in 1997, they suffered outflows of $85 billion in 1998. FDI, by contrast, remained remarkably stable (see Dadush, Dasgupta, and Ratha (2000)).[16] The evidence suggests that volatility in capital inflows has tended to translate into exchange rate instability (under flexible exchange rates), or large

[15] The finding that FDI flows tend to be more stable than other types of flows should be taken, however, with some degree of caution. First, because FDI as conventionally measured includes the retained earnings of all previous FDI flows, it tends to display more inertia. Second, the classification of direct and portfolio flows in balance-of-payments statistics is somewhat arbitrary. Foreign investment in the equity of a company above a critical proportion (say, 10 percent) of outstanding equity is usually classified as FDI, whereas that below the critical threshold is classified as portfolio investment. However, small differences above or below the threshold do not necessarily represent any significant difference in the intentions of investors.

[16] It should be noted that, in practice, "FDI reversals" can also occur, even though physical capital (such as buildings and heavy equipment) cannot be easily moved out of a country at short notice. Such reversals can be accomplished through financial transactions. For instance, the foreign subsidiary in the host country can borrow domestically against its local assets and then transfer (lend) the funds to its parent company abroad.

fluctuations in official reserves (under a pegged exchange rate regime) and sometimes currency crises. There is also some evidence that instability has increased in equity markets in developing countries, although the robustness of this evidence is open to question. Financial volatility may have adverse effects on the real side as well--nominal exchange rate volatility, in particular, may hamper the expansion of exports if appropriate hedging techniques are not available to domestic producers.

b. Impact on Investment and Growth

Studies examining the impact of international financial integration on domestic investment and growth can be classified in two groups. The first group attempts to measure directly the impact of capital account liberalization by exploiting qualitative information on restrictions on capital movements, whereas the second uses the level of capital flows as a proxy measure for the degree of financial openness. There are significant differences between these two approaches.

Two recent studies focusing directly on the impact of capital account liberalization on growth are those of Klein and Olivei (1999) and Artera, Eichengreen, and Wyplosz (2001). In both studies the degree of capital account liberalization is measured by an index of capital account restrictions, calculated using IMF data on *exchange rate arrangements and exchange restrictions*. The first study found that capital account liberalization has no discernible effect on growth in developing countries. The second study found some evidence of a positive link between the index of capital account openness and growth, but only when countries are already sufficiently open commercially and face limited macroeconomic imbalances. This is an important result because it brings to the fore the issue of *sequencing* of reforms.

The second group of studies is based on the view that actual levels of capital movements provide a good proxy for the effective degree of financial openness. It includes those of Bosworth and Collins (2000), Borensztein, De Gregorio, and Lee (1998), and Gruben and McLeod (1998). Bosworth and Collins used panel regression

techniques to evaluate the impact of capital inflows on investment on a group of 58 developing countries for the period 1978-95. They found that FDI flows have a positive (and almost one for one) impact on investment, whereas portfolio flows have no discernible effect. Borensztein, De Gregorio, and Lee (1998), using FDI flows from industrial countries to 69 developing countries during the period 1970-89, found that the link between FDI and growth was positive and significant. A similar result was obtained by Gruben and McLeod (1998). Moreover, Borensztein, De Gregorio, and Lee also found that there is complementarity between FDI and human capital (proxied by a measure of educational attainment) in affecting growth, as hypothesized in the growth model highlighted earlier, and that FDI has a positive (although not very robust) impact on aggregate domestic investment.

For illustrative purposes, Figure 3 shows the correlation between gross domestic investment rates and the ratio of foreign direct investment to GDP in small states (as defined in Appendix B) for two sub-periods: 1980-89 and 1990-98. Although there does not appear to be strong evidence of any relation during the first sub-period, there seems to be a closer positive correlation during the 1990s. Figure 4 presents similar results for the share of FDI in GDP and the growth rate of real per capita GDP in small states; here the positive association between these two variables appears to be closer, even for the sub-period 1980-99.

The foregoing discussion relied on the assumption that greater financial openness translates into larger capital inflows. There is indeed evidence supporting this contention, at least on average and over a sufficient period of time. As a result, using the size of capital inflows as a proxy for the degree of financial integration is a sensible approach when the focus is on longer-term movements in investment and growth, given also the practical difficulties involved in constructing a quantitative index of financial openness. However, the relation between the degree of capital account openness and capital inflows is not always very close, particularly in the short term; a country can experience periods of low inflows (as a result, say, of a change in market sentiment),

regardless of how open its capital account is. This raises the issue of understanding and identifying both the short- and long-term determinants of capital flows themselves.

There is by now a sizable literature, most of it reviewed in Agénor (2000, Chapter 6), focusing on the determinants of private capital flows during the 1990s and distinguishing between "push" (or external) and "pull" (or domestic) factors. Appendix A presents cross-section, time-series regressions that attempt to explain the determinants of FDI to small states during the period 1980-98. Both domestic and external factors are considered as potential explanatory variables and an instrumental variables estimation technique is used to account for the possible endogeneity of some of the regressors. Interestingly enough, the two variables that come out to be the most statistically significant in these regressions are the rate of real output growth (which may act as a proxy for the rate of return on domestic investments) and the degree of trade openness (as measured by the ratio of exports plus imports to GDP). Thus, the relationship between financial integration (as proxied by the size of FDI flows) and growth appears to be *bi-directional* for that group of countries: capital inflows may have a positive effect on growth, but growth in turn tends to stimulate the inflow of FDI. This is an important result because it highlights the possibility of a "virtuous circle" between capital flows and growth-enhancing policies. It also implies that studies of the impact of FDI on growth that do not account for the endogenous nature of capital flows (that is, the fact that FDI can be itself influenced by the economy's growth rate) are likely to produce estimated coefficients that are subject to significant bias.

Thus, to the extent that the size of capital flows (particularly in the form of FDI) can be seen as an adequate proxy for the degree of financial openness, it would appear that financial integration has a positive effect on domestic investment and growth (for the reasons indicated above), with possibly strong feedback effects as well. There is also some microeconomic evidence--discussed by Eichengreen (2001) and the World Bank (2001*a*)--suggesting that private capital flows may enhance productivity, particularly in countries with a relatively skilled labor force and a well-developed physical infrastructure. Haddad and Harrison (1993), for instance, in a study of the impact of

foreign investment on firms in Morocco's manufacturing sector during the period 1985-89, found that although domestic firms exhibit lower *levels* of total factor productivity, their rate of productivity *growth* is higher than that for foreign firms. Moreover, domestic firms exhibit higher levels of productivity in sectors with a larger foreign presence.[17] At the same time, however, there is some evidence suggesting that domestic firms may not be able to capitalize on the transfer of knowledge associated with FDI because the entry of foreign firms may lead to losses in market share and reduced productivity, as a result of a contraction in output (Aitken and Harrison (1999)). More generally, microeconomic evidence is important in judging the impact of capital flows on the *quality* of domestic investment. Indeed, one lesson from the Asia crisis is that high, aggregate ratios of capital formation to GDP can mask a sharp decline in the productivity of these these investments.

Finally, it should be noted that none of the econometric studies referred to above tests for the existence of an adverse effect of the *volatility* of capital flows (as opposed to their *level*) on investment and growth. As the literature on uncertainty and irreversibility in investment decisions has emphasized (see, for instance, Dixit and Pindyck (1994)), uncertainty about the availability of external finance in the future may deter investment, particularly in projects that have a long gestation periods. Some preliminary evidence by the World Bank (2001*a*) suggests indeed that the volatility of private capital flows (as measured by the standard deviation of these flows) has indeed an adverse effect on per capita growth rates. But the volatility of capital flows is itself endogenous, because it may arise not only from external factors but also from domestic causes. In such conditions, modeling the sources of volatility is essential. For all these reasons, one should therefore be cautious in judging the robustness of the available empirical evidence. Nevertheless, the existing empirical evidence seems to provide some degree of robustness to the view that it is mostly FDI that affects significantly domestic investment and growth.

[17] Haddad and Harrison also found that there is no significant relationship between higher productivity growth in domestic firms and greater foreign presence in the sector. They argue that this result may be due to the distortionary effects associated with tariff protection--foreign firms lag behind domestic firms in productivity growth in protected markets.

c. Macroeconomic Effects

The experience of the early to mid-1990s (as discussed by Calvo, Leiderman, and Reinhart (1996) and by Fernandez-Arias and Montiel (1996), among others) reveals that several large recipients of capital inflows suffered from some, or a combination of some, of the potential problems identified earlier--namely, a rapid increase in liquidity, inflationary pressures, real exchange rate appreciation, and growing external imbalances. That was particularly the case in the main recipient countries in Latin America (compared to those in Asia), as a result of various factors.[18] The deterioration in competitiveness weakened the credibility of fixed exchange rate regimes in some of these countries and raised questions about their sustainability. Overall, the experience of the 1990s suggests that some types of policy responses (such as unsterilized intervention, or a tightening of fiscal policy) can be effective in mitigating the adverse macroeconomic effects of large capital inflows in the short term; over time, however, sustained inflows of capital may lead to large macroeconomic and financial imbalances (which may be compounded by a weak banking system, as noted earlier), particularly under a regime of pegged exchange rates.

c. Entry of Foreign Banks

During the 1990s, the presence of foreign-owned banks in developing and transition economies increased dramatically. As shown in Table 1 (taken from the *Capital markets Report* of the International Monetary Fund (2000)) in Central Europe, for instance, the proportion of total bank assets controlled by foreign-owned banks rose from 8 percent in 1994 to 56 percent in 1999. In some major Latin American countries, almost 50 percent of total bank assets are now controlled by foreign institutions.[19] Only in Asia, did foreign bank penetration remain stable.

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[18] Chief among them were the greater reliance on pegged exchange rates in Latin America (which provide no “cushion" when residual inflation is high); the different composition of inflows (foreign direct investment flows accounted for a larger share of inflows to Asian countries); the allocation of these flows (with a more pronounced tendency to allocate flows to investment in Asia, as opposed to consumption in Latin America); and the better ability of Asian countries to sterilize and control the money supply.

[19] It should be noted that changes in restrictions on foreign bank entry have been motivated in several countries not only by a desire to improve the levels of competition and efficiency in the banking

From the point of view of international financial integration two important questions that arise in this context are, as noted earlier, what impact has foreign entry had on the profitability and efficiency of domestic banks, and whether it has improved the financial system's ability to respond to large domestic and external shocks. The evidence on these issues, and more generally on the net benefits of foreign bank penetration, remains relatively limited. Claessens, Demirguc-Kunt and Huizinga (2000) studied empirically the cost and profitability effects of foreign banks, in both developed and developing countries. They considered a sample consisting of bank-level data for 80 countries covering the period 1988-95, with about 7900 individual commercial bank observations. They considered a bank to be foreign-owned if 50 percent or more of its capital was owned by foreign residents. They found that increased penetration of foreign banks in the domestic banking system (as measured by the relative importance of foreign banks in either the total number of banks, or total assets, of the banking system) is associated with a reduction in both profitability and overhead costs for domestic banks. By contrast, the effect on net interest margins (that is, the *ex post* spread between lending and deposit rates), which can be viewed as a measure of the efficiency of financial intermediation, is not significant.

Demirgüç-Kunt and Huizinga (1999), using a similar data set, found that differences in interest margins and bank profitability reflect a variety of determinants: bank characteristics, macroeconomic conditions, explicit and implicit bank taxation, deposit insurance regulation, overall financial structure, and underlying legal and institutional indicators. A larger ratio of bank assets to gross domestic product and a lower market concentration ratio lead to lower margins and profits, controlling for differences in bank activity, leverage, and the macroeconomic environment. Foreign banks were found to have higher margins and profits than domestic banks in developing countries, while the opposite held in industrial countries. They also found that the corporate tax burden was fully passed onto bank customers, whereas higher reserve

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system (as advocates of financial integration would argue) but also by the more pressing need to help reduce restructuring and recapitalization costs of troubled domestic banks following a financial crisis.

requirements were not, especially in developing countries. Overall, therefore, the evidence appears to suggest that the competitive pressures created by foreign bank entry led to improvements in banking system efficiency.

However, the fact that this conclusion holds "on average" across a large group of countries (given the very nature of regressions with pooled, time-series cross-section data) cannot be construed as supportive evidence for any particular subset of countries or country. A particular problem with the above studies is that, in part to alleviate degrees-of-freedom problems, the authors perform their estimation in samples consisting of both industrial and developing countries. However, it is not obvious that pooling countries with very different financial characteristics is warranted; because proper statistical tests for the adequacy of pooling are not reported by the authors, one cannot conclude that their results hold for any group of developing countries--nor, for that matter, any particular country.

There is therefore an urgent need to conduct more focused empirical studies (at the regional or country level) to assess the impact of foreign bank penetration on the performance of domestic banks in developing countries. Clarke et al. (2000), for instance, used data for the period 1995 to 1997 to analyze the impact of foreign entry on domestic banks in Argentina and found that foreign penetration increased overall efficiency in the banking sector and raised competitive pressures on domestic financial institutions. However, their analysis did not address the issue of adverse effects on credit allocation to small and medium-sized enterprises. [20] Research on Argentina and other countries in Latin American and elsewhere--such as Brazil, where foreign bank penetration increased also significantly in the second half of the 1990s--is necessary to assess the robustness of their policy conclusions.

As a first and informal look at the issue of the impact of foreign bank entry on the domestic banking system in small states, Figures 3 to 10 present scatter diagrams

based on data from the same source as the two studies referred to above (Bankscope). Averages over the period 1991-2000 are used, in an attempt to discern longer-run trends. The evidence suggested by these figures is somewhat mixed. Figure 5 suggests that overhead costs of foreign banks (measured in proportion of their assets) are actually larger than those of domestic banks; this appears to be the case in Barbados, Botswana, and Estonia. At the same time, however, overhead costs of domestic banks are significantly higher in Gabon, Trinidad, and Guyana. Cost-to-income ratios, shown in Figure 6, suggest a similar mixed pattern. Figure 7 shows an indicator of profitability, net interest margins, for both domestic and foreign banks. The figure suggests that in all the countries considered, foreign banks are more profitable than domestic banks, as argued in a related context by Bossone, Honohan, and Long (2001). Finally, Figures 8 to 10 attempt to assess the correlation between entry of foreign banks (as measured by the share of total bank assets held by foreign banks) and the performance of domestic banks. Figure 8 suggests that penetration of foreign does not appear to have a systematic and unambiguous effect on the overhead costs of domestic banks, in contrast to the negative relationship predicted by some. Similar results appear to hold for the profitability of domestic banks, as suggested in Figures 9 (using net income of domestic banks) and 10 (using net interest margin of domestic banks). These results are, of course, illustrative and more formal econometric tests are needed before any strong conclusion can be drawn regarding the entry of foreign banks on the performance of the domestic financial system in small states. What emerges from this discussion, nevertheless, is that although some empirical studies indicate that competitive pressures associated with entry of foreign banks appear to have led *on average* to improvements in banking system efficiency (in terms of lower operating costs and smaller margins between lending and deposit interest rates), more detailed studies are needed to verify if these results hold for any particular group of developing countries (such as small states) or for specific countries.

[20] Clarke et al. (2000) do note that foreign banks in Argentina have tended to concentrate their loan operations in the manufacturing sector (leaving consumer lending largely to domestic banks) but they do not address the issue of size of borrowers.

Another issue, as noted earlier, is whether entry of foreign banks has improved the domestic financial system's ability to respond to large internal and external shocks. As noted earlier, a possible reason why domestic financial instability may increase is because foreign banks may shift funds abruptly from one market to another as the perceived risk-adjusted returns in these markets change--possibly as a result of a sudden change in expectations. To the extent that foreign banks manage their exposures to developing countries on a consolidated basis, a decision to cut exposures to an individual country could involve reductions in both cross-border lending and local operations. The evidence on this issue is very limited. In one of the few studies available, Goldberg, Dages and Kinney (2000) examined the lending behavior of foreign and domestic banks in Argentina and Mexico in the period surrounding the 1994-95 Mexican crisis and concluded that foreign banks exhibited stronger loan growth compared to all domestic-owned banks, with lower associated volatility, and thereby contributed to greater stability in the amount of credit allocated by the overall financial system. Furthermore, they found strong similarities in the portfolio composition of lending and the volatility of lending by private foreign and domestic banks in Argentina, while the same was true in Mexico for banks with low levels of problem loans. Overall, they argued that bank health, and not ownership *per se*, was the critical element in the growth and volatility of bank credit. At the same time, however, the recent experience of other countries appears to indicate that foreign banks may indeed "cut and run" during crisis periods and may not therefore represent a stable source of domestic funding (International Monetary Fund (2000), and Marhieson and Roldós (2001)). Thus, there does not appear to be clear support for the view that a greater foreign bank presence contributes to a more stable domestic financial system and less volatility in the availability of credit. Making strong claims in these areas is thus premature.

Yet another issue is whether foreign banks can contribute to the stability of the domestic deposit base. Here the evidence appears to be mostly ane*cdotal. "Flight to quality" was a widespread phenomenon during the Asian financial crisis, as depositors shifted funds from finance companies (at least in Thailand) and small banks toward larger banks, especially foreign financial institutions. The market share of deposits in

foreign banks tripled in Korea and Indonesia between January 1997 and July 1998, while in Thailand it increased from 2 percent of total deposits to 5 percent in the period December 1996 to December 1997 (International Monetary Fund (2000, p. 170)).

IV. CONCLUSIONS AND POLICY LESSONS

The purpose of this paper has been to review the analytical arguments for and against international financial integration and to examine whether the empirical evidence suggests that countries can (on average, at least) can expect net benefits from it and, if so, what conditions are required to maximize them. A first issue addressed in the paper is the view that, in principle, financial openness allows countries to use international capital markets to diversify and hedge against both idiosyncratic and global risks, particularly when those risks are temporary. It was argued that, in practice, this alleged benefit is often a mirage for small developing countries, which often get access to these markets (if at all) only in "good" times; as a result, the opportunities for global risk sharing and consumption smoothing are simply not there.

A second issue discussed in the paper is the role of entry of foreign banks. Some of the recent evidence on the effects of foreign bank penetration appears to support the view that the competitive pressures that it creates have led to improvements in the efficiency of domestic banks and financial intermediation in general in terms of lower operating costs and reduced net interest margins. However, whether these conclusions hold for particular sub-groups of developing countries, or individual countries for that matter, remains to be established. Moreover, there is as yet limited evidence regarding whether a greater foreign bank presence contributes to a more stable banking system and less volatility in the availability of domestic credit. In fact, the risk that foreign banks may lead to credit rationing to small firms (particularly in the nontradables sector) and greater concentration in the allocation of credit (with adverse effects on the distribution

of income) must be taken seriously. The sharp increase in foreign bank penetration observed in Eastern Europe and Latin America during the second half of the 1990s provides ample new data to analyze these issues. At this stage, however, the evidence is simply not strong enough to draw firm conclusions regarding the impact of foreign bank entry on the allocation of credit, and the strength and stability of the domestic financial system . More work--possibly along the lines of Goldberg, Dages, and Kinney (2000)--is needed before broad generalizations can be made.

Another issue that was emphasized in the paper is the risk of sharp reversals in short-term capital flows that may accompany a high degree of financial openness. If international capital markets are prone to over-exuberance in good times and excess pessimism or herding (leading to sudden withdrawals of capital) in bad times, the benefits of capital inflows can be completely offset by large and sudden outflows that may put an already weak domestic financial system under stress. In such conditions, financial integration may increase the risk of costly financial crises, instead of reducing them. The empirical evidence reviewed in the paper suggests indeed that international capital markets can be prone to sharp shifts in sentiment regarding a country's short- and longer-term economic prospects. The discipline that they exercise over government policies, although beneficial in some respects, can be excessive.

Nevertheless, despite creating the possibility of costly crises, global financial integration appears to hold significant benefits in terms of economic growth—particularly when the capital inflows that it leads to take the form of FDI. These “dynamic gains” are magnified in economies where, to begin with, the stock of human capital is high enough to take advantage of complementarity effects between technology and skills. The key issue for both national and international policymakers is therefore not to choose between openness and autarky, but rather to design policies that help minimize the short-term risks, and maximize the longer-run gains, of financial openness. From the point of view of domestic policymakers, there has been renewed emphasis on the importance of macroeconomic discipline, information disclosure, and enhanced banking sector supervision. Avoiding real exchange rate misalignment, limiting fiscal imbalances

and preventing an excessive buildup of domestic debt, maintaining a monetary policy consistent with low inflation, and ensuring that the ratio of unhedged short-term foreign-currency debt over official reserves remains sufficiently low, are all preventive measures that are likely to reduce the risk that sudden changes in market sentiment may turn into large capital outflows and precipitate a financial crisis. Strengthening supervision and prudential regulation, and fostering risk management capacities in banks and non-financial firms, are also important.[21] The stronger economic fundamentals are, the longer the track record of macroeconomic discipline, the less susceptible the country will be to potentially volatile flows and thus the lower the probability of a financial crisis.[22]

But unwarranted changes in expectations can and do occur, even when underlying economic fundamentals appear strong. Opening the capital account unavoidably exposes countries to cycles in capital flows, particularly sharp reversals after (or during) crises. Openness also increases vulnerability to runs on the financial system. Concerns include maturity or currency mismatches, fragility of the domestic financial system, both related to excessive risk-taking encouraged by a generous (often implicit) safety net. Problems of asymmetric information (essentially, that recipients of funds know more about their investments than do lenders) are likely to remain pervasive. The strengthening of the financial system (including improved supervision and accounting standards) may take a long time in countries where technical expertise in government is limited. During the transition to a more efficient financial system, distortions in domestic capital markets may continue to exacerbate the adverse effects of external volatility. For all these reasons, policymakers may need to proceed gradually with capital account liberalization, or may have to resort during transitory periods to additional instruments, such as restrictions on short-term capital flows, to prevent excessive volatility from

[21] It should be emphasized also that strengthening bank supervision and regulation prior to external financial liberalization assumes that domestic banks are, to begin with, reasonably healthy. In countries where domestic banks are weak (in the sense of having low or negative net worth), restructuring or merging operations may be required prior to exposing them to foreign competition.

[22] Regional cooperation and integration can be a significant “stepping stone” in helping countries (particularly the small ones) integrate successfully into the global trade and financial systems. The pooling of resources that the creation of a regional stock market would create, for instance, might enhance the ability of foreign investors to diversify idiosyncratic risks.

adversely affecting domestic stability. Without a doubt, maintaining the effectiveness of *any* type of restrictions on capital movements beyond the short term has proved very difficult in practice (see Ariyoshi et al. (2000), and Kaminsky and Schmukler (2001)). But even as a transitory device, countries may still need to consider short-term controls on capital flows as part of their arsenal of policy instruments.

Finally, it must be recognized that fostering financial integration has important implications for reforming the international financial system. The world still lacks clear rules for dealing with financial crises. In particular, there is neither a lender of last resort, nor effective standstills on unserviceable debt. To stabilize cross-border capital flows, international organizations need to find ways to enhance the confidence of international creditors without exacerbating moral hazard.

Appendix A

Determinants of Foreign Direct Investment to Small States

This Appendix discusses some regression results that attempt to highlight the determinants of FDI to small states. The dependent variable is the ratio of FDI to GDP; the explanatory variables are

- the rate of growth of real GDP, a proxy for the domestic rate of return on domestic investments and the country's economy's prospects;

- the ratio of gross domestic investment in percent of GDP, to account for possible complementarities between domestic and foreign investment, a particularly relevant consideration for FDI;

- the degree of openness, measured by the ratio of imports and exports to GDP, which accounts for the fact that more open economies tend to be more vulnerable to losing access to foreign financing;

- the ratio of total debt to GDP, which captures the risk of confiscation;

- the real LIBOR rate, which can be viewed as a proxy for the rate of return on foreign assets;

- real GDP per capita, a proxy for the level of development;

- the volatility of the real exchange rate, which can be viewed as a proxy for the degree of macroeconomic stability (Bhattacharya, Montiel, and Sharma (1997)).

Table 1 presents the regression results using pooled time-series, cross-section data for 28 countries covering the period 1980-98 (see Appendix B for the list of countries, a more detailed definition of the variables and a description of the data sources). The estimation method is instrumental variables with fixed effects.

The results indicate that real GDP per capita has a positive effect on FDI flows in almost all regressions. The real LIBOR rate has no discernible effect, and neither does the stock of foreign debt or the ratio of domestic investment to output. The rate of growth of real GDP, as well as the degree of openness, have both a highly significant impact on FDI flows, although the degree of significance of the latter variable drops somewhat when the lagged value of FDI to GDP is added as a regressor to account for some degree of inertia in these flows. Finally, although the volatility of the real exchange rate has a negative sign, as expected, it is not significant.

Appendix B

Country Names, Variable Definitions, and Data Sources

This Appendix presents the list of small states included in the regression results presented in Table 2 and discussed in Appendix A, a more precise definition of the variables used in the regressions, and sources of the data.

Countries

Countries included in the sample are Barbados, Belize, Bhutan, Botswana, Cape Verde, Comoros, Djibouti, Dominica, Equatorial Guinea, Estonia, Fiji, Gabon, Gambia, Grenada, Guinea-Bissau, Guyana, Maldives, Mauritius, Samoa, Sao Tome and Principe, St. Kitts and Nevis, St. Lucia, Solomon Islands, Seychelles, Swaziland, Tonga, Trinidad and Tobago, and Vanuatu.

Definition and source of variables used in regressions

Foreign Direct Investment (FDI): Flow of net direct investment in percent of GDP. *Source*: Global Development Finance (GDF, 2000 CD-ROM), World Bank.

Real GDP Growth Rate (RGDPGR): Growth rate of real GDP (in percent). *Source*: World Development Indicators (WDI, 2000 CD-ROM), World Bank.

Real GDP per capita (GDP_PC): GDP per capita in real terms. *Source*: WDI.

Gross Domestic Fixed Investment (GDFI): Gross domestic fixed investment as a percent of GDP. *Source*: WDI.

Openness (OPEN): Ratio of the sum of exports and imports to GDP (in percent). *Source*: WDI.

Total Debt (TD): Total debt in percent of GDP. *Source*: GDF.

Real LIBOR (RLIBOR): Difference between six-month LIBOR and the inflation rate in industrial countries. *Source*: WDI and International Financial Statistics (IFS).

Variability of the real exchange rate (VREER): obtained by taking the standard deviation of the real effective exchange rate and averaging over periods t, t-1, and t-2. *Source*: IFS.

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Table 1 Foreign Bank Ownership in Selected Emerging Markets (in percent)[1]

	Foreign Control[2] December 1994	Foreign Control[2] December 1999
Central Europe		
Czech Republic	5.8	49.3
Hungary	19.8	56.6
Poland	2.1	52.8
Total	7.8	52.3
Turkey	2.7	1.7
Latin America		
Argentina	17.9	48.6
Brazil	8.4	16.8
Chile	16.3	53.6
Colombia	6.2	17.8
Mexico	1.0	18.8
Peru	6.7	33.4
Venezuela	0.3	41.9
Total	7.5	25.0
Total excluding Brazil and Mexico	13.1	44.8
Asia		
Korea	0.8	4.3
Malaysia	6.8	11.5
Thailand	0.5	5.6
Total	1.6	6.0

Source: IMF, World Capital Markets Report 2000 (p.153).

[1] Ownership data reflect changes up to December 1999 while balance sheet data are the most recent available in Fitch IBCA's BankScope.

[2] Ratio of assets of banks where foreigners own more than 50 percent of total equity to total bank assets.

Table 2
Determinants of Foreign Direct Investment Flows to Small States, 1980-98
(Instrumental Variable Method with Fixed Effects)

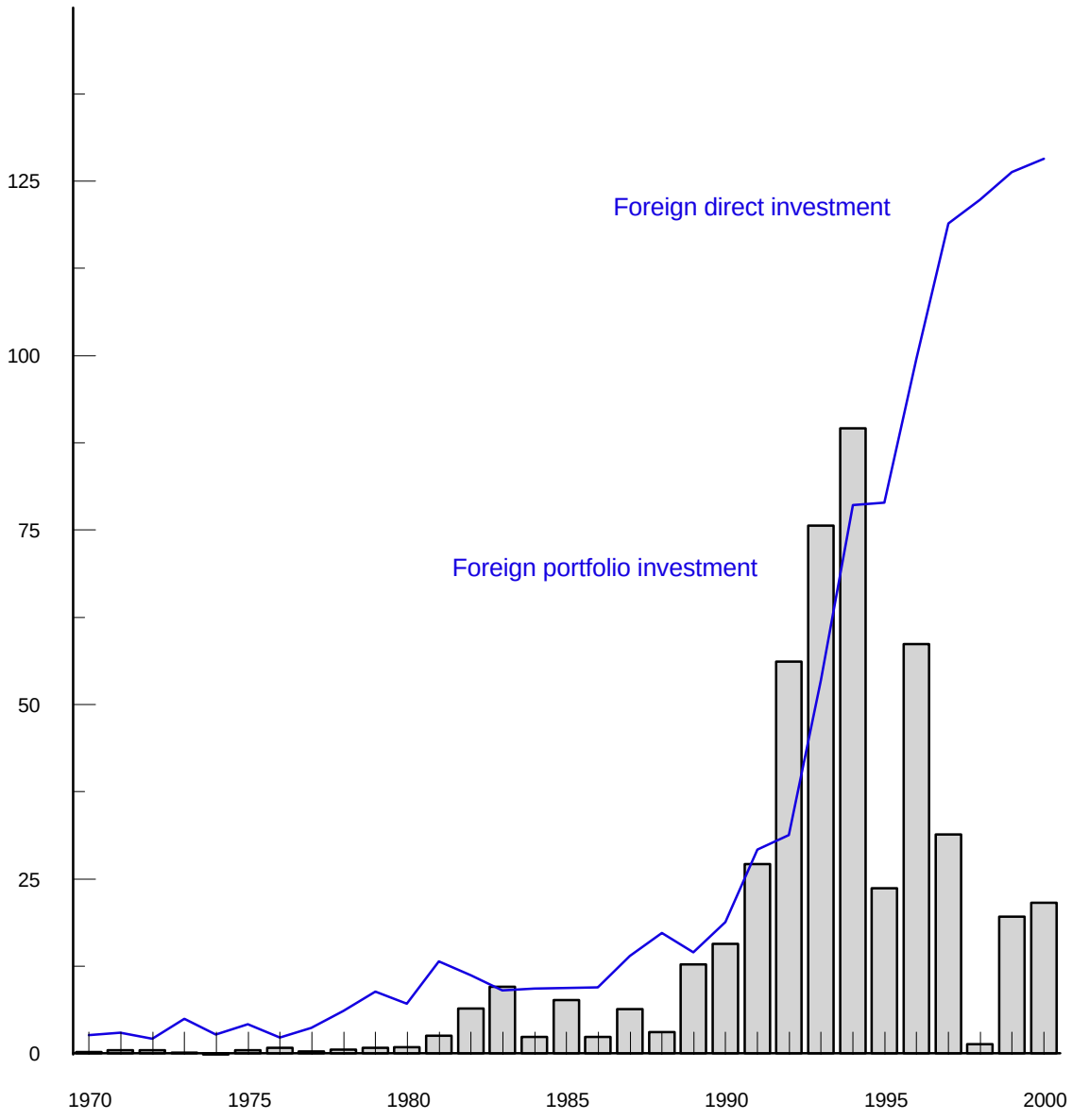
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
FDI(-1)					0.5184	0.4826	0.5200	0.4885
					(10.7100)	(10.7705)	(10.7401)	(10.8940)
RGDPGR	0.0608	0.0470	0.0405	0.0332	0.0432	0.0396	0.0448	0.0297
	(2.3355)	(2.6227)	(1.6291)	(2.0802)	(2.1597)	(2.8942)	(2.3084)	(2.4558)
GDFI	0.0070							
	(0.3636)							
OPEN	0.0169	0.0292	0.0370	0.0275	0.0101	0.0083	0.0064	0.0067
	(1.6710)	(4.4029)	(4.7078)	(4.5950)	(1.5299)	(1.6308)	(1.3050)	(1.6107)
TD	-0.0009	0.0002	-0.0017		-0.0002	0.0003		
	(-0.3782)	(0.1270)	(-0.6969)		(-0.1214)	(0.1780)		
RLIBOR	-0.0728							
	(-1.1211)							
GDP_PC	0.0002	0.0002	0.0001	0.0002	0.0000	0.0000	0.0000	0.0000
	(2.2839)	(2.5790)	(2.0159)	(3.2578)	(1.0929)	(1.5328)	(1.2076)	(1.6309)
VREER	-0.1092		-0.1475		-0.2542		-0.1889	
	(-0.3054)		(-0.4924)		(-1.0031)		(-0.8439)	
Adj. R2	0.5999	0.5352	0.5758	0.5435	0.7046	0.6655	0.7055	0.6811
Total panel Observations	276	380	296	382	296	380	296	380
Standard error of regression	2.9212	3.0457	3.3003	3.1798	3.0452	2.8486	3.0681	2.8945

Note: t-statistics are in parentheses. Foreign Direct Investment is the flow of net foreign direct investment in percent of GDP. RGDPGR is the growth rate of real GDP in percent. GDFI is the gross domestic fixed investment in percent of GDP. OPEN is the openness index. TD is total debt in percent of GDP. RLIBOR is the real LIBOR. GDP_PC is the real GDP per capita. VREER is the variation of the real effective exchange rate. The countries are Barbados, Belize, Bhutan, Botswana, Cape Verde, Comoros, Djibouti, Dominica, Equatorial Guinea, Estonia, Fiji, Gabon, Gambia, Grenada, Guinea-Bissau, Guyana, Maldives, Mauritius, Samoa, Sao Tome and Principe, St. Kitts and Nevis, St. Lucia, Solomon Islands, Seychelles, Swaziland, Tonga, Trinidad and Tobago, Vanuatu.

Figure 1

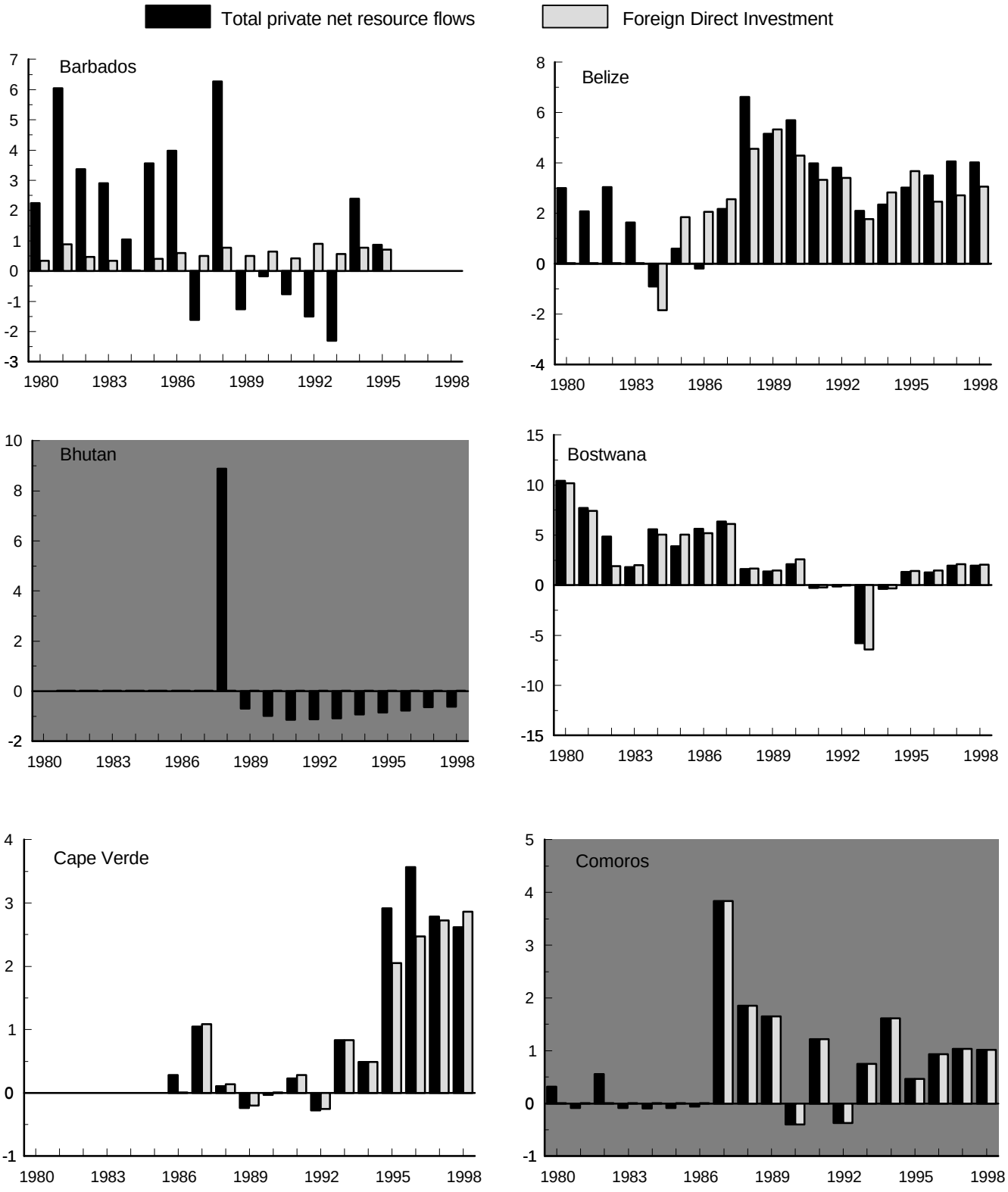
Net Flow of Investment to Developing Countries

(in billions of U.S. dollars)



Source: World Economic Outlook, IMF.

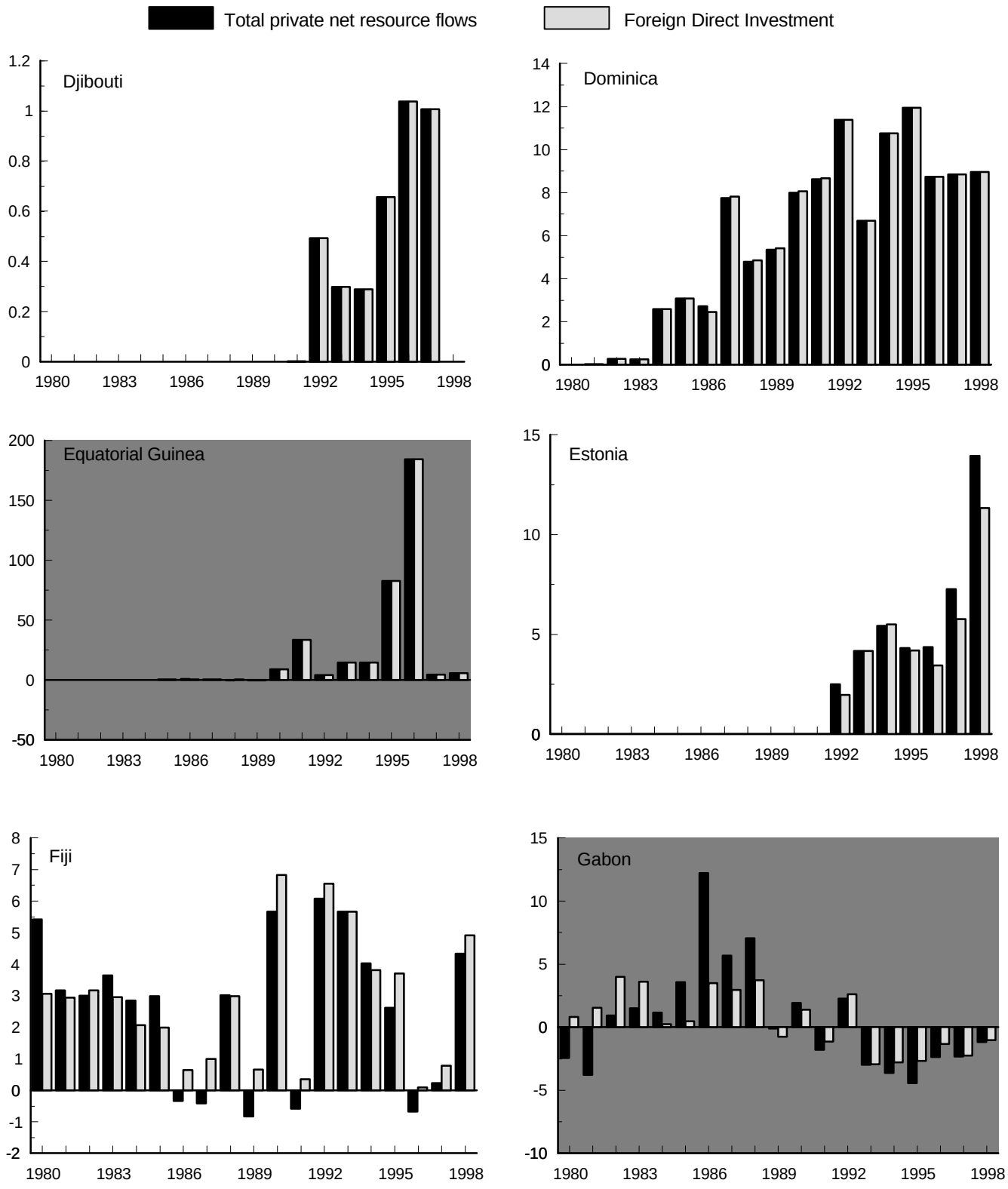
Figure 2
Small States: Private Net Resource Flows, 1980-98 1/
(In percent of GNP)



Source: World Bank, Global Development Finance (CD-Rom 2000).

1/ Private net resource flows are defined as the sum of net flows on debt to private creditors plus net direct foreign investment and portfolio equity flows. Net flows are disbursements minus principal repayments.

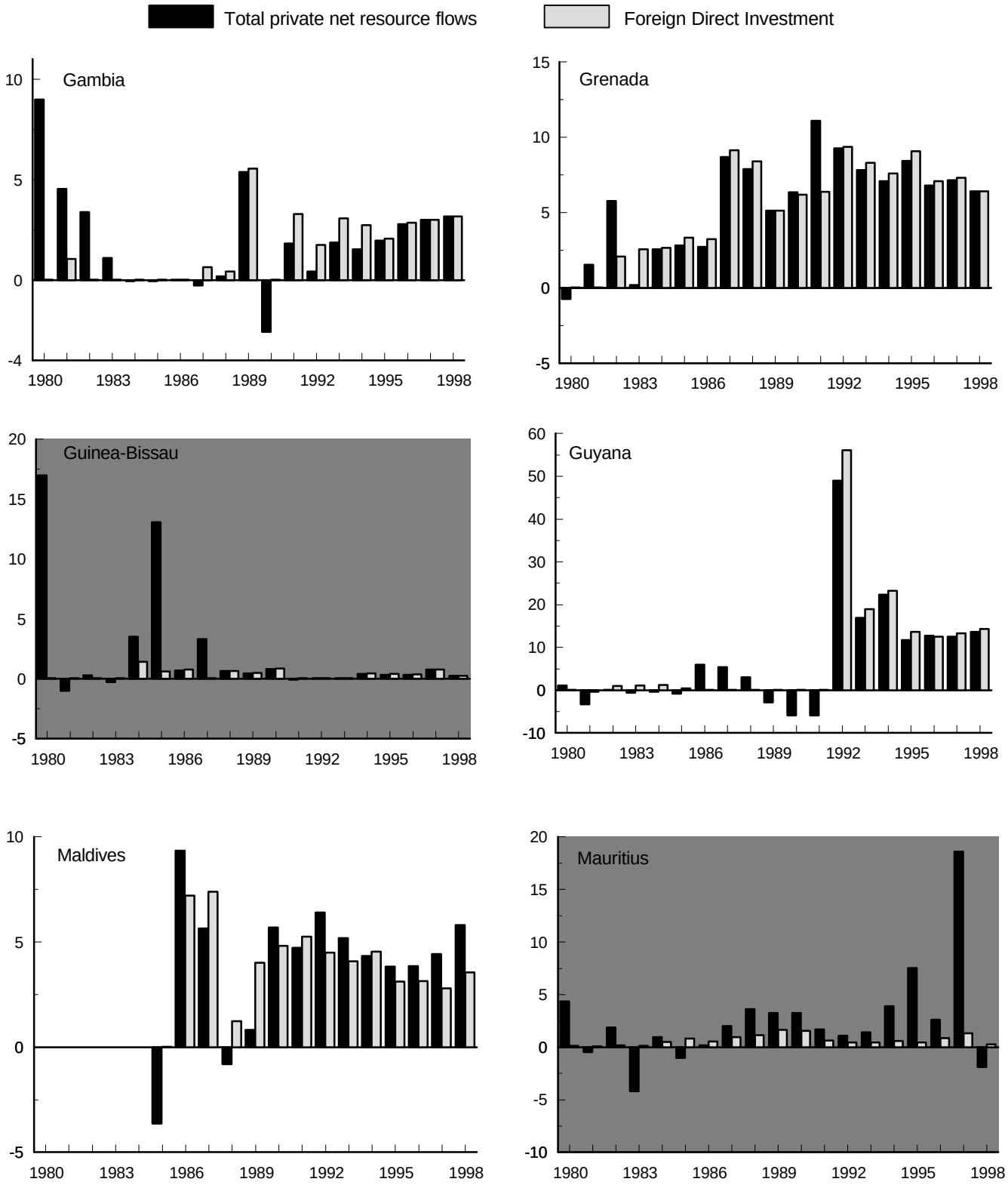
Figure 2 (continued)
Small States: Private Net Resource Flows, 1980-98 1/
(In percent of GNP)



Source: World Bank, Global Development Finance (CD-Rom 2000).

1/ Private net resource flows are defined as the sum of net flows on debt to private creditors plus net direct foreign investment and portfolio equity flows. Net flows are disbursements minus principal repayments.

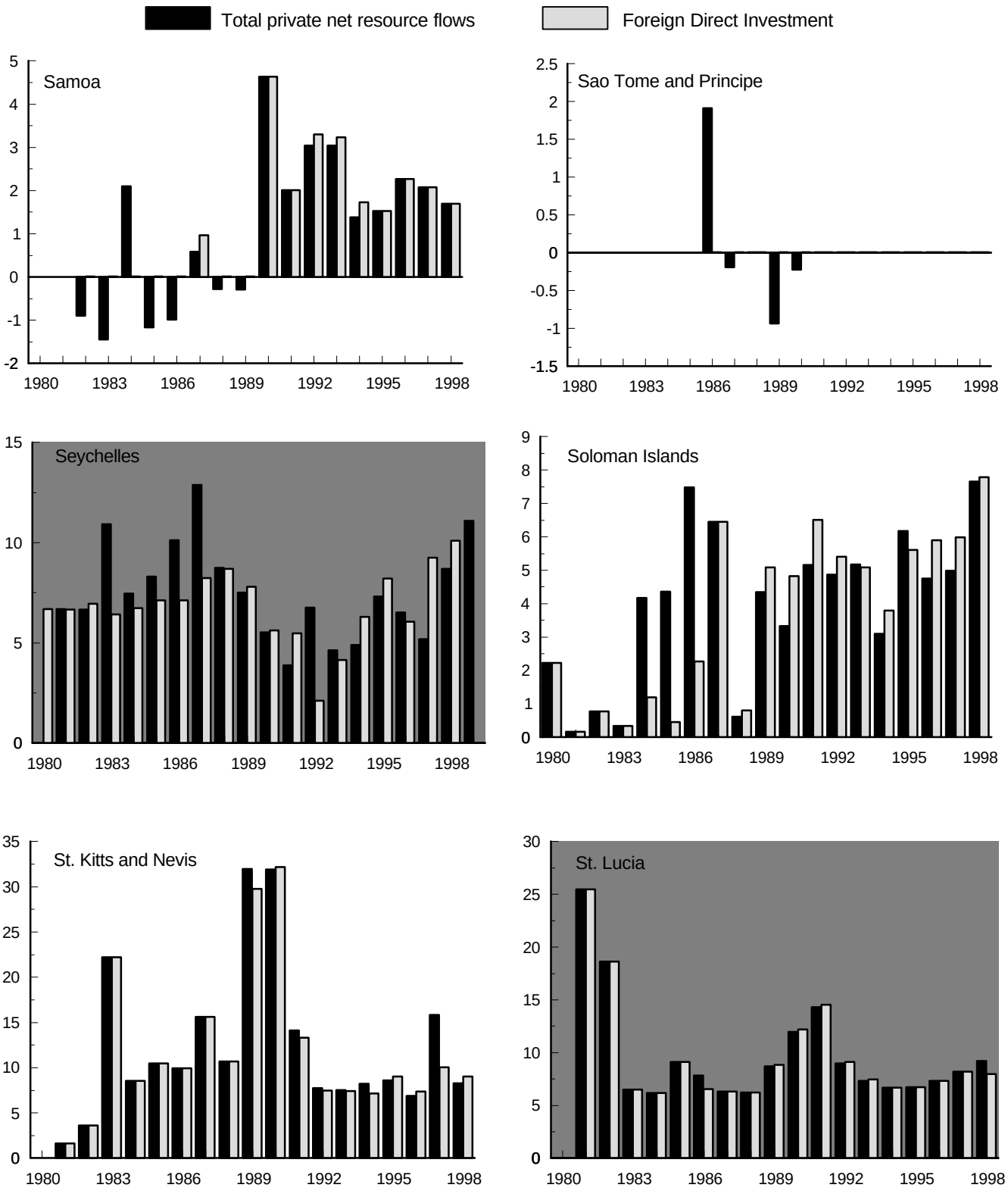
Figure 2 (continued)
Small States: Private Net Resource Flows, 1980-98 1/
(In percent of GNP)



Source: World Bank, Global Development Finance (CD-Rom 2000).

1/ Private net resource flows are defined as the sum of net flows on debt to private creditors plus net direct foreign investment and portfolio equity flows. Net flows are disbursements minus principal repayments.

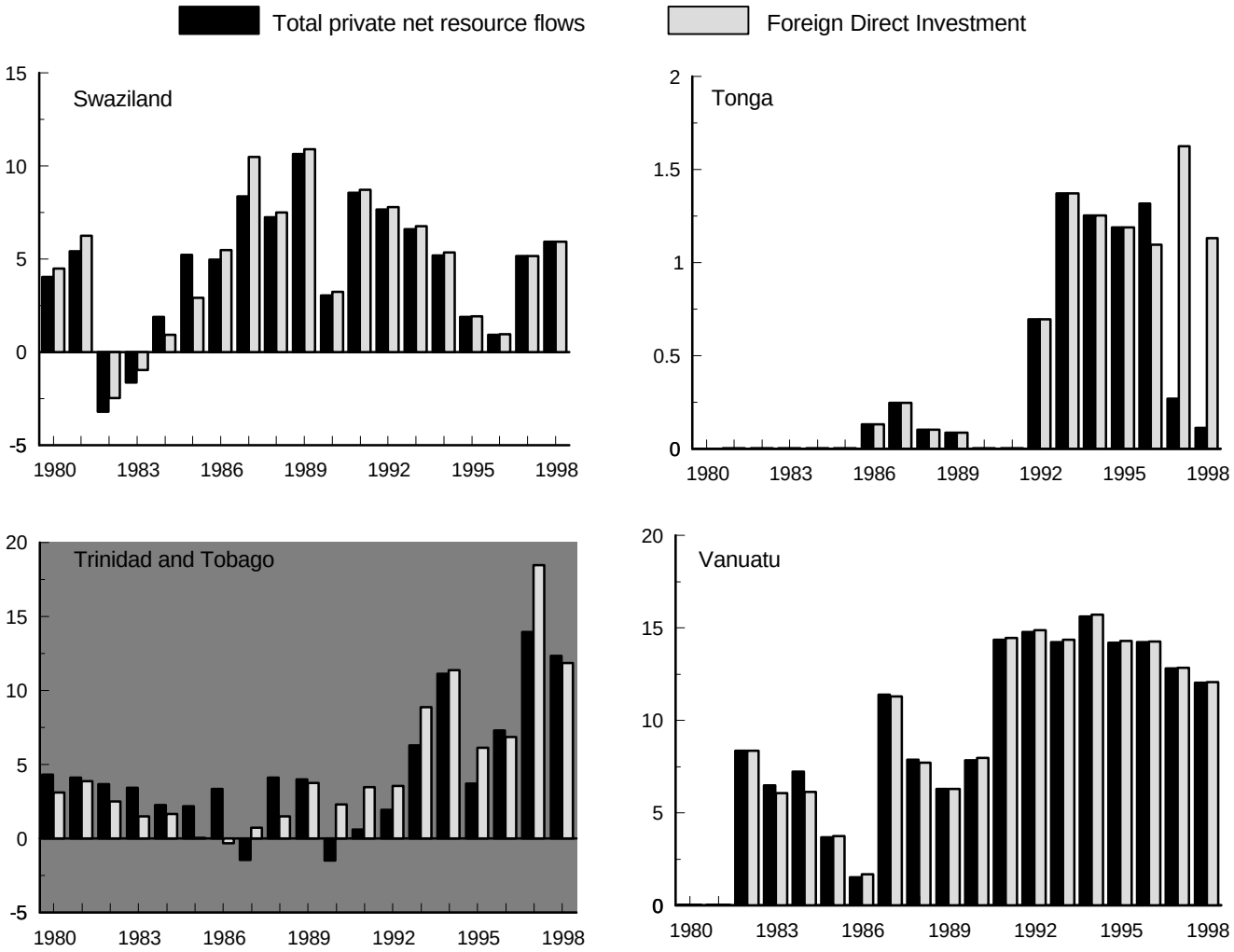
Figure 2 (continued)
Small States: Private Net Resource Flows, 1980-98 1/
(In percent of GNP)



Source: World Bank, Global Development Finance (CD-Rom 2000).

1/ Private net resource flows are defined as the sum of net flows on debt to private creditors plus net direct foreign investment and portfolio equity flows. Net flows are disbursements minus principal repayments.

Figure 2 (concluded)
Small States: Private Net Resource Flows, 1980-98 1/
(In percent of GNP)

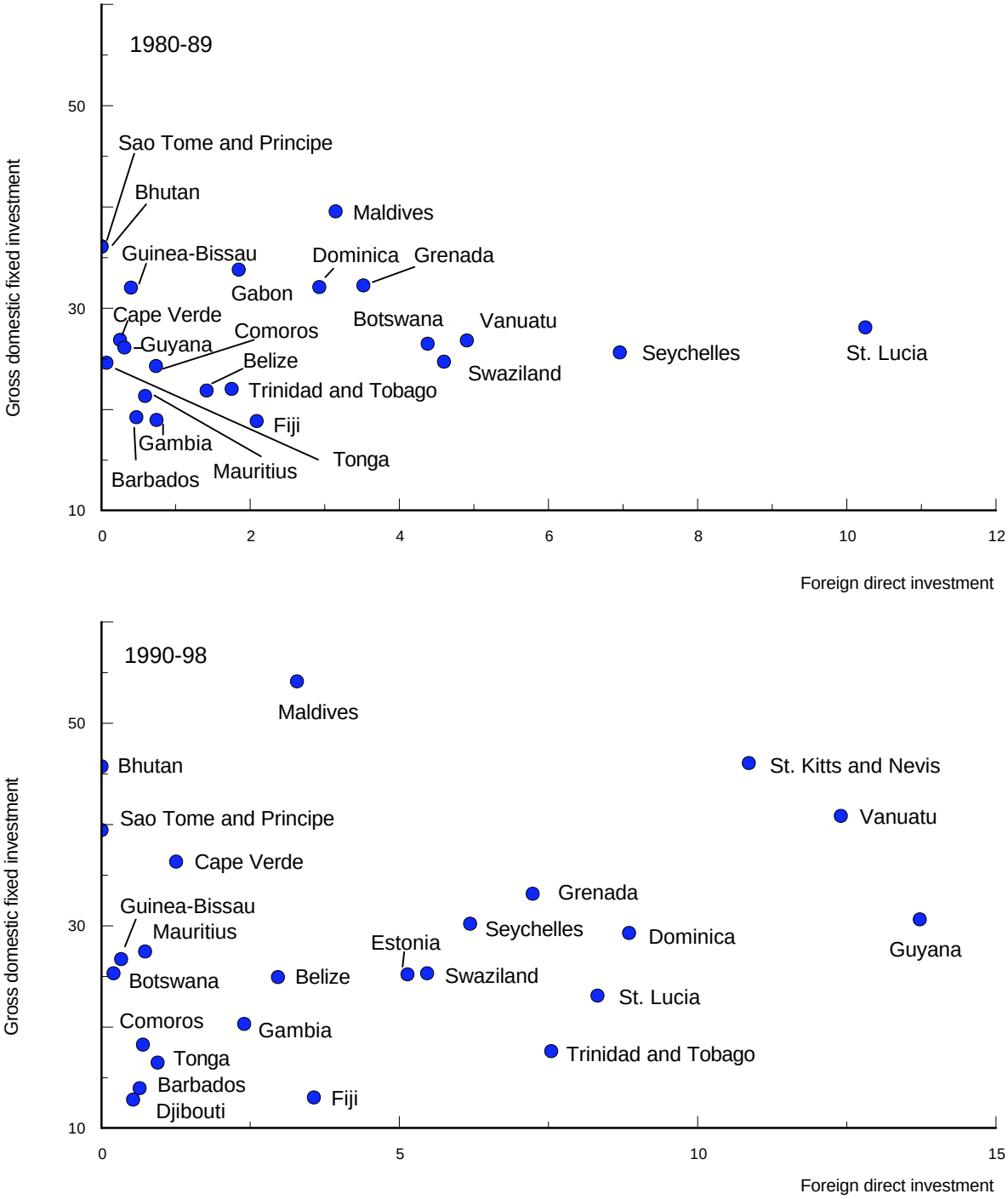


Source: World Bank, Global Development Finance (CD-Rom 2000).

1/ Private net resource flows are defined as the sum of net flows on debt to private creditors plus net direct foreign investment and portfolio equity flows. Net flows are disbursements minus principal repayments.

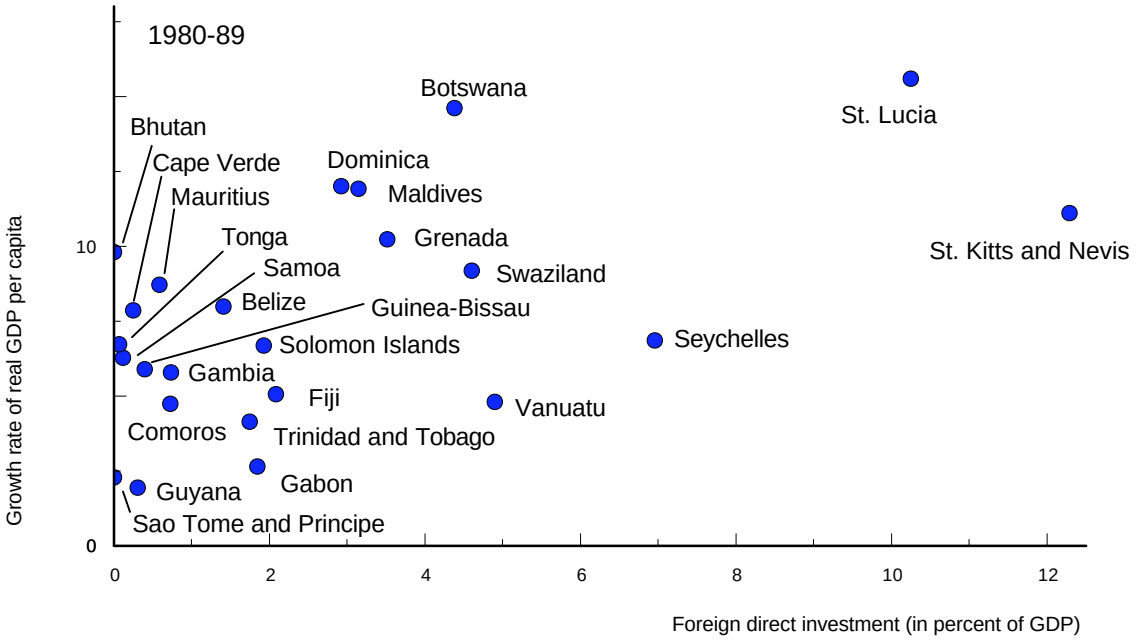
Figure 3

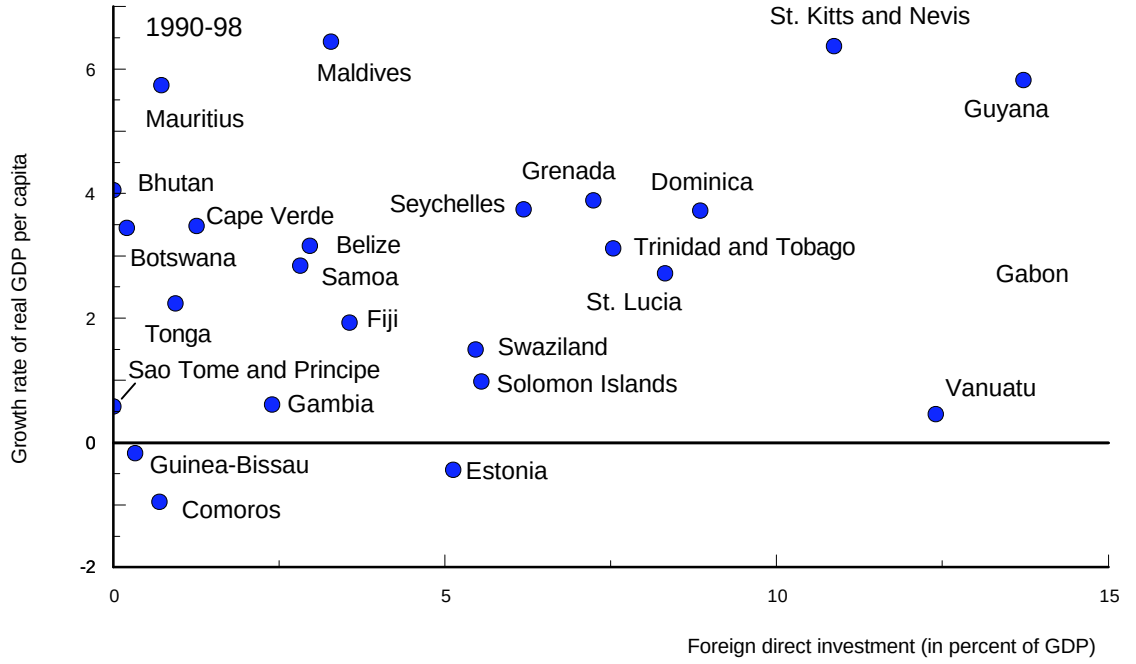
Small States: Foreign Direct Investment and Gross Domestic Fixed Investment, 1980-98
(in percent of GDP)



Source: World Bank.

Figure 4
Small States: Foreign Direct Investment and Growth Rate of Per Capita Real GDP, 1980-98
(in percent)



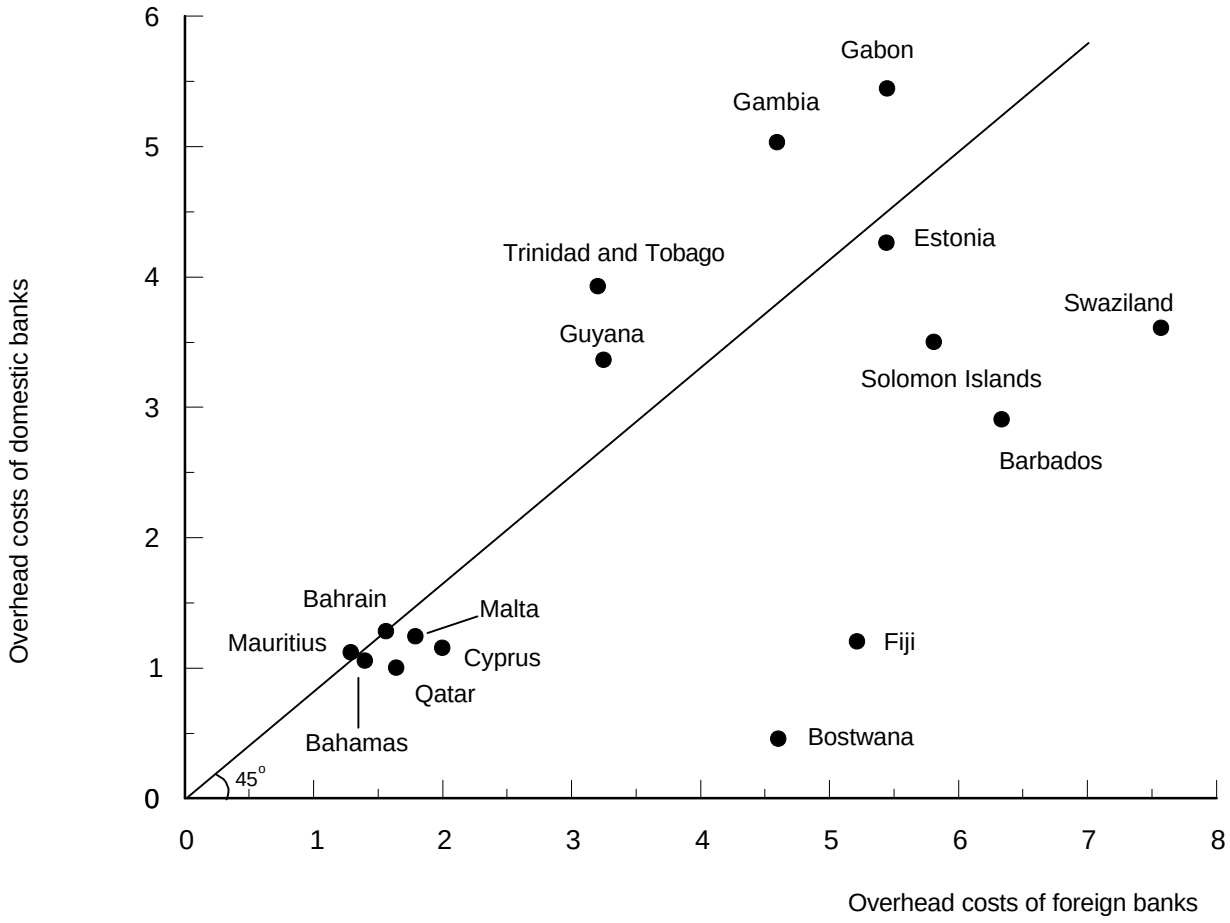


Source: World Bank.

Figure 5

Overhead Costs of Domestic Banks vs. Foreign Banks, 1991-2000

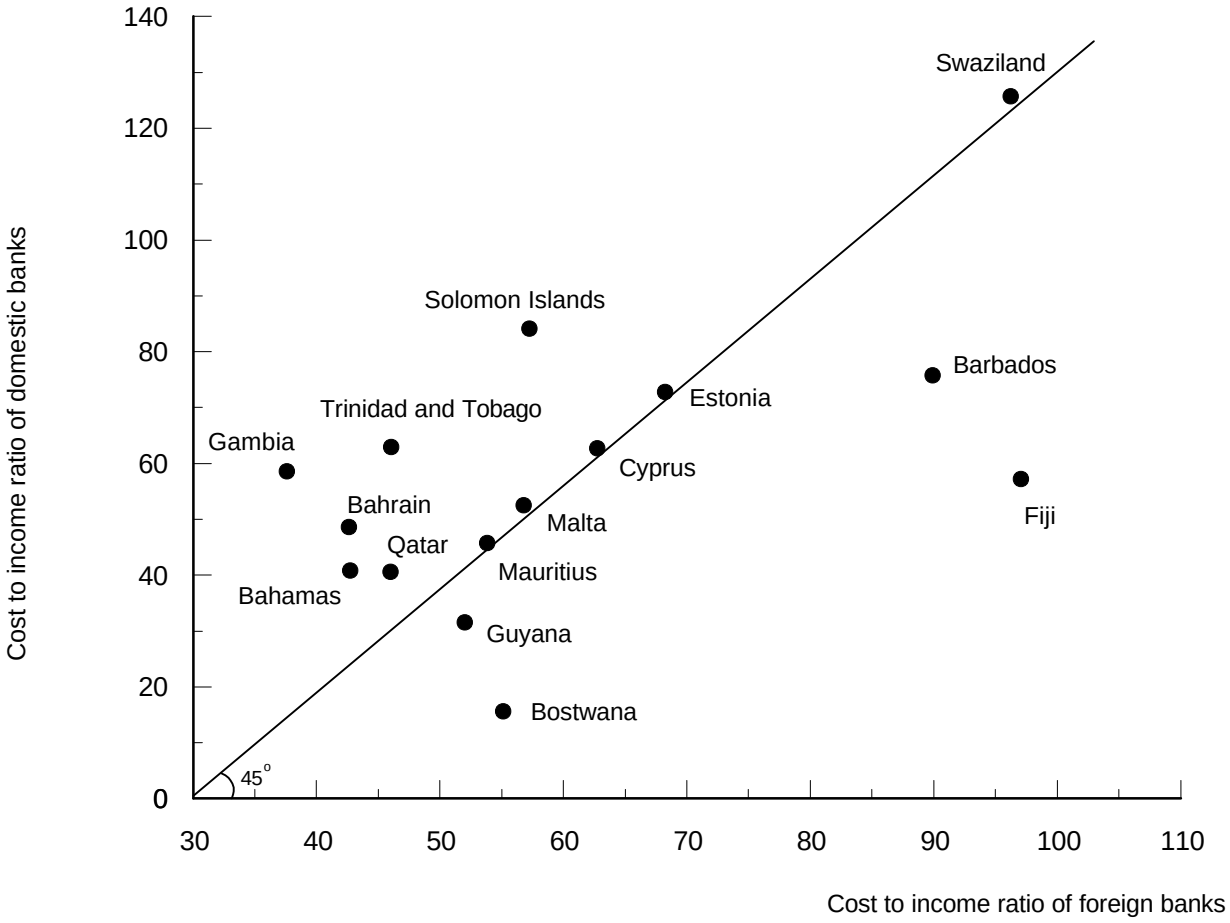
(in percent of total assets)



Source: Bankscope database.

Figure 6

Cost to Income Ratio of Domestic Banks vs. Foreign Banks, 1991-2000

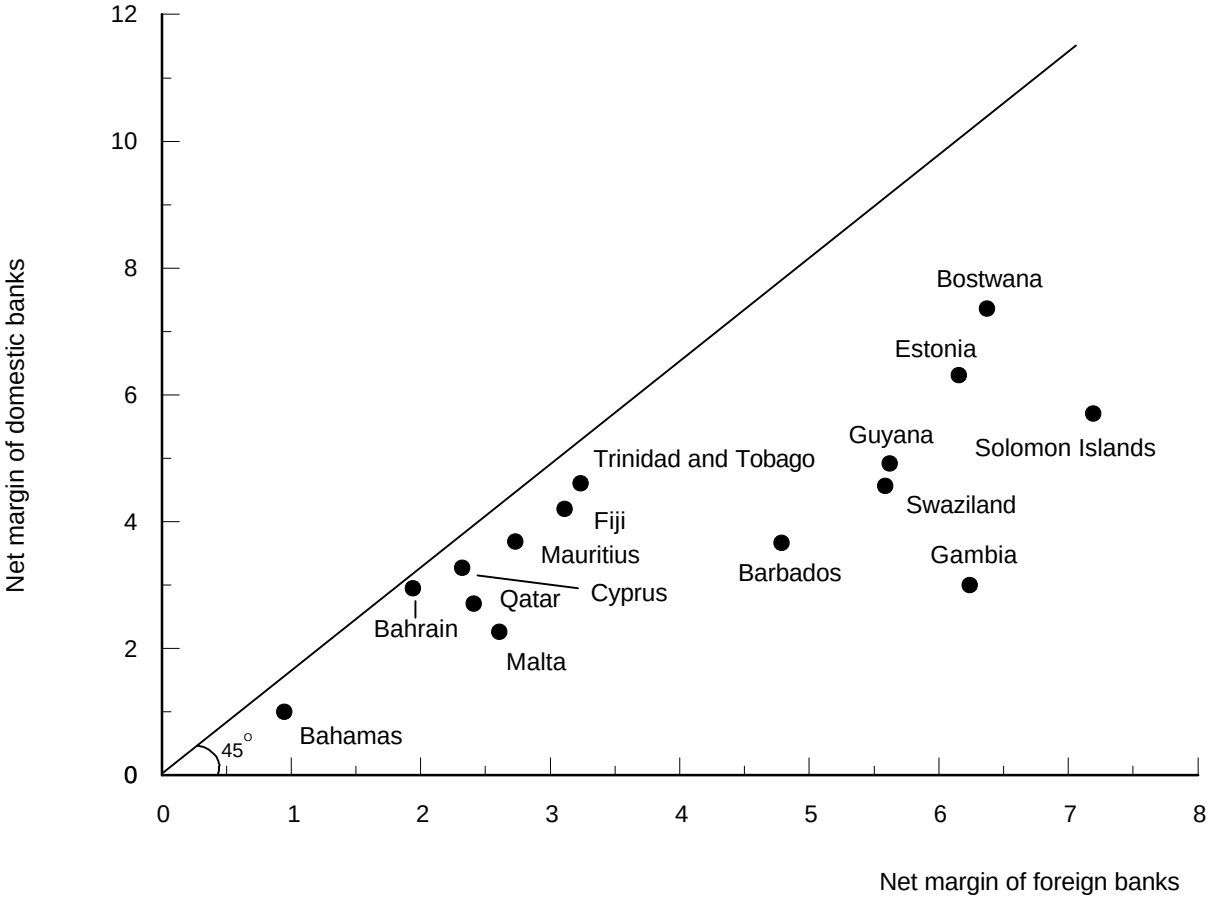


Source: Bankscope database.

Figure 7

Net Interest Margin of Domestic Banks vs. Foreign Banks, 1991-2000

(in percent of total assets)

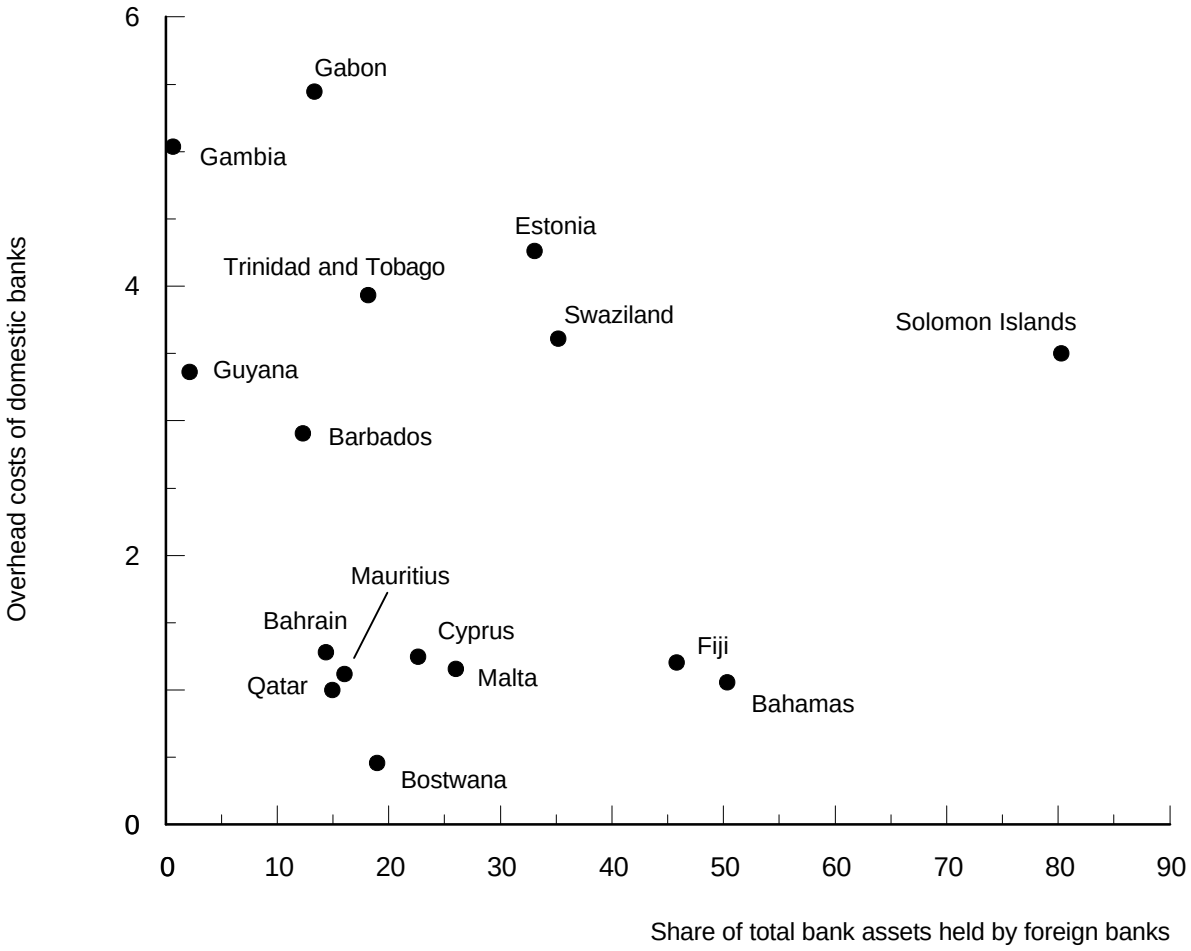


Source: Bankscope database.

Figure 8

Overhead Costs of Domestic Banks and Share of Foreign Banks, 1991-2000

(in percent of total assets)

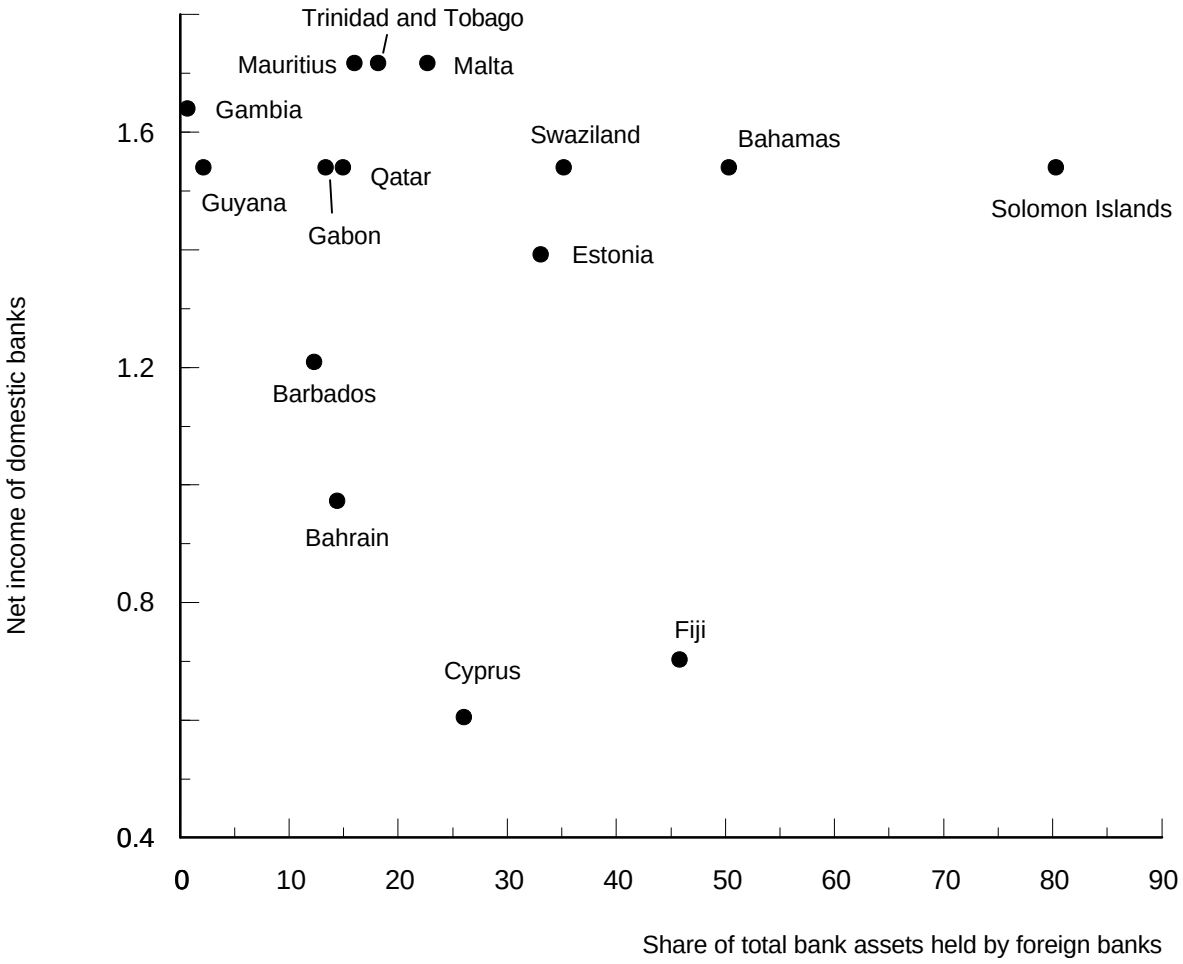


Source: Bankscope database.

Figure 9

Net Income of Domestic Banks and Share of Foreign Banks, 1991-2000

(in percent of total assets)

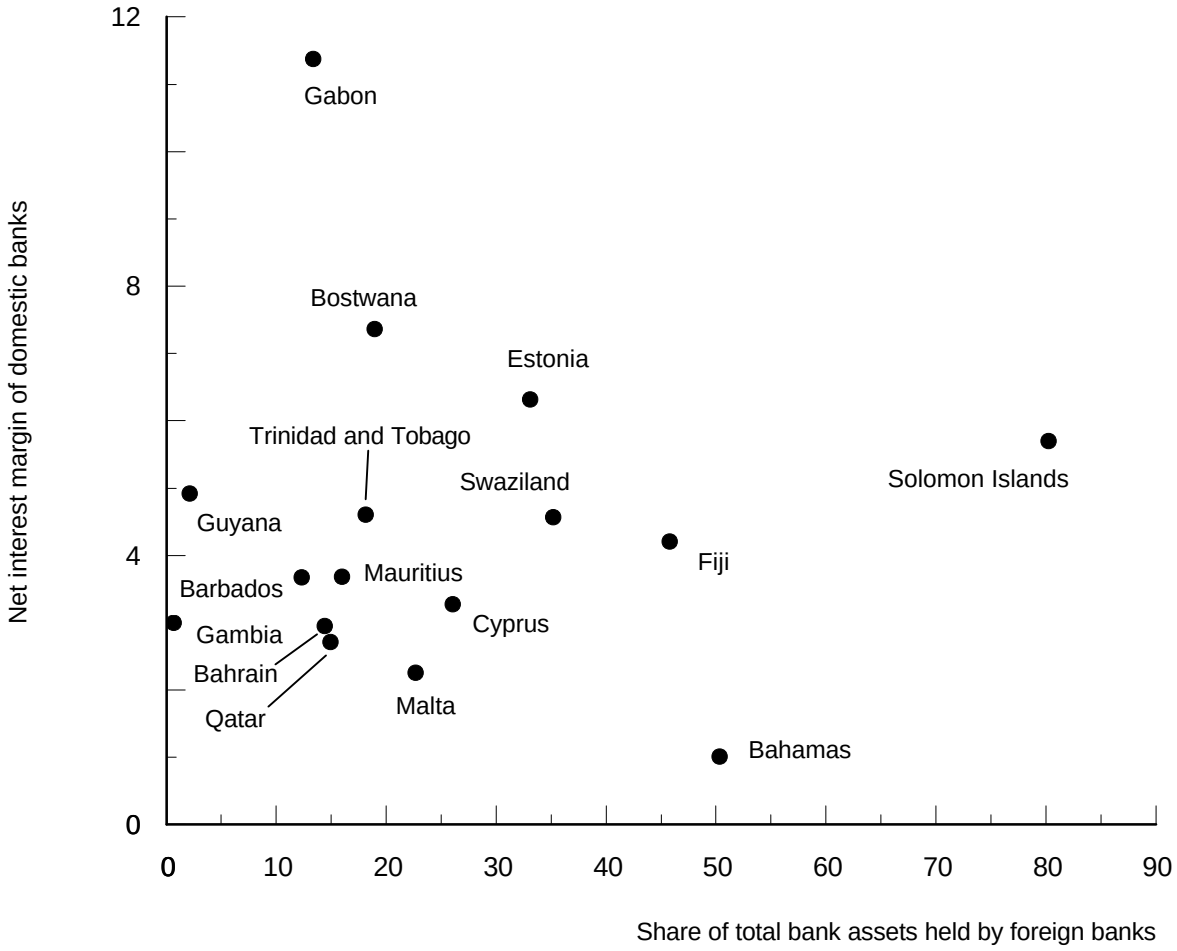


Source: Bankscope database.

Figure 10

Net Interest Margin of Domestic Banks and Share of Foreign Banks, 1991-2000

(in percent of total assets)



Source: Bankscope database.