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Issues in Capital Account Convertibility in Developing Countries

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This article examines the pace, sequencing and preconditions of capital account liberalisation, drawing lessons from the experience of twelve countries, and focusing on the inter-relationships between open capital and current accounts, the financial sector and the conduct of macro policies. It distinguishes between prudential limits and capital controls and discusses the effectiveness of direct and price controls. It makes a case for intermediate regimes with respect to exchange-rate policy. It concludes that developing countries need to adopt a gradualist approach to the opening up of the capital account, outlining three strategies and highlighting that the capital account is only one aspect of a comprehensive reform package.

Introduction

This article draws on the literature, and on the experience of 12 countries in liberalising the capital account, in order to make five main arguments:

(i) Capital account convertibility (CAC) is desirable and inevitable as part of the inexorable process of globalisation.
(ii) CAC is accompanied by some risks. Its benefits are dependent upon the achievement of certain preconditions and sequencing patterns and on an orderly liberalisation procedure.
(iii) Opening up the capital account is a more complicated procedure than is often thought. It is desirable to opt for a gradual approach so that it can be embedded in the overall reform process.
(iv) The need to constrain short-term flows of capital into developing countries arises because these countries lack sophisticated financial markets to direct funds from the short to the long end, and cannot therefore bear the risk of financial intermediation. This need should diminish as financial sector development progresses.
(v) The porosity of the capital account generally points to the ineffectiveness of capital controls. The article distinguishes between different kinds of controls and types of transactions on the capital account and emphasises that CAC is not an all-or-nothing affair. It makes a case for certain capital controls, which can be used in the transition phase, with others to be applied in the long run to contain

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macroeconomic instability. Three broad strategies for opening up the capital account are discussed.

Along the way, the following more technical points are made:

(i) The debate is relevant even for certain countries in sub-Saharan Africa with relatively small volumes of capital inflow, because the size of the flows in relation to GDP and gross fixed capital formation is substantial.[1]
(ii) It is important to examine the sequencing of the current and capital account liberalisations because of the leakage of capital through leads and lags in the liberalised current account when the capital account remains relatively closed.
(iii) Market segmentation, high interest-rate differentials, the lack of an indicative short-term interest rate, the existence of non-performing assets, and the problems of asset-liability management in the banking system are all impediments hindering the efficient allocation of resources through an open capital account.
(iv) Monetary policy becomes ineffective in a financially integrated world. In the transition phase, it has a role to play, and insulation for this phase can be achieved through price and quantity controls.
(v) Fiscal balance is required for a successful liberalisation of the capital account. After liberalisation, closer monitoring is needed; the temptation to finance a growing fiscal deficit through private capital flows can be considerable but can lead to heightened vulnerability.
(vi) A case is made for a more flexible exchange-rate policy, to be operated through either a managed float or an exchange-rate band, depending on the country circumstances.
(vii) Orderly liberalisation also requires an enhanced institutional capacity for setting up prudential regulations and a supervisory framework for monitoring and enforcing them.

The article is organised as follows. The next section defines capital account convertibility and makes the case for it. The third section covers the conditions necessary for orderly liberalisation and takes up the issue of sequencing. The following section points to some of the hindrances in the financial sector which prevent efficient allocation of resources with an open capital account and keep interest-rate differentials high, leading to further large and volatile flows. The fifth section covers issues regarding capital controls, their classification, coverage and effectiveness based on country experience, and the final section draws the main lessons from the analysis.

Is CAC a choice for developing countries?

A working definition of CAC is 'the freedom to convert local financial assets into foreign financial assets and vice versa at market determined rates of exchange. It is associated with changes of ownership in foreign/domestic financial assets and liabilities and embodies the creation and liquidation of claims on or by the rest of the world. CAC

1. The ratio of private capital flows to GDP in African countries such as Ghana, Uganda, Mozambique, is comparable on a relative basis to those seen in East Asia.

can be, and is, coexistent with restrictions other than on external payments. It also does not preclude the imposition of monetary/fiscal measures relating to foreign exchange transactions which are of a prudential nature' (Reserve Bank of India, 1997:4). As the definition indicates, CAC is compatible with prudential restrictions. Temporary measures to insulate an economy from macroeconomic disturbances caused by volatile capital flows are in accord with an open capital account.

For emerging market economies the 1990s were marked by two major events in international financial markets. One was the rapid increase in international private capital flows, and the other the occurrence of financial crises, beginning with Mexico in December 1994 and its accompanying contagion effects, and going on to the crises in East Asia and Russia. The two are related in that a surge in capital flows was followed by sudden reversals leading to a financial crisis in the receiving country, accompanied by problems in the region because of the herding behaviour in international markets.

Many believe that an open account is an invitation to a crisis and that a closed capital account is the way to avert disaster. Even a cursory review would suggest that this is too simple, as a crisis can occur with a closed as well as an open capital account.[2] It may well be the case, also, that developing countries do not have the choice of operating in a closed system, thus making a persuasive case for orderly liberalisation.

One of the most persuasive arguments for capital account liberalisation is that developing countries need to be part of the growing integration in world financial markets. Liberalisation in the industrialised countries was a response to the changing realities of the world economy and proceeded against the general background of a move towards flexible exchange rates in 1973. Significant developments in the world economy spurred this process and created compulsions to liberalise, notable among them being the growth of multinational corporations, which increased the demand for international financial intermediation to meet the needs of business and hedge risk in international markets. A situation arose in which domestic banks in industrialised countries faced competition from international financial markets and governments faced the risk of evasion of restrictions on the capital account as offshore banks provided alternative opportunities for meeting the needs of global business.

The growth in electronic communications and payment technology has reduced the cost of collecting, processing and executing transactions, and this has further fostered the process of liberalisation, leading to the development of more sophisticated financial products which have expanded hedging and investment opportunities and transactions that transcend international boundaries. These developments weakened exchange controls, so that the emphasis in the industrialised world today is on the surveillance and supervision of markets. Political attitudes towards controls on financial and capital markets also changed as globalisation progressed. The process of liberalisation accelerated in the 1980s and 1990s, and as of June 1995 all industrial countries had eliminated controls on both inflows and outflows of capital.

The forces which led to liberalisation in the industrialised world are increasingly relevant for developing countries as well. Compulsions for liberalisation are generated

2. It should be noted that Malaysia and Thailand have both had relatively open capital accounts dating back to the 1980s. If capital account liberalisation *per se* was the cause of the crisis there, it should have happened much earlier. The evidence thus points to the failure of supporting policies (i.e. prudential regulation and monitoring, weaknesses of the financial sector and lack of flexibility in exchange-rate policies) as the cause of the crisis.

by the intermediation possibilities offered by offshore centres as an alternative to heavily regulated and still developing onshore financial markets. They provide attractive opportunities to those countries in need of investment finance to sustain high rates of growth. Errico and Musalem (1999) point out that offshore banks seem to exploit the risk-return trade-off by being more profitable than onshore banks, and in many instances also more leveraged. Risks stemming from offshore activities may easily be transmitted onshore with systematic consequences. Offshore banks have played a role – sometimes a catalytic one – in recent Asian and Latin American financial crises.[3] Harmonisation of tax regimes, financial liberalisation under prudential oversight, and capital account liberalisation have reduced the appeal of offshore centres for the industrialised countries. A similar process in developing countries and co-ordination between onshore and offshore supervisiory authorities are imperative for internal and international financial stability.

It is also acknowledged that if countries are convertible on the current account, capital controls are porous and ineffective. With increasing integration of the developing countries with financial markets in the industrialised world, opening the capital account becomes unavoidable, as a country cannot remain isolated:

> If countries do not plan for an orderly integration with the world economy, the world will integrate with them in a manner that gives them no control over events. Thus, the question is not whether a country should or should not move to capital account convertibility but whether an orderly or a disorderly transition is desired (Tarapore, 1998: 71).

Following the East Asian crisis and the crises in Brazil and Russia, many economists maintained that globalisation had gone too far and argued for the return of capital controls. Krugman (1999) holds that sooner or later we will have to turn the clock at least part of the way back: to limit capital flows for countries that are unsuitable for either currency unions or free floating. Bhagwati (1998) and Cooper (1998) argue that, with imperfect information, existing distortions become augmented in a world of free capital mobility, creating situations of moral hazard, encouraging excessive risk taking, and generating major and costly crises. Concern was also expressed by Joseph Stiglitz (1998), who concluded that volatile markets are an inescapable reality.

3. Errico and Musalem (1999) note that in East Asia many countries had large capital inflows – driven by financial liberalisation, pegged exchange rates, and channelled through the domestic banking systems – which fuelled credit expansion and led to exposures to liquidity, foreign-exchange and credit risks. The regulatory and tax advantages offered by offshore banks induced onshore banks and corporations to tap international capital markets through offshore establishments. In Thailand, the establishment of the Bangkok International Banking Facility in 1993 led to a substantial increase in short-term offshore borrowing, which fuelled unhedged domestic lending to finance equity and real estate purchases. In Malaysia, substantial losses in the offshore operations of at least one bank were not recognised until broad-based reform of the regulatory and accounting framework was undertaken as a result of the crisis. In Korea, regulations limited commercial banks' medium- and long-term borrowing in international markets, combined with the perceived official support to banks, and encouraged the channelling of short-term international borrowing through the financial system for on-lending to corporations. In Latin America, offshore banks did not serve as intermediaries for capital inflows into the region, but rather as alternatives to domestic financial systems subject to heavy regulations and capital controls.

Developing countries need to manage them. They will have to consider policies that put some limit on capital flows.

Is liberalisation reversible?[4] The forces that have led to globalisation in the last decades, are here to stay. The nature of international business and the growing need to diversify risks/returns are supported by the developments in technology that cut across boundaries. The concerns raised by many following the recent crises in world markets open up the debate on the role of capital controls in an open economy and the degree of capital account liberalisation which is consistent with economic fundamentals and the overall reform process. It would thus seem that in the present environment CAC is not a matter of choice. The advantages of the liberalisation process (see Box 1) are seen in the access to global financial markets for alternative sources of finance. This has made it easier for countries to finance budget deficits and current account positions, and has improved the investment, funding and hedging opportunities of the private sector. In theory this should lead to inter-temporal smoothing of consumption.

The costs of this process are due to the fact that financial integration still has a long way to go before we observe the law of one price. Interest-rate differentials cause large and sometimes speculative movements of capital. In the case of some countries this has heightened the credit, liquidity and moral hazard risks facing the financial authorities, increasing the need for international solutions to problems of prudential stability. The experience of countries that liberalised the capital account starting from a weak initial base and inadequate conditions, has not been a happy one. The costs of liberalisation also include the risk of capital-flow reversals and herding behaviour in international financial markets. The experience has also raised concerns about international financial stability in the absence of prudential regulations and restrictions. Today it is recognised that, although a liberalised capital account has certain benefits for developing countries, it also has certain costs, thus making liberalisation a more complicated procedure.

Box 1: Rationale for capital account liberalisation

(i) According to the traditional theory of international trade, capital account liberalisation permitted foreigners to hold domestic capital, thus leading to welfare gains by creating a higher capital stock and higher GDP growth as well as GNP growth, as labour gained at the expense of both domestic and foreign capital (MacDougall, 1968). Developing countries were assumed to face scarcity of capital, an assumption which is discussed within the framework of the two-gap approach to development. McDonald's 1982 survey of the literature shows that developing countries ought to be net borrowers in the development process. Capital flows were welcome in so far as they eased the foreign-exchange constraint by borrowing externally on the government account. Today dismantling capital controls is also welcomed to relieve liquidity

4. James (1999) points to the lessons from history. The integrated world of the late nineteenth century bore a close resemblance to today's world in which globalisation is so heavily debated, although the volume of capital flows was relatively greater than in our own decade. The great Depression put an end to the world's first experiment with globalisation. The economic problems were a consequence of financial vulnerability. He questions whether protection is not more dangerous than the threat itself. He also questions whether we use the fear of a great depression, as justification for backing away from integration. If so, we might really produce a great depression and, with it, the complete reversal of liberalisation.

constraints. The advantage is seen in the optimal levels of investment that can be achieved by free access to global savings by both the government and private market participants.
(ii) A strong argument for opening up the capital account is based on the tenets of the modern theory of international finance, which emphasises the element of risk in international financial markets to maintain that, if the price of bearing risk differs across countries, then there are welfare gains in trading in international financial markets analogous to the trading of commodities (Persson and Svensson, 1985). It would not be advisable for investors to have all their eggs in one basket (Grubel, 1966). An individual investment portfolio should be a mix of assets with different risk/return profiles. The welfare gains are seen in the diversification of risk by economic agents, which can take place not only by holding a portfolio of different domestic assets, but also by diversifying internationally, a diversification which is seen as advantageous in both assets and liabilities.
(iii) Economists also argue that opening up the capital account provides opportunities for inter-temporal smoothing of consumption. Time and liquidity constraints differ across countries. This means that ageing economies tend to post excess savings, and hence a surplus in the balance of payments on current account, which they will run down later in the form of net inflows. A country suffering from a temporary shock will prefer to run a current account deficit to smooth consumption over time. Trade in financial assets would thus relieve liquidity constraints.
(iv) The more integrated a developing country is with world markets, the greater will be the possibility to reap the dynamic advantages of financial intermediation. Benefits from enhanced international competition between financial intermediaries, leading to the breaking up of the oligopolistic structure and a more efficient domestic financial system, are seen as a positive outcome of capital account liberalisation. Squeezing intermediating margins leads to a reduction in the cost of borrowings and an increase in returns to lenders. Greater liquidity leads to a deepening of markets with well-capitalised market participants. The quality of assets improves as a result, together with improved possibilities for hedging risk by means of diversification. Developing countries can also benefit from cheaper financial innovations, since the cost of developing them has already been covered elsewhere.
(v) The free movement of capital leads to additional benefits in the form of the transfer of technology and intellectual property.
(vi) The free movement of capital is expected to bring about convergence of interest rates and tax rates and structures.
(vii) A liberalised capital account is also seen as a way of disciplining domestic policies.
(viii) The declining effectiveness of capital controls may be another reason for removing them. Increasing trade integration and the presence of multinationals provide opportunities for financial integration, even if controls on capital account transactions are still in place.

The road to CAC: sequencing and preconditions

The benefits of CAC outlined above are, however, dependent on certain preconditions without which capital account openness may lead to macroeconomic instability and

destabilised financial markets (see for example, Hanson, 1994; Mathieson and Rojas-Suarez, 1992; Williamson, 1992; Reserve Bank of India, 1997; Tarapore, 1998; Johnston et al., 1999). Policy-makers need to realise that liberalisation of the capital account will bring about far-reaching changes in the developing country scenario and impinge on a wide range of activities. It is therefore necessary to examine the preconditions and sequencing of reforms before deciding on the timing and pace of liberalisation.

Sequencing current and capital account liberalisation

McKinnon (1973; 1982), Frenkel (1982) and Edwards (1984) have made a case for liberalising the capital account following the opening up of the current account and the domestic financial system. According to McKinnon, if the opposite sequencing were followed, excessive capital inflows would result in a substantial appreciation of the real exchange rate, which would then hamper the opening up of the current account. Arguments for a simultaneous opening of the two accounts have been advanced by Little et al. (1970), Michaely (1986) and Krueger (1984).

Many developing economies have signed Article VIII agreements with the IMF, and the issue of sequencing therefore needs further qualification as to the time period between current and capital account liberalisation, as the capital account can become porous because of a liberalised current account. There is also a need to focus on the type of restrictions on the current account needed to avoid a loss of capital in the transition stage. The countries surveyed in this article embody a variety of experiences with respect to this sequencing. Kenya and Peru liberalised both accounts simultaneously, as did Argentina in 1991 (although it had signed Article VIII in 1968). These three countries also initiated 'big bang' liberalisations of the capital account, freeing all external transactions within a short space of time.

Other countries undertook current account liberalisation before moving, at very different rates, to liberalise the capital account. Uganda, for example, allowed unrestricted current account transactions in 1993, followed soon afterwards by a *de facto* liberalisation of the capital account. Chile liberalised current account transactions in 1977 and only moved gradually to liberalise the capital account over the period 1985-94. India accepted Article VIII obligations in 1994 and has since moved cautiously in liberalising the capital account, allowing convertibility only for non-residents. Indonesia and Korea both accepted Article VIII obligations in 1988 and pursued increased capital account liberalisation in the early 1990s, although both still retain many restrictions.

Current account liberalisation can lead to a *de facto* liberalisation of the capital account because it is possible for capital to leave through leads and lags. Kasekende and Kitabire (1998) and Kimei et al. (1997) find evidence for Uganda and Tanzania of significant capital flows through current account transactions and foreign-exchange bureaux. Kahn and Leape (1997) found substantial evidence of capital flight through the current account for South Africa. Some developing countries retain certain restrictions on the current account consistent with Article VIII status (IMF, 1999: 8). India is a case in point; recently some small steps have been made to liberalise this sector but the focus is still on the micro management of exchange controls. It is difficult, however, to gauge which restrictions achieve the objectives for which they have been set. This is an area for further research.

Table 1: Estimates of misinvoicing of trade data for selected countries, 1990-8 *(US$m.)*

Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	Article VIII Agreement
Ghana										
Exports	0.00	1.00	-148.82	0.27	-4.82	3.09	39.54	-0.64	0.09	2/21/94
Imports	-0.18	0.36	251.36	1.00	-1.45	-2.64	-1.82	-1.91	-51.91	
Total	-0.18	1.36	102.54	1.27	-6.27	0.45	37.72	-2.55	-51.82	
Kenya										
Exports			199.81	158.00	-1.27	10.63	237.18	250.27	0.36	6/30/94
Imports			-176.45	-150.18	-7.45	-5.18	-133.90	-5.18	11.81	
Total										
Malawi										
Exports	4.81	0.27	0.54	-0.09	-0.63	3.45	1.54	11.36	0.36	12/07/95
Imports	64.63	0.09	-0.09	0.27	-0.36	-0.45	-0.27	0.18	-0.45	
Total	69.44	0.36	0.45	0.18	-0.99	3.00	1.27	11.54	-0.09	
Mozambique										
Exports	-1.00	-0.45	-0.27	-0.18	0.55	-0.55	1.09	28.45	0.27	…
Imports	0.27	6.82	-2.73	-3.27	1.27	-1.09	0.18	0.18	-0.18	
Total	-0.73	6.37	-3.00	-3.45	1.82	-1.64	1.27	28.63	0.09	
South Africa										
Exports	1266.09	-6.18	494.82	-619.27	1248.73	2182.73	1797.46	1694.91	0.09	9/15/73
Imports	485.73	-158.00	1156.00	1351.91	3034.09	1539.27	1288.46	1864.36	1.00	

Total	1751.82	-164.18	1650.82	732.64	4282.82	3722.00	3085.92	3559.27	1.09	
Tanzania										
Exports	0.18	-0.09	0.73	0.00	-1.27	2.00	1.45	27.09	40.91	7/15/96
Imports	0.18	-1.55	-2.18	0.27	-1.36	-0.73	-0.64	-69.27	100.36	
Total	0.36	-1.64	-1.45	0.27	-2.63	1.27	0.81	-42.18	141.27	
Uganda										
Exports	0.00	-0.54	0.27	1.72	6.54	19.72	2.90	2.90	-0.27	04/05/94
Imports	1.81	0.27	-1.18	0.63	0.27	0.00	-0.36	0.54	0.36	
Total	1.81	-0.27	-0.91	2.35	6.81	19.72	2.54	3.44	0.09	
Zambia										
Exports	511.00	1.55	225.09	-22.91	119.82	24.82	63.55	2.09	0.82	…
Imports	166.64	33.64	-136.82	-182.55	-88.55	-81.18	-43.45	0.00	0.18	
Total	677.64	35.19	88.27	-205.46	31.27	56.36	20.10	2.09	1.00	
India										
Exports	1363.09	244.90	772.63	1313.90	2327.81	2212.81	2127.09	3208.36	637.82	08/94
Imports	-1517.55	-191.72	-275.45	-1687.09	-2683.18	-4835.09	-4045.55	-2383.55	782.72	
Total	-154.46	53.18	497.18	-373.19	-355.37	-2622.28	-1918.46	824.81	1420.54	

Note: A positive sign indicates a capital outflow and a negative sign an inflow.

Source: Estimates based on data in IMF, Direction of Trade Statistics for 1992-8 comparing country data with industrialised countries.

An attempt has been made to capture the impact of opening the current account on the porosity of the capital account. Estimates of misinvoicing of trade data for a select sample of countries based on comparison with industrialised countries are revealing (see Table 1). They show that the current account in India continues to remain porous. They also indicate that it has always been quite porous, so that one does not see the impact of signing the current account convertibility agreement. Movement of capital through the current account is more of a response to the overall climate, so that, in the reform period, inflows of capital occur, whereas in the period when the region was under stress, capital moved out because of the anticipated depreciation of the exchange rate. Like India, the current account in South Africa is very porous. In Ghana, Uganda, Malawi, Kenya and Tanzania with a time lag, current account convertibility did lead to a massive outflow of capital, stressing the need to open up a policy discussion on the sequencing and timing of the current and capital account liberalisations and working out a more effective transition stage. Mozambique and Zambia also lost capital through the current account.

The decision to open up the capital account because of pressures introduced by opening up the current account is in principle a bad one. Country experiences with liberalisation emphasise the importance of restructuring the financial sector before opening it up. In many countries, it is not clear if industrial restructuring was successful before the opening of the current account.

Since the conditions for CAC are stringent, its liberalisation needs to be gradual. The transition phase needs to be worked out by examining which restrictions on the current account can be an effective means of making capital controls work in the intermediate stage. Further research is needed to examine the objectives of these restrictions, stressing the conditions under which they operate and their effectiveness.

Conditions necessary for an orderly liberalisation of the capital account

The sequencing debate is no longer restricted to the current and capital accounts, but is extended to other markets. There is a near consensus in the literature that major fiscal imbalances have to be tackled first. Macroeconomic stability, reform of the domestic financial sector and establishing its stability, and the easing of labour market regulations, have to be achieved early in the reform process.

Various instances from Latin America are advanced as evidence of misguided sequencing. Dornbusch (1998) argues that the McKinnon (1991) and McKinnon and Pill (1995) debate as to which should come first, free trade or free flow of capital, misses a practical point. Both involve restructuring, the former of the industrial sector and the latter of the financial sector. Because resources are lost through protectionist policies, the sooner the better for both. What this argument ignores is that restructuring needs time for various standards and practices to be put in place; training itself requires a substantial period of time.

Johnston et al. (1999) emphasise the complexity of sequencing, so that stylised prescriptions are misleading. Capital account liberalisation and economic and other reforms require attention to linkages between the specific components of broader reform areas. The Reserve Bank of India (1997), Tarapore (1998), and Johnston et al. (1999) provide conceptual frameworks for an orderly liberalisation of the capital account.The emphasis is on the need for an integrated approach, this being a part of the overall

reform process. The following sub-sections take up the salient issues that need to be considered for an orderly liberalisation.

An examination of country experience (see Table 2) reveals that successful liberalisations of the capital account, such as in Chile, were embedded within a broader programme that sought to reform the real economy and the financial sector as well as to upgrade the government's capacity to regulate, monitor and enforce standards of capital adequacy. Furthermore, the authorities implemented macroeconomic policies that sought to provide greater insulation from unexpected shocks to the economy, such as the achievement of fiscal balance and a more flexible exchange-rate regime. Thus, the experience of successful liberalisers needs to be viewed in its totality and not just by focusing on specific measures of capital account liberalisation. In this section we elaborate the discussion on macroeconomic policy with an open capital account. Financial sector reforms and other structural measures pertaining to the regulation and supervision of the financial sector and capital controls will be discussed later.

Country experience with capital flows shows that financial integration boosts growth by increasing investment and consumption, and reduces volatility of consumption with the increased opportunities for risk diversification and inter-temporal smoothing. However, large capital flows also lead to rapid monetary expansion, inflation, and real exchange-rate appreciation. The appropriate design of macroeconomic policy is extremely important in an integrated world. Country experiences and the growing literature on the policy response to a surge in capital flows show that counter-cyclical measures such as tight monetary and fiscal policies and exchange-rate flexibility are essential to manage private capital flows..

Fiscal control Sound macroeconomic polices are a basic prerequisite for CAC. The experience of the Southern Cone countries of Latin America shows that fiscal deficits emerge as one of the important factors accounting for the success or failure of liberalisation programmes. Government finances and tax efforts need to be sufficiently strong to prevent the need for domestic financial repression. Taxes on financial intermediation encourage capital outflows and are no substitute for tax receipts. There is an urgent need in many developing countries to broaden the tax base.

Fiscal control is needed so that monetary policy can be directed to the external objective (Mundell, 1968). Without it, policy is assigned to the internal balance, which can only be achieved with the aid of capital controls to insulate the country from international capital movements. The aim should be to direct fiscal policy to attaining internal balance and monetary policy to attaining external balance, and sound government finances would help in its achievement. The experience of Singapore and Indonesia has shown that manipulating the flow of liquidity into the banking system by the use of government excess savings partly frees the interest rate from demand management so that it can be used for exchange-rate management. High stocks of domestic public debt approaching unsustainable levels raise the chances of capital flight as domestic investors fear default.

Bearing these factors in mind, it is essential to control the fiscal deficit and finance it with minimal recourse to an inflation tax. Financing the deficit by issuing bonds is problematic with an open capital account if it undermines the credibility of servicing

Table 2: Conditions for an orderly liberalisation of the capital account

Fiscal consolidation	Consolidating the government's fiscal position has been a key component of successful efforts to liberalise the capital account. This not only helps ensure macroeconomic stability but also enhances policy credibility by easing debt-servicing obligations. Smaller deficits should be financed without recourse to an inflation tax, by bond finance. Large deficits may keep interest rates high and thus contribute to interest-rate differentials that induce large inflows of more volatile, short-term capital. In itself, fiscal consolidation and balance is not enough to prevent crises (Thailand, Malaysia, Indonesia), but it has been a necessary component of liberalisation (Argentina, Chile, Uganda) and its absence can lead to instability (Brazil).
Inflation rate	Among central bankers there is an increasing belief that an inflation rate in the low, single-digit range is a desirable policy objective. To achieve it will require greater independence and insulation from populist pressure for central banks. With an increasingly integrated world economy and low inflation rates in the industrial countries, developing countries need to breach expectations and achieve inflation rates not far out of line. High rates are destabilising and require high nominal and real interest rates which have negative real effects and could reinforce capital inflows (Brazil). Conversely, artificially maintained low interest rates could induce large net outflows of capital.
Financial sector reform	A central component is the reform and restructuring of the financial sector to avert inefficient allocations of capital. In an environment of liberalised capital flows, weaknesses can cause macroeconomic instability and crises (Thailand, Indonesia, Kenya). The choice is therefore between careful reform before or during the process of liberalisation, or emergency reforms following a crisis. Banking systems remain weak in many developing countries, burdened by either interest-rate controls or mandated lending to favoured groups or firms. In addition, many systems have very high reserve requirements relative to international levels. Reducing these diminishes the effectiveness of monetary policy in the absence of indirect policy tools. Thus, the development of indirect tools such as open market operations and interest rates should become a key objective. Reform must also encompass improved accounting standards, enhanced monitoring and surveillance of bank risk exposure, and prudential standards that conform to international standards (Basle Committee).

Monetary policy	Development and deepening of financial markets following reform also change the context in which monetary policy is conducted. A move from direct to indirect monetary controls is desirable, as it avoids distortions in financial intermediation and is more flexible. The development of indirect controls also enables the central bank to more effectively carry out sterilisation operations in capital inflow episodes. Appreciation of the exchange rate due to capital inflows diverts investment away from the tradable sector when it persists for a long time. Sterilisation is needed to deal with this, or it can be combined with other instruments such as reserve requirements, taxes or a partial liberalisation of outflows. In small economies the financial markets lack depth and it may be feasible to rely on more direct monetary policy tools.
Exchange-rate policy	This becomes even more central to policy-making concerns with moves towards CAC. The authorities must decide on the optimal degree of exchange-rate flexibility with the aim of preventing either unsustainable appreciations of the real exchange rate which can undermine competitiveness or expensive interest-rate defences of fixed rates and/or costly sterilisation operations. The balance between these considerations is complex, although there is a general belief that exchange-rate regimes have to be more flexible under CAC.
Current account balance	Current account deficits are commonly found in developing countries, reflecting the use of global savings to achieve desired levels of growth and investment. Experience suggests that prudent limits must be set on expanding deficits. The counterparts of current account deficits are expanding external liabilities, and as the deficit rises debt servicing begins to account for an increasing proportion of external earnings that could otherwise be used for imports. Thus, high current account deficits may constrain growth by squeezing imports as well as leading to fears of contraction and/or crisis. The balance-of-payments crisis in India in 1991 has shown that it is not enough to work out the desirable current account/GDP ratio; sustainability depends upon current account receipts.
Foreign-exchange reserves	With CAC, the level of international reserves becomes a key consideration for policy-makers. Reserves help to cushion the impact of cyclical changes in the balance of payments, and to offset unanticipated shocks, which can lead to reversals of capital flows. They also help sustain confidence in both domestic policy and exchange-rate policy. The optimal level of reserves is, of course, contingent on country-specific circumstances, including the balance of payments, exchange-rate regime and access to international finance. Indicators of reserve adequacy should be derived from measures of import cover and debt servicing. Another important ratio to monitor is that of short-term debt and portfolio stocks to reserves, to guard against sudden depreciation.

Prudential norms	The implementation of effective prudential norms in the financial sector is a central requirement for CAC. Given the weaknesses of financial systems in developing countries, the authorities should consider moving beyond the standards defined by the Basle Committee. (Argentina, for example, has implemented tougher prudential regulations.) Tighter prudential norms may take the form of steeper capital requirements for banks with higher levels of non-performing loans. Norms should be set with the aim of ensuring the stability, solvency and liquidity of the financial system, and should not be watered down to ensure the survival of weaker institutions. Experience suggests that tougher prudential requirements are either effectively initiated before CAC, or are imposed in less favourable circumstances following a financial crisis.
Supervision	An essential precondition is the establishment of an effective supervisory regime with the capacity to monitor developments in the financial sector and to enforce its regulations and directives. Weak financial institutions need to be quickly identified, provisions made for losses and prudential standards enforced. The consequences of lax supervision are magnified in the presence of CAC, since the linkages between the domestic and international financial systems are far closer and instabilities arising in one can quickly lead, for the individual country, to a domestic financial and/or an external funding crisis. Establishing an effective and efficient supervisory institution is a long-term project that reinforces the need for gradualism in introducing CAC. As financial markets are restructured and reformed, supervisory capability can evolve incrementally, establishing a sound basis for further development. A key reform is that the supervisory agency should be independent of political forces that may compromise its effectiveness
Lowering tariff barriers	Reforming the trade regime to make it more open to the international economy is part of the structural reforms that should precede CAC. High tariffs, in addition to their allocative inefficiency, encourage direct investment that is not directed towards export markets, but rather towards 'tariff jumping'. Lowering tariffs is therefore linked to the promotion of a diversified export base.
Diversified export base	This helps cushion the economy from sudden terms-of-trade or other shocks that may emerge from dependence on a narrow range of exports. Such shocks have immediate effects upon the current account and, with a loss of confidence in the country's capacity to meet debt repayments or sustain the current rate of capital inflows, may drive a capital account crisis as well. Developing countries have traditionally been vulnerable to such shocks to the export sector, often arising from dependence on primary commodity exports. The process of promoting non-traditional exports can encompass promotion of domestic firms through some kind of industrial policy or the encouragement of foreign direct investment. In the latter case, it is essential that countries promote FDI in exportable sectors.

domestic debt. Fiscal discipline gives a signal to investors as to the health of the economy. Moreover, if the fiscal situation is not under control, central bank policies can become ineffective because of the lack of fiscal discipline.

Country experiences demonstrate the perverse effects that sustained fiscal imbalances can have in the context of an open capital account. In the 1990s, the Brazilian government ran persistent fiscal deficits which encouraged expectations of continued inflation and high interest rates that reinforced capital inflows into the country. This experience also demonstrates the ambiguities generated by a federal system in terms of fiscal policy. While the federal deficit dramatically deteriorated in 1993-4, there was doubt as to whether it accurately reflected the fiscal positions of the individual states. Consequently, when the state of Minas Gerais ran into fiscal difficulties in 1998, it generated a national crisis as investors worried that it was merely a prelude to further harmful disclosures. The large inflows during the 1990s in the midst of this uncertain fiscal environment suggest that *push* factors (i.e. falling interest rates in the industrialised countries) may have predominated over *pull* factors (i.e. domestic reform, improved macroeconomic performance). They might also suggest an investor euphoria driven by the signing of the North American Free Trade Agreement in 1993 which stimulated flows to Latin America as a whole.

As will be discussed later, the presence of an elaborate capital control regime was unable to offset the negative effects of this structural imbalance. In India, another country with a federal structure, continued fiscal imbalances are currently placing greater pressure on the external accounts. In Kenya, increasing fiscal imbalances leading up to the country's first democratic elections in late 1992, along with other factors, hindered its ability to attract inflows of capital despite its open capital account. Those countries in Latin America that have successfully liberalised the capital account, have all – with the exception of Colombia – shown a high degree of fiscal discipline. Malaysia managed to attract capital inflows over a long period because of prudent fiscal policy.

Monetary policy The degree of financial integration also has implications for the conduct of monetary policy. For some countries greater integration will impair their ability to run independent policies. As the world moves to a seamless capital market very few interest rates will be determined domestically, apart from at the very short end. Attempts to depart from the international structure may result in very large and possibly volatile capital flows exerting speculative pressure on exchange rates. Movements in exchange rates because of independent monetary policies may cause increases in the currency risk component of interest rates. In some countries monetary policy may therefore have to passively adopt the policy of a large financial trading partner, rather than confronting volatile and harmful exchange-rate pressures. These are the conditions in a perfectly integrated financial world.

In the intermediate stage of integration a central bank does have some control over monetary policy to avoid the macroeconomic instability caused by large capital flows. Some of the options for managing capital flows in the short run are:

- to buy up reserves but sterilise the intervention by selling an equal value of domestic currency bonds;

- to increase the cash reserve ratio applying to bank deposit credits from abroad and swap operations;
- to support monetary policy by a tax on inflows.

A prerequisite for the success of sterilisation policy is to move from direct to indirect instruments of monetary policy. In some countries problems can occur because of the shallowness of the money and government securities markets. In some African economies problems can arise because of limiting structural factors and the small size of the economy. While open market operations are a necessary condition for managing private capital flows, for countries with less developed financial sectors it may be more effective to stay with direct monetary policy tools. Uganda, for example, finds its capacity to sterilise inflows heavily constrained by the lack of sufficient monetary instruments and the thinness of the market. We need to open up the debate on the intermediation of international flows in this scenario.

Even with open market operations, sterilisation is not without costs. It is designed to mitigate the impact of capital inflows on money supply leading to inflationary pressures and exchange-rate appreciation, and to control the domestic money stock. Some of its costs are discussed below.

- Presumably capital flows into developing countries are attracted by the higher rate of return. If the flows are sterilised, the policy will prevent the interest-rate differential going down, thus maintaining further capital flows.
- A policy of sterilisation involves issuing domestic bonds to offset an increase in currency flow, and results in an increase in public debt.[5]
- If the government does not issue domestic bonds, it will have to provide its own currency, leading to an increase in money supply and inflation. The consequent build-up of reserves will mean the poor country is lending abroad. If sterilisation takes place through domestic bonds, costs can be incurred amounting to the difference between the interest paid on domestic bonds and that received on foreign reserves.

The costs of sterilisation policy have been clearly reflected in country experience. Both Colombia and Chile experienced high costs which led them to move to a capital control regime. Other forms of sterilisation through reserve requirements and taxes on capital inflows are discussed elsewhere in this article. They have been successful in some countries (such as Chile, Colombia and Thailand) in altering the average maturity of the capital inflow, but not the total capital flow.

The experience of Chile is particularly interesting in relation to the constraints on monetary policy in a small, open economy with a liberalised capital account. The conflict between controlling domestic inflation (even with the fiscal account in balance) and preventing a sharp appreciation of the real exchange rate in the context of large capital inflows, prompted Chile to search for greater flexibility of monetary policy

5. This is the general case. The case study of India illustrates that the huge stock of government securities was available for sterilisation without increasing the stock of public debt. At one stage in 1995-6 some ad hoc Treasury Bills were converted into special securities but it was a very costly operation for the RBI. Subsequently, with the large borrowing programme, the RBI had adequate stocks of dated securities.

through the implementation of controls on capital inflows. These appear to have provided a 'wedge' between domestic and international rates that gave greater scope for the authorities to target domestic inflation, while avoiding the costs of sterilisation (although it must be noted that other costs were incurred).

The above measures can only be used in the short run; their continuance can lead to agents' developing new ways of bypassing them. In the long run, the only solution is to speed up the overall reform, so that outflows can be liberalised to enable the two-way movement of capital to take care of financial intermediation, without the necessity for some of these measures. The process would be aided by a flexible exchange-rate policy. Monetary policy would achieve some autonomy in countries where the conditions are right for operating an exchange-rate band.

Exchange-rate policy The significance of a flexible exchange rate increases for an economy with an open capital account, as the influence of international variables is transmitted more quickly. What is important for the management of an open capital account is that market participants should bear the exchange risk, instead of the balance-sheet of the central bank. Furthermore, the resulting uncertainty from a flexible exchange rate may discourage short-term flows. The maintenance of a pegged exchange rate by the Thai authorities in the period 1995-7 constrained policy-making, discouraged hedging by the market participants and reinforced capital inflows. It also provided a fixed target for speculators who were quick to observe the inconsistency between an interest-rate defence of the baht peg and the health of the financial sector.

A further advantage of allowing greater exchange-rate flexibility is that appreciation of the exchange rate is likely to occur through an appreciation of the nominal rate and not through higher inflation. This gives room for pursuing an autonomous monetary policy. It will force market participants to hedge their positions, which will be beneficial for the development of the foreign-exchange market. A drawback of a floating exchange-rate regime is that it may be associated with high volatility, which may damage the growth of strategic sectors such as non-traditional exports.

Country experience suggests that, as CAC has progressed, countries have adopted more flexible exchange-rate regimes. Of the countries surveyed in Annex 1, Colombia, Peru, Chile, Uganda, and Korea have all opted to introduce greater flexibility into their exchange-rate regime. Only Argentina, with its currency board regime, and Malaysia, which pegged the ringgit to the dollar as part of its adjustment policy after the Asian crisis, have reverted to inflexible regimes.

The particular nature of these two countries' experiences should be noted. Argentina sought credibility for its macroeconomic policy stance after prolonged economic crises in the 1980s, and the currency board was the surest way of acquiring this in international markets. Malaysia initiated its pegged regime in the context of a broad policy of capital controls on outflows, which helped ensure its maintenance. Thus, the general experience of CAC is that a greater degree of exchange-rate flexibility is required, even if this takes the form of a currency band which helps reduce the volatility associated with free floating regimes.

It is for this reason that many countries, such as Israel, Colombia, Chile and Mexico, adopted the intermediate regime of an exchange-rate band. These bands can be implemented in countries with depth in the foreign-exchange market and where the

market is well developed, so that two-way expectations can drive the exchange rate. They are part of an intermediate regime, in which monetary policy can be used for domestic objectives most of the time, but will be directed to the external objective when necessary to avoid what might be a serious misalignment.

Correction of exchange-rate misalignments cannot be safely left to the market. The choice of an appropriate exchange rate involves a trade-off between the benefit of targeting inflation and the external competitiveness of a country. Actual policy will have to be a mix of both these objectives, as either extreme is harmful. Increased capital mobility limits the possibility of targeting the real exchange rate, and therefore allowing it to fluctuate within a band is a desirable policy. A credible announcement by the authorities that they will intervene to keep the exchange rate within the band will encourage market corrections or limitations to the misalignments without diverting monetary policy from its domestic objectives. Refraining from intervening continually in the market will discourage complacent traders who prevent market corrections through their behaviour. At the margin of the band, as part of official policy, the central bank is expected to intervene but not necessarily, as the market can carry out the corrective speculation. With this approach, the central bank can allow the market to work and yet keep the surprise element in its policy. It can also review from time to time its own choice of the equilibrium exchange rate and signal that a major change is warranted by its own intervention and moving the parity around which the exchange rate is fluctuating.

Whether countries opt for a managed floating exchange-rate regime or an exchange-rate band, depending upon their own circumstances, flexibility of the exchange rate is necessary with an open capital account.

Prudential and supervisory concerns

The internationalisation of financial markets also raises concerns regarding the weakness of various institutions around the globe and also the many countries in the throes of a crisis. The opening up of the domestic securities market and domestic banking, and the relaxation of constraints on domestic credit, foreign borrowing and financial investment by financial intermediaries have led to the emergence of new risks in international financial markets giving rise to a debate on prudential regulations. Furthermore, the time available to a country to respond to a systemic disturbance has also become limited, increasing its dependence on the authorities in other countries and international organisations such as the IMF.

Country experiences clearly reveal the centrality of effective prudential regulation in the financial sector. CAC highlights and exacerbates the weaknesses of financial intermediation in the domestic economy, as could be seen during the Asian crisis in Thailand and Indonesia.

Closely related to the achievement of better financial regulation and enforcement is the importance of official monitoring and surveillance of international transactions. The institutional capacity of central banks needs to be improved and extended to adequately discern emerging risk exposures in countries' external accounts. The authorities need to develop more effective ways of monitoring the use of foreign funds and to strive to ensure that they are largely deployed in tradeable sectors that can earn foreign exchange and not in non-tradeable and often speculative sectors.

The case of Thailand in the 1990s highlighted the risks of neglecting these issues. Despite the presence of controls on inflows, Thailand experienced a crisis that was, in large measure, caused by inadequate monitoring and prudential regulation of the financial sector. Before the crisis, only about half of the banking sector's foreign currency loans were made to sectors generating foreign exchange. It needs to be emphasised that in this regard official regulation/monitoring/enforcement is only one side of the equation and must be complemented by the development of a financial sector that adequately evaluates risk. A clear benefit of improved monitoring, surveillance and disclosure is that they enhance the credibility and transparency of the government's macroeconomic policy stance, which can help encourage inflows and reduce risk premiums.

Capital account liberalisation does not mean throwing out the baby with the bath water. Rules and regulations applicable to foreign-exchange transactions are a necessary precondition for CAC. Comprehensive work in this direction has been under way under the aegis of the Bank for International Settlements through the Basle Committee on Banking Supervision and the Financial Stability Forum. The Report of the Working Group on capital flows and high leveraged institutions is now available. Other matters on which groups were set up include offshore financial centres, and the Joint Forum on financial conglomerates has also issued a report on their supervision.

It is acknowledged that, although capital flows have certain benefits, these are accompanied by certain risks. The aim of prudential policy is not to rely on controlling flows directly, but to develop the wherewithal to limit the risk to an economy from such flows. Implementation of capital controls requires an enforceable system of regulations, which are transparent and non-discriminatory. An adequate method of maintaining information on the compilation of exchange control procedures will enhance the ability to monitor and supervise them.

Measures also need to be developed to prevent tax evasion and money laundering. Harmonisation of taxes is a possible way of dealing with this issue.

Financial intermediation problems and the risk of capital flight

Impediments to interest-rate convergence

A consequence of the liberalisation of capital flows is that it will attract further inflows owing to the interest-rate differential. In theory, one of the advantages of financial liberalisation with an open capital account is the convergence of interest rates to international levels. Contrary to expectations, financial opening in the Southern Cone and some of the East Asian countries in the 1980s did not lead to this convergence. Capital movements were generally free in Indonesia (though there were controls on outflows), Thailand and Malaysia in the 1980s and yet full integration of interest rates did not take place.

The experience of these countries emphasises that inconsistent targeting of monetary policy and exchange rates alone cannot explain this lack of convergence. In many countries an increase in demand for credit was observed, possibly due to the illusion of wealth created by overall liberalisation and improved property rights. Over-valued currencies also led to interest rates being maintained at higher levels, as foreign lenders and domestic residents perceived greater exchange risks and demanded higher

returns. Today increasing emphasis is also being placed on the structure and organisation of the domestic financial market. Problems include microeconomic factors such as capital markets segmented between lending institutions and across uses of funds; the oligopolistic structure of the finance industry permitting oligopolistic price behaviour; lack of supervision, interlocking ownership of banks and firms, and distress borrowing adding to credit demand and the overhang of bad loans.

Instability in the system can be further aggravated by the credit risk, which accompanies high interest rates and raises the percentage of non-performing assets in the system. Some countries in our sample, like Malawi, have not liberalised as yet. In many countries the impediments to interest-rate arbitrage in the domestic financial system will have to be removed and further reforms set in motion to remove any remaining hurdles to the smooth functioning of financial markets.

Honohan (2000) makes the point that the real interest-rate differential is high in many developing countries and that there is considerable fluctuation in its movement in most economies after liberalisation. The next sub-section discusses some of the impediments in developing countries' financial systems, which need to be removed before the economy can cope with global capital.

Impediments to financial intermediation

The need to control short-term flows arises because of the inability of financial markets in developing countries to bear the risk of the intermediation of financial flows from the short to the long end of the yield curve. It is tempting for countries to raise capital at the short end where the cost is lower. However, the experience of financial crisis shows that it is advisable to bear the higher cost of capital at the long end of the curve and avoid crises driven by short-term debt at a stage when financial markets are not well developed.

There is a growing consensus that the build-up of short-term debt was an important factor behind the East Asian debacle. Furman and Stiglitz (1998) remark on the ability of this variable to predict the crisis of 1997. Almost all the crisis-affected countries had one thing in common: large ratios of short-term debt, whether public or private, to international reserves. Rodrik and Velasco (1999) also analyse the role of short-term debt in generating crisis within a framework that simultaneously determines the debt maturity and the term structure of interest rates. In their view the term structure of interest rates is determined by the riskiness of different debt maturities.

There is justification for controlling short-term and other flows in the transition phase, as the lengthening of maturities can reduce vulnerability to a crisis. The experience of industrialised countries, and of Chile, Colombia and Malaysia, shows that controls of different kinds alter the maturity composition of external loans, without reducing the overall volume of capital flows. But in the long run, as well developed financial markets gain sophistication, short-term debt will play a successful role in financial intermediation, increasing both its demand and supply.[6]

6. Rodrik and Velasco (1999) find that as economies become richer and financial markets deeper, the external debt profile shifts to short-term liabilities. There is a consistent and robust relationship between per capita income levels and M2/GDP ratios and short-term maturities. They also find no correlation between short-term debt and trade credit. The relationship of short-term borrowing to corruption is

Segmented markets Financial reforms in many developing countries have encouraged the emergence of market-determined interest rates and the move from direct to indirect instruments of monetary policy. The freeing of interest rates has not resulted, however, in the emergence of an interest-rate structure that reflects the differences in liquidity, maturity and risk. The prevailing structure in many countries is indicative of a segmented financial system. Liquidity shortages/surpluses at the short end of the market do not get automatically adjusted through intermediation in other segments of the financial market. Lack of depth in bond markets and the absence of well functioning secondary markets limit the usage of indirect instruments of monetary policy

In any financial system there are important linkages between the money market, the capital market, the government securities market, the forex market and the inter-company deposit market. Volatility in one segment gets transmitted to others. Financial intermediation between these segments should act as a shock absorber and contain the volatility. The impediments to the working of a seamless financial market can range from purely psychological factors to those requiring institutional changes in the banking system and other segments of the financial market and policy changes by central banks. Reforms in the financial sector are needed to facilitate efficiency in the working of financial markets in the countries concerned.

Asset-liability management and non-performing assets In some countries, the banks' roles as intermediaries in allocating financial resources in the system become seriously impaired by the state of their own balance sheets. Maturity mismatches and non-performing assets are common problems in many banks. Legal reforms for the recovery of bad loans need to be introduced. The recommendations of the Basle Committee address many of these issues. All countries need to implement these recommendations and upgrade the financial sector to international standards.

For proper asset-liability management, skills in managing interest and exchange risk are imperative. Banks' asset-liability management is in its infancy. To improve it, an integrated treasury for the government securities, forex and money desks is imperative as well as the treasury department of branches of domestic banks abroad. The banks need to consolidate information on their own operations in different segments to enable them to manage their maturity and risk structures better. A second much needed step in many developing countries' banking systems is to move away from average to marginal pricing in their operations. Training of personnel in asset-liability management is also essential.

Apart from skills, the financial market has to mature to provide the opportunities for risk management. It needs arbitrage opportunities and assets with different risk-return profiles. For the debt market to develop, a market-determined yield curve is essential since this device facilitates the pricing of floating-rate debt instruments. The absence of a term money market in many countries hinders the development of a money market yield curve. To enable banks to carry out asset-liability management, an interest-rate structure that reflects maturity structures from the short to the long end needs to evolve. Of immediate importance is the development of a short-term reference rate.

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positive in their findings, but not statistically significant. They also find that the overall debt burden is positively correlated with short-term borrowing in the time series analysis.

The money market Of all segments of the money market, the inter-bank market is of crucial importance, as it continuously reflects the short-term liquidity state of the banking system and serves to balance the short-term liquidity position of the banks. It is the most sensitive barometer of the conditions prevailing in financial markets, since it not only integrates the flow of funds between money market instruments but also provides operational linkages between the money, credit, capital and forex markets. Corrective action by policy-makers should therefore be taken for this section of the money market without delay.

The inter-bank money market should provide participants with opportunities for transactions at more stable rates of interest. The prevailing interest rate in a mature inter-bank market should not be widely divergent from those of the other money market instruments, and should determine the short-term rates around which the term structure of interest rates should develop. It should itself be market-determined, but the central bank should be in a position to fine-tune liquidity and interest rates at the short end.

Governments in many developing countries are in the process of building up the capital and government securities markets. These are tied to the money market in the liquidity pool and the efficiency of their operations depends on a well-functioning money market. An important precondition for capital account convertibility and efficient financial intermediation therefore is the development of the money market, changes in which will spill over to the capital market as well. If the money market is easy, that is, if the banks are highly liquid, they tend to change their portfolio structure to the detriment of their liquid assets and the advantage of their longer-term and higher-yielding assets by purchasing more longer-term securities (an increase in trading portfolios). When liquidity is scarce and the money market correspondingly tight, the banks show restraint in new bond buying. Conditions in the money market also affect the transactions of non-banks. Expectations of rises in interest rates (falls in the prices of bonds and hence price losses) lead private investors also to cut down their new purchases. Funds, which would have gone to investments at the long end, are placed at the short end, such as with banks' time deposits. Monetary policy can succeed in influencing the capital market via the money market as money market rates are transmitted to time deposits and the long-term interest rate.

The development of the financial sector therefore needs to target the integration of different segments of the financial market, with a healthy money market as the nerve centre. Banking reforms are needed to address issues of asset-liability and risk management and efficiency in overall operations.

The risk of capital flight[7]

Developing countries faced with the decision to liberalise capital outflows are often in a dilemma for fear that liberalisation will lead to capital flight. The loss of domestic savings and the ensuing fall in investment and income are risks no policy-maker can afford, particularly as liberalisation of outflows also involves pension funds moving out.

7. Capital flight refers throughout this article to the export of domestic capital in response to economic and political uncertainty. The pulling out of capital by foreign investors will be referred to as such.

There are two sides to this argument. Those in favour of a big-bang approach or a faster rate of liberalisation argue that an open capital account will provide opportunities for risk diversification and financial intermediation leading to an increase in welfare. They also take the view that, if the economic fundamentals are in good order and the country's policy is credible, capital flight will not take place. It is also often argued that capital controls are ineffective in stemming outflows of capital, and therefore their removal will not increase the export of capital.

It is certainly true that credible policy announcements and good fundamentals are important in keeping domestic capital at home. Capital controls, however, are not totally ineffective. For instance, the pension funds of a developing country remain at home because of the presence of capital controls. Capital controls also give governments and central banks time to react to initial capital flight.

At this stage it is necessary to spell out the various factors which can possibly motivate capital flight. In order to do this, a distinction has to be made between a real resource transfer or one-way capital flight and capital flight as part of a two-way flow. The former is motivated by one or a combination of the following factors: taxes (deviations from world levels), inflation, fears of devaluation, threat of default on government obligations due to high or unsustainable fiscal deficits, taxes on financial intermediation, and potential confiscation due to political instability.

Two-way capital flows, which were in evidence in the late 1970s and early 1980s in many Latin American countries, imply foreign borrowing (both public and private) flowing in and domestic capital moving out. They can be motivated by the differences in taxes and their incidence between residents and non-residents, differences in the nature and incidence of country risk, and asymmetries arising from differences in the application of guarantees, interest-rate ceilings for residents, differences in the availability of information, and differences in non-residents' access to foreign-exchange-denominated claims. The impact of a real resource transfer does lead to a decline in saving, investment and growth. The consequence of capital flight as part of a two-way flow is an erosion of the domestic tax base. This variety turns harmful when flight of capital by domestic residents signals to foreign investors that conditions are not so stable in the country, resulting in the latter's pulling out of capital.[8]

The factors listed above suggest that, before liberalising capital outflows, care needs to be taken that fiscal control, a competitive and stable exchange rate, and control of inflation are well established. Recent experience also points to the necessity of a reasonably sound and liberalised financial system.

The need for fiscal control is borne out by the experience of some countries in Latin America. External borrowing supported large fiscal deficits to the extent that exchange-rate policy was totally out of tune with the fiscal deficit. Borrowing at unsustainable levels to sustain the exchange rate financed capital flight. Another feature in many developing countries leading to capital flight is the wedge between the rates of return available to domestic and foreign investors caused by factors such as the guarantees available to foreign investors or the permission to hold dollar-denominated deposits and thus protection against inflation tax, or the difference in tax rates applicable to foreign

8. Incidentally, during the crisis in Mexico in December 1994, domestic investors moved out of *tesobonos* first. It was their action that instigated foreign investors to follow suit. The inability to roll over the *tesobono* stock of debt triggered the crisis.

and domestic investors. Factors causing asymmetric risk and asymmetric information leading to capital flight need attention.

The liberalisation of outflows of capital requires certain preconditions, in the absence of which a country is threatened with financial crisis. A stable macroeconomic environment and credibility of policy announcements, accompanied by the strengthening of the financial sector with adequate regulatory and supervisory requirements, are the bare minimum which must be in place.

Capital controls: prudence vs. control

As the definition given earlier indicates, CAC is compatible with prudential restrictions. Temporary measures to insulate an economy from major disturbances are consistent with an open capital account.

Developing countries, by and large, use a variety of controls to restrict and regulate the movement of capital. It is meaningful to segregate them by the objective to which they can be assigned. Controls can be targeted to deal with balance-of-payments pressures and macroeconomic disturbances generated by volatile capital flows or can be designed to prevent flows from disrupting stabilisation and structural reforms. Controls can be put in place to ensure that domestic savings are used to finance domestic investment and to limit foreign ownership of domestic factors of production, and may also be targeted to enhance the authorities' ability to tax domestic financial activities and wealth.[9]

The CAC experience aims primarily at liberalising controls that hinder the international diversification of domestic savings in a portfolio of domestic and foreign assets, and allows agents to reap the advantages of diversification of assets in the financial and real sectors (see Box 1). It aims at allowing the country to reap the advantages of the inflow of foreign savings, information and technology. However, the benefits of capital mobility come with certain risks. These can be categorised as credit risk, interest and exchange-rate risk and liquidity risk (see Ariyoshi et al., forthcoming). There is the additional risk of herding and contagion in international financial markets.

The ordering and degree of liberalisation are a fine balance between removing the impediments in the way of efficient international financial intermediation as part of the overall reform process and introducing and maintaining prudential standards and the supervision to contain the risks of that intermediation. This is especially relevant as the growing experience with financial market integration indicates that financial markets are imperfect and subject to information asymmetries (see Eichengreen et al., 1999). The theoretical literature does focus on capital market restrictions as welfare-enhancing in an imperfect financial world (see Dooley, 1996). Theory as well as practical experience points to the legitimacy of using capital controls of a prudential nature and stronger disclosure and prudential standards.

9. Johnston and Tamirisa (1998) examine the structure and determinants of capital controls based on a cross-sectional study of developing and transitional countries. They categorise capital controls by analytical purposes as being related to the balance of payments, macroeconomic management, market and institutional evolution, prudential and other factors. They find no robust relationship of capital controls with the balance of payments.

In the transitional period, capital controls can play a role in insulating the economy from volatile capital flows, providing time to strengthen initial conditions and allowing the authorities to use discretionary policies in the pursuit of this objective. Even in the post-liberalisation period transitional controls cannot be ruled out. For example, the OECD Code of Liberalisation for Capital Movements provides for transitional arrangements to retain controls if a member's economic and financial situation does not justify liberalisation and also to contain adverse developments in the balance of payments (see Quirk and Evans, 1995).[10] Certain advanced economies have retained some selective control of capital movements in accordance with the development of their domestic financial sector and their array of financial instruments, as well as sectoral and strategic considerations.

Caution needs to be exercised in using controls. Although restrictions for managing macroeconomic disturbances are legitimate, the evidence based on country experiences in Ariyoshi et al. (forthcoming) and the survey of crises in Kaminsky et al. (1998) indicate that capital controls cannot be a substitute for sound macroeconomic policies. Moreover, a crisis can take place with either a closed or an open capital account. Closing the economy does not necessarily mean that a country can escape disaster. Even stringent controls strictly administered do not always protect a country from a balance-of-payments or financial crisis.

International experience with capital controls demonstrates that in the short run they may under some conditions provide a brief respite to deal with disturbances or work out a transition phase; but over the long run they become ineffective, costly and even distortive. The existence of international arbitrage opportunities has rendered capital controls ineffective. Capital flight has been a feature of almost the entire developing world. Apart from the loss of capital through capital flight, the existence of capital controls encourages financial repression and inefficiencies in financial intermediation. Black markets in foreign exchange and lack of ability to manage interest-rate and exchange-rate risks are only some of the problems. Essential institutional and structural reforms are postponed so that the costs of capital controls become prohibitive. They may even provide greater opportunities for corruption.

Comprehending capital controls

The ordering of liberalisation is a complex task because, apart from sequencing other reforms and preconditions with the opening of the capital account, there is an acute need to first understand the nature of capital controls. The complexity of the control regimes prevalent in developing countries makes sequencing their liberalisation a formidable task. The operational side involves looking at the type of control and the type of instrument and making basic decisions regarding the freedom to be given to which sector/transactor. It does not imply opening up the floodgates once and for all. Johnston (1998) puts it aptly: 'Capital account liberalisation is not an all or nothing affair...'.

Controls can broadly be grouped into two categories: direct or administrative and indirect or market-based controls. The former range from outright prohibition to

10. Quirk and Evans discuss the effectiveness of controls designed to contain disturbances in the industrialised countries, and conclude that the effectiveness of actions following the 1992 ERM crisis seems likely to have been short-lived.

discretionary approval procedures for cross-border transactions. The latter are price-based instruments designed to affect price and sometimes both price and volume and to regulate the flow of liquidity through the price mechanism by making them more costly. The desired effect can be attempted through a variety of measures; for instance, through implicit or explicit taxation, non-interest-bearing (unremunerative) reserve requirements (URRs), interest-rate ceilings, dual or multiple exchange-rate systems or discrimination between transactions and investors, such as provisions for the net external position of commercial banks, asymmetric open position limits that discriminate between long and short currency positions or between residents and non-residents, and certain credit-rating requirements to borrow abroad. While not a regulatory control in the strict sense, reporting requirements for specific transactions have also been used to monitor and control capital movements (e.g. derivative transactions, non-trade-related transactions with non-residents).

Liberalisation of the capital account first needs an understanding of the types of transactions that are possibly subject to controls (see Table 3). IMF teams have been helping developing economies to work out a consistent classification and identification structure. This is important not only for determining the order of liberalisation but also for monitoring capital flows.

Many financial instruments and underlying transactions are involved in opening up the capital account, giving rise to many possibilities for the order of liberalisation. While many developing countries have concentrated on liberalising inflows/outflows irrespective of resident or non-resident transactions, India liberalised the capital account for non-residents and maintained stringent controls on capital account transactions by residents. Thus, within each liberalised category there is scope for prudence; for example, the limit to which a bank can borrow from abroad can have a prudential limit. The limits in each case vary from a scale of zero to one.

Both aspects are important for the discussion of the order of liberalisation of various transactions and instruments based on domestic financial sector reforms, economic fundamentals, the international environment and overall economic objectives. The Reserve Bank of India took a step forward in this area by setting out the ordering of liberalisation in its *Report of the Committee on Capital Account Convertibility* (1997) based on certain preconditions. The Report emphasises that CAC is a process accompanied by other reforms. Although the Report set out a three-year timeframe for liberalisation, the emphasis is on the preconditions, their status determining the actual pace of opening up. The Report is a useful example of how, even in the proposed liberalised world, limits can be set on various transactions in the transition phase and certain controls and limits can be maintained as a prudential concern in the long run.

Chile and China, like India, have on occasion used capital control measures to pursue prudential objectives. Ariyoshi et al. (forthcoming) rightly point out that the effective use of such measures rests on the existence of adequate administrative machinery. Understandably there is no foolproof method of insulating a country against a crisis, but it is crucial to talk about the degree of capital account liberalisation at various stages of the overall reform process.

Table 3: Types of capital transactions possibly subject to controls

Inflows	*Outflows*
Capital and money markets	
Shares or other securities of a participatory nature, bonds or other debt securities, money market instruments, collective investment securities	
Purchase locally by non-residents	Sale or issue abroad by non-residents
Sale or issue abroad by residents	Purchase abroad by residents
Derivatives and other instruments	
Purchase locally by non-residents	Sale or issue abroad by non-residents
Sale or issue abroad by residents	Purchase abroad by residents
Credit operations	
Commercial and financial credits, guarantees, sureties, and financial backup facilities	
To residents from non-residents	By residents to non-residents
Direct investment	
Inward direct investment	Outward direct investment
	Controls on liquidation of direct investment
Real estate transactions	
Purchase locally by non-residents	Purchase abroad by residents
	Sale locally by non-residents
Provisions specific to commercial banks	
Non-resident deposits	
Borrowing abroad	
Personal capital movements, deposits, loans, gifts, endowments, inheritances, and legacies	
To residents from non-residents	By residents to non-residents
Settlements of debts abroad by emigrants	
Transfer into the country by immigrants	
Provisions specific to institutional investors	
	Limits (max) on securities issued by non-residents and on portfolio invested abroad
	Limits (max) on portfolio invested locally

Source: Johnston (1998).

Lessons from country experience

There is a definite limit to the effectiveness of capital controls. In an extensive survey of the literature, Dooley (1996) suggests that capital controls in the *industrialised* countries have been 'effective' in the narrow sense of influencing yield differentials but that there is little evidence that they have helped governments achieve their objectives. The experience from developing countries is not as thoroughly investigated in the literature, but available studies and the survey of country experiences presented in this article suggest a number of lessons.

In this discussion, we distinguish between controls on inflows and outflows of capital and direct and indirect instruments of control. Direct controls, such as prohibitions on certain types of transactions, are non-market-based and are relatively

more reliant on administrative enforcement. Indirect controls, such as reserve requirements and exit levies, are market-based and seek to alter the decisions of private agents by shifting relative prices.

The first lesson to emerge from an examination of country experiences is that the effectiveness of controls is often dependent on the administrative capacity of governments and the presence or absence of complementary policies directed at the target of the controls. Chile, Colombia and Malaysia all implemented relatively successful control regimes, and in all three countries the administrative capacity to implement controls efficiently and flexibly was quite high in comparison with many other developing countries. Colombia and Chile both established strong independent central banks in the late 1980s and early 1990s, which were largely shielded from political pressures and corruption. In Chile, in particular, there is a tradition of respect for the law and bureaucratic professionalism.

However, administrative capacity is not, in itself, sufficient to ensure the success of a capital control regime. Controls need to be embedded within a broader policy framework that provides support for the control regime's objectives. Chile's URR was supplemented by a flexible policy that allowed a degree of real exchange-rate appreciation and sterilised inflows in conjunction with a tighter fiscal policy. Colombia, which also implemented a URR, had a somewhat less favourable policy environment, since the government pursued a strongly expansionary fiscal policy after 1991, which made it harder for the control regime to achieve its objectives.

In Malaysia, the 1994 control regime was largely successful in containing short-term inflows and monetary expansion and instilling stability in the foreign exchanges. However, the effect of the controls themselves is not easy to discern, since the Central Bank was also simultaneously taking action to lower the interest-rate differential and ending sterilisation operations, which may also be expected to reduce short-term flows.

Similarly, Thailand's mix of administrative and price-based controls in 1995-6 achieved its objectives of reducing net capital inflows and lengthening maturities. They were complemented, however, by such policies as prudential reductions of loan-deposit ratios in vulnerable banks. The control regime was also probably aided by declining investor confidence in the Thai economy itself which acted to reduce inflows.

The Brazilian experience, discussed more fully below, provides perhaps the best example of implementing a control regime in a non-supportive policy framework. The evidence therefore suggests that controls are best viewed as part of a wider and complementary policy stance that is also largely directed at the same target as the controls.

Secondly, and closely related to the first point, the country experiences suggest that controls are no substitute for effective macroeconomic management. The experience of Brazil illustrates the ineffectiveness of controls in an environment of pervasive macroeconomic imbalances. A complex mixture of direct and indirect controls was largely ineffective in stemming inflows, shifting their composition towards longer-term flows and providing a greater degree of monetary independence. The inability of the government to rein in large fiscal deficits fuelled expectations of continued inflation and resulted in widening interest-rate differentials, which combined with a stable exchange rate to induce large inflows of capital. The imposition of direct and indirect controls in mid-1993 and their intensification under the *Real* Plan in 1994 had little effect on the rising level of inflows. In the 1988-91 period, net private capital flows averaged $39

million a month, while in the 1992-5 period they rose to $970 million (Ariyoshi et al., forthcoming: 3). Set against these large structural imbalances in the macroeconomy, the controls were hopelessly overwhelmed.[11]

In Thailand, controls were effective in limiting inflows for a time, but they were unable to protect the economy from a devastating reversal of flows in 1997. The build-up of short-term, unhedged debt was encouraged not only by the Bangkok International Banking Facility (BIBF) which greatly eased access to foreign funds, but also by a macroeconomic policy that maintained a pegged exchange-rate regime and heavily sterilised inflows (Lopez-Mejia, 1999: 49).

Thirdly, country experiences suggest that in the short run capital controls may under some conditions provide a respite for policy-makers to either adjust macroeconomic policy or complete their reforms. The experiences of Chile and Colombia with URRs, of Malaysia with direct controls on inflows (1994) and outflows (1998-) and of Thailand with direct and indirect controls in 1995-6, suggest that controls can be effective in limiting external liabilities, shifting their composition and providing a degree of monetary independence in the short to, possibly, medium term.

The Chilean and Colombian authorities explicitly used controls to enable them to pursue simultaneously internal and external balances in the context of large capital inflows. This would imply a 'wedge' between international and domestic interest rates which allows scope for an independent monetary policy. Edwards (1999) argued that, if capital controls in Chile were effective, then we should have observed the widening of the dollar and peso interest-rate differentials (adjusted for expected devaluation) after their imposition. While he found that in the long run controls have little impact on interest-rate differentials, in the short run, after the implementation of controls, he found that the differentials became more stable. The differential between international and domestic real interest rates increased after the URR was introduced, from 3.1% in the 1985-91 period to 5.2% during 1992-7, with only part of this increase attributable to a fall in international rates.

The balance of evidence from studies of the URR in Chile suggests that it did provide the monetary authorities with room for manoeuvre.[12] Similarly, in Colombia, Villar and Rincon (2000:54) conclude that the URR allowed the authorities to 'increase the domestic real interest rate and to discourage aggregate demand in the process of stabilisation without creating additional pressures towards a real appreciation of the Colombian peso, which would have aggravated the external imbalances'.

Malaysia (1994) and Thailand (1995-6) implemented capital control regimes to limit inflows and regain a degree of control over monetary aggregates. Malaysia initially sought to sterilise the inflows, but the persistence (encouraged by the sterilisation policy) of large interest-rate differentials, continued expectations of an appreciation and mounting quasi-fiscal costs, led the authorities to first use direct monetary instruments (such as successive increases in statutory reserve requirements) and finally to impose capital controls. Perhaps the most important measure was the prohibition on domestic residents selling short-term money-market instruments to

11. It should be noted that while the Brazilian authorities possessed a strong administrative capacity to implement controls, they were constrained and often frustrated by sophisticated financial markets that could find ways around the control regime.

12. However, it must be noted that this benefit came at the cost of raising the cost of capital to Chilean firms, particularly small- and medium-sized firms.

foreigners, which appeared to lead to a sharp fall in the volume and an altered composition of capital inflows. Inflows as a percentage of GDP declined from 17.2% in 1993 to 2.1% in 1994, while the short-term flows declined from 8.6% of GDP to -4.6% (Reinhart and Smith, 1997:10-11).

As noted above, the 1994 controls were broadly successful in regaining some traction on the monetary aggregates and braking their growth. While complementary policies were also important in achieving this result, the design of the control regime was also significant. First, the controls were announced as temporary, and would therefore not impose the costs of an extended control regime. Secondly, as noted above, they were embedded in a broader policy that sought to reduce interest-rate differentials, curtail sterilisation operations and impose prudential requirements that reduced the excess liquidity in the banking system by requiring banks to include in their liability base all inflows of funds from abroad, thus making them subject to reserve and liquid asset requirements (Ariyoshi et al., forthcoming:10-11). Thirdly, they were focused on the money market, a sector that can be regulated and carefully monitored if participants fall under the purview of the regulatory authorities.

Thailand (1995-6) also maintained a mixture of controls that sought to restrain inflows, alter their maturity structure and provide some room for policy to operate. Among the elements of the regime were direct controls such as an asymmetric open limit for short and long positions, and indirect controls such as a 7% reserve requirement on non-resident baht accounts with less than one-year maturity and on the short-term foreign borrowing of finance companies. Continuing inflows led to intensification of these measures in mid-1996, with the 7% reserve requirement extended to short-term non-resident baht borrowing and short-term offshore borrowing by commercial and BIBF banks.

Ariyoshi et al. (forthcoming) conclude that the controls were effective in reducing net capital inflows and the share of short-term inflows in total inflows. However, they did not prevent Thailand from experiencing a devastating reversal of inflows in 1997. Furthermore, they did not prevent foreign funds from flooding non-tradeable sectors such as property and construction. There is also a difficulty in determining the causal factors behind the decline in inflows: investor confidence was already beginning to wane when the controls were implemented. While the controls may have provided some breathing space for the Thai authorities, it is likely that they were too little too late, since the accumulation of short-term debt had already become significant. Moreover, the poor quality of financial regulation and enforcement had already begun to increase Thailand's vulnerability to sudden reversal.

In terms of controls on capital outflows, the experience of Malaysia from 1998 to the present is perhaps the most notable. In the wake of the Asian crisis of 1997, Malaysia initially imposed limitations on ringgit non-trade-related swap transactions with non-residents. However, the outflows continued through unrestricted channels, while interest rates continued to rise. In September 1998, measures were introduced to eliminate the offshore ringgit market, provide a degree of monetary independence and insulate the economy from further adverse developments in international financial markets. These included the elimination of channels for taking ringgit abroad and requirements for the repatriation of ringgit held abroad. Repatriation of portfolio capital held by non-residents was prohibited for a 12-month period and various controls on transfers by residents were also implemented. Measures to close loopholes were also

introduced, including amending the Companies Act to limit dividend payments. In February 1999, the controversial one-year restriction on repatriation of portfolio capital was replaced by a more market-based exit levy applied to the principal and profits of non-residents' portfolio investments, which penalised the early withdrawal of funds.

The impact of the Malaysian outflow control regime since 1998 is still very much an issue requiring further research. The controls appear to have been effective in eliminating the offshore ringgit market, particularly by freezing external ringgit accounts. Ariyoshi et al. (forthcoming) argue that the absence of speculative pressure on the ringgit following the imposition of controls, in the context of a pegged exchange rate and significantly relaxed monetary and fiscal policies, provides evidence of the effectiveness of controls. It is therefore likely that the controls provided a breathing space in which the Malaysian authorities could adjust macroeconomic policy and further financial sector reform. Their effectiveness was also greatly aided by the general return of confidence in the region. While Malaysia has rebounded sharply, so have other countries, such as Thailand and Korea, which did not implement controls.

Fourthly, country experience suggests that controls on capital outflows are generally ineffective. Theoretical and empirical evidence documents the porosity of the capital account (see Dooley, 1996). For example, Johnston and Ryan (1994) studied the impact of capital controls on the private capital account of countries' balance of payments by examining industrial and developing country data for the period 1985-92. They concluded that capital controls operated by developing countries had not been very effective in insulating these economies from balance-of-payments crises. Industrial country controls had some effect in inhibiting direct investment and portfolio outflows, but not in controlling other private capital movements. In a finding that is consistent with other studies, they conclude that controls have a limited ability to insulate national monetary policies; developing countries with capital controls experience capital flight and industrial countries have observed outflows of capital flows following liberalisation.

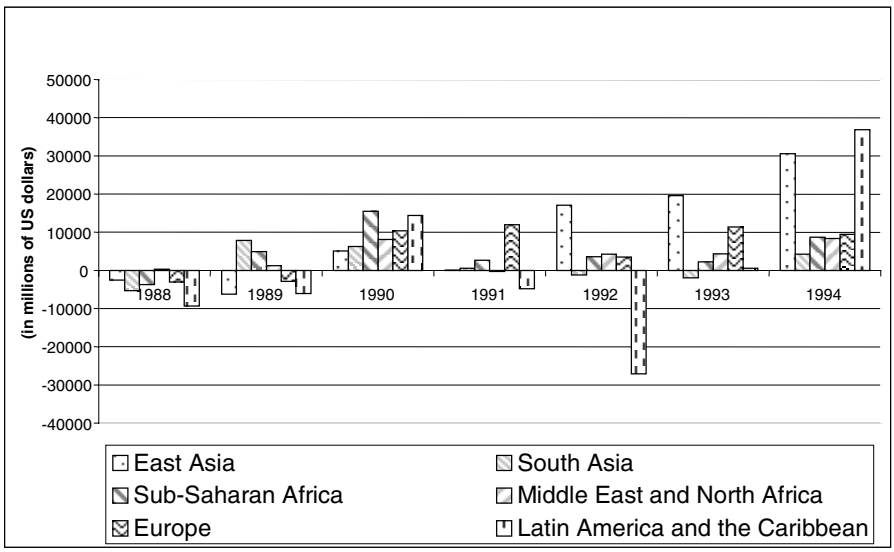
Empirical estimates of unrecorded capital flows demonstrate their massive scale and extent across developing countries, many of them with capital control regimes on either inflows or outflows. Figure 1 shows the results of these empirical estimates aggregated by region.[13] The estimates are based on the double entry accounting system in the balance of payments by matching up sources and uses of finance. While they are often referred to as capital flight, they capture other elements besides flight flows and also reflect the quality of the data. Despite their weaknesses, they are indicative of the scale of unrecorded capital flows in developing countries. Thus, they stress the need both to improve monitoring and surveillance and to remove restrictions on some classes of outflows so that the authorities have a better idea of the scale of flows which impinge on their ability to conduct monetary, fiscal and exchange-rate policies.

Fifthly, given adequate institutional capacity, the Indian experience suggests that outflow controls on some classes of financial institutions, such as banks, pension funds

13. Large-scale capital flight across countries is one explanation for the Rodrik and Velasco (1999) finding that capital controls do not hinder growth. This finding has been frequently cited by the World Bank and by Joseph Stiglitz in his papers. The lesson here is different: because capital controls are ineffective, they did not hinder growth in the long run.

and authorised dealers, are generally effective. Both banks and pension funds are usually highly regulated already and this fact, coupled with their finite number, reduces the costs of extending monitoring to their external transactions. These institutions and authorised foreign-exchange dealers engage in business with the express permission of the RBI, whose power to withhold licences is in most circumstances a powerful tool in disciplining their behaviour. It must be reiterated, however, that the RBI needs to develop the institutional capacity to monitor and enforce such controls.

Figure 1: Estimates of regional unrecorded capital flows



Source: Author's own estimates.

A further issue that must be briefly addressed is the Tobin tax.[14] Of the countries discussed in this article only Colombia, very briefly, implemented a Tobin tax on capital inflows.[15] A Tobin tax on foreign-exchange transactions was intended to discourage short-term speculative movements of capital. In order to be effective, however, it needs to be quite substantial. It may have some effect, in conjunction with other steps, as a short-term measure to help provide a breathing space for the authorities. If it were to be implemented in the long term, it would soon be priced into a higher cost of capital and have little effect on short-term movements but probably greater effects on the capacity of small- and medium-sized firms to raise capital.

There are thus three strategies for opening up the capital account based on country experiences:

14. For a discussion of the Tobin tax, see 'Policy Forum: Sand in the Wheels of International Finance', *Economic Journal*, 105 (428).
15. Colombia introduced a Tobin tax on all capital inflows, including trade finance, in an Emergency Decree of January 1997 when international reserves increased dramatically. The Decree was declared unconstitutional two months later and the Central Bank instead increased reserve requirements further (Villar and Rincon, 200:33).

(i) Based on distinctions between residents and non-residents. Both South Africa and India have followed this approach. In South Africa the following sequencing was adopted: a) the abolition of controls on current account transactions; b) the abolition of exchange controls on non-residents; c) the abolition of exchange controls for foreign direct investment by domestic corporate entities; d) allowing insurers, pension funds, unit trusts and other financial institutions to acquire foreign investments in order to diversify their total portfolios; and e) a progressive relaxation of all other controls on outward investments and current account transfers by residents. India is following a similar approach. It has liberalised current account transactions and relaxed controls on non-residents, plus some relaxations on FDI by corporate entities. Prudential limits and quantity restrictions are used to regulate the flow of capital. The cash reserve ratio is applied only to non-resident Indian deposits in the banking system. The next stage of liberalisation will deal with pension funds, the insurance sector and unit trusts, plus liberalisation for the resident sector. The assumption in both cases seems to be that a crisis is caused by the outflow of capital from the resident sector. It is feasible that, because of asymmetric information, domestic investors do move out first when the investment climate changes. As already noted, Mexican residents moved out of tesobonos first, followed by the financial institutions. Recent crises, however, do assign an important role to the reversal in institutions' expectations that led to a reversal of capital flows.

(ii) A policy of first liberalising inflows and then outflows. Management of the open capital account in this case is not by means of restrictions on residents but rather by the use of price instruments[16] and prudential limits, with the intention of transforming the maturity structure of capital flows and insulating the impact of large and volatile flows on monetary and exchange-rate policy. The experiences of Chile, Colombia and Malaysia provide examples. Note that outflows in many countries have been liberalised because of pressure on the macroeconomic management of capital inflows (such as the quasi-fiscal costs associated with sterilisation or the inability to conduct open market operations), without satisfying the preconditions necessary for an open capital account.

(iii) A big bang approach simultaneously liberalising controls on inflows and outflows.

Is it sensible to liberalise on the path adopted by India and South Africa? Is the Chilean type of liberalisation more suitable? The effectiveness of capital controls discussed in this article gives us some pointers to policy:

- Price controls are only effective in the short run in lengthening average maturities. However, they are not very effective in changing the total capital flow or its impact on monetary and exchange-rate policy.
- Controls on capital outflows are generally ineffective, as demonstrated by the estimates of unrecorded capital flows.
- In a well-regulated and supervised system, quantity limits on capital outflows can be effective on some types of institutions such as banks, pension funds and authorised dealers.

16. The cash reserve ratio in India was applied only to non-resident Indian deposit schemes.

The country experience reveals that price controls can be used for macroeconomic management of flows in the short run in the face of large and volatile capital flows, together with other supportive policies. Brazil is a case in point, where capital controls did not work because of lack of supportive policies. In the transition phase when countries are reforming the financial sector and putting other preconditions into place, quantity restrictions on some classes of financial institutions in conjunction with price controls for macro management may well work.

Conclusion

The analysis in this article points to a number of conclusions with regard to the desirability, pace and form of capital account liberalisation:

(i) *Capital account liberalisation is not a matter of choice.* Globalisation of the world economy is a reality that makes opening up the capital account unavoidable. It is prudent for developing countries to work out an orderly liberalisation, instead of reforming under duress after a crisis has hit the economy.

(ii) *The main impediments in the way of CAC are the weak initial state of the financial sector and problems related to the asset-liability management of the banking system.* Of crucial importance are measures addressing bank soundness, interest-risk management, hard budget constraints for public enterprises, the oligopolistic structure of the banking industry, and market segmentation. Without fundamental changes in the structure of the financial system, macroeconomic and financial instability is a predictable consequence of moves towards CAC.

(iii) *Macroeconomic stabilisation and flexibility are required for a successful liberalisation of the capital account.* A successful CAC programme requires the achievement of the following macroeconomic targets:

- reductions in inflation levels to those prevailing in industrialised countries;
- reductions in the gross fiscal deficit/GDP ratio;
- sufficiency of foreign-exchange reserves;
- sustainable current account deficits;
- a stable and competitive exchange-rate regime;
- development of indirect instruments of monetary policy.

(iv) *Liberalisation of the capital account will be a gradual process accompanied by fiscal and financial reforms.* International portfolio diversification requires skills in managing interest- and exchange-rate risk. It also requires availability of information to all market participants. The *modus operandi* for tracking information in many developing countries is still not in place. Moreover, many banks and financial institutions have problems in managing domestic interest and exchange risk in the domestic forex market. The development of risk management techniques in both domestic and international markets is therefore imperative.

In some countries, the supervisory and regulatory regimes need to be improved and brought up to international standards, which further reinforces the case for gradualism. Developing different segments of the financial market is dependent on

a well-functioning money market. Since segmentation is still a feature of financial markets in developing countries, and the banking sector remains vulnerable, a 'big bang' approach will lead to instability and sow the seeds for an ensuing banking crisis.

(v) *Sequencing current and capital account liberalisation.* Liberalisation of controls on the current account combined with a relatively closed capital account leads to the loss of capital through leads and lags in the current account. Some restrictions on the current account are needed in the transition phase to give the country time to reform without having to deal with the problem of capital flight through this channel. The decision to open up the capital account because of pressures introduced by the opening of the current account is a poor policy decision.

(vi) Country experiences suggest that there are three strategies for opening the capital account, and that it is practical and feasible to be at different points along the spectrum leading to a fully convertible capital account.

a) *Based on distinctions between residents and non-residents* (India and South Africa).

b) *Opening first the inflow side and later liberalising outflows, followed by management of the open account with the aid of price instruments (when required) that are designed to alter the maturity structure of inflows and their impact on monetary and exchange-rate policy* (Chile, Colombia and Malaysia).

c) *A 'big bang' approach simultaneously liberalising inflows and outflows* (Argentina, Peru and Kenya).

The country experiences described in this article suggest that either option (a) or option (b) is preferable for most developing countries. Each has to decide on the degree of CAC based on its own conditions, moving over time towards greater openness consistent with its overall reform process.

(vii) *Capital flight may be a problem for economies opening their capital accounts.* The overall investment climate, political and economic instability, and asymmetric risk and information motivate capital flight. Capital can also leave through leads and lags if the current account is convertible and the capital account remains restricted. Further work is needed to determine which restrictions on the current account can be used effectively in the transition phase. Evidence on unrecorded capital flows demonstrates that capital can leave through various channels under both closed and open regimes. While unrecorded flows may occur because appropriate information systems are still not in place, they also reflect genuine capital flight motives. The porosity of the capital account emphasises the need to bring about the necessary reforms to control such flows. The conditions for liberalisation discussed here will be conducive to the return of earlier capital flight.

(viii) *CAC is consistent with some restrictions that can be used to insulate a country from macroeconomic instability in the face of large and volatile flows.* Prudential limits on certain classes of transactions are also consistent with a convertible account. Individual components of the capital account can be liberalised selectively, while the sequencing at each stage must explicitly take into consideration the individual circumstances of each country.

The experience with capital controls in managing flows suggests important

lessons for countries contemplating liberalisation. Restrictions on certain classes of institution, such as banks, pension funds and authorised dealers, are generally effective. Other restrictions are not. Price-based controls can alter the maturity structure of inflows but have little effect on total inflows; while they may provide monetary autonomy in the short run, they cannot be used to insulate monetary and exchange-rate policy.

The objective of liberalisation is to improve efficiency in international financial intermediation. Its achievement requires the liberalisation process to be embedded in an overall process of reform of the financial sector and commitment to prudent macroeconomic policies. Capital controls are not a substitute for prudent macro policies.

(ix) *The need to constrain short-term inflows arises from the inability of financial systems in developing countries to intermediate capital from the short to the long end and to bear the risk of financial intermediation. The management and monitoring of short-term inflows must therefore be a central concern of policy-makers.* Over time, as the financial sector becomes more sophisticated, the need for constraints should diminish. Country experience suggests that excessive short-term flows that find their way into non-tradeable and speculative sectors are a prime source of vulnerability to sudden reversals of flows. If policies such as sterilisation or the liberalisation of outflows fail to stem the inflows, governments might look to the imposition of prudential controls to alter their composition and/or maturity structure. Experience also suggests that these controls can help provide a measure of monetary autonomy. It should be emphasised that these controls should be of a temporary nature, as control regimes lose effectiveness over time as their negative effects on allocative efficiency increase.

(x) *Offshore centres can play a role in a financial crisis and create havoc for a developing economy.* Harmonisation of tax regimes, liberalisation under prudential oversight, and capital account liberalisation can reduce the appeal of such centres. Co-ordination between onshore and offshore supervisory authorities will also contribute to financial stability in the world economy.

(xi) *The relative size of inflows into many poor economies is very high by world standards*. Further research must therefore be directed at the process of CAC in the context of such economies as those in sub-Saharan Africa, where recourse to indirect instruments of monetary policy, hedging interest-rate and exchange-rate risk, is constrained by the lack of depth in the financial market. Other bottlenecks include the limited number of market participants. The development of the financial market and its structure may be constrained by the size of the economy. The degree of CAC and the management of the capital account will need a new focus because of the paucity of financial instruments and the inadequate financial infrastructure, problems which were less acute in other economies. Problems can also be foreseen in the dilemmas posed by floating exchange-rate regimes. In the face of these problems a strategy for smaller economies to manage capital flows and the degree of capital account convertibility needs to be debated.

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Annex 1: Country Experiences

Argentina	
Background	1970s and 1980s, severe hyperinflation which completely undermined the credibility of monetary policy and subverted economic growth. The Convertibility Plan of 1991 sought to regain monetary control by establishing a currency board that prevented the monetisation of the fiscal deficit and ensured the complete liberalisation of international payments and transfers on both current and capital accounts. This radical restructuring of monetary and payments policy was accompanied by a policy of trade liberalisation, privatisation, deregulation, fiscal consolidation and initiatives to improve the operation and prudential supervision of the financial system.
Sequencing of reforms	Article VIII obligations accepted in 1968. Current and capital account transactions liberalised simultaneously in 1991, completing a process begun in 1989. Financial sector reform pushed further during the Mexican crisis of 1994-5, with capital adequacy ratios beyond those specified by the Basle Committee and increased liquidity and foreign participation.
Exchange rate	Currency board system adopted in 1991; exchange rate of peso to US$ set at 1:1.
Direct/indirect monetary policy tools	Not relevant in a currency board regime.
Ability to sterilise inflows	No independent monetary policy, since under currency board system monetary base is determined by international reserves.
Result of CAC	Able to attract large inflows of private capital in aftermath of this radical reform. FDI and portfolio flows reached 11% of GDP in 1993, compared with less than 1% in 1990. Real GDP growth averaged more than 7% in three years following convertibility, while consumer price inflation declined dramatically to 4% in 1994. After recession in 1995, growth quickly resumed.
Crisis?	None. However, suffered from Latin American contagion in wake of Mexican crisis in 1994-5, resulting in sharp contraction of monetary base and real economic activity. Instead of re-imposing capital controls, government further tightened fiscal policy and sought to lengthen maturity of public debt, use fixed-rate instruments and pre-borrow funds in better market conditions. Also further strengthened banking system.
Lessons	Reform process re-established confidence in macroeconomic and financial framework; able to benefit from renewed access to international financial markets. But at cost of severe loss of monetary and fiscal autonomy, and vulnerability of real economy to foreign shocks. Radical policy prescription also depends upon wide political acceptance, and is not always easy to maintain in face of high domestic unemployment. Experience suggests that, while sequencing is important, strong, credible supporting policies also required. Confluence of institutional capacity and political support in Argentina suggests its experience less applicable to other countries.

Kenya	
Background	Severe economic crisis in late 1980s, fuelled by dramatic decline in price of two main commodity exports, tea and coffee, resulting in widening fiscal and current account deficits and foreign-exchange shortage. Growth slowed, while inflation accelerated. Highly regulated but poorly supervised financial system and highly controlled payments and trade regimes. Clientelistic political system generated pressures for credits to favoured groups and firms.
Sequence of reforms	Current and capital account transactions significantly liberalised in 1991. Foreign-exchange bearer certificates introduced for external transactions. Article VIII obligations agreed in 1994. Remaining foreign-exchange controls eliminated in 1995, with a few exceptions, all restrictions on the capital account removed. Financial sector reforms largely neglected.
Exchange rate	Unified exchange-rate regime with rate determined in inter-bank market at previous day's average. US dollar principal intervention currency.
Direct/indirect monetary policy tools	Central bank relied on direct measures including differentiated credit ceilings and interest-rate controls. In late 1980s, government sought to move to more indirect controls by abolishing credit ceilings and interest-rate controls.
Ability to sterilise inflows	Capacity yet to be tested since country has failed to attract large inflows.
Result of CAC	Reform programme failed to attract significant inflows or to prevent further decline in growth and accelerated inflation. Inconsistent policies generated by first democratic elections in late 1992 resulted in crisis in early 1993. Money supply expanded rapidly, resulting in rise in M2/GDP ratio from 29.7% in 1990 to 37.1% in 1993. Pervasive weaknesses in financial system exacerbated crisis, and prudential regulation remained feeble as banks regularly breached legal reserve ratios.
Crisis?	Yes. Beginning in late 1991, economy moved into crisis as growth declined and inflation increased. Inconsistent policies, including misappropriation of public funds, money growth and unsound financial practices, with weak regulation, caused widespread loss of confidence and a sharp currency depreciation.
Lessons	Rapid and wide-ranging liberalisation in context of major macroeconomic imbalances increases vulnerability by providing legal channels for capital flight. Therefore only small inflows of foreign investment and capital. Experience reveals liberalisation of the financial sector and capital account as insufficient for economic recovery. Reforms must be embedded in a larger process addressing major imbalances and not in context of inadequate institutional capacity and insufficient accompanying structural and macroeconomic reforms.
Peru	
Background	Major crisis in late 1980s following short-lived boom, resulting in real GDP contracting by 20% in 1988-9, plus collapse in investment and hyperinflation. In 1990, a new administration brought in extensive liberalisation programme covering both the financial sector and the capital account.
Sequencing of reforms	Liberalisation of current and capital account undertaken concurrently in 1991. Foreign and domestic investors accorded similar terms. Foreign investors allowed to remit profits and dividends and re-export capital. To enhance credibility these reforms included in new Constitution of 1994. Financial sector reform also carried out in early 1990s, with liberalisation of interest rates and ending of government intervention in credit allocation.
Exchange rate	Multiple exchange-rate regime unified in 1990 and rate allowed to float.

Direct/indirect monetary policy tools	Reliance on direct instruments continues, although progress made in developing more indirect instruments.
Ability to sterilise inflows	With relatively undeveloped state of indirect instruments of monetary control and thinness of domestic markets, ability to sterilise inflows constrained.
Result of CAC	Large inflow of foreign capital as result of policy reform. Stock of FDI increased from US$1.3 bn. in 1990 to US$6.0 bn. in 1995, accounting for about 4.5% of GDP in 1994-7. Inflows also sustained by widening interest-rate differential caused by tight monetary policy and declining US interest rates. Under floating exchange-rate regime these inflows resulted in 25% appreciation of real effective exchange rate between 1990 and 1995. Current account deficit widened from 3.8% of GDP in 1990 to 7.3% in 1995, fuelled by increase in investment and largely financed by inflows of private capital. A tighter fiscal policy and high reserve requirements on dollar deposits caused substantial increase in reserves, which more than covered increase in short-term debt.
Crisis?	No. Under pressure during Mexican crisis of 1994, but by tightening prudential regulations and surveillance, able to emerge relatively unscathed.
Lessons	Experience points to necessity – especially during rapid liberalisation of capital account – of placing CAC within broader reform framework addressing macroeconomic and structural imbalances and emphasising financial sector reform. Some analysts have argued that the large real appreciation, in conjunction with tight monetary and fiscal policies, has greatly harmed an export sector crucial to long-term growth, and that there might have been benefits in either retaining some control over exchange rate or controlling capital inflows.
Chile	
Background	After previous rapid liberalisation ended with banking crisis in mid-1980s, CAC gradually pursued in the 1988-97 period. Attempt to pursue export-oriented strategy requiring stable exchange rate and inflows of foreign capital to promote non-traditional exports, and to maintain both internal equilibrium (by setting high domestic interest rates) and external equilibrium (by preventing real appreciation of currency). Foreign investors therefore required to place an unremunerated reserve (URR) at central bank, at a cost inversely proportional to maturity of inflow. URR thus intended to (a) increase monetary independence, (b) discourage short-term inflows, (c) restrain real exchange-rate appreciation and (d) limit total capital inflows.
Sequencing of reforms	Article VIII obligations accepted in July 1977. In initial phase of reform effort (1985-9), focus on restructuring banking system, trade reform, selective liberalisation of direct and portfolio capital inflows, and creating the institutional independence of Central Bank (CBC), thus on providing more liberal access to foreign exchange for current account transactions, to complement policy of lowering tariffs. Later phases concentrated on development of financial markets, adoption of more flexible interest-rate and exchange-rate policies, and progressive relaxation of controls on capital inflows and outflows.
Exchange rate	In 1983, a fixed exchange rate replaced with a crawling peg regime, and later a crawling band which enabled exchange rate to float freely within a +/-0.5% (later raised to +/-2%) band.
Result of CAC	Over 1994-97, FDI equivalent to nearly 6% of GDP attracted. Macroeconomic environment stable with low inflation, a balanced fiscal position and high rates of economic growth.

Effectiveness of capital controls	Subject of considerable debate. The balance of evidence to date suggests controls have: provided some room for independent monetary policy by increasing wedge between domestic and international interest rates; lengthened to some extent the maturity structure of capital inflows; had no effect on level of total inflows; had no effect on exchange rate.
Cost of controls	• **Cost of capital:** Edwards (1999) argues that URR increased cost of capital significantly, especially for small- and medium-sized firms that found it difficult or impossible to evade controls on capital inflows. In 1996, cost of funds for smaller firms was as high as 24%. Gallego et al. (1999) argue costs not negligible: URR and policy stance accompaning it retarded growth by about half of a percentage point during 1990s. • URR may lead to **misallocation of resources** in domestic economy. Since URR tends to increase short-term interest rates proportionately more than long-term rates, it will discriminate against short-term projects and those sectors that are more dependent on bank financing. • Gallego et al. (1999) argue that over time the URR loses its effectiveness, and thus, for a given interest-rate differential sought by the authorities, a **rapid accumulation of reserves** may ensue. The net quasi-fiscal costs are not negligible, reaching 0.5% of GDP in 1998. • While difficult to estimate, **rent-seeking costs** are also likely to be associated with trying to avoid the inflows tax and, at the other end, costs associated with continual attempts to close loopholes.
Lessons	An incremental process of CAC within a strong supporting reform framework can be highly effective. Cautious policy pursued of developing institutional structure able to accommodate a higher level of capital inflows, policy towards which remained flexible, with capital control policy complemented by (a) a degree of real exchange-rate appreciation and (b) sterilised intervention accompanied by tighter fiscal policy. Experience also illustrates possibilities of controls on capital inflows. Two points to be stressed: (i) controls were part of broader strategy seeking both to encourage inflows and to diminish their potentially more harmful effects on monetary independence, exchange rate and systemic vulnerability; (ii) strong institutional capacity allows capital control regime to be implemented efficiently and insulates it from corruption.
Uganda	
Background	Following coming to power of current administration in 1986, Economic Reform Programme (ERP) including stabilisation and structural adjustment policies initiated in 1987. Gradual approach towards liberalisation of markets adopted, to dismantle previously extensive controls on economic transactions and create a more competitive environment.
Sequencing of reforms	Starting with domestic markets, prices first liberalised in goods market with exception of oil and oil products. Followed by gradual liberalisation of financial sector, initiated in 1988, and reform in 1994. In meantime, exchange and payments system also systematically liberalised, culminating in acceptance of Article VIII obligations in 1993 to allow for unrestricted current account transactions. In July 1997, capital account was finally liberalised – formalising *de facto* open capital account that already existed.
Exchange rate	In 1990, the *kibanda* (parallel forex) market legalised, but multiple exchange-rate regime continued till November 1993, when, on introduction of interbank forex market, market fully unified. Floating exchange-rate regime exists today with intervention by central bank to ensure stability in market only.

Direct/indirect monetary policy tools	Reliance on direct tools gradually reduced and use of indirect tools increased since 1993, although array of instruments available still limited, largely because of thinness of financial system. Nonetheless, inflation controlled through efficient use of few available instruments and close co-ordination of monetary and fiscal policy.
Ability to sterilise inflows	Initial approach involved use of both fiscal and monetary instruments. However, in recent past, reliance largely on monetary policies. Due to the limited monetary instruments and thinness of market, capacity to sterilise inflows heavily constrained.
Result of CAC	Reform process in general managed to close savings-investment gap, as high GDP growth rates, averaging 6.5% p.a. over last decade, largely financed from foreign resources. Role of private capital enhanced through capital flows; now stands at 12.8% of GDP, up from 9.6% in 1996. Private domestic savings, on other hand, recorded at 8.6% and 6.9% respectively.
Crisis?	No. To extent that bulk of capital flows were returning capital by residents and steady FDI flows to finance long-term projects, no substantial problems associated with fluctuations in net flows experienced. Major challenges in areas of exchange-rate management and monitoring capacity.
Lessons	• CAC in environment of sound macroeconomic policies has capacity to increase capital inflows. • Macroeconomic management under IMF programmes constrains capacity to handle temporary crises associated with speculative behaviour. • Challenges concerned with data collection for policy management, prudential management and regionalism need to be addressed.
Indonesia	
Background	In 1985, a reform programme intended to reorient economy away from dependence on oil sector and towards an internationally competitive industrial export sector that could help absorb growing labour force, initiated. Reform on a broad front required, including liberalisation of direct investment to promote export diversification, maintenance of a competitive exchange rate, trade liberalisation, improvements in monetary management and strengthening the financial sector.
Sequencing of reforms	Article VIII obligations to liberalise payments for current international transactions accepted in 1988. On the capital account, selective controls maintained on both capital inflows and outflows. Financial sector reformed in phases from interest-rate reform in early 1980s to greater emphasis on accounting standards and prudential regulation in 1995-6.
Exchange rate	Rupiah floated freely in trading band of +/-8% (widened to +/-12% immediately before rupiah floated in July 1997). Real effective exchange rate remained remarkably stable over 1987-97.
Capital controls	On inflow side, selective controls maintained on direct investment (domestic ownership requirements), portfolio investment (purchases of equity by foreigners prohibited) and bank borrowing in foreign markets. While capital outflows by individuals open in 1985, lending abroad by banks and financial institutions prohibited (prohibition maintained in 1985-96 period).
Effectiveness of controls	During 1990s, controls imposed on both inflows and outflows. In 1990-91, in context of overheating economy and stable real exchange rate, large inflows (mainly commercial bank borrowing) perceived to be excessive and a threat to macroeconomic management. Quantitative controls re-imposed on offshore borrowing by banks and state enterprises and stricter limits introduced on open foreign-exchange positions of banks. Controls on capital outflows imposed in response to Asian crisis in July 1997. These took form of restrictions on non-resident transactions ($5 million per customer) and the net open position of banks ($5 million per bank) in forward market.

Crisis?	Yes. Initially seemed poised to weather 1997 Asian financial crisis, given smaller current account deficit and decision to widen trading band of rupiah. Widespread concerns about soundness of banking sector, however, renewed speculative pressure on rupiah, which after forced float promptly collapsed in value, from average rate of 2,342 against the US$ in 1996 to 10,013 in 1998.
Lessons	Experience illustrates problems created by large inflows into a poorly regulated and supervised financial system. These were related to nature of interaction between political elite and financial industry, which obscured functioning of system from outside investors and allowed insiders to socialise risks of their behaviour, thus leaving little to sustain confidence of outside investors when better-regulated systems in countries like Malaysia came under pressure. Also reflected general problem of Asian countries in 1997: short-term, dollar-denominated debt far in excess of international reserves. According to BIS, $34.2 bn of Indonesia's total private foreign debt of $55 bn – equivalent to 16% of GDP – due to mature in less than a year. 1995- mid-1997, Indonesian firms doubled their exposure to take advantage of spread between international and domestic interest rates. Government failed to curb or effectively monitor inflow. Thus, the experience points to fundamental structural gaps in the preconditions for CAC as well as failures of regulation, monitoring and enforcement.
Korea	
Background	Throughout rapid industrialisation from 1960s to late 1980s, economy characterised by extensive government intervention, a key instrument of policy control being its use of nationalised financial system to provide directed credits to certain industrial sectors, with monetary policy pursued mainly through direct instruments, including ceilings on lending rates. While serving to mobilise large resources for industrial development, this also helped ensure that development of financial system lagged behind that of real economy. In 1980s, domestic financial system and capital account gradually liberalised, accelerated under Kim Young Sam administration in 1993.
Sequencing of reforms	In 1988, Article VIII obligations accepted, ensuring full convertibility for current account transactions. Liberalisation of capital account gradual and selective, and comprehensive liberalisation not adopted until 1993. Policy towards capital account transactions guided by developments in current account; in response to significant current account surplus in 1986-9, moves made to curtail net capital inflows, whereas in early 1990s as current account weakened, moves made to encourage inflows. Policy thereafter towards gradually liberalising capital account transactions. Financial sector reform, including efforts to improve regulation and supervision, pursued concurrently.
Exchange rate	As part of reform process, moved from pegging won to a basket of currencies to the Market Average Exchange Rate system, with rate determined on basis of weighted average of interbank rates for previous day's won-dollar spot transactions, within margins of +/- 2.25%.
Result of CAC	A key consequence of increased access to external financing was rapid expansion of foreign debt, which almost trebled from $44 bn. in 1993 to $120 bn. in September 1997. While accounting for only 25% of GDP in 1997, considerably lower than other comparable countries, a critical dimension was the maturity structure. Share of short-term debt rose from already high 43.7% in 1993 to an extremely high 58.3% at end 1996. Newly-licensed merchant banks assumed large share of this. Thus, despite measures undertaken in 1990s to liberalise and strengthen financial sector, persistent weaknesses of oversight and regulation helped propel country into crisis in late 1997.

Crisis?	Yes. Hit by Asian crisis of 1997. Sharp rise in short-term debt to reserves ratio and concerns about stability of financial sector (especially finance companies) encouraged continual pressure against won, which, when forced out of its trading band, promptly collapsed, from average of 804 won per US$ in 1996 to average of 1401 in 1998.
Lessons	Experience suggests danger of liberalising capital account in context of inadequate prudential regulation and unreformed financial system. Failure to adequately monitor activities of finance companies was serious gap in regulatory regime, which greatly increased vulnerability to sudden flow reversals. Precipitous dismantling of traditional system of co-ordinating long-term investment resulted in poor allocation of these funds, reflecting a changing relationship between state and large *chaebols* with government no longer as dominant a player in new democratic dispensation. With lack of state co-ordination and poor financial intermediation, funds flowed into low quality investments in sectors with already serious problems of overcapacity. Experience thus focuses on appropriate preconditions for CAC (liberalisation of real sector), financial reform and improved regulation, and also points to lessons of failed sequencing. Short-term flows liberalised first, followed by long-term flows as part of crisis management in 1997-8.
Colombia	
Background	Experienced a surge of private capital inflows in early 1990s, from 0.2% of GDP in 1990 to more than 7% of GDP in 1997, in response to extensive structural reforms including liberalisation of exchange and trade system, dismantling of interest-rate controls, financial reform, encouragement of FDI, and tighter monetary policy. To restrain inflows, URR on capital inflows introduced similar to that of Chile.
Sequencing of reforms	Broad reform programme initiated in 1991, significantly increasing openness to world economy, including liberalisation of trade regime (traditional system of prior-licensing imports dismantled) and real economy as well as of capital account transactions (with particular emphasis on encouraging FDI). Financial sector reform proceeded in tandem with this, with emphasis on improved prudential regulation and monitoring.
Exchange rate	In early 1994, crawling band introduced which made explicit what had already been central bank policy – width set at +/-7% and rate of crawl based on expected inflation differentials with trading partners. In September 1999, floating regime was introduced. The Central Bank has announced, however, its intention to intervene to accumulate reserves and reduce short-run volatility through auctions of put or call foreign-exchange options whenever average daily exchange rate is more than 5% above or below 20-day moving average.
Result of CAC	Large inflows of foreign private capital attracted after structural reform, inflows amounting to 5% of GDP in 1993 and 8.4% in 1996. To restrain inflows and pressure on exchange rate, inflows at first partially sterilised through open market operations, but resulting central bank losses amounted to 0.8% of GDP in 1991 and higher interest rates continued to induce inflows. In addition to devaluing the peso, easing restrictions on outflows, and strengthening prudential regulation, a 10% withholding tax imposed aimed at current account transactions used for speculative purposes. In 1993, a URR imposed on external borrowing of less than 18 months maturity.

Effectiveness of controls	Evidence suggests that URR lengthened maturity structure of external debt, although this must be interpreted with caution since an exchange-rate band concurrently introduced which may have helped reduce speculative flows. Effects of URR on total inflows inconclusive, although inflows increased in size following its introduction. Villar and Rincon (2000) argue that URR was effective in providing room for central bank to reconcile dampening domestic demand with braking peso appreciation. Effectiveness of controls in reducing volatility of inflows still to be determined, but Chilean experience suggests volatility might decrease.
Lessons	Experience reflects a number of the themes of CAC: (i) evolution of exchange-rate regime has been towards greater flexibility during CAC period; (ii) lax fiscal policy has complicated task of monetary policy in controlling inflation and limiting real exchange-rate appreciation, leading to imposition of URR; (iii) functioning of financial system and quality of regulation improved, which proved instrumental in success of liberalisation programme.
Brazil	
Background	In early 1990s, economy experiencing inflationary spiral, against which a wide arsenal, including price and wage controls, freezing bank deposits, tighter monetary policy, tax increases and sequestering financial assets, deployed unsuccessfully. Large fiscal funding requirements encouraged expectations of further inflation and raised interest-rate differential which, in conjunction with stable exchange rate, induced large inflows. These further encouraged by further liberalisation of capital inflows.
Sequencing of reforms	Article VIII signed in November 1999. CAC has progressed in fits and starts during 1980s and 1990s, complicated by large imbalances that have led to periods of hyperinflation. Financial sector reform also proceeded at fitful pace, although financial system relatively sophisticated.
Exchange rate	Central Bank sets adjustable band for dollar value of *real* and maintains continuing crawling peg within it.
Capital controls	Various control measures introduced to contain short-term inflows. With lack of fiscal adjustment, domestic interest rates had to be kept high to reduce aggregate demand, while pressures for exchange-rate appreciation and sterilisation costs had to be reduced. Complex mixture of direct and price-based measures used, including changing banking regulations and increasing amortisation terms for loans. Coverage extended as markets adopted derivative strategies based on exempted inflows to circumvent controls, and tax rates altered to target short-term inflows. Regulations also loosened during Mexican and Asian crises to relieve pressure on capital account. After the Real Plan introduced in 1994, more controls implemented to lengthen maturity structure of inflows by, *inter alia*, banning investments in certain assets and increasing entrance tax on certain classes of inflows. In 1995, differentiated tax rates related to maturity of loans introduced, along with measures to ban short-term inflows into fixed income investments and foreign access to derivative market.
Effectiveness of controls	Various controls on inflows and liberalisation of outflows appear to have reduced net inflows. Over 1992-5, average monthly net private capital flows were $970 m., consisting primarily of short-term funding. Porosity of controls in context of highly sophisticated financial markets, high interest differentials and fiscal imbalance rendered controls largely ineffective in changing size and composition of inflows.

Lessons	Experience suggests that lack of macroeconomic reforms (especially in terms of fiscal policy) can induce perverse outcomes with respect to inflationary expectations and capital inflows. In context of high interest-rate differentials and sophisticated financial markets, capital controls unlikely to be able to effectively alter scale of net inflows or their composition. Cardoso and Goldfajn (1998) find an increase in controls has only temporary effect on scale and composition of inflows.
India	
Background	After 1991 economic crisis, embarked on liberalisation process that has begun to reverse decades of inward-looking and interventionist policies. Industrial licensing abolished and trade barriers reduced. During the 1990s, cautious and gradual move towards more capital account openness under way, although considerable obstacles to full convertibility still present.
Sequencing of reforms	Signed Article VIII in August 1994, but some current account controls consistent with these obligations maintained. CAC has proceeded gradually. 1997 Tarapore Committee recommended cautious approach seeking to establish preconditions on a sound footing, including fiscal consolidation, an inflation target and, most important, strengthening financial system. Consequently, more stable flows, such as direct and portfolio investment, liberalised first, followed by partial liberalisations of debt-creating flows, derivative transactions and capital outflows. Financial reform continued concurrently.
Exchange rate	Flexible exchange-rate policy pursued in context of managed float.
Capital controls	Extensive capital control regime maintained, despite liberalisation. Controls quantity- rather than market-based and administratively enforced; oriented towards limiting external debt, particularly excessive exposure to short-term foreign debt. Controls remain on external exposure of pension funds and insurance companies, and external assets of banks closely monitored.
Effectiveness of controls	Largely effective in limiting measured capital flows and in shifting composition towards long-term flows. Among other factors, such as limited trade and financial linkages with global economy, controls insulated economy from 1997 Asian crisis. Indeed, long-standing and extensive capital controls reduced vulnerability to external crisis. It should be noted, however, that they did not prevent high levels of external indebtedness and balance-of-payments crises in 1980 and 1991. Evidence of evasion and avoidance of controls working through trade misinvoicing. Furthermore, controls carry significant administrative costs, burden legitimate transactions and create inefficiency.
Lessons	Experience illustrates gradual approach to CAC, which has proceeded in context of broad reform agenda encompassing trade, competition and industrial restructuring. Emphasis placed on reform of financial system as precondition for CAC. Report of Committee on Banking Reform set out large-scale reform agenda required. Experience also reveals effectiveness of present control regime in preventing a build-up of short-term external liabilities that could increase vulnerability to externally-generated crises. India also limits banking assets held in real estate, foreign currency and equities. Thus, balance sheets of banks are not subject to same degree of volatility as countries affected by Asian crisis. By effectively shifting composition of inflows towards more stable, long-term flows, benefits of CAC can be enjoyed, while limiting vulnerability as financial sector reforms proceed.

Malaysia	
Background	In early 1990s, faced large inflows of foreign capital, both short- and long-term. Significant increase in short-term inflows (from 5.3% to 8.7% of GDP in 1993), induced mainly by high interest-rate differential and expectations of ringgit appreciation, increased concerns regarding sustainability and stability. Domestic interest rates, however, remained high to restrain inflation. High costs of sterilisation and its maintenance of high interest rates led to controls on short-term capital inflows. In 1997, in midst of a financial crisis, controls on capital outflows implemented in order to limit downward pressure on exchange rate and upward pressure on domestic interest rates exacerbating contraction already under way and undermining financial system. They also served to 'buy time' for domestic adjustment and to insulate economy from international market turmoil. Initially, authorities tried to break link between onshore and offshore rates by setting limits on ringgit non-trade-related swap transactions with non-residents, but these reinforced large interest differentials and induced greater outflows. Consequently, direct exchange and capital control measures imposed in September 1998, which sought to contain ringgit speculation and outflow of capital by eliminating offshore ringgit market.
Sequencing of reforms	Article VIII obligations accepted in 1968. Malaysia has always had relatively open capital account. Since mid-1980s, portfolio inflows and banks' foreign-exchange borrowing and lending free from restrictions (except for net foreign-exchange open position limits). Residents' foreign currency borrowing subject to limits that require approval if to be exceeded. Before crisis, cross-border activities in ringgit were also free. Financial sector reform accelerated in wake of crisis.
Exchange rate	Before July 1997 crisis, engaged in managed float of ringgit. With the imposition of controls in September 1998, ringgit pegged to the US$.
Capital controls	Inflow controls in 1994 seen as temporary measures to restrain short-term inflows, particularly in form of foreign borrowing by banks and ringgit deposits opened by bank and non-bank foreign customers. Measures included: prohibitions on residents selling Malaysian money market securities to non-residents; prohibitions on banks engaging in non-trade-related bid-side swap or forward transactions with non-residents; ceilings on banks' net liability positions (excluding trade and FDI flows) to curtail foreign borrowing to engage in non-trade and portfolio transactions; a requirement that banks place with the central bank the ringgit funds of foreign banks maintained in non-interest-bearing accounts. Interest-rate policy also eased, sterilisation measures curtailed and increased prudential regulation introduced to contain excess liquidity in banking system. Controls largely lifted by end 1994. Outflow controls imposed in September 1998 sought to eliminate channels through which speculative positions could be taken against ringgit. They excluded FDI and current international transactions. Essential elements were: closure of all channels for taking ringgit abroad; repatriation required of ringgit held abroad; repatriation of portfolio capital held by non-residents blocked for 12 months; restrictions imposed on transfers of capital by residents. Further measures to close loopholes, such as amending the Companies Act to limit dividend payments, also enacted. In February 1999, one-year restriction on repatriation of portfolio capital replaced by exit levy penalising early withdrawal of funds. Applies to principal or profits of non-residents' portfolio investments, depending on whether funds brought in before or after 15 February 1999. Objective to encourage investors to extend their investment horizons in Malaysia and to induce a smooth outflow of funds (rather than a sudden outflow when holding period expired).

Effectiveness of controls	1994 controls on capital inflows largely successful in containing short-term inflows and monetary expansion and instilling stability in foreign exchanges. Monetary aggregates slowed down significantly and capital account surplus fell in response to reversal in short-term inflows in second half of 1994 (particularly new external liabilities of banking system). Long-term flows such as FDI unaffected. Some caution required in interpreting evidence, however, since authorities simultaneously lowering interest-rate differential and ending sterilisation operations which may also be expected to reduce short-term flows. Controls on outflows imposed in late 1998 effective in eliminating offshore ringgit market. Restrictions on internationalisation of ringgit essential in this, especially freezing of external ringgit accounts. Absence of speculative pressure on ringgit, following imposition of controls and currency peg, in an environment of significantly relaxed monetary and fiscal policy, is evidence of effectiveness. No parallel market has emerged and evasion and avoidance of controls through measures such as misinvoicing appear minimal. More studies required to estimate effectiveness of the controls.
Crisis?	Yes. Malaysia hit by 1997 Asian crisis following baht devaluation. While Malaysia's fundamentals relatively strong (high growth, low inflation, full employment, relatively strong financial system and, in contrast to Thailand and Indonesia, no massive build-up of short-term overseas debt), two vulnerabilities had been developing: massive accumulation of outstanding domestic credit and large exposure of banking system to property sector and share trading. When crisis erupted, ratio of outstanding credit to GDP stood at 160%, up from an average 85% during 1985-9. As much as 45% (perhaps 55%) of outstanding bank credit in 1996 was to property and share trading sector. Speculators therefore reasoned that interest-rate defence of ringgit untenable and massive increase in credit evidence of decline in quality of borrowers. After baht's fall, ringgit placed under speculative pressure. Bank Negara relented and currency depreciated rapidly. In contrast to Thailand and Indonesia which accepted IMF programmes, Malaysia instead implemented a capital control regime to insulate it from market pressures while seeking to stimulate recovery through more relaxed monetary and fiscal policy and reform of financial structure.
Lessons	Experience with inflow controls in 1994 suggests they can be effective when complemented by measures to reduce interest-rate differential and heighten prudential regulation. Also suggests that controls that are temporary in nature are more effective in that they limit the increased porosity of controls that develops over time. Overall macroeconomic policy stance, particularly by maintaining tight fiscal policy, also served to complement inflow controls. While basis comparatively strong compared with other affected countries, 1997 crisis revealed weaknesses generated by rapid credit expansion and consequent deterioration of bank assets, leading to reassessment of risks associated with regional banks, and pressure soon escalated against ringgit. Experience demonstrates importance of close central bank monitoring of uses to which external funds being directed (the excessive funding of non-tradeable sectors such as real estate with short-term inflows may signal greater vulnerability). Improved surveillance and enforcement also required to ensure provisioning in banks with escalating non-performing loans.

Thailand	
Background	Like Malaysia, Thailand experienced substantial inflows of foreign capital in early 1990s. Pegged exchange rate, open capital account and large interest-rate differentials induced large and often volatile short-term inflows, accelerated by establishment of Bangkok International Banking Facility (BIBF) in 1993 along with incentives to borrow through it. Increased inflationary pressure and hindered monetary policy. 1995 attempts to deal with this through monetary, prudential and market-based capital control measures extended in 1996. In 1997, hit by substantial speculation against baht in wake of deteriorating current account deficit and developing financial sector problems. Led to increasing questioning of sustainability of exchange-rate peg. To combat speculative pressure on baht, capital controls imposed in May 1997.
Sequencing of reforms	Article VIII obligations accepted in 1990. Fairly open capital account always maintained, particularly with respect to inflows. Establishment of BIBF in 1993 greatly increased freedom to import short-term foreign capital. Inflows liberalised early in reform effort (1985-6 and 1990-5), outflows only gradually (1990-2, 1994). Financial sector reform lagged behind and was the key factor leading to crisis.
Exchange rate	Baht pegged to basket of currencies (primarily weighted towards the US$) since 1984. In aftermath of crisis, two-tier currency market created, with separate exchange rates for investors buying bahts in domestic and overseas markets.
Controls	In conjunction with raising interest rates, increased sterilisation of inflows and prudential reduction of loan-deposit ratios in vulnerable banks, more direct controls aimed at capital inflows introduced in August 1995, including: asymmetric open position limits for short and long positions; a reporting requirement for banks on risk control measures in foreign-exchange and derivatives trading; a 7% reserve requirement on non-resident baht accounts with less than one-year maturity and on finance companies' short-term foreign borrowing. Banks' non-priority lending in foreign exchange and foreign currency exposure also restricted. In 1996, 7% reserve requirement extended to non-resident baht borrowing with maturity of less than one year and new offshore borrowing of maturities of less than one year by commercial and BIBF banks, and the minimum capital adequacy requirement for commercial banks raised. In 1997 capital controls adopted to protect baht, including: financial institutions to suspend transactions with non-residents that could lead to build-up of baht positions in offshore markets; prohibition on purchasing before maturity baht-denominated bills of exchange and other debt instruments requiring payment in US dollars; foreign equity investors prohibited from repatriating funds in baht (but free to repatriate in foreign currencies); non-residents required to use onshore exchange rate to convert baht proceeds from sales of stocks. Controls sought to deny non-residents without genuine commercial or investment transactions access to domestic credit needed to create a net short domestic currency position, while exempting genuine business related to current account transactions, FDI flows and portfolio investments.

Effectiveness of controls	1995 measures contributed to slowdown in economic activity and pace of foreign borrowing, their extension measures in 1996 caused fall in total net flows and shifts in their composition: net capital inflows reduced; short-term net inflows declined as percentage of total inflows between 1995 and 1996; maturity of BIBF loans increased; the share of short-term debt in total debt declined; growth of non-resident baht accounts marginally reduced. Two cautionary notes required, however: (i) isolating effectiveness of control regime from other factors (such as declining investor confidence) difficult; (ii) true maturity of inflows often weakly related to their maturities as measured in balance-of-payments accounts. Controls did not prevent reversal of inflows in 1997, nor foreign funds flooding non-tradeable sectors with no capacity to generate foreign exchange. 1997 controls reduced trading in swap market; also temporarily halted speculative attacks on baht by segmenting onshore and offshore markets. But did not prevent outflows through other channels, nor devaluation of baht in July 1997 that initiated Asian crisis. Circumvention aided by the controls' narrow range, inability to eliminate offshore baht market, and continued deterioration of financial sector and macroeconomy. Thus, controls served to undermine investor confidence further and discouraged capital inflows. In January 1998, as economic environment improved, controls removed and baht appreciated along with rising stock market prices.
Crisis?	Yes. Weakening fundamentals experienced during the course of 1997 and increasing speculative pressure against baht. Combination of fragile financial system, pegged exchange rate and liberalised short-term inflows built up exposures to short-term foreign currency-denominated debt that raised fundamental concerns about policy viability. Devaluation of baht in July 1997 signalled start of Asian financial crisis.
Lessons	Experience with CAC highlights several important points: (i) reform of financial sector and improvements in prudential regulation and enforcement lagged behind implementation of greater capital account liberalisation (especially introduction of BIBF in 1993); (ii) liberalisation of short-term inflows in context of high domestic interest rates and pegged exchange rate led to substantial increase in short-term liabilities of banks and financial companies.; (iii) use of controls in 1995-6 may have precluded moves towards greater exchange-rate flexibility and development of indirect monetary policy instruments; (iv) controls implemented before currency crisis of July 1997 ineffective in altering basic constraints: failed to halt speculative pressure against baht and may have exacerbated negative perceptions of Thai policy. Experience demonstrates that, as in Brazil, controls cannot be substitute for sound macroeconomic policies, financial sector reform and effective prudential regulation and enforcement.