The Cautious Case for Capital Flows[1]

Barry Eichengreen
University of California, Berkeley
July 2007

1. Introduction

It is a pleasure to be here for Rating Agency Malaysia's conference on "Free Capital Flows: What's In Store for Asia." When I first received the invitation, this session was framed as a debate between a prominent critic of capital account liberalization, who shall remain nameless, and a prominent proponent, namely me. It is for the best that the program did not shape up this way, since I am not sure that I could have held up my end. True, I was one of the authors of an IMF report, written and presented to the Executive Board in the spring of 1998, that provided a cautious defense of capital account liberalization in the wake of the Asian crisis, when both the liberalization of capital flows and the IMF itself were under attack.[2] But I am also a student of the Nobel Laureate James Tobin and coauthor with him of an article entitled "Two Cases for Sand in the Wheels of International Finance."[3] Like not a few of my colleagues, I see both sides of this coin. This is not simply because I am a two-handed economist temperamentally prone to statements along the lines of "on the one hand this, on the other hand that."[4] It is because capital flows are something about which it is especially hard to make unconditional statements.

---

[1] Prepared for Rating Agency Malaysia's conference on "Free Capital Mobility: What's in Store for Asia," held in Singapore on 1 August 2007.
[2] The report in question was subsequently published as Eichengreen and Mussa et al. (1998).
[3] See Eichengreen, Tobin and Wyplosz (1995).
[4] There are plenty of other issues where I have unambiguous – some would say insufficiently nuanced – views. I prefer flexible exchange rates to pegs for essentially all countries. I prefer inflation targeting to monetary targeting and other intermediate targets for monetary policy under essentially all circumstances.

Reducing the issue of capital account liberalization, and the larger issue of financial liberalization of which it is part, to two columns of numbers labeled "costs" and "benefits" is not easy. I was once given this task as part of a rather unsatisfactory exercise called the "Copenhagen Consensus." You may remember this initiative, since it was co-sponsored by *The Economist Magazine* and therefore received much free publicity. The idea was to take the ten most pressing economic problems facing the world (climate change, aids and malaria, lack of access to education, lack of clean water, malnutrition and hunger – someone else was given the thankless task of selecting the problems), quantify their costs, and then calculate the rate of return on the most promising treatments. My charge was to address the scourge of financial crises.[5] My own previous research suggested that the cost of crises in 2003 dollars has averaged roughly $150 billion dollars a year.[6] I argued that it would be possible to eliminate crises if developing countries re-regulated domestic financial markets and slapped controls on capital flows. But this would likely have costs in terms of financial development and economic growth. Using consensus estimates, I concluded that the costs of this treatment would exceed the benefits, possibly by as much as two to one. I also cautioned that there was considerable uncertainty about the magnitude and even the sign of these results – that they were sensitive to assumptions and to the model and parameter values that one adopted from the literature.

The jury, mostly Nobel Prize winners in economics, was not very happy with this analysis. They wanted a single positive number like that they got for insecticide-coated bed nets – the benefits in terms of improved health and increased life expectancy of

[5] See Eichengreen (2004).
[6] Or about one per cent of developing country GDP per year.

distributing bed nets in mosquito-infested climates, minus the cost of the bed nets themselves. Alas, a single summary statistic of this sort is not really possible for treatments of financial instability or the benefits of capital account liberalization. Asked to rank the proposals of their ten authors, starting with the most attractive, the Laureates put first a package of prevention and treatment measures for HIV/Aids. Of all the proposals with which they were presented they refused to rank only one, that for treating financial instability, owing to uncertainty about the costs and benefits. I can't say I was disappointed. I never thought that this issue could be reduced to two columns of numbers.[7]

2. Four Schools

Rather than pretending that I can provide a single number, I find it more useful to distinguish four schools of thought on free capital flows. The first school builds on the traditional textbook case for a more efficient allocation of capital. Capital flows from where returns are low to where they are high or from where capital is abundant to where it is scarce, which in practice means from developed to developing countries. The most forceful and influential recent exponent of this view is Peter Henry of Stanford University.[8] Henry looks at a couple of dozen recent episodes where emerging markets liberalized the access of foreign investors to domestic stock markets. He shows that market valuations rise in the wake of these liberalizations – that the cost of capital falls when countries liberalize the capital account. He shows that investment and growth rise in the wake of these liberalizations. He argues that earlier studies failing to detect similar

---

[7] I at least got a nice dinner in Copenhagen out of the exercise.
[8] See Henry (2006).

evidence mistakenly looked for permanent increases in growth, where the standard model suggests that growth should be boosted only temporarily until the capital/output ratio reaches its new higher steady state.

I have doubts about this interpretation. Countries do not liberalize foreign access to their stock markets at random. Rather, they do so precisely when foreign capital is primed to flow in and growth is poised to accelerate for independent reasons. It is not exactly surprising that stock markets rise in the wake of liberalizations, since officials presumably expected capital to flow in when they decided on the policy.[9] A further problem is that liberalizing equity market flows is not the same as liberalizing all capital flows. Experience shows that investment in equities has more favorable effects than investment in debt but that governments are more inclined to liberalize debt flows because they worry about ceding control and selling off the national patrimony to foreign investors.

Most importantly, recent experience does not suggest that capital is flowing from developed countries, where it is relatively abundant, to developing countries, where it is scarce. To the contrary, capital is flowing from poor to rich countries. This is most obviously the case of China, where saving exceeds investment by a widening margin (that is, the country is running a growing current account surplus), and of the United States, where savings is regularly less than investment (causing chronic deficits). But the pattern is true more generally. It is true even leaving out the U.S. and China. It has been true since the late 1990s. Even among poor countries, capital has not been flowing to the fastest growing.[10]

---

[9] This also makes it unsurprising that growth accelerates for a brief period.
[10] See Gourinchas and Jeanne (2005).

Of course, this pattern is not exactly a mystery. Fast-growing countries have high savings rates. This is a prediction of the life-cycle model – that workers save more out of their current high incomes than retirees dissave out of wealth accumulated when incomes were lower.[11] The evidence supports the contention that saving is more responsive than investment to the growth rate, meaning that countries that grow rapidly for independent reasons tend to be capital exporters rather than capital importers.

Moreover, capital does not flow in large amounts to countries with weak financial systems and poor institutional environments. A weak financial system cannot efficiently mediate between foreign savings and domestic investment. To some extent foreign investors can get around this problem by circumventing the financial system – by constructing or purchasing factories, mines or oil wells directly. Of net FDI flows to non-industrial countries, more actually go to poor countries than medium-income developing countries, and more go to medium-income developing countries than to high-income developing countries, if one leaves aside China and India.[12] But insofar as rule of law is weak and the investment environment is unfriendly, foreign investors may be deterred by fear of expropriation, while domestic savers for their part may prefer to take money out of the country.[13] There is no allocation puzzle, in other words. Capital does flow to where private returns are highest. Investors benefit from free capital flows. But the other benefits may not be those pointed to by the textbooks. In other words, the effect

[11] See Modigliani (1970) and, for an application to contemporary China, Modigliani and Cao (2004).

[12] Data for 2000-2004 from Prasad, Rajan, and Subrimanian (2006). This is evident even in the case of China, which receives large amounts of FDI even while being a net capital exporter.

[13] Alfaro, Kalemli-Ozcan and Volosovych (2005) show that the empirical paradox of capital flowing uphill from poor to rich countries is eliminated once one controls for the quality of institutions in the sending and receiving countries.

of capital account liberalization may not be to relax savings constraints in poor countries or to accelerate their economic growth.

A second school argues that, even if capital flows do not augment domestic saving and boost capital formation in poor countries, they have corollary benefits. Foreign capital comes packaged with technological and organizational know-how. This is most obviously true of equity and foreign direct investment; it is least obviously true of debt finance. Foreign investment in the financial sector intensifies competition, boosts efficiency, and encourages the development of new financial products. Opening the capital account ratchets up the pressure to strengthen weak institutions, both to prevent finance from flowing out and to give the country a leg up over other potential recipients in the competition for inward investment. Not only is there an incentive to strengthen investor rights in order to become a more attractive destination for foreign capital, but foreign investors are often more activist than residents. Having taken an equity stake in a company, they insist that it release more financial information, that it appoint independent directors, and that corporate governance be strengthened in other ways. Finally, the market discipline applied by open capital markets forces those responsible for monetary and fiscal policies to shape up or risk losing the confidence of the markets. Eswar Prasad of Cornell University is perhaps the most prominent academic advocate of this view, which he has advanced both generally and for the specific case of India.[14]

Economists trained to believe in competition and market discipline find these arguments intuitive. But many of us also have reservations about forcing the pace of reform by freeing capital flows. For one thing it is not obvious that capital account liberalization will encourage institutional upgrading. It is true, for example, that

[14] See Prasad (2007).

individual and institutional investors (including mutual funds and pension funds) may push for improvements in corporate governance as a way of ensuring that the interests of outside investors are served (here my own state's public employee pension fund, CALPERS, is a classic example of an activist institutional investor that is now getting into emerging markets). But when foreign investors gain control, they acquire the same incentive as the owner-managers they displace to direct the firm's cash flow toward themselves and hence to oppose corporate governance reform that strengthens the position of outside investors. Work by Sudarat Anantochikul at the University of California, Berkeley shows that the effect on the quality of corporate governance is quite different depending on whether or not foreign investment is associated with control.[15] At a minimum this suggests a more nuanced view of capital flows and institutional reform.

More generally, evidence of the corollary benefits of capital account liberalization is open to alternative interpretations. While foreign direct investment tends to be associated with increases in total factor productivity, this may reflect the fact that the countries or the firms receiving such investment are on the receiving end precisely because they have put in place other conditions that promise to boost productivity. Similarly, while foreign investment enterprises have a greater tendency to export, it may simply be that foreign capital is attracted into export-linked activities, since exporting means earning foreign exchange, which facilitates the repatriation of earnings, not that there is any causal connection between inward foreign investment and exports.[16]

Moreover, there are reasons to worry that capital account liberalization adopted with an eye toward forcing reform can have costs as well as benefits. This brings us to

[15] See Anantochikul (2006).
[16] Many of us believe that these corollary effects are present. But the point must be taken largely on faith.

the third school of thought, which emphasizes the association of capital account liberalization with crises. The view that capital flows are an engine of instability gained adherents in the 1990s, when the IMF and U.S. Treasury pushed for capital account liberalization and financial crises were a chronic problem. This view unites such otherwise diverse minds as Joseph Stiglitz and Jagdish Bhagwati.

The analytical case that capital flows create instability and that efficiency arguments for capital account liberalization therefore hold less water than those for trade liberalization emphasizes that capital flows, unlike trade flows, occur in a highly imperfect information environment. Imperfectly informed investors tend to infer underlying conditions from the actions of other possibly, but not necessarily, better informed investors, encouraging herding and, when inferences are negative, a rush for the exits. Because information is incomplete and increments arrive unexpectedly, foreign creditors prefer to extend short-term loans so that they can exit at will, but this only heightens the risk of a debt run.

Imperfect information also favors opportunistic borrowers. When interest rates rise, only those with riskier projects will borrow, but potential lenders may have no way of determining their type. When bad news arrives, there may then be no intersection of the credit supply and demand curves, and the supply of foreign finance may be cut off entirely.[17] The availability of foreign funding offers weak banks more scope for gambling for redemption: they can borrow abroad in foreign currency at short-tenors and invest in risky but high-yielding projects at home. Ability to borrow abroad allows governments and central banks to pursue riskier policies for longer. For a time, the

[17] Technically, this is because the problem of adverse selection causes the upward-sloping credit supply curve to become backward bending in price-quantity space.

availability of foreign capital may enable them to finance larger deficits than otherwise and to support overvalued exchange rates for longer. But when confidence ebbs, the resulting crash is even more devastating.

The association of capital flows with crises is a hardy perennial; its history extends back centuries. Yet the experience of the advanced economies, which all have open capital markets and have learned how to reconcile them with financial stability, suggests that the association is not written in stone. And the experience of the last five years, when there have been no major crises, suggests that emerging markets may similarly have begun to learn how to grow out of the problem.[18] Part of the solution is to abandon loosely pegged exchange rates, which create one-way bets for currency speculators. My Berkeley colleague Andrew Rose has argued that replacing pegged rates with inflation targeting – something that is feasible in emerging as well as advanced economies – has eliminated the problem of currency crises.[19] Next it is important to strengthen supervision and regulation of the banking system and governance of the corporate sector so that currency and maturity mismatches are limited to prudent levels. It is important to grow securities markets so that foreign funding can take the form of equity and long-term, fixed-interest-rate, domestic-currency-denominated obligations. Finally, it is necessary to create hedging markets and instruments so that banks and firms required to hedge their exposures by risk-averse supervisors and shareholders and reminded of the need to do so by recurrent fluctuations in the exchange rate have the ability to do so.

---

[18] Thus we have papers like Bordo (2007) with titles like "Growing Up to Financial Stability."

[19] See Rose (2007). Or, one infers, that there is a risk of crises only in that relatively small handful of countries that continue limit exchange rate flexibility.

Here also there are a number of promising signs. A recent IMF study documents the progress that emerging markets have made in developing hedging markets and instruments.[20] It suggests that countries adopting more flexible exchange rates make faster progress in developing these hedging markets, since there is then more demand for their services. Asian countries are making progress in developing their local bond markets as a result of the Asian Bond Fund and Asian Bond Market Initiatives. And a recent BIS publication with the cautious title "The Banking System in Emerging Markets: How Much Progress?" paints a relatively optimistic picture of measures to strengthen financial systems.[21] In this view, the world is being made safer for capital flows. Of course, an alternative interpretation is that volatility has been temporarily suppressed by strong growth, ample liquidity, and the usually high risk tolerance of investors. This is a caution that progress in emerging markets should not be overstated; the crisis problem may be back. The recent rise in volatility associated with the subprime mortgage problem in the United States, which has had a limited impact on emerging markets (so far), is open to both interpretations.

The bottom line is the importance of properly sequencing capital account liberalization with other policies. Some years ago, in an article with Carlos Arteta and Charles Wyplosz, I showed that capital account liberalization has a positive impact only if countries have first put in place other policy reforms.[22] They need to open to trade before opening to capital flows to ensure that foreign finance flows into the right sectors. They need sound and stable monetary and fiscal policies and the more flexible exchange rate regime appropriate to an environment of open capital markets. They need to upgrade

[20] See Duttagupta, Fernandez and Karasadag (2004).
[21] The reference in question is to Turner (2006).
[22] The reference is to Arteta, Eichengreen and Wyplosz (2003).

prudential supervision and corporate governance. Above all they need to enhance the informational efficiency of financial markets.

Note that this interpretation is diametrically opposed to the previous view. In that earlier view, which emphasizes the corollary benefits of capital flows, capital account liberalization can precede other policy reforms; in fact, their greatest advantage is that they will then force the pace of the latter. In the current view, it is more prudent that capital account liberalization wait on the prior implementation of other reforms to avoid precipitating a crisis. Personally I feel more comfortable in the latter camp.

I suspect I am not alone. Increasingly this view that countries must first lay the groundwork for capital account liberalization is conventional wisdom. The only difficulty is operationalizing it. We know too little to be able to say with confidence at just what point it is safe and beneficial to open the capital account. And while most of us would be reluctant to attempt to force reform by opening the capital account precipitously, we also worry that keeping it closed is a source of moral hazard: it allows slacking off by policy makers who should be pursuing concerted reform.

The fourth and final school of thought looks to the difficulty that Asian countries have had in managing capital inflows and the problems this has created for their competitiveness. Its point of departure is that China recently, and countries like South Korea earlier, have succeeded in growing rapidly by keeping the real exchange rate at competitive levels. In part there are positive externalities from plowing resources into export-oriented sectors. Firms learn by exporting, and much of what they learn spills over to other producers. Export performance is a visible measure of how well firms receiving preferential access to credit and to imported inputs are doing, which disciplines those responsible for industrial policy; this is an important lesson of Korean experience. A competitive real exchange rate that encourages employment and exports by the manufacturing sector also ameliorates equity problems; it is a source of shared growth. It encourages the expansion of employment in modern manufacturing, allowing the benefits of growth to be shared with the formerly poor peasants who move in large numbers to urban industry.

But the more successful countries are in fostering the growth of manufacturing output, employment and exports, the more attractive they become as destinations for foreign capital, and the greater is the tendency for real exchange rates to become overvalued.[23] Taking South Africa as an example, Dani Rodrik has shown that real overvaluation resulting from a combination of capital account liberalization and other policies has led to slow employment growth in manufacturing and a variety of social ills.[24]

China, in contrast, has been able to prevent the real exchange rate from appreciating by limiting capital inflows. Controls limit the scope for foreign participation in domestic securities markets. Financial repression allows the authorities to mop up foreign inflows by issuing domestic sterilization bonds and force feeding them to the banks at low interest rates. This permits the authorities to keep the currency from appreciating excessively. Until recently, this strategy has been remarkably successful at subduing inflationary pressures.

The same is not true elsewhere in the region. Capital inflows have placed strong upward pressure on currencies in South Korea, Thailand, and a number of other countries

[23] Work by Prasad, Rajan, and Subrimanian (2006) documents this association.
[24] See Rodrik (2006).

in the region. This has created discomfort in policy circles. It has motivated the adoption of measures to limit inflows and their impact, subtle measures in the case of Korea and excessively blunt ones in that of Thailand.

There are two objections for this rationale for suppressing free capital flows. First, keeping the real exchange rate down is an effective development strategy only for poor countries with unlimited supplies of unskilled labor and repressed financial markets. It is likely to work only for a transitional period, in other words. As the financial system is liberalized, maintaining effective controls becomes more difficult, and sterilization becomes more costly.[25] Keeping the currency down is no guarantee of keeping the real exchange rate down, since as reserves of unskilled labor are depleted and skilled labor, which is already in short supply, becomes more important in production there will be upward pressure on wages. And as producers begin to move up the technological ladder into the production of more sophisticated goods, simply keeping the real exchange rate low as a way of boosting the competitiveness of existing exports will become less effective; it may even be counterproductive.

Second, even if there are pronounced advantages of keeping the real exchange rate low, there are better ways of achieving this. The obvious instrument here is fiscal policy. Capital inflows boost domestic demand; cutting public spending or raising taxes has the opposite effect. A less expansionary fiscal policy will put downward pressure on interest rates, weakening the incentive for inward foreign investment. Again, the message is that capital account openness is beneficial when it is appropriately teamed with other policies. And the implication is that countries that are unable to use fiscal

[25] Since interest rates on domestic sterilization bonds then rise relative to the return on foreign reserves.

policy in this way, perhaps for political reasons, should go slow on capital account liberalization.

3. What's in Store

So what's in store for Asia, to hark back to the theme of this conference? A number of countries in the region are all but fully open to capital flows. Other middle-income Asian countries will join them with time. But with memories of the Asian crisis still fresh, they will move there only gradually, as they put in place the policy prerequisites for successful capital account liberalization: stronger banking systems, better developed local bond and securities markets, more effective corporate governance, and a more flexible exchange rate. Or, at least, that should be the hope.

China is a prime case where throwing open the capital account, as advocated on previous occasions by the U.S. Treasury, among others, would be premature. To be sure, it is hard, in the scenario where the capital account is fully open, to predict whether funds will flow in or out, placing upward or downward pressure on the renminbi. But this very uncertainty strengthens the case for going slow. China's banks are a mess. The government has the resources to guarantee their obligations, but we cannot be certain that it will do so when push comes to shove. (In particular, the fact that foreign investors have been allowed to acquire stakes in the big banks means that the question of who pays for recapitalization may be more difficult in the future than the past, causing the authorities to hesitate.) Corporate governance is weak. Stock markets operate in an impacted information environment. The corporate bond market is almost nonexistent, since the state planning agency has allowed issuance by only a handful of public companies. Six weeks ago the authorities announced that these regulations would be relaxed, but newly issued bonds will undoubtedly be guaranteed by the banks, creating perverse incentives for inflows and the danger of panicked outflows at some future date. Hedging markets are developing only slowly. The limited flexibility of the currency means that free capital flows would undermine monetary control. All these are reasons why China should go slow in liberalizing capital flows.[26]

Other countries have made more progress in putting in place the prerequisites for liberalization. Thus, I think that Malaysia was ready for the liberalization of foreign exchange rules earlier this year. (Bank Negra relaxed a variety of rules governing the borrowing, holding and use of foreign currency on April 1st. It liberalized the access of foreign investors to local bond markets. It raised the limits on the issuance of foreign currency bonds and the amount of foreign currency borrowing that domestic corporations could undertake. It removed open position limits on licensed offshore banks. It abolished restrictions on the foreign currency deposits of residents in onshore banks. It allowed investment banks to undertake more foreign currency business.) Malaysian financial markets are well developed by regional standards, and the fact that since 2005 the ringgit has been allowed to move is an important prerequisite for successful liberalization. For the same reasons, I think that it is appropriate for Korea to further

[26] A particular worry in this context is that the Chinese authorities may be tempted to accelerate the relaxation of controls on capital outflows in order to damp down the Shanghai stock market, which has been scaling uncomfortable heights. The idea would be to prevent the "bubble" from expanding further and perhaps deflate it in an orderly fashion by giving residents access to additional investment opportunities abroad. In my view, this initiative might be dangerously counterproductive. We know from the experience of other countries that the combination of an open capital account (the direction in which China would move, under this scenario) and limited exchange rate flexibility is a recipe for disaster. In a situation where the Chinese banking system is weak, the incentive for residents to take their money out of the country's banks and place it on foreign stock exchanges would be a strong one. These are all reasons for hoping that the Chinese authorities counter their stock market bubble through other means.

liberalize outflows as a way of limiting upward pressure on the won. I worry more about whether the Philippines is ready for the measures taken by the central bank to liberalize local foreign exchange and capital markets.[27] But that is another story.

So the authorities face two challenges going forward. One is limiting the upward pressure on currencies as private capital continues flowing into the region. As central banks move further in the direction of inflation targeting, it will become harder to assign monetary policy to exchange rate stabilization. As the capital account is liberalized, domestic and foreign assets will become increasingly close substitutes, making it more difficult to neutralize the impact of inflows on the exchange rate through sterilized intervention. The main tool for countering appreciation of the currency will be fiscal policy, as noted above. If currencies are too strong for comfort, then Asian governments need to raise taxes and cut public spending.[28] This is politically challenging, but it is a necessary corollary of the decision to free capital flows.

The second challenge is to limit the risks of instability. To be clear, limiting risks is not the same as limiting volatility. Increased volatility there will be as a result of further deregulation and liberalization of capital flows in particular. Volatility in and of itself is not a bad thing. It is a source of price revelation; it encourages prudence on the part of investors; and it provides information about the resiliency of the financial system. (It is a real-time stress test.) The problem is when spikes in volatility cause liquidity to evaporate, markets to seize up, and financial institutions to fail. These are the circumstances when volatility can cause bankruptcies and serious recession.

---

[27] The Bangko Sentral has allowed the banks to take larger overbought/oversold U.S. dollar positions and announced plans to allow thrift institutions to invest in and issue a wider range of foreign-currency-denominated instruments.
[28] And China should do the opposite, since the need there is for further currency appreciation.

Some say that by accumulating foreign exchange reserves and reducing short-term foreign-currency debts, Asian countries have effectively bullet-proofed themselves from financial crises. What they have done is to bullet-proof themselves from a 1997-style debt crisis, where investors refuse to roll over their maturing short-term claims and the authorities lack the resources to provide the foreign exchange that is suddenly in short supply, causing defaults and collapse of the currency. But raising reserves and reducing short-term debts do nothing to protect against an old fashioned market crash that can result if confidence is disturbed and investors grow risk averse. If Asian stock and bond markets fall sharply, the negative shock could spread quickly from leveraged investors to the property sector, from there to the banks that have lent to them, and ultimately to the real economy.

The authorities have the capacity to intervene as lenders of last resort, stabilizing the financial system and the economy, but it is important that they use it. The 1997-8 crisis was the last war. It is important now that governments and central banks prepare for the next one.

References

Alfaro, Laura, Sebnem Kalemli-Ozcan and Vadym Volosovych (2005), "Why Doesn't Capital Flow from Rich to Poor Economies? An Empirical Investigation," NBER Working Paper no.11901 (December).

Ananchotikul, Sudarat (2006), "Does Foreign Investment Really Improve Corporate Governance? Evidence from Thailand," unpublished manuscript, University of California, Berkeley.

ANZ (2007), "ANZ International Economics Monthly," www.anz.org (April).

Arteta, Carlos, Barry Eichengreen and Charles Wyplosz (2003), "When Does Capital Account Liberalization Help More than it Hurts?" in Elhanan Helpman and Efraim Sadka (eds), Economic Policy in the International Economy, Cambridge: Cambridge University Press, pp.177-206.

Bordo, Michael (2007), "Growing Up to Financial Stability," NBER Working Paper no.12993 (March).

Duttagupta, Rupa, Gilda Fernandez, and Cem Karasadag (2004), "From Fixed to Float: Operational Aspects of Moving Toward Exchange Rate Flexibility," IMF Working Paper no.04/126 (July).

Eichengreen, Barry (2004), "Financial Instability," in Bjorn Lomborg ed., *Global Crises, Global Solutions*, Cambridge, Cambridge University Press, pp.251-280.

Eichengreen, Barry and Michael Mussa et al. (1998), "Capital Account Liberalizaton: Theoretical and Practical Issues," IMF Occasional Paper no.182 (October).

Eichengreen, Barry, James Tobin and Charles Wyplosz (1995), "Two Cases for Sand in the Wheels of International Finance," *Economic Journal* 105, pp.162-172.

Gourinchas, Pierre-Olivier and Olivier Jeanne (2005), "Capital Flows to Developing Countries: The Allocation Puzzle," unpublished manuscript, University of California, Berkeley, and International Monetary Fund.

Henry, Peter (2006), "Capital Account Liberalization: Theory, Evidence and Speculation," NBER Working Paper no.12698 (November).

Modigliani, Franco (1970), "The Life Cycle Hypothesis and Saving and Intercountry Differences in the Saving Ratio," in W.A. Eltis, M.F. Scott and J.N. Wolfe (eds), *Induction, Growth and Trade: Essays in Honor of Sir Roy Harrod,* Oxford: Clarendon Press.

Modigliani, Franco and Shi Larry Cao (2004), "The Chinese Saving Puzzle and the Life-Cycle Hypothesis," *Journal of Economic Literature* 42, pp.145-170.

Prasad, Eswar (2007), "Cracking Open India's Capital Account," *Wall Street Journal Asia* (28 May), www.wsj.com.

Prasad, Eswar, Raghuram Rajan and Arvind Subrimanian (2006), "Foreign Capital, Financial Development, and Economic Growth," unpublished manuscript, IMF.

Rodrik, Dani (2006), "Understanding South Africa's Economic Puzzles," CEPR Discussion Paper no. 5907 (October).

Rose, Andrew (2007), "Are International Financial Crises a Barbarous Relic: Inflation Targeting as a Monetary Vaccine," CEPR Policy Insight no. 1 (June).

Turner, Philip, ed. (2006), *The Banking System in Emerging Markets: How Much Progress?* BIS Paper no.28 (August).