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Why Foreign Capital Is Good for Post-Crisis Asia

Much of Asia has long been characterised by high domestic savings. East Asia saved, before the Asian crisis in 1997, a third of its GDP, more than any other region in the world. High savings financed rapid capital accumulation that accompanied remarkable economic growth. A question often raised is therefore: why should Asia incur risky foreign savings when it can finance development from local savings? After all, even distinguished economists such as Joe Stiglitz have argued that countries with such enviable savings rates as often found in Asia do not need foreign funds for investment and growth.

Foreign savings, of course, are net capital inflows, the counterpart of current account deficits (if there is no change in reserves). In particular, the Asian crisis has reminded us of the *risks* of capital flows – that is, the unsettling effects of irrational exuberance, investor panic and financial contagion. As the (mostly temporary) withdrawal of foreign savings caused and accompanied the great Asian slump in 1997 and thereafter, policy-makers have got used to terms such as moral hazard, asymmetric information and adverse selection, as far as global capital flows are concerned. There have been innumerable conferences and papers on the prevention and resolution of financial crises and their cross-border contagion, sharpening the awareness of policy-makers to the risks of volatile capital flows.

This paper wants to take a respite from the current focus on the risks of capital flows. It rather intends to explore the benefits of foreign savings, both by reviewing the analytical arguments and by building fresh empirical evidence on the growth impact of private capital (in)flows. Some Asian countries have been blamed (also by the OECD; see Poret, 1998) for discouraging long-term equity inflows and encouraging short-term inflows in the past. Thus, a particular effort will be made to provide evidence on the independent growth impact

that the various broad categories of flows are likely to exert.

We proceed in three steps before drawing conclusions. First, we review the economic arguments that have been advanced to presume economic benefits from overall capital inflows, even if domestic savings are plenty. Second, we concentrate on collecting arguments which have been advanced in favour of (or against) benefits of four broad categories of inflows – foreign direct investment (FDI), portfolio equity investment, portfolio bond flows, and bank lending. This enables hypotheses to be formulated on the potential growth impact of these four categories. Third, we present evidence for the recent period of strong private flows to the emerging markets. Fourth, we draw conclusions: First, why is it important to encourage foreign savings in order to stimulate growth; second, which forms of private flows should be encouraged to maximise the benefits of financial integration? The insights should provide valuable inputs for the appropriate macro-economic and institutional approach towards capital flows; this paper also warns against relying solely on national savings for financing development.

The Benefits of Foreign Savings

The literature has emphasized the potential of foreign capital flows to enhance growth
- through higher investment in physical and human capital,
- through higher efficiency with which these factors of production are used and
- through consumption smoothing as a result of cross-border risk sharing.

The earlier two-gap literature (Chenery and Bruno, 1962), assuming fixed prices and exchange rates and no capital-good production in developing countries, had postulated that growth was not

only limited by a country's ability to save, but also by foreign savings to buy imported capital goods. The assumptions underlying the two-gap literature make the theory largely irrelevant for today's Asia. We focus therefore on mainstream, rather than structuralist, economic thinking by providing capsule summaries of neo-classical and new growth models as well as of the intertemporal approach to the current research.

Neo-classical Considerations

In the neo-classical general equilibrium framework, the benefits of capital inflows into (capital-) poor countries are essentially derived from divergences in the marginal productivity of capital. Labour in advanced countries is equipped with better and more capital than the workers in developing countries, and capital can be used more productively by being sent south.

The simplest of the neo-classical models, the two-country Kemp–MacDougall model (see, e.g., Lal, 1990) can provide some basic insights on the benefit of capital inflows as well as the optimal size of these inflows. Savings rates are constant and a fixed proportion of per capita income in both countries. The marginal product of capital is higher in the poor country than in the rich country in autarky, and is diminishing in both countries with rising capital–labour ratios. With perfect capital mobility, the poor country will benefit from capital inflows, until its marginal product of capital is equal to that of the rich country; both in turn determine (and are equal to) the world interest rate.

The size of the optimal net capital inflow rises with the difference between the autarkic marginal product of capital and the world interest rate, and falls the faster marginal capital productivity declines with a higher capital–labour ratio. The poor country gains per capita income – the marginal output of capital, times the capital inflow, minus the income payments on the capital stock located at home. (The rich country, of course, gains as well from the capital export: the output loss due to capital relocation is more than compensated by interest and dividend payments.) In the new, long-run equilibrium, output will grow at the same rate as in the closed economy.

The Kemp–MacDougall theory crucially assumes that the capital inflow is invested, not consumed, and that the capital ratio is raised by the inflow, until the steady-state capital ratio is reached. The inflow is not consumed, because the world interest rate exceeds the country's rate of time preference. This fulfils an important requirement of the full debt cycle, so that the deficits first incurred on trade and current accounts will give way to a trade surplus and later a surplus on current account. Concerns about debt stocks and the size of the financial and real transfer are unwarranted because they will adjust in a sort of automatic way. Foreign investors are assumed to bring in capital goods and take away part of the additional production, thereby resolving the transfer problem. The traditional neo-classical model thus seems more appropriate to describe foreign direct investment (FDI) inflows than other capital flows.

Mere capital accumulation does not guarantee that a country will benefit from capital inflows. First, in the presence of sufficiently misguided policies, inflows can »immiserize«; and, second, an upward-sloping supply of capital will mean that the cost of capital inflows rises at the margin. Even on standard neo-classical grounds, governments can be justified to resist part of the capital inflows.

Models of »immiserizing« inflows have warned that tariff-induced inflows of capital magnify the welfare losses due to distorted consumption and production patterns by stimulating capital accumulation in protected sectors and by attracting foreign capital into these sectors, if foreign capital receives the full (untaxed) value of its marginal product (Brecher and Diaz Alejandro, 1977). Despite drastic structural reform in most capital importing countries, distortions persist that may stimulate private credit booms, for example. Moreover, distortions may be reintroduced in the case of a capital-outflow crisis.

Further evidence that capital inflows will not play a crucial role in the standard neo-classical framework comes from growth accounting. Adding human capital accumulation to the standard Solow growth model, Mankiw, Romer and Weil (1992) have found that physical capital, human capital and labour explain almost 80 per cent of the cross-country variation in income per capita of the full Summers/Heston country sample of 98 non-oil countries. Their estimates imply a physical

capital share of 0.31 and a human capital share of 0.28. Taking an average capital–output ratio of 2.5 and an average current account deficit of 4 per cent of GDP (a stylized description of major capital importers), the Solow model would predict an increase in the growth rate of capital of 1.6 per cent; and the resulting increase in short-run growth of output would merely reach 0.5 per cent.

Implications of the Endogenous Growth Literature

Endogenous-growth models, unlike neo-classical models which imply decreasing returns to capital, are characterised by the assumption of non-decreasing returns to the set of reproducible factors of production. Long-term growth can be explained entirely by growth in capital, without any appeal to a Solow residual. In addition, absent arbitrage between physical and human capital, their ratio is constant over time. This means that any increase in physical capital induces a rise in human capital. This implies external economies to capital accumulation: the elasticity of output with respect to capital greatly exceeds its share of GNP at market prices. Such externalities create a presumption that the benefits of capital inflows must be much higher than those stipulated by the standard neo-classical approach. In the neo-classical growth model, countries benefiting from large inflows could see large increases in physical capital accumulation; their growth rates should peak on impact, to gradually reach the steady state. To change the growth rate of the capital recipient permanently, though, the inflow must not only lift the economy to a higher capital equipment (and income level), but it also has to change the economy's production function, by embodying positive spillovers to the host country's efficiency. However, if returns to capital are constant, then the rate of return on capital will not be decreasing in the capital-labour ratio. There is thus no incentive in the endogenous-growth model for capital to flow from rich to poor countries, because returns on capital need not to be larger (Lucas, 1990).

The Inter-temporal Approach to the Current Account

In the models considered so far, the benefits of capital inflows are derived from net capital inflows that are fully invested and raise the level or the growth rate of GDP. However, the benefits of capital flows are not only derived from directing world savings to the most productive investment opportunities, but also from allowing individuals to smooth consumption over different states of nature by borrowing or diversifying portfolios abroad. Developing countries are likely to benefit greatly from the international pooling of country-specific risks that would result in inter-temporal smoothing of consumption levels. First, poor countries tend to be more shock-prone than richer ones; second, since per capita income is low, any downside adjustment will hurt more than in countries with higher consumption levels.

In principle, the inter-temporal approach to the current account can be helpful in answering the question of how much to accept (in terms of the size of the current account deficit) of capital flows offered by foreign investors. International capital mobility opens the opportunity to trade off present levels of absorption against future absorption; if saving falls short of desired investment, foreigners have to finance the resulting current account deficit, leading to a rise in the country's net foreign liabilities. The inter-temporal approach views the current account as the outcome of forward-looking dynamic saving and investment decisions (Obstfeld and Rogoff, 1994), which are driven by expectations of future productivity growth, interest rates and other factors. Table 1 collects some important predictions of the inter-temporal approach to the (first-period) current account from the two impulses that have figured prominently in the discussion on the determinants of recent capital flows to emerging markets. The Table yields some important insights about how the »equilibrium« current account of the developing-country recipients should respond to a drop in world interest rates, or, alternatively, to a reform-induced rise of productivity:

▶ The capital-importing countries, being net foreign debtors, should shift the savings rate in response to cyclical portfolio flows, which are interest-driven. The current accounts should move towards lower deficits (or into surplus)

Current Account Effects Predicted by the Consumption-Smoothing Approach

Shock	Temporary			Persistent		
	Saving	Investment	Current account	Saving	Investment	Current account
Drop in world interest rates bow permanent average rate						
– Net debtor countries	+	o	+	not applicable		
– Net creditor countries	-	o	–	not applicable		
Rise in productivity						
– Country-specific	+	o	+	–	+	–
– Global	+	o	+	+	+	o

Sources: Discussions in Glick and Rogoff (1992), Obstfeld and Rogoff (1994) and Razin (1995).

as people smooth consumption in the face of temporarily low interest payments. For net creditor countries, temporarily low interest rates would result in opposite current account effects. If a net debtor country widens current account deficits in response to temporary interest rate reductions, the response may well destabilise rather than smooth the inter-temporal consumption path.

▶ Likewise, the inter-temporal approach does not necessarily predict widening current account deficits when capital flows are attracted by country-specific productivity surges. The »equilibrium« response of the current account depends crucially on the expectation of whether the productivity surge is temporary or permanent. In both cases, the productivity surge will raise output immediately, but only a persistent rise in productivity will cause permanent income to rise. The reason is that only a permanent productivity surge will induce investment and a higher future capital stock. The rise in permanent income will also cause consumption to rise more than output, resulting in a strong current account deficit as a result of lower saving and higher investment. A transitory increase in productivity, by contrast, should result in an opposite current account effect (a lower deficit), since there is no effect on investment and agents save part of any transitory increase of income (in the permanent income model of consumption).

▶ Productivity surges must not necessarily be interpreted as country-specific, but can be part of a broader global shock. A persistent productivity-enhancing shock common to all countries will raise the world rate of interest. This should dampen consumption in net debtor countries sufficiently to compensate for the consumption effects arising from higher permanent income brought about by higher investment. Since all countries cannot improve their current accounts, world interest rates rise until global savings and investment are balanced. A global transitory productivity shock will produce excess world saving and thereby exert downward pressure on interest rates. A temporary drop in world interest rates should result in lower current-account deficits for net debtor countries, as analysed above.

It is noteworthy that – among the capital-flow determinants discussed here – the inter-temporal approach predicts a widening of current account deficits (for net debtor countries) only if the country enjoys a permanent idiosyncratic productivity boom. However, the predictive power of the inter-temporal approach to the current account may remain very limited for developing countries, in spite of their higher financial openness (Reisen, 1998).

Specific Types of Capital Flows: Benefits versus Risks

It is a statement as common as it is trivial that capital flows carry benefits as well as risks. But can we establish something close to a pecking order for the broad categories of capital flows in view of their *inherent* benefits and risks for the capital-importing countries? This requires looking at the channels through which these benefits and risks operate. We have seen in the preceding section what theory tells us on how foreign savings can be beneficial: they need to add to domestic savings rather than crowd them out in order to stimulate capital accumulation; they need to raise the recipient economy's efficiency (e. g., through improving resource allocation, dynamising competition, interacting with human capital, deepening domestic financial markets or reducing capital costs for local entrepreneurs); and they need to lower consumption risks over various states of nature through enlarging choices for portfolio diversification, but also through appropriately sharing risks between capital exporters and importers.

The risks inherent to specific types of capital flows operate through two major channels: by magnifying welfare losses due to distorted consumption and production patterns; and by generating bankruptcies and output losses due to abrupt reversals of flows. Models of »immiserising« inflows (see, e. g., Brecher and Diaz-Alejandro, 1977) have shown that countries will be worse off if the foreign savings are attracted into protected sectors, as long as foreign capital receives the full (untaxed) value of its marginal product. While trade liberalisation and structural reform in most capital-importing countries have made the »immiserising inflow« argument less relevant today in its original presentation, ill-regulated financial sectors or implicit credit guarantees have often created credit boom distortions that foreign flows have magnified (McKinnon and Pill, 1997).

The second channel through which foreign savings can take a heavy toll is when they are suddenly withdrawn. As the withdrawal causes a slump, it also acts to reduce national savings given the fact that growth has been shown to precede and cause savings (Carroll and Weil, 1993).

The numbers presented in Table 2 and Table 3 help explain the concerns about the fickle nature of foreign savings and the painful impact of their withdrawal. Except for the Philippines, the Asian countries most affected by the crisis had saved during 1990–1996 30 per cent or more of their national income. In Malaysia and Thailand, foreign savings added another 6-7 per cent during that period, leaving 40 per cent for capital accumulation. As foreign savings turned wildly negative after the crisis and as domestic savings dropped as well, the funds available for investment tumbled down to around only 20 per cent of GNP, in Indonesia even to not much more than 10 per cent. Just when foreign savings were badly needed, they turned a cold shoulder. Note, however, that reduced disposable income and lower government savings as a result of efforts to recapitalise local banks took a heavy toll on national savings as well.

Table 2:

Pre- and Post-Crisis Savings in Selected Asian Countries (% of GNP)

	Pre-Crisis: 1990-96		Post-Crisis: 1998	
	National	Foreign	National	Foreign
Indonesia	29.3	2.6	15.5	−4.9
Korea	35.5	1.8	32.8	−12.8
Malaysia	34.2	6.0	41.8	−13.7
Philippines	19.3	3.9	16.3	−1.9
Thailand	34.8	7.1	32.2	−13.2

Source: World Bank, IMF, Bank of Thailand, Bank Negara Malaysia, Rodrik and Velasco, 1999.

Table 3:

Growth, Consumption and Short-Term Debt in Selected Asian Countries

	Pre-Crisis: 1990-96			Post Crisis: 1998	
	GNP growth per cap. % p.a.	Consumption share in aggregate demand (%)	1997 ratio short-term debt/reserves	GNP growth per cap. % p.a.	Consumption share in aggregate demand (%)
Indonesia	6.4	69.4	1.7	-18.0	84.5
Korea	6.5	63.4	2.8	-7.4	76.0
Malaysia	6.0	62.0	0.7	-9.6	65.0
Philippines	1.2	78.7	1.3	-2.1	81.3
Thailand	6.9	61.1	1.0	-8.5	71.1

Source: World Bank, IMF, Bank Negara Malaysia, Rodrik and Velasco, 1999.

The bankers' adage that it is not speed that hurts, but the sudden stop was more than validated in Asia. High pre-crisis per capita growth turned to a severe slump in 1998. Guillermo Calvo (1998) analysing the mechanics of sudden stops in international capital flows, emphasizes that negative swings in foreign savings may result in widespread bankruptcies, destroy local credit channels and make human capital obsolete (as a complementary input to lower physical capital). Assuming that consumption is more non-tradable-intensive than investment, he argues that the negative output effects of a cut in capital inflows are likely to increase the higher the share of consumption in a country's aggregate demand. To the extent that cuts in domestic absorption are focused on tradables, there is less need for a lower real exchange rate to restore payments equilibrium. The larger the real devaluation, the deeper will be the ensuing financial turmoil. For the same reason, Rodrik and Velasco (1999) maintain that greater short-term debt exposure is associated with more severe crises when capital flows reverse.

How then do these benefit and risk channels relate to specific types of capital flows? It is often maintained that distinguishing between types of flows generates little policy insight, for essentially two reasons. First, capital flows are said to be fungible. That would imply, for example, that we cannot discern a differentiated impact of foreign direct investment or short-term debt flows on private or government consumption. Second, it

has been argued that capital-flow labels have become meaningless in the presence of derivatives or efforts to circumvent capital controls. These claims, however, ignore a large body of empirical, if not analytical, evidence.

First, while there is ample evidence (Masson et al., 1995; Edwards, 1995; Ffrench-Davis and Reisen, 1998) that the offset coefficient between foreign savings and domestic savings is generally round one half, the offset coefficient hides strongly different consumption responses for FDI flows and debt-creating flows. Cohen (1993) finds for a sample of 34 developing debtor countries that benefited from renewed access to foreign bank credit in the 1970s, capital accumulation was less than for other developing countries. This observation was not explained by endogenous factors – the initial output per capita and the initial stock of capital. Rather, much of the debt-creating flows had leaked into consumption. Also aid flows have been found to stimulate consumption, namely government consumption (Boone, 1996). FDI flows, in contrast to debt-creating flows, have been found to stimulate domestic investment, rather than crowding it out by competing in domestic product markets or financial markets. The complementarity of FDI and domestic investment is explained by the complementarity in production and by positive technology spillovers.

The second claim, namely that capital-account labels do not reveal useful information for policy purposes, is based on an influential paper by Claes-

sens, Dooley and Werner (1995). Using quarterly balance-of-payments flow data for changes in net claims of FDI, portfolio equity, and »long-term« and »short-term« debt flows, they find that labels do not provide any information about the volatility of the flow. The paper, however, does not address reversals of foreign savings on a large magnitude. Moreover, while FDI once made is hard to reverse because of its sunk cost nature, the resulting time series for FDI flows will appear to be temporary as it comes in large bits and is often discretionary. The confusion introduced by the former paper has been rigorously settled by Sarno and Taylor (1999). They measure the relative size and statistical significance of permanent and temporary components of various categories of capital flows to a large group of Latin American and Asian countries during the period 1988–97. They find relative low permanent components in bond flows, equity flows and official finance, while commercial bank credit flows appear to contain quite large permanent components and FDI flows are almost entirely permanent. If a large portion of the variation in the time series is explained by movements in the temporary components, then the flows under consideration indicate a higher degree of potential reversibility.

Short-term foreign debt (liabilities to non-resident banks, debt securities, suppliers' credit, domestic debt held by non-residents, deposits of non-residents in domestic institutions) in relation to official foreign exchange reserves has been identified as the single most important precursor of financial crises triggered by capital-flow reversals. As the level of international trade does not seem to have any relationship with the level of short-term debt, short-term trade credit seems to play an insignificant role in driving short-term flows (Rodrik and Velasco, 1999).

The upshot of these studies is that FDI, long-term bank lending (often long-term project loans in syndicated lending) and short-term trade credits are less reversible than portfolio and short-term bank credit flows. Moreover, the more stable flows are mostly tied to particular investments and users, financing real assets. Short-term bank lending and portfolio flows, by contrast, constitute only an indirect link between foreign savings and domestic investment (Turner, 1996).

A cost-benefit analysis on specific types of capital flows from the perspective of the recipient developing countries should then consider the following elements:

▶ *Foreign direct investment* has been found to stimulate investment, to raise the recipient economy's efficiency (under certain conditions) and to be forthcoming during financial crises, hence helping smooth consumption levels. Borensztein, de Gregorio and Lee (1998), in their study on the growth effects of FDI, explain the complementarity of FDI and domestic investment by the complementarity in production and by positive technology spillovers. However, the technology spillover requires a sufficient level of human capital in the host economy. The fact that FDI displays little reversibility and even acts as the predominant form of foreign savings to liquidity-constrained developing countries during financial crises has been explained by their sunk-cost nature (Sarno and Taylor, 1999) and by the absence of asymmetric information between borrowers and lenders that plague other forms of capital flows and generate herd effects (Razin, Sadka and Yuen, 1999). More research is certainly required with a breakdown of FDI into mergers and acquisitions, raw material versus other sector orientation, and the role of distortions such as trade restrictions in the exploration of growth effects of FDI (Nunnenkamp, 2000).

▶ *Portfolio equity flows* have played an important role for external firm finance in developing countries. The static benefits of portfolio equity flows have been documented in numerous studies; Claessens (1995), for example, finds that increases in equity flows have been associated with significantly lower cost of capital and slightly higher per capita economic growth. Increasingly, in view of recent US and European experience, it is argued that deep stock markets (and they are deepened by free equity flows) facilitate capital re-allocation from low-return to high-return activities and the incubation of new start-ups. To what extent higher equity flows are associated with asset price inflation, is yet to be researched more thoroughly: on the one hand, the imbalance between a small domestic asset supply and a large global asset demand potential may favour such hypothesis; on the other hand, higher liquidity and strong international integration of stock markets should dampen asset

price volatility. High liquidity and low transaction costs – the outcome of higher stock market integration – suggest, however, a high degree of reversibility of portfolio equity flows.

▶ *Debt flows:* There is very little literature which emphasizes the benefits of debt-creating flows (essentially portfolio bond flows, long-term and short-term bank credit). The theory of sovereign lending (Eaton and Gersowitz, 1981; Cline, 1995) has focused on the benefits of consumption smoothing to countries with alternating good and bad years. This may surprise as debt transfers, unlike equity finance, have a compensation rule independent of the borrower's fortune. Debt is serviced independent of the borrower's income stream, while equity finance shares into the borrower's earnings on investment. It can thus be argued that equity finance provides the benefits of lower fluctuation in the borrower's consumption, but that the potential incentive for borrowers to invest (rather than consume) is higher under debt- than under equity-financed transfers (Corsepius, Nunnenkamp and Schweickert, 1989). Short-term debt, except for trade credit, can be particularly inspired by consumption smoothing, however, weakening the case for the higher incentive effect of debt finance. To the extent that debt finance carries higher public guarantees than does equity finance, there is also a higher risk of it being allocated to distorted sectors with little social return. Short-term bank credit and portfolio bond flows have been shown to be very susceptible to bouts of creditor panic, making these flows highly reversible (e. g. Rodrik and Velasco, 1999).

Table 4 provides a summary of the above discussion on potential benefits and risks, giving some priors to the empirical analysis reported in the following section.

New Evidence on the Benefits of Specific Types of Capital Inflows

In the aftermath of the Asian crisis, the proponents of open capital markets have been criticised for having offered more »banner-waving« than hard evidence on the benefits that developing countries can derive from free capital flows (Bhagwati, 1998). Indeed, unlike for the benefits of free trade in goods and services, the empirical evidence that economists have been able to establish on the costs and benefits of foreign savings has been very sketchy and contradictory indeed. That failure can be easily explained: A rigorous attempt to quantify

Table 4:
Potential Benefits and Risks of Specific Types of Foreign Capital Inflows

	Benefits			Risks	
	Adds to domestic investment	Stimulates efficiency	Smoothes consumption	Magnifies distortions	High degree of reversibility
Foreign direct investmen	X	X	X	(X)	
Portfolio equity investment	(X)	X		(X)	X
Portfolio bond flows		X	X	(X)	X
Long-term bank lending	X	(X)		X	
Short-term bank lending		(X)	(X)	X	X

Note: X denotes a strong, (X) a weak presumption that the considered case applies. See the discussion above for further details.

the gains that countries have realised from international capital mobility would require a fully-articulated model in which the counterfactual of no capital movements could be simulated. Moreover, the time series for private capital flows to developing countries, except for foreign direct investment, are not yet long enough to draw strong conclusions as they started in earnest only at the end of the 1980s. Finally, studies which focus on (the absence or presence of) capital controls cannot allow for varying degrees of intensity in the operation of capital-account restrictions.

Evidence on the growth effect of specific types of private capital flows exists so far only for foreign direct investment. For instance, Balasubramanyam, Salisu and Sapsford (1996) show that FDI has been more effective in promoting growth in export-oriented developing countries than in countries promoting import-substitution strategies. Borensztein, de Gregorio and Lee (1998) find that FDI positively affects growth only in those poor countries which have overcome a threshold in human-capital accumulation. De Mello (1999) finds a positive impact of FDI on output growth; in OECD countries the positive impact is largely due to higher efficiency (total factor productivity), while in non-OECD a dominant impact is observed for the effect on capital accumulation. All these studies are based on the Summers-Heston data set and thus do not go beyond observations in 1990. But at least the emerging markets are now operating under sharply different global financial conditions than those prevailing before the end of the 1980s. Only since then are the emerging markets really integrated into the global (private) financial markets. There has been a strong rise of FDI and portfolio flows to these countries from negligible levels since the late 1980s. The period witnessed the resolution of the Latin American debt crisis through the Brady bond deals and the effective opening of Asian and Latin American capital markets. Evidence based on prior observation periods is history, offering only limited help for drawing policy conclusions.

Another reason to explore the flow-growth nexus over a more recent observation period is the importance and reversibility of short-term bank credit flows (which were crucial in triggering the Asian crisis). Short-term bank credit has often been underreported when it was based on debtor reports, for example in the World Bank data sources. Data published by the Bank for International Settlements, by contrast, are based on creditor sources, and generally held to provide the most reliable data set. The BIS series on short-term bank credit flows start only in 1985, hence constraining the observation period.

A recent study at the OECD Development Centre (Soto, 2000) has explored the growth effect of various categories of private capital flows in a sample covering 44 countries over the period 1986–97. The country choice was dictated by data availability for OECD non-members in 1986 (except for Turkey which was included as an emerging market for its low per capita income level). Roughly half of the countries in the sample belong to the middle-income developing-country group (in the World Bank classification), a third to the middle-upper income group, one to the high-income group, the rest to the low-income group. The results are thus not applicable to OECD countries or to very poor countries.

As expected, foreign direct investment – with a lag of one year – exerts a positive, significant effect of per capita income growth in the recipient economy. However, the positive impact was found to be somewhat lower than indicated by earlier studies (e. g. de Mello, 1999; Borensztein, de Gregorio and Lee, 1998). To raise short-term per capita income growth by one per cent would require a rise of ten percentage points in the FDI–GNP ratio. In addition, it can be computed that a ten percentage point rise in the FDI–GNP ratio would increase the long-run steady-state income level by three per cent.

The most important growth impact, according to the Soto study, flows from portfolio equity flows. It cannot be totally excluded that the highly positive and significant parameter value associated to portfolio equity flows is due to their superior *predictive* power as these flows try to exploit anticipated developments in the real economy. But the positive growth impact of portfolio equity flows can also be rationalised as follows: These flows loosen constraints imposed by local financial conditions, which may spur growth in the presence of high productive capacity in fast-growing industries. Equity flows also stimulate the liquidity of domestic stock markets, easing resource allocation and lowering capital cost to high-return activities.

Bonds, by contrast, did not produce any significant impact on growth in the Soto study.

In contrast to the positive growth impact of foreign direct and portfolio equity flows, Soto finds that today's foreign bank lending – both short and long term – is negatively associated with tomorrow's per capita income growth in the recipient country, unless local banks are sufficiently capitalised. This result confirms both theory and prior evidence: Undercapitalised banks tend to engage in excessive risk taking in a gamble to earn their way out of difficulties; or, to stem the decline in risk-weighted capital ratios, banks will increase their exposure to government liabilities or other zero-risk weighted assets. Good risks, by contrast, remain underfinanced and growth prospects undermined. As shown by McKinnon and Pill (1997), foreign bank lending intensifies these distortions. In a downturn, the resulting misallocation of resources and weak bank balance sheets will intensify credit slumps and widespread bankruptcies.

The interaction of foreign bank lending with a local bank capitalisation ratio, however, has a significant positive growth, according to Soto's study. The capitalisation ratio – bank capital as a percentage of bank claims – is based on different weights for bank assets that aim to mirror different degrees of riskiness. Soto assigns a zero per cent weight for bank reserves held at the central bank and for claims on government and government-related entities; 50 per cent for claims on foreign debt; and 100 per cent for local private-sector claims. His results indicate that the growth impact of foreign bank lending turns positive once the capitalisation ratio reaches a certain threshold (21 per cent for long-term, 14 per cent for short-term bank credit flows).

While much of Asia has been praised in the past for its outstanding saving performance, Soto's findings suggest also that higher national savings are not uniformly associated with higher growth. Above a certain threshold, national savings will run into negative marginal returns in contribution to growth as the local absorption capacity for productive investment is limited. This result would hold in particular where domestic localisation requirements prevent domestic savings to be invested abroad. Moreover, it has been noted that in some Asian countries very high savings were partly covered by investment which represented ill-accounted consumption items, such as expensive pictures bought for office use (Corsetti, Pesenti and Roubini, 1999). Nevertheless, Soto's results contrast sharply with the positive correlation between savings and growth typically obtained in growth regressions.

Conclusions

Theory and new evidence presented in this paper suggest that post-crisis Asia should not solely rely on national savings but encourage (certain forms of) foreign savings if the region wants to stimulate long-term growth prospects. This is in stark contrast to the dominant advice that emphasises domestic savings to finance development and that downplays the benefits of foreign savings.

As far as domestic savings are concerned, some Asian countries produce a less reliable and stable pool for finance than is often assumed. More importantly, excessive national savings can be negative for growth. Promoting national savings jointly with policies to keep these savings at home is bound to run into diminishing capital returns. As higher growth precedes savings, rather than the reverse, and as reform policies aimed at raising efficiency and promoting growth may lead to a temporary drop in savings, authorities have to consider a non-trivial policy trade-off (Hausmann and Reisen, 1998). Important reform policies, such as bank recapitalisation or import liberalisation, tend to reduce government savings, resp. private-sector savings; they lay the foundations for future growth, but there may be a substantial lag between the implementation of the reforms and the arrival of higher output. A way out of this policy dilemma is to rely on foreign savings.

This paper advances our information about which flows to promote to maximise the net benefits of foreign savings. Essentially, these net benefits can be derived by substracting the risks connected to foreign flows – reversibility and amplified misallocation of resources in the presence of domestic distortions – from the benefits that the flows carry – capital deepening, efficiency enhancement and consumption smoothing. Recent evidence on the reversibility of various types of capital flows and new evidence presented here on the

specific growth effects of these flow items lead to the conclusion that equity investment should be preferred over debt instruments. Both FDI and portfolio equity investment have been found to exert a significant impact on growth. Moreover, FDI flows generate relatively little macroeconomic complications as their reversibility is low. By contrast, portfolio equity flows can add to asset price inflation, hence they require more regulatory attention with respect to bank system exposure, corporate disclosure and accounting standards and liquidity requirements for market makers. Finally, foreign savings in the form of foreign bank lending has been shown to contribute to growth only if the banking system is well-capitalised, as otherwise »good« risks will be underfinanced and »bad« risks overfinanced. ◄

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