Macroeconomic Policy Implications of Foreign Capital Inflows: The Sri Lankan Experience

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P. Samararatne

1. Introduction

Rapid growth of capital inflows has been an important phenomenon in the external finances in most developing countries in the 1990s.[1] Aggregate net long-term real resource flows into emerging stock markets increased from US$ 89 bn. in 1984 to US$ 223 bn. in 1993.[2] While the turnaround in private capital flows to peripheral countries has been a global phenomenon, countries which created a conducive investment environment through market-oriented economic policies attracted relatively more capital. As far as their regional distribution is concerned, strong private capital inflows were concentrated mostly in the middle-income countries in South-East Asia and in Latin America. Low-income countries, including those of South Asia, in general received less.

The most notable advantage of foreign capital inflows to the recipient country is that it helps to increase the level of domestic investment and growth by relieving the resource constraint typically faced by most developing countries. However, they also introduce new policy challenges. They are often associated with accumulation of international reserves, rapid consumption growth, increasing current account deficits, monetary expansion, inflationary pressures, and real exchange rate appreciation, with adverse implications for economic stabilisation in newly liberalised economies.

This paper aims to analyse the macroeconomic implications of large capital inflows to developing countries, using the Sri Lankan experience as a case study. There are

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1 This paper was written when I was a Visiting Fellow at La Trobe University, Australia. I am grateful to P. Athukorala of the School of Economics, of La Trobe University for the assistance and guidance. I also wish to thank S. Jayasuriya of the same institution for the helpful comments. The grant provided by the La Trobe University is also gratefully acknowledged. The usual disclaimer in regard to errors and omissions applies.

2 International Finance Corporation (1995).

three specific objectives of the paper: (i) to document trends and patterns of capital inflows to Sri Lanka during the 1978-93 period, with special emphasis on private capital; (ii) to analyse the determinants of these inflows during the 1990s; and (iii) to analyse their implications for macroeconomic policy.

This introduction is followed by a description of the Sri Lankan setting and the general policy background, setting the stage for the ensuing discussion. Trends, determinants, and the utilisation of capital inflows are discussed in Section 3. The implications are analysed in Section 4, and this is followed by a discussion of the policy options available to deal with the problems that are raised in Section 5. A summary and conclusions are presented in the final section. The findings of this paper suggest that fiscal imbalance is the prime obstacle to proper macroeconomic and exchange rate management in the face of high capital inflows. However, it is argued that, given fiscal inflexibility in the short-run, and increased short-term speculative capital movements, some intervention into exchange rate determination in the form of an optimal band of fluctuation is a more meaningful means of addressing the undesirable consequences that arise. Polices to enhance the absorptive capacity and allocative efficiency of the economy and the need to increase the productivity in the tradable sector are also highlighted.

2. The Sri Lankan setting

In this section we provide an overview of the changing investment climate in Sri Lanka as it relates to foreign private investment. First, we sketch the economic policies that have been followed, with special emphasis on foreign trade and payments liberalisation and structural reforms introduced during the post-1977 period. This is followed by a brief account of macroeconomic and political developments in the course of the same period.

2.1 Domestic economic policies

Following almost two decades of a restrictive trade regime, Sri Lanka initiated a programme of foreign trade and payments liberalisation in November 1977. The new policy framework emphasised an economic development strategy based on export-

oriented industrialisation with the active participation of the private sector and market-orientation in domestic resource allocation. The quantitative restrictions on imports were largely replaced by tariffs under an open general licensing system. Various steps were taken to encourage foreign direct investment (FDI) and exports. The newly established Export Development Board (EDB) was entrusted with the implementation of these incentive schemes, and a Greater Colombo Economic Commission (GCEC) was established to organise and operate the Investment Promotion Zones (IPZ). A generous incentive package was also announced to attract FDI, including 100 per cent foreign ownership in investment projects, a tax holiday up to ten years on the salaries of foreign personnel, royalties, and dividends, and duty exemption for imported machinery and other production inputs. In the sphere of exchange controls, stringent exchange restrictions on services-related payments, such as travel and study abroad, were relaxed. And, in accordance with the government's policy to encourage FDI, restrictions on the remittance of dividends, profits, and the proceeds of sales of assets by foreign firms were withdrawn. Capital account transactions, however, continued to be highly controlled even after the 1977 reforms.

A number of measures were introduced to re-invigorate the price mechanism. Replacement of quantitative controls by tariffs was accompanied by removal of most of the price controls on domestic trade. The government's direct participation in production and distribution activities was expected to cease gradually.

Certain important macroeconomic policy changes were also effected during this period. The exchange rate system was unified by eliminating the Foreign Exchange Entitlement Certificate (FEEC) and the Convertible Rupee Account (CRA) schemes – at an initial rate of Rs. 16.7 for a U.S. dollar, representing about 46 per cent devaluation of the rupee -- and a system of managed float was introduced. In the area of monetary policy, interest rates were substantially increased to promote domestic financial development. New foreign banks were allowed to open branches in Sri Lanka with the aim of increasing competition and efficiency in the domestic commercial banking system.

The momentum of liberalisation faltered in the subsequent period, until the late-1980s, due to policy conflicts within the ruling party and political instabilities. This period was

also characterised by *ad hoc* decisions to raise import tariffs for current account management and to assure the survival of State enterprises. This, coupled with a major macroeconomic disequilibrium, established a clear anti-export bias in the economy, nullifying the effects of the investment and export promotion measures that had previously been implemented.[3] The Investment climate was further clouded by political instability brought about by the civil unrest in the South and the North- East.

Against this background, "A Medium-term Economic Policy Framework" was initiated in 1988 with the aim of stabilising the economy, introducing structural reforms, and promoting further liberalisation of the external sector, to be implemented over the medium-term in order to lay a firm foundation for rapid and sustainable economic growth.[4] Breaking away from the earlier gradualist approach, the 1990s was characterised by a rapid pace of foreign trade and payments liberalisation induced by high capital inflows that eased concern over external constraints on trade liberalisation and the speed of economic reform. The tariff system was further simplified and maximum tariff rates were reduced to 50 per cent in 1990.[5] The exchange controls on current account transactions applicable to Sri lankan nationals were also relaxed in several stages. In March 1993, the requirement to surrender export proceeds was abolished. Finally, in March 1994, all transactions pertaining to the current account were fully liberalised, achieving the Article VIII status of the IMF under which Sri Lanka agrees to pursue sound macroeconomic policies that will prevent it reverting to restrictions on transactions relating to the current account. One of the main objectives of the relaxation of exchange controls was to increase the confidence of both foreign investors and local residents in regard to the country's balance of payments and foreign exchange situation, to induce foreign capital inflows and to prevent capital flight. A number of restrictions still remain on capital account transactions. Notably, foreign capital cannot be invested in bonds, government securities and Treasury Bills. Off-shore borrowings by domestic enterprises, other than those in free trade zones, are also subject to exchange controls. Domestic enterprises also need exchange control approval to raise capital in foreign capital markets.

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3 Athukorala and Jayasuriya (1994).

4 The economic adjustment programme of 1988 was undertaken with the assistance of the international lending institutions and the aid was made contingent upon two factors; stabilisation and further liberalisation of the external sector. Dunham and Kelegama (1994).

5 The total domestic tax on imports however is still very high due to various other duties on imports; a 10% EDB cess, 20% BTT, 3% Defence Levy, 10% excise tax, and a 2% stamp duty on L/Cs.

Liberalisation and reform of capital account transactions, after 1990, were also induced by the need to boost the local stock market. Despite the fact that the share market was set up almost a century ago, its activities remained at very low levels until 1989, partly due to low foreign participation. The latter had been effectively discouraged by various taxation and exchange control measures, reflecting the government's policy of preventing foreign ownership of local enterprises. In 1990, the government lifted restrictions on equity participation by foreigners. Initially, foreign investors were allowed to acquire only 40 per cent of total capital with the intention of retaining some control over investment. However, this restriction was repealed in 1992 and, at present, foreign companies and individuals including approved country and regional funds, are permitted to purchase up to 100 per cent of the issued share capital in local companies albeit with certain limitations depending on the area of investment. A limited number of activities such as prospecting and the mining of non-renewable resources and production for the domestic market continued to be restricted. All transactions in regard to these investments have to be channelled through Share Investment External Rupee Accounts (SIERA) in commercial banks with automatic exchange control clearance. The 100 per cent share transfer tax on share transfers with non-nationals was also abolished, as were the Capital Gains Tax (CGT) on the proceeds of sales of shares of quoted companies and stamp duties payable on share issue and transfers. The withholding tax on dividends paid on shares and the wealth tax on shares were abolished in April 1991.

Apart from these economic adjustment and liberalisation efforts, certain other incentives were offered to attract FDI during this period. Steps were taken to simplify and rationalise investment procedures. The Investment Policy Statement issued in November 1990 permitted the GCEC to authorise automatic investment approvals for projects where there is up to 100 per cent foreign equity participation. In January 1991, a sub-committee of the Cabinet was appointed to meet weekly to co-ordinate and expedite direct foreign investment approvals by the GCEC, and an Industrialisation Commission was established to advise the government on measures to promote investment and industrialisation. In June 1991, a third export processing zone was opened at Koggala. Facilities of the Board of Investment also extended to all economic enterprises irrespective of where they are located.[6] Foreign investors were entitled to

6 Previously, only enterprises located in the free trade zones were given the BOI concessions.

tax holidays up to 15 years from the first profit-making year, and enjoyed double-taxation relief, duty-free exports and imports. Foreign investors with specific approvals from the Board of Investment were free to borrow from Foreign Currency Banking Units with no ceiling on the amount or on the period of repayment. They were also given access to domestic borrowing. The export proceeds of foreign investors could be held in foreign currency accounts.

In addition, the government took various measures to reduce the country risk premium by convincing investors of the permanence of the policy regime that will respect private property rights. Constitutional safeguards to foreign investments were accorded through international agreements such as those with the Multilateral Investment Guarantee Agency (MIGA) and International Centre for the Settlement of Investment Disputes of the World Bank (ICSID) and through agreements with the Sri Lankan Board of Investment.

2.2 Macroeconomic developments

Despite the government's efforts to reduce the budgetary pressures on limited financial resources by curtailing consumption subsidies, over-expansionary fiscal policy during the early post-liberalisation period continued to be the source of domestic macroeconomic disequilibrium. For instance, in 1980, the fiscal deficit stood at more that 22 per cent of GDP. Monetary expansion in that year was about 32 per cent. Inflation surged to 26 per cent and the current account of the balance of payments recorded a massive deficit of more than 16 per cent of GDP (See Figure 3, Appendix 2). This was followed by a brief period of relative macroeconomic stability till the mid-1980s. The early second-half of the 1980s again experienced increasing macroeconomic disequilibrium.

This background led to the implementation of the Medium-term Economic Policy package of 1988. The structural reforms mainly centred on further relaxation of restrictions to restructure the economy and to create an environment for the private sector to operate efficiently. They included rationalisation of public expenditure, tax reforms, and elimination of a number of subsidies, notably those on wheat flour, rice and fertilizer. Many public enterprises were also privatised and changes were made in the government administrative structure and staffing levels under public enterprise

reforms. To achieve the stabilisation objective, the programme called for the implementation of prudent macroeconomic policies to contain fiscal and monetary expansion with the aim of reducing inflation and current account deficits. Since it was an election year, government expenditure experienced a sharp increase in 1988. The civil disturbances during that period also made it difficult to implement expected cuts in expenditures. In 1988, for example, the fiscal deficit was about 16 per cent of GDP and broad money expanded by more than 16 per cent. Inflation reached a peak of 14 per cent. The current account also experienced a deterioration. The Government adopted a comprehensive adjustment programme from 1989 to arrest this situation. Amidst the difficult economic environment, the programme managed to achieve considerable restraint on the fiscal and monetary fronts, leading to stability in prices and the balance of payments in 1989.[7] In the ensuing period, the budget deficit, though still high, remained relatively under control. However, aggregate demand and therefore the price level could not be stabilised due to rapid monetary expansion despite tight monetary policies. In 1990, inflation was about 22 per cent. The rapid increase in foreign assets was the primary cause of monetary expansion. In the subsequent period, inflation subsided but remained at two-digit levels. Tight monetary and easy fiscal policies have also been reflected in high domestic interest rates. The current account deficit reached a relatively low level of about 4 per cent of GDP in the 1990s.

Political instability is yet another factor influencing the investment environment in Sri Lanka. Sri Lanka has been experiencing several political upheavals due to the communal disturbances in the early-1980s, the second JVP uprising in the late-1980s, and the North-East conflict for more than a decade.

To summarise, the policy reforms in November 1977 involved a significant liberalisation of the foreign trade and payment regime. However, the subsequent faltering in the liberalisation momentum and increasing fiscal imbalances eventually led to sharp deterioration of both internal and external balances. Faced with critical economic

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7 Although the stabilisation programme was successful in attaining economic stability, the brunt of the government attempt to reduce the fiscal deficit had to be borne by capital expenditure since no serious efforts were made to curtail non-developmental expenditure. The reduced expenditure on infrastructure would produce serious production bottlenecks in the future, hampering the private sector production initiatives and, thereby, long-run economic growth. See, Table 4, Appendix 1.

instability, the government adopted a structural adjustment programme in 1988 and a comprehensive adjustment programme in 1989. The second phase of the economic liberalisation programme, initiated in 1990, has been more extensive than the earlier, deliberately gradualist strategy. These reforms led to full convertibility of the current account transactions in March 1994, culminating in the country achieving Article VIII status of the IMF. The capital account has also been further liberalised, though full convertibility of the rupee is yet to be achieved. Various measures introduced to attract private portfolio investments to Sri Lanka have been a notable feature of the latest liberalisation initiatives.

3. Trends, determinants, and the utilisation of capital inflows

In this section we first briefly examine trends in the broad categories of net capital inflows. The determinants of private capital inflows will then be examined on the basis of economic fundamentals and transitory factors. This section has three key objectives: (i) to ascertain the extent of the surge in different forms of capital inflows in the 1990s; (ii) to find the relative share of the transitory components; and (iii) to highlight the factors behind them. All these aspects are important underpinning in this analysis. Total magnitude determines the severity of the capital inflow shocks to the economy. Capital inflows induced by economic fundamentals are generally beneficial to the recipient country and therefore need to be accommodated. On the other hand, running large current account deficits backed by unsustainable capital imports is not desirable since it would eventually lead to a run on the domestic currency and may end up in a chaotic economic situation, as has been the recent experience of Mexico. Thus these inflows need to be contained or their effects should be neutralised. A careful study of the determinants of unstable inflows is imperative in devising required policy interventions.

3.1 Trends in net capital inflows

As evident from Table 1, the post-1977 liberalisation period has been characterised by relatively high total net capital inflows (NKI). On average, they increased from 3 per cent of GDP in the 1970-77 period to about 7 per cent of GDP in the post-liberalisation

period.[8] These inflows have undergone three different phases during the post-1977 period (see Figure 1). From 1978 to 1983, they increased rapidly, followed by a slack period during 1984-89. From 1990, they again increased very rapidly. The average growth in nominal rupee terms over the 1990-93 period was about 47 per cent.[9]

Table 1
Capital inflows, period averages (1970-93)

	1970-77		1978-93							
			1978-83		1984-89		1990-93		Whole period	
	Rs. Bn.	% GDP	Rs. Bn.	% GDP	Rs. Bn.	% GDP	Rs. Bn.	% GDP	Rs. Bn.	% GDP
Capital inflows										
Private Capital Inflows	-0.1	-0.3	2.8	3.3	1.4	0.7	12.3	2.7	4.7	2.2
Public	0.5	2.3	4.1	5.2	7.7	4.1	15.3	4.0	8.3	4.5
Aid(a)	0.4	1.9	3.1	3.9	7.4	3.9	13.9	3.6	7.4	3.8
Other government(b)	0.1	0.4	1.0	1.3	0.2	0.2	1.4	0.4	0.8	0.6
Other(c)	0.2	0.7	0.6	1.0	0.1	0.1	2.2	0.5	0.8	0.5
Total	0.6	2.8	7.6	9.5	9.3	4.9	29.8	7.2	13.8	7.2
Capital like inflows	0.3	1.1	5.9	6.9	14.5	7.5	27.5	7.1	14.5	7.1
Official grants	0.3	1.1	2.7	3.4	5.6	2.9	7.8	2.9	5.1	2.9
Private transfers	0.0	0.0	3.2	3.5	8.9	4.6	19.6	4.2	9.4	4.2
Total(d)	0.9	3.9	13.5	16.4	23.8	12.4	57.3	14.3	28.3	14.3

a: Government long-term loans
b: Other long-term and short-term loans to the government
c: Includes valuation adjustments, SDR allocations, and errors and omissions.
d: Including total net transfers
Source: Annual Report, Central Bank of Sri Lanka.

Net private capital inflows (NPKI) were generally a source of outflow prior to 1978. However, during the ensuing period, the pattern was reversed and they turned into a source of inflow. The period average 1978-93 was about 2 per cent of GDP. During the 1991-93 period, NPKI experienced the highest growth of about 124 per cent on nominal annual average basis. The share of NPKI thus increased from 5 per cent in 1978 to about 66 per cent by 1993. NPKI to Sri Lanka during this period were nevertheless relatively low compared with the experience of the other emerging capital

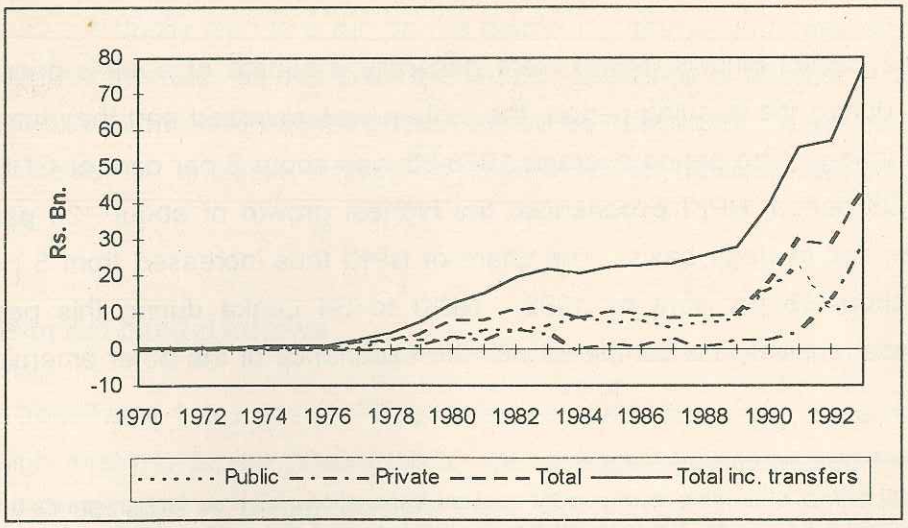
8 If capital inflows stemming from current account transactions such as foreign grants and worker remittances are included, the respective ratios increase to 4 per cent of GDP and to 14 per cent of GDP.

9 In SDR terms the growth rate was only about 37 per cent.

markets in the region. It is in relation to Sri Lanka's historical standards that recent capital inflows have been quite significant.

Private capital consists of FDI, portfolio investments (PI), private short-term (PSB) and long-term borrowings (PLB). When the 1978-93 period is taken as a whole, FDI emerges as the dominant form of private capital inflows. FDI increased from a negligible level in 1978 to Rs. 9 bn. or to about 2 per cent of GDP by 1993. An initial increase during the 1978-82 period was followed by a long-run declining trend over the 1983-89 period. It again increased rapidly during the 1990-93 period by about 95 per cent in nominal terms. The trend of FDI roughly corresponds to the medium and long-term investment environment produced by foreign trade and payments liberalisation momentum, and economic and political stability. FDI increased initially due to the favourable investment environment created by the 1977 reforms. During the 1983-89 period, the incentives for FDI were eroded by the setbacks in the foreign trade and payments liberalisation momentum and the macroeconomic disequilibrium. The investment environment further deteriorated during this period as a result of political upheavals caused by the violent campaign of the Janatha Vimukthi Peramuna (JVP) - the People's Liberation Front - ethnic disturbances and the unsettled political situation in the North-East.

Figure 1
Capital inflows (1970 - 93)



The initiatives under the structural adjustment and stabilisation programmes implemented in 1990 were instrumental in generating the surge in FDI during the 1990s. However, external developments were also important. The period saw a change in composition of foreign private capital in favour of direct and portfolio investments. Relatively high FDI during this period was no doubt influenced by the return to normalcy in most parts of the country following the suppression of the JVP insurgency in late-1989, though continued political instability due to the North-East crisis worked to a lesser extent in the other direction.

Portfolio investments (PI) have been the newest source of foreign private capital inflows to Sri Lanka. Net inflow of PI was not significant even in 1990. Since 1991, it experienced a rapid increase, and by the end of 1993, it had reached over Rs. 3 bn., or little less than 1 per cent of GDP. The share of portfolio capital inflows in 1993 was 8 per cent. If we include transfers, this decreases to about 4 per cent.[10]

As we have noted, foreign borrowing by the private sector is still subject to exchange controls. Therefore, private borrowings mainly constitute suppliers' credits and commercial borrowings of public corporations and certain categories of exporters.[11] Short-term and long-term borrowings were the dominant sources of private capital inflows during the 1980-83 period. Deterioration of the current account sharply during this period due to exogenous shocks emanated from recession in the industrialised countries, and a sharp decline in the terms of trade was the primary reason for increased borrowings. Since the authorities did not intervene, large current account deficits had to be financed through increased capital inflows.[12] During the 1984-91 period, net private borrowings remained generally low. Since 1992 private borrowing has again been increasing rapidly.[13] In 1993, borrowings were Rs. 16 bn., or more than 3 per cent of GDP. Very low interest rates in international financial markets compared to the domestic rates, and increased accessibility to foreign financial markets recently would have been the main reasons for high foreign borrowings. On the other

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10 Determinants of portfolio investments are treated in Section 3.2.

11 Foreign borrowing facilities to exporters were granted only recently. Until then this facility was opened to BOI firms only.

12 The authorities' non-intervention policy is explained by the availability of concessionary official financing to meet current account deficits. See Little *et al.* (1993).

13 Mainly due to the aircraft deals.

hand, the abolition of export proceeds surrender requirements in March 1993 helped local firms to by-pass the relatively inefficient domestic financial system. Recent liberalisation initiatives would also have increased the credibility of the government's stabilization programmes thus leading to increased credit availability to the private sector. Increased official flows to the government would have become a catalyst for an increased supply of credit from private sources (Athukorala and Jayasuriya 1994).

Large capital inflows to the public sector have been instrumental in shaping the post-1978 macroeconomic scene in Sri Lanka. On average, capital inflows to the public sector have been more than 4 per cent of GDP during this period. Total capital inflows, excluding transfers, during this period have been about 7 per cent of GDP. Public capital inflows also display two distinct movements: an increasing trend in the 1978-84 period which was not, however, maintained in the ensuing period. During the 1985-89 period, capital inflows to the public sector remained more or less unchanged. During the 1990-91 period they surged rapidly and, in 1991, they reached Rs. 22 bn., which was equivalent to about 6 per cent of GDP. They have again dropped to about 3 per cent of GDP on average since then. Of total capital inflows to the public sector, aid has been the dominant component. Aid and borrowing have accounted for about 4 per cent and about 1 per cent of GDP, respectively, during the post-1978 period.

Foreign net inward transfers consisting of private transfers and official grants have also been important sources of net foreign resource availability to the country during the post-1977 period. In nominal terms, total net transfers increased from a negligible level of about Rs. 1 bn. in 1978 to about Rs. 35 bn. by 1993. In nominal terms, both experienced increasing long-run trends. Official transfers increased at a very slow pace. On the other hand, private transfers experienced rapid growth throughout the post-1977 period. The picture in real terms is however much different. Total transfers increased rapidly till 1982, when they reached about 9 per cent of GDP. Since then they have been declining. Official transfers increased until 1979, when they reached a peak level of about 4 per cent of GDP. This was followed by a continuous fall. In 1993, they were less than 2 per cent of GDP. Private transfers also increased sharply during the latter part of the 1970s and reached the maximum level of about 6 per cent of GDP in 1982, after which they decreased until 1985. From 1986 to 1991 they

remained more or less unchanged. Private transfers in real terms have again been increasing rapidly since 1992. In 1993 they were over 5 per cent of GDP.

3.2 The determinants of portfolio capital inflows

Portfolio investment flows to Sri Lanka are treated here in detail for two reasons: (i) they have been the newest and a major source of capital inflows during the 1990s, and (ii) being inherently unstable, these flows have made macroeconomic policy-making more difficult.[14]

The sustainability of portfolio capital inflows depends on whether pull or push factors prove to be the more dominant. If increased private capital inflows have been driven primarily by push factors, there is always the possibility of a reversal when economic conditions in capital exporting countries return to normal. According to the available evidence, push factors have been the most dominant factors during the recent surge in portfolio capital to developing countries.[15] High foreign portfolio investments in the Sri Lanka were also motivated by both push and pull factors. Low interest rates and economic recession in industrial countries have been the basic external push factors.[16] The improved domestic investment environment following the policy reforms in general, and incentives to attract foreign capital to the Colombo Stock Exchange (CSE) in particular, and very attractive yields that were available in equity investments, were the basic pull factors which have been instrumental in increasing equity capital inflows.

Declining domestic interest rates and economic recession in industrial countries encouraged foreign investors to shift resources to take advantage of very attractive

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14 Portfolio investment consists of equity investments and fixed-return investments. In Sri Lanka, investments in financial assets by foreigners are still subject to controls. It has been equity investments that received maximum inducements.

15 See Calvo, *et al.* (1993) and Fernandez-Arias (1994).

16 The 180-day London Inter-Bank Offer Rate (LIBOR) in US$ declined from 16.7 per cent in 1981 to 3.4 per cent in 1993. Short-term interest rates in the United States reached their lowest levels since the early-1980s. Treasury bill rate in 1993 was 3.02 per cent, the lowest since the early-1960s. The real GDP growth of the industrial countries was only 1.5 per cent during the 1990-93 period. In 1991, most of the industrial countries experienced negative real income growth.

yields that were available in equity investments in Sri Lanka as experienced by many other emerging markets.[17]

This process was further facilitated by domestic policy reforms, such as privatisation and relaxation of restrictions on foreign ownership of domestic assets. These factors jointly influenced the rapid growth of activity in the Colombo Stock Market (CSM) in the 1990s.[18]

High domestic real interest rates would also have been a pull factor for foreign portfolio investments in fixed-return investments. The relaxation of exchange controls also induced people to keep money in the country, mainly through the Resident Foreign Currency Account Scheme. There is also some evidence that expatriate Sri Lankans diverted their funds to bank accounts in Sri Lanka.[19] The continued restrictions on foreign holdings of domestic financial instruments would however have deterred foreign portfolio investments. Globalisation and rapid growth of world capital markets following widespread liberalisations of current and capital accounts and innovations in financial instruments, on the other hand, have increased the overall supply of capital to developing countries in the 1990s.[20]

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17 In Latin American countries, reduction in industrial country interest rates also improved their solvency by reducing the debt service burden on floating rate obligations. Calvo *et al.* (1993). There was yet another important difference between the Latin American and Sri Lankan experience. In Latin America, foreign capital was probably both an effect and a cause of inflows; initial inflows helped boost the market which attracted still more capital. Dornbusch and Werner (1994). But in Sri Lanka, sudden profit expectations of investors based on anticipated foreign participation boosted the market. This attracted more foreign funds. The CSM performance however deteriorated subsequently as the anticipations of the investors were not fully realised. See, Wijewardena (1993).

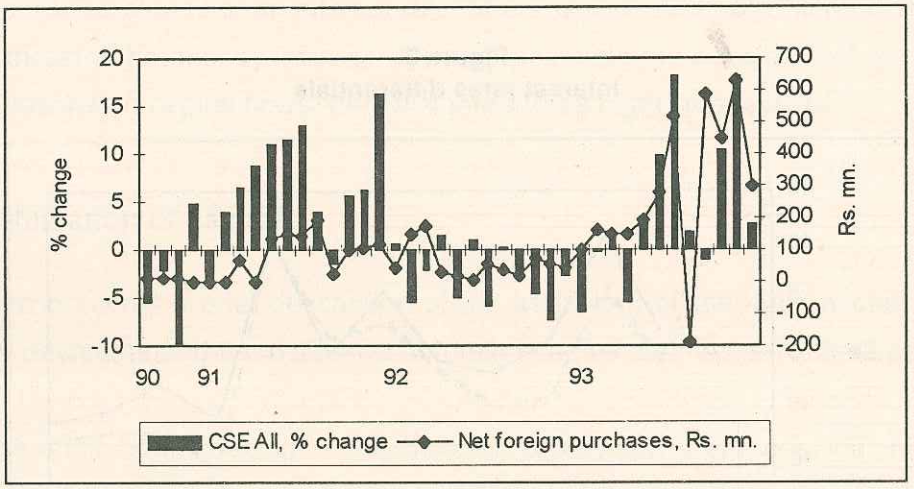
18 All indicators show high activity in the CSM during the early-1990s. The All-Share Price Index grew from 373 in January 1991 to as much as 979 in December 1993. The rate of growth of the All-Share Price Index in 1993 was about 62 per cent. (See, Table 6, Appendix 1) The CSM was ranked tenth amongst emerging stock markets and was considered to be one of the world's best-performing bourses in the early-1990s. By the end of 1993, 66 country and regional funds had obtained approval to participate in the stock market.

19 Karunatilake (1993).

20 Innovations have made financial markets more and more integrated even without the help of deregulations. This process have made some countries the "victims" of financial integration because, financial integration forced them to open their capital accounts. Laban and Larrain (1994).

The close association between stock market performance measured by the percentage change in the CSE All-Share Price Index and foreign portfolio investments given by net foreign purchases at the CSE is amply evident in Figure 2 below.

Figure 2
Foreign participation and performance of the CSM

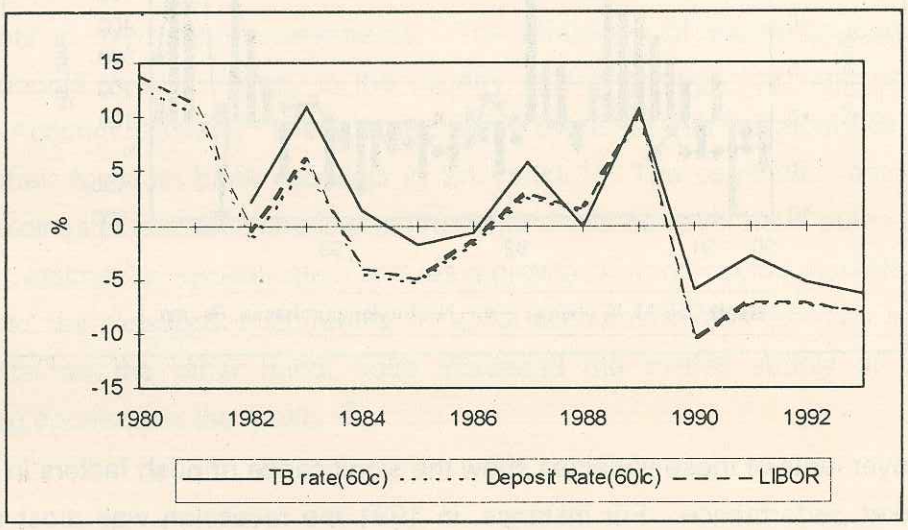


The co-movements of these variables show the significance of push factors in domestic stock market performance. For instance, in 1991 the recession was most severe in most industrial countries and Sri Lanka experienced high foreign equity participation leading to buoyant stock markets. Economic recovery in the industrial countries would have been a reason for low foreign equity participation in 1992.[21] It also shows the volatility of foreign portfolio investment flows. The initial rise in portfolio inflows in the 1990-91 period was followed by a very low foreign equity participation in 1992. In 1993 it again increased very rapidly. Since a sudden reversal would lead to a domestic financial crisis, sustainability of capital inflows is a primary concern of policy-makers. Variability is also an important concern since associated movements in the RER could be detrimental to export growth.

21 The stock market boom in the 1990-91 period was also an over-heated position driven by speculative activities. Wijewardena (1993).

Portfolio inflows may also be triggered by purely speculative considerations based on expected interest rate differentials.[22] According to this formula, when the US interest rate differential is positive, US$ deposits yield a higher expected rate of return compared to Sri Lankan financial assets, and deter US portfolio investment in Sri Lanka. When they are negative, the reverse is true. Expected rate differentials based on yields of some comparable financial assets are depicted in Figure 3 below.[23]

Figure 3
Interest rates differentials



22 The expected interest rate differential is calculated using a formula given by,

$$i^{e}_{d} = i_{\$} - \{i_{Rs.} - (E^{e}_{\$/Rs.} - E_{\$/Rs.})/E_{\$/Rs.}\}$$

where,

i^{e}_{d}: Expected interest rate differential

$i_{\$}$: Interest rate on short-term US$ deposits

$i_{Rs.}$: Interest rate on short-term Rs. deposits

$E^{e}_{\$/Rs.}$: Expected exchange rate

$E_{\$/Rs.}$: Spot exchange rate.

We assume expected exchange rate as equal to actual (ex-post) exchange rate. Thus the $\{(E^{e}_{\$/Rs.} - E_{\$/Rs.})/E_{\$/Rs.}\}$ term of the above expression signifies the actual rate of nominal exchange rate devaluation.

23 The TB rate (IFS, 60c) and the deposit rate (IFS, 60l) are based on comparable Sri Lankan and U.S. rates. The remaining one is based on Sri Lankan deposit rate and the London Inter Bank Offer Rate (LIBOR) on three-month U.S. dollar deposits.

Interest rate differentials were either negative or remained too low to attract foreign private portfolio investments to Sri Lanka during the early period. However, in the 1990s, the pattern was reversed. Interest rate differentials turned in favour of Colombo mainly due to a sharp decrease in industrial country interest rates and to high nominal returns in domestic financial assets caused largely by lack of credibility in government policies. Since foreign holdings of domestic financial assets are regulated, it can be argued that the existence of an interest rate differential in favour of Colombo should not pose any threat of hot money inflows. We only postulate the possibility of such inflows since regulations on capital flows are considered to be highly ineffective.[24]

3.3 The utilisation of capital

This section presents a brief description of the behaviour of the main accounts of the balance of payments and the utilisation of foreign capital during the 1978-93 period.

The double-entry book-keeping in the balance of payments ensures that net capital inflows, including net errors and omissions (KAB), equals the current account balance (CAB) plus reserve movements (RA) as implied in the following identity.[25]

$$CAB + KAB + RA = 0$$

Thus the sum of balances in the current and capital account, and reserve movements should be equal to zero. Another important relationship relevant to the present analysis is the ex-post equivalence of the current account deficit and the investment-savings gap of a country. The latter can be further disaggregated into public and private sector

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24 Experience shows that capital controls become ineffective in the long-run as the private sector finds ways and means to dodge the taxes. Over and under-invoicing of imports and exports and increasing reliance on parallel financial and foreign exchange markets are the usual means of tax evasion. Capital controls have also become less effective as a result of growing integration of trade, financial innovation and financial opening by other countries. See Williamson (1991), Mathieson and Rojas-Suarez (1993), and Bertrand and Robertson (1993).

25 In this analysis, net capital inflows are defined inclusive of net errors and omissions. The latter are generally considered to be a crude proxy for capital flight. Thus if we define net capital inflows excluding net errors and omissions, then a surplus in the capital account should be ref-lected in the current account deficit, reserve accumulation, and capital flight.

investment-saving gaps given as (T - G) and (S_p - I_p). These relationships are given in the following identity.

$$(T - G) + (S_p - I_p) = CAB = KAB + RA$$

According to the above identity, total net capital inflows should be disposed of either through a current account deficit and/or accumulation of external reserves. At the same time, the equivalence of current account balance with the investment-savings gap implies that net capital inflows should be reflected in changing investment/saving decisions of the private and public sectors and/or reserve movements.

These identities should not be confused with causalities. Nevertheless, *ex-post* equivalence of these variables equips the analyst with valuable information about the macroeconomics of capital inflows. For instance, if an increase in net foreign capital inflows was accompanied by widening current account deficits, it would signify increased aggregate absorption over income resulting from increased investment or decreased savings in either the private or public sectors or in both sectors. If debt-creating net foreign capital inflows produce a commensurate increase in domestic investment, servicing the debt in the future should not be a problem. In such a context, the increased exports or decreased imports that will be forthcoming should generate sufficient foreign savings to meet debt obligations. In contrast, if capital inflows are utilised for consumption purposes, then future debt servicing should become a problem.

Movements of reserves show the extent of official foreign exchange intervention by the monetary authorities. In an extreme case, if there is no official intervention in the foreign exchange market, then a capital account surplus will exactly be matched by a deficit in the current account which, in turn is equal to increased domestic absorption over income. There will be no changes in official foreign reserves. At the other extreme, if the Central Bank actively intervenes in the foreign exchange market and purchases all the foreign exchange that is flowing in, then capital inflows will be matched by an increase in official reserves. The current account and the investment-saving gaps will remain unchanged. The other option, which is more common, is to use capital inflows partly to finance the current account deficit and to accumulate the rest as official reserves.

When we take the 1978-89 period as a whole, total net capital inflows were entirely disposed of through current account deficits (see Table 5, Appendix 2). Therefore, capital inflows during this period did not on average have any impact on the reserve position of the country.[26] By contrast, the post-1990 experience of high capital inflows was also associated with a marginal improving trend in the current account. External reserves thus tended to accumulate sharply, on average by 3 per cent of GDP, indicating heavy market intervention by the monetary authorities. Capital inflows, being about 7 per cent of GDP, the remainder of about 4 per cent of GDP, have been utilised to finance the current account deficit. This reduction in the current account deficit, on the other hand, was brought about primarily by improved fiscal performance. Private saving on average remained more or less unchanged during these periods. Public sector dis-saving fell from 10 per cent of GDP during the 1978-89 period to about 7 per cent of GDP during the post-1990 period through reductions in public investments. Public consumption on the other hand tended to increase marginally. In this context, future public debt servicing obligations drew attention to the need to reduce public consumption and divert resources to investment. Increased investment especially in infrastructure improvements to increase absorptive capacity of the economy would be optimum in the presence of high capital inflows.

To sum up, Sri Lanka has experienced high capital inflows since about 1978. These inflows have shown three distinct phases. During 1978-83 and 1990-93 net capital inflows increased rapidly. On the other hand, from 1984 to 1989, they stagnated. Foreign aid was the dominant source of foreign capital inflows to the public sector. In private capital inflows, FDI was dominant, though a rapid increase in portfolio investments during the 1990s has also been a noticeable feature. Increased foreign resource flows into the country through current account transactions, especially through private transfers, have also been an important feature during the 1990s.

As far as determinants are concerned, domestic economic reforms have been instrumental in increasing capital inflows. As other middle-income countries have found, however, external factors were the most important determinants of portfolio capital inflows. The influence of external factors imparted a transitory element to the

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26 During the 1978-79 and 1983-84 periods, temporary reserve accumulations occurred. During the rest of the period there was pressure on existing external reserves in order to maintain the nominal exchange rate in the face of excess demand for foreign exchange.

pattern of capital inflows. The relative share of these flows was however not large enough to cause major disruptive reversals. Even though portfolio capital is inherently destabilising, investments in the CSM should not be prevented since it is government policy to encourage such capital inflows to develop the stock market in Sri Lanka. Thus the best policy would be to neutralise the effects of these capital inflows. As far as the utilisation of capital is concerned, the 1978-89 period was on average characterised by a complete transfer of capital inflows through current account deficits. On the other hand, the post-1990 period of high capital inflows was marked with increasing reserve accumulation, signifying the monetary authorities' foreign exchange market intervention under the managed float system.

Even though public dis-saving decreased during the 1990s, the reduction in investment causes concern. Finally, the need to increase absorptive capacity and the allocative efficiency in the economy would have been further augmented by large foreign resource availability in the 1990s.[27]

4. Implications of high capital inflows

In most countries, large capital inflows have been associated with reserve accumulation and real exchange rate (RER) appreciation, booming stock and real estate markets, increased domestic investment and consumption, and faster economic growth. Our concern will be mainly with the problem of RER appreciation and associated difficulties in macroeconomic policy-making as a consequence of high capital inflows to Sri Lanka in the 1990s. In doing so, we first attempt to ascertain the extent of RER appreciation. Then we move on to an analysis of RER determination to explain the extent to which the trend in the RER in the 1990s is explained by a movement towards a new equilibrium value or a misalignment.

The impact of capital inflows on appreciation of the RER depends mainly on the nature of the exchange rate regime and whether domestic monetary impulses associated with

27 During the 1990-93 period, total foreign resource availability amounted on average to about Rs.57 bn. or about 14 per cent of GDP. Excluding foreign transfers, it has been Rs.30 bn. or about 7 per cent of GDP.

capital inflows are sterilised or non-sterilised.[28] If more capital is entering the country than can be transferred in the form of a current account deficit, an excess supply of foreign exchange will result. If the market is allowed to bring about the necessary adjustment, as in the case of free floating, the market will be cleared partly through appreciation of the nominal exchange rate. On the other hand, if the monetary authorities intervene in the foreign exchange market by purchasing the excess supply of foreign exchange at a given exchange rate, as under a fixed exchange rate regime, the nominal exchange rate remains unchanged but the external reserves of the monetary authorities tend to accumulate to the tune of foreign capital inflows. Between these two extreme cases lies the more practical scenario in which the central bank attempts to attenuate appreciation of the real exchange rate by purchasing a part of the inflow of foreign exchange, as under a managed floating exchange rate system.

Interventions in the foreign exchange market lead to an accumulation of external reserves of the monetary authorities and therefore increases the monetary base and finally domestic money supply. If these domestic monetary impulses are not sterilised, domestic absorption will be increased. This, combined with aggregate demand pressures emanating from the accommodated part of capital inflows, will push the general price level up, as increasing domestic absorption increases the demand for all goods in the economy, including non-traded ones. In Sri Lanka, the exchange rate system during the period under consideration was a managed float. The authorities intervened in the foreign exchange market to partially offset potential appreciation of the exchange rate. They did not fully sterilise the monetary expansion associated with resultant reserve accumulation.[29] Thus the recent period of large capital inflows has been associated with a real exchange rate appreciation as Figure 4 attests.

Three indices of exchange rates, viz., a multilateral nominal effective exchange rate (NEER), a multilateral real effective exchange rate (REER), and a bilateral real exchange rate of the Sri Lankan rupee *vis-a-vis* the U.S. dollar (RER) are depicted in

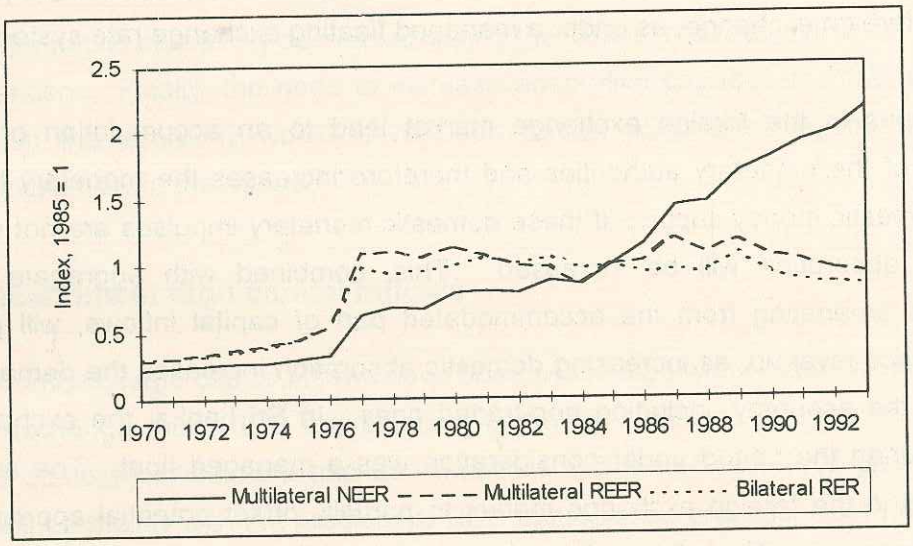
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28 The RER is defined as EP^*_T/P_N, where, E, P^*_T, and P_N signify nominal exchange rate (rupee equivalent of a foreign currency unit), foreign prices of traded goods proxied by foreign wholesale price index, and domestic prices on non-traded goods proxied by the consumer price index, respectively. Accordingly, an increase or decrease in the RER index denotes a depreciation or an appreciation, respectively.

29 These aspects are treated in detail in the policy section.

Figure 4. The NEER depreciated at an annual average rate of 8 per cent over the period 1978-93. Nominal exchange rate depreciation, however, failed to produce corresponding changes in the real exchange rate since high domestic inflation more than eroded its effect, leading to divergent movements in nominal and real exchange rates. The real exchange rate appreciated (i.e. the index fell) in the 1981-84 and 1990-93 periods which directly correspond to high capital inflow episodes.[30] Whether the recent RER appreciation supports the equilibrium or the over-valuation hypothesis has been an important issue in policy circles lately.[31]

Figure 4
Exchange rate movements



Long-run behaviour of the equilibrium real exchange rate (ERER) is determined only by sustainable or permanent changes in economic fundamentals or in real factors, such as various trade and financial market-related reforms and access to world capital markets, which lead to a change in the equilibrium prices of labour and assets.[32] If a given

30 See, Figure 2, Appendix 2.

31 An application of these two hypotheses to the case of Mexico is given in Dornbusch and Werner (1994).

32 The ERER is defined as the relative price of tradables to non-tradables that, for given long-run equilibrium values of other relevant variables, results in the simultaneous attainment of internal and external equilibrium. Changes in fundamentals lead to movements in the ERER. For instance, increased capital inflows increase demand for traded as well as non-traded goods in the home markets. In order to preserve the internal equilibrium, the prices of non-tradables should therefore increase, signifying appreciation of the RER. For a detailed description of the response of ERER to changes in fundamentals, see Edwards (1988).

appreciation of the RER reflects a movement towards a new ERER, maintenance of the RER over its equilibrium value for a long period signifies a structural misalignment of the RER and will be too costly.[33] In the short-run, the actual RER could deviate from the ERER due to other factors, such as inappropriate macroeconomic policies, unsustainable deviations in the fundamentals, and changes in the nominal exchange rate.[34] If the RER appreciation is induced by inappropriate macroeconomic policies and/or by unsustainable deviations in economic fundamentals, the outcome again will be a RER misalignment.

In the following section we attempt to determine whether appreciation of the RER during the 1981-84 and 1990-93 periods signified movements along an equilibrium path or misalignments. There have been a number of studies on the first episode of real exchange rate appreciation.[35] Lal (1985), and White and Wignarajah (1992) directly address RER determination and assert that the RER appreciation in the early 1980s was due to changes in fundamentals, signifying a movement towards a new equilibrium value, and not a RER misalignment caused by expansionary policies. As Athukorala and Jayasuriya (1994) point out, a major weakness of Lal's analysis is its inability to analyse the implications of terms of trade shocks on the RER.[36] Even though government expenditure declined during this period, it was well below the level of domestic expenditure reduction warranted by the TOT deterioration-associated decline in real income. This situation eventually led to perpetuation of high capital inflows and appreciation of the RER. Thus, they conclude that the exchange rate and the price level changes observed during this period were the direct consequences of a deliberate government policy to maintain the level of real expenditure, and not merely the exchange rate and price-level changes required to absorb the autonomous capital inflows. Heavy pre-occupation with controlling inflation in the early-1980s also induced the policy-makers to depreciate the NER at a relatively mild rate, contributing to RER appreciation.[37]

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33 Krugman (1987).

34 Edwards (1988).

35 Lal (1985), Athukorala and Rajapathirana (1990), White and Wignaraja (1992), Athukorala and Jayasuriya (1994).

36 Athukorala and Jayasuriya (1994).

37 Corbo & Melo (1987).

The implications of capital inflows on RER appreciation (the major concern of this paper) during the early-1980s are explained on the basis of "Dutch disease" literature which emphasises the economic consequence of increasing domestic expenditures brought about by favourable exogenous shocks.[38] In the case of Sri Lanka, capital inflows led to higher expenditures on domestic goods and services in a number of ways.[39] Official capital inflows led to increased domestic expenditures of the government through the use of foreign aid counterpart funds. These expenditures became incomes of private agents and this pattern was further augmented by increasing remittances which similarly led to increased expenditures by private agents. Thus capital inflows led to higher expenditures by the government as well as by private agents. Some of these expenditures were for acquisition of non-traded goods and services, increasing the demand for them and thereby exerting upward pressure on prices. The resulting resource reallocation gave rise to "Dutch disease" effects as higher domestic spending led to a contraction of the tradable sector and increasing trade deficits. Import liberalisation and the existence of widespread unemployment would of course have mitigated the pressure on the price level.[40] The implications of the real exchange rate appreciation on domestic resource allocation are amply evident from the rapid expansion of the non-tradable sectors in the economy during this period.[41]

In the following pages we try to analyse the determinants of the RER during the post-1990 period, with special reference to the role of capital inflows. Even though our main concern in this paper is with the implications of capital inflows for the RER, policy analysis makes it necessary to explain its movements based on overall determinants. The methodology applied here is to ascertain RER movement on the basis of the

38 The Dutch disease explains how a discovery of tradable natural resources or a favourable exogeneous shock such as increased foreign capital inflows could lead to appreciation of the RER and thus crowd out its other tradable sectors. For more detail, see Cordon (1984).

39 Our discussion here draws on Athukorala and Jayasuriya (1994).

40 Lal (1985).

41 The share of the non-tradable sector, approximated by the services sector, grew rapidly and was the fastest growing sector of the economy, followed by construction, during this period.

behaviour of fundamentals and macroeconomic policies.[42] An analysis of comparative movements of the determinants of RER during depreciation and appreciation periods (1985-89 and 1990-93, respectively) should provide a rough idea as to whether the RER has been moving along an ERER path or has been misaligned during the 1990s. Following Edwards, we identified a number of determinants of the RER, as shown in Table 2 which gives their movements for selected sub-periods.[43]

Table 2
Determinants of the RER, 1981-93

		1981-84	1985-89	1990-93
REER(a)	% growth	-7.0	6.9	-5.8
1. Fundamentals				
Implicit import tariff (b)	%	9.1	14.1	11.7
TOT	% growth	2.7	-5.6	-0.1
Capital accumulation, % of GDP	% of GDP	28.3	23.1	23.7
Real GDP	% growth	5.2	3.1	5.5
Net capital inflows	% of GDP	8.8	4.8	7.2
Govt. Consumption	% of GDP	7.9	10.2	9.6
2. Macroeconomic policies				
Domestic credit	% growth	18.5	15.4	11.6
Fiscal deficit	% of GDP	16.4	16.0	14.6
3. Exchange rate (NEER)(a)	% growth	1.9	14.9	6.4

a: Minus sign signifies an appreciation.
b: Import tax revenue to total imports of goods and services
Source: Annual report, Central Bank of Sri Lanka and author's computations.

The immediate effect of the imposition of import tariffs is to depreciate the RER. However, as domestic prices of tradables tend to increase following import tariffs, the demand for tradables will decrease and the demand for non-tradables will increase due to income and substitution effects, leading to increased relative prices of non-tradables and an appreciation of the RER. The exact outcome depends on the substitutability between tradables and non-tradables and is therefore an empirical issue. In

42 The appropriate methodology involves the estimation of the RER on the basis of fundamentals and aggregate demand pressures, and also decomposition of the fundamentals into sustainable and unsustainable components. The lack of sufficient data prevented us applying this method in our analysis. A major weakness of this type of analysis is that it ignores the relative strengths of different variables on the determination of the RER. It also does not capture the temporary movements in the fundamentals causing RER misalignments.

43 Edwards (1989).

developing countries this substitutability is considered quite low.[44] In Sri Lanka's case, secondary effects do not seem therefore to have been strong enough to outweigh the initial effects. Thus imposition of import tariffs is expected to depreciate the RER. Implications of changes in the TOT are similar to those in import tariffs. Thus deterioration of the TOT is expected to depreciate the RER. As capital formation increases, the supply of non-traded goods tends to increase, leading to a fall in the prices of non-tradables. Since the prices of traded goods are determined by world markets, capital accumulation should lead to depreciation of the RER. Real GDP growth proxies technological progress and as it increases, prices of non-tradables tend to increase due to income effects resulting from productivity gains. At the same time, supply-side effects depress the prices of the non-tradables. The precise outcome therefore depends on the relative strengths of demand and supply forces. According to the Ricardo-Balassa effect, real GDP growth leads to appreciation of the RER.[45] The capital inflows to GDP ratio proxies the level of restrictions on capital inflows. As we have discussed in some detail above, increased capital inflows lead to an appreciation of the RER. Government consumption expenditure is used here in place of government expenditure on non-traded goods since information on the latter is not available. Increased government consumption is expected to appreciate the RER. Under macroeconomic policies, both expansionary credit and fiscal policies lead to appreciation of the RER. Finally, the nominal exchange rate and the RER are positively related.

As far as fundamentals are concerned, a reduction in import tariffs, improvement in TOT, increased real GDP growth, and increased capital inflows necessitated appreciation of the RER.[46] On the other hand, capital accumulation and government consumption more or less remained unchanged, without significant implications with regard to the appreciation that took place in the RER. Domestic fiscal and credit expansion, the possible agents of RER misalignment due to macroeconomic policies, declined on a period average basis. It should be noted that expansion of these variables during the 1990s was much lower than during the 1985-89 period which experienced a RER depreciation. The nominal exchange rate, the other determinant of

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44 Crockett (1981).

45 Edwards (1989).

46 The implications of transitory capital inflows on RER appreciation would have been ameliorated to a certain extent by the authorities' sterilised intervention.

the RER, on the other hand, depreciated at a mild rate compared to the 1985-89 period, contributing to RER appreciation. The above analysis supports the view that the RER appreciation during the 1990s has been induced largely by the fundamentals. However, it should also be noted that despite the decreased magnitudes, government expenditure and fiscal deficits still remained very high. Therefore we conclude that during the 1990s RER appreciation was required to absorb the changes in the fundamentals. However, given the very high fiscal expansion, we cannot safely ignore the existence of RER misalignment during the 1990s.[47] Even though the increased price level due to accommodation of stable capital inflows could be interpreted as equilibrium movements, a double-digit inflation rate signified an over-heated economy.

Overvaluation of the RER has detrimental effects on the economy in a number of ways. Most importantly, it will exert a depressing effect on exports via reduced international competitiveness, with a negative impact on long-term growth. The present development strategy in Sri Lanka is primarily based on the expansion of manufactured exports. The price elasticity of exports would have significantly increased following the shift of the structure of exports towards manufactured goods.[48] Since the RER has a major role to play in this situation by guaranteeing sufficient resource transfers to the exportable sector, maintaining a stable and competitive real exchange rate that reflects medium-term economic fundamentals has become one of the important intermediate objectives of the government. The need to protect the tradable sector from even the transitory deviations of the RER from the ERER is stressed because these are expected to have hysteresis effects.[49] Excessive instability in the RER should also be prevented as it can have negative implications for productive investment and thus retard economic growth.

Another important concern regarding large capital inflows is that they can create complications in the achievement of domestic economic objectives and, more

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47 Misalignment of the RER is defined as a sustained departure of the actual RER from its ERER. Misalignment could be a result of inappropriate macroeconomic policies, or structural, whereby the actual RER fails to reflect the changes in the fundamentals.

48 Textiles and garments, the major category of manufacturing exports, is quota determined and thus less responsive to RER changes. However, the RER was found to be a highly significant factor in the volume of exports of "other manufactures" category. See Athukorala and Jayasuriya (1994).

49 See Krugman, (1987) and Calvo *et al.* (1993).

specifically, in the effective conduct of monetary policy to control domestic aggregate demand. One of the best known disadvantages of free capital mobility is that it lowers the effectiveness of monetary policy under fixed or managed exchange rates. In an extreme case of fixed exchange rates and perfect capital mobility, monetary policy becomes completely ineffective in managing aggregate demand.[50] Under a managed float, monetary policy has some control over aggregate demand but at a cost. The higher the degree of capital mobility, the greater will be the cost in terms of high domestic interest rates.

With the occurrence of high capital inflows, policy-makers in Sri Lanka were faced with the problem of how to reconcile the twin objectives of maintaining the real exchange rate to safeguard international competitiveness, and having some rough target for real interest rates to maintain some control over aggregate demand. Being an asset price, the exchange rate fluctuates in relation to the changing conditions in financial markets. Thus, for monetary policy to be effective in the face of large capital inflows, the transfer of capital should be accompanied by an increase in the exchange rate as well. A decision not to use the exchange rate to accommodate exchange market shocks requires official intervention in the exchange market. However, unsterilised intervention would mean that monetary authorities lose the ability to control aggregate demand through variations in money supply. On the other hand, if they resort to sterilised intervention, monetary authorities have the ability to manage aggregate demand, albeit at a cost, because this leads to accumulation of foreign currencies which bear low rates of interest compared to domestic financial assets. An increasing interest burden could become another source of fiscal deficits.

To summarise, the RER appreciated during the periods of 1981-84 and 1990-93. During the first period, real exchange appreciation was mainly due to the Dutch disease effects emanating from large foreign aid and private transfers. In certain years, the mini boom experienced by export commodities and the government's efforts to use the exchange rate as a nominal anchor for inflation led to RER appreciation. The more recent surge in foreign capital inflows has also been associated with the RER appreciation. Even though RER appreciation in the early-1990s was largely influenced by movements in economic fundamentals, including increased foreign capital inflows,

50 See Mundell (1962).

real exchange rate misalignment emanating from high fiscal expansion cannot be ruled out. Short-term portfolio investments, which have made monetary policy management especially difficult, have also been a source of RER misalignment since they have been induced partly by transitory external factors. Their impact on RER appreciation however would have abated due to sterilised interventions. RER appreciation not only led to decreased competitiveness of exports, but also changed the monetary policy environment significantly. In the current setting, monetary policy is expected to maintain currency stability in order to maintain international competitiveness. At the same time, monetary authorities have to tackle inflationary tendencies induced mainly from public sector deficits and high capital inflows. This led to tight monetary policies. The natural outcome of easy fiscal and tight monetary policies is high domestic interest rates relative to international rates. To achieve the exchange rate stability objective, short-term speculative capital movements are therefore being regulated.

5. Policy options

The primary objective of policy intervention in the face of high capital inflows is to assure the efficient utilisation of resources. If capital inflows are unsustainable, associated RER appreciation and consequent movements in the production structure of the economy cannot be justified on efficiency grounds. Also, if the existing relative prices do not reflect correct market signals, perhaps due to distortional taxes, then the stable capital inflows that have been accommodated will not be allocated efficiently. Government policy intervention in this case is required to eliminate existing distortions. Policy interventions in the face of high capital inflows are also required to increase the absorptive capacity of the economy. Another important concern over capital inflows is financial stability. Capital inflows, especially hot money, could be reversed at short notice, possibly leading to a domestic financial crisis. This concern is justified in the light of past experience in Latin American countries. Large capital inflows during the 1920s and 1978-81 were followed by capital outflows and major economic crises in the 1930s, and the debt crisis in the mid-1980s. In Mexico, large capital inflows in the early-1990s were followed by a stock market crash in early-1995. Another danger associated with the tendency for these capital flows to reverse is that it can accentuate cyclical instabilities if they adjust perversely to the state of the economy. For instance, in developing countries, the recessionary implications of a deterioration of the terms of

trade would be further aggravated if investor confidence is positively related to the state of the economy.[51]

The policies should be able to effect the right balance between accommodating beneficial capital inflows and restraining or neutralising the effects of capital inflows that are perceived to be harmful. In doing this, policies have to be implemented in such a way as to guarantee the maintenance of external competitiveness as well as some flexibility in monetary policy – two conflicting objectives to be achieved simultaneously. In so far as appreciation of the RER during this period signified partly a misalignment, the authorities have been not successful in maintaining international competitiveness, one of the important aims of policy interventions. As far as aggregate demand management is concerned, despite the fact that economic policies managed to contain it, continuation of double-digit inflation was a symptom of an over-heated economy.[52] The following section looks at issues relating to policy interventions in detail in order to analyse the appropriateness of the forms of intervention and their effectiveness.

5.1 Direct intervention by the monetary authorities

Monetary authorities directly intervene in the foreign exchange market to maintain the RER and to keep aggregate demand at target levels. As we have seen, neutralising the monetary impulses of foreign investments in the CSM would have been the primary concern of exchange market intervention in the 1990s. The monetary impulses of exchange market intervention in the event of capital inflows, could be either sterilised or unsterilised. Sterilised intervention attempts to neutralise the effects of the intervention on the monetary base through supplementary domestic open market operations. The net effect, therefore, is to leave high powered money unchanged but to change the portfolio composition of the Central Bank's balance sheet. Under unsterilised intervention, nominal exchange rate appreciation can be prevented. However, RER appreciation cannot be checked unless foreign exchange intervention is supplemented by expenditure reducing policies, since an increase in the base money caused by the rise in net foreign assets of the monetary authorities would exert upward pressure on the general price level.

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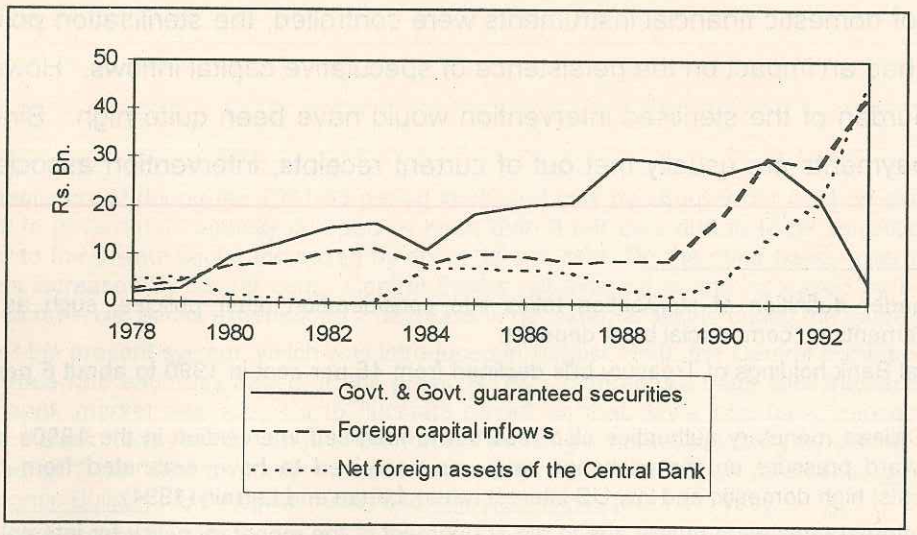
51 See Williamson (1993).

52 Inflation rate for instance decreased from about 22 per cent in 1990 to 12 per cent in 1993. (See Table 6, Appendix 1)

In non-sterilised intervention, only the exchange rate appreciation is directly controlled. But in the case of sterilised intervention policy, both exchange rate and domestic interest rates are prevented from adjusting to capital inflows. This type of intervention therefore perpetuates high domestic interest rates and short-term foreign capital inflows. Another problem associated with sterilised intervention is that it has a built-in mechanism to increase the fiscal deficit. In the case of increased capital inflows, sterilised intervention leads to increased foreign reserve assets and holdings of domestic bond liabilities of the Central Bank. If the interest rate on foreign reserve assets is lower than the interest rate paid on domestic bonds, the financial position of the Central Bank deteriorates. Because of these problems, sterilised intervention in the foreign exchange market is recommended only if high capital inflows are considered to be transitory.

Central Bank direct intervention in the foreign exchange market has been one of the policies used in Sri Lanka to check RER appreciation during periods of high capital inflows. Intervention in the foreign exchange market is evident from the co-movements in foreign capital inflows and net foreign assets of the Central Bank as shown in Figure 5 below. The accumulation of foreign reserves clearly corresponds to periods of high capital inflow.

Figure 5
Sterilisation, 1978 - 93



To analyse sterilised intervention, we need to have some measure of domestic open market operations of the Central Bank directed for the sole purpose of exchange rate management. Separate information of this sort is not available. The monetary authorities have generally been using open market operations to mop up excess liquidity and to manipulate aggregate demand by issuing government securities from their asset portfolio. In this paper we used variations in the government and government-guaranteed securities holdings of the Central Bank as an indicator of its attempts to sterilise the impact of high capital inflows on the monetary base.[53] Divergent movements in net foreign assets of the Central Bank and its holdings of securities show increasing sterilised intervention by the government during high capital inflow periods.[54]

Since Sri Lanka's monetary authorities aimed to curtail real exchange rate appreciation and at the same time check domestic monetary expansion and therefore inflation, sterilised intervention seems to have been an appropriate policy instrument.[55] However, as capital inflows persisted, the Central Bank's ability to sterilise was limited by the dwindling holdings of government securities. The Central Bank therefore started to issue its own securities from October 1993. It also planned to introduce long-term securities to be sold at the stock exchange. Exchange rate adjusted domestic interest rates remained very high relative to international rates in the 1990s even after some fiscal consolidations. The non-convergence of domestic interest rates in the face of high capital inflows was partly due to the sterilised intervention.[56] Since foreign holdings of domestic financial instruments were controlled, the sterilisation policy could not have had an impact on the persistence of speculative capital inflows. However, the interest burden of the sterilised intervention would have been quite high. Since these interest payments are usually met out of current receipts, intervention associated with

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53 A broader definition of sterilisation takes into consideration other policies, such as reserve requirements on commercial bank deposits.

54 Central Bank holdings of Treasury bills declined from 45 per cent in 1990 to about 6 per cent by 1993.

55 The Chilean monetary authorities also resorted to sterilised intervention in the 1990s since the downward pressure on the exchange rate was perceived to have emanated from transitory elements; high domestic and low US interest rates. Laban and Larrain (1994).

56 High interest rates were mainly due to the assignment of the monetary policy for internal balance when large budget deficits and capital inflows had been driving domestic money supply and prices up. This had also been due to the various controls on capital movements.

higher domestic taxes would have imparted an ever increasing dead-weight loss to the economy.

A sterilised intervention policy was not successful in containing aggregate demand. Money supply continued to grow along its long-run trend. Incidentally, it experienced the highest rate of growth in 1993, in which year, sterilisation was more acute. Sterilisation failed to arrest the expansion in aggregate demand mainly because it was not large enough to offset increased net foreign assets of the Central Bank during the period of high capital inflows.[57] This does not mean however that sterilised intervention was not effective. Had there been no sterilised intervention, monetary expansion, inflation, and RER appreciation would have been much higher. The important conclusion that can be drawn is that sterilised intervention had limited applicability as a device for real exchange rate management in the context of continued high capital inflows to Sri Lanka.

5.2 Exchange rate policy

In Sri Lanka, the exchange rate system during the period under review was a managed float. The Central Bank is expected to intervene in the foreign exchange market to maintain stable markets.[58] The exchange rate mechanism gradually evolved towards more market orientation. The NER depreciated throughout the 1990s on annual average basis.[59] However, the RER has been appreciating during this period.

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57 Domestic credit during the 1991-93 period increased only by about 9 per cent on average. Net credit to government actually dropped by more than 8 per cent due to fiscal corrections. Gross credit to the private sector increased by about 16 per cent. On the other hand, external banking assets increased by 62 per cent. Central Bank's net external assets increased by 84 per cent and commercial banks experienced a decrease in net external assets during the same period.

58 Under the present system, which was introduced in August 1990, the Central Bank announces a reference rate each day based on the previous day's commercial bank spot transactions in the inter-bank market and allows it to fluctuate based on that day's inter-bank transactions. The Central Bank however intervenes in the foreign exchange market passively by setting a bid-offer spread of 1 per cent to prevent erratic fluctuations in the exchange rate. See, Central Bank Economic Bulletin (July-August, 1990) and The Daily News (April 4, 1995).

59 Despite high capital inflows, the NER experienced only two marginal appreciations on average basis in the third and the second quarters of 1990 and 1993, respectively (see Figure1, Appendix 2).

Appreciation of the RER despite increased foreign prices of tradables, and depreciation of the NER, signify a sharp upward pressure on the domestic prices of non-tradables.[60]

In the present economic environment, it can be argued, there is a need for a more flexible system of exchange rates for the following reasons. First, Sri Lanka has now achieved full convertibility on the current account and exchange controls have also been eliminated to such an extent that the existing ones are considered highly ineffective. In this situation, the exchange rate has to assume an important role in the efficient functioning of the exchange market. Second, the scope for greater short-term shifts in exchange market conditions has also increased. A more flexible approach to exchange rates would provide the most effective means of dealing with short-term capital flows. Adjustments to a reversal of capital under this system would be swift through depreciation of the currency. Flexibility also checks unsustainable short-term capital flows since it increases the exchange rate risk for foreign investors. Third, since sterilisation cannot be carried out on a scale sufficient to control money growth and inflation to targeted levels, and therefore leads to RER appreciation, foreign exchange market intervention to cope with capital inflows needs to be supplemented with exchange rate variations. Finally, a flexible exchange rate system is also beneficial to the economy since it encourages greater development of financial markets, inter-bank and forward exchange markets.[61]

Since export promotion is accorded high priority under the present development strategy, it is also important to safeguard the confidence of exporters that the exchange rate will remain competitive in the medium-term. The authorities therefore should be committed to maintain the stability of the RER. Thus, in maintaining a stable RER to safeguard export competitiveness, allowing some breathing-space for monetary policy, and minimising the unfavourable implications of short-term capital movements, the exchange rate mechanism requires a proper blend of flexibility and stability.[62]

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60 Our calculation of the RER is based on U.K., U.S.A., Japan, Germany, India, and France as being the major trading partners, and only France and Japan experienced a drop in the wholesale prices during this period.

61 Bertrand and Robertson (1993).

62 International evidence in this regard has been diverse. Chile and Mexico for instance, having failed sterilised intervention, moved to an exchange rate action of a greater, albeit still limited, flexibility by enlarging the bands. Spain, on the other hand, decided to fix the exchange rate. See Laban and Larrain (1993) and Schadler (1994).

A system of free floating exchange rates despite its advantage of revitalising monetary policy for domestic demand management purposes, is therefore not the appropriate policy. Such a system encourages speculation, and poses a greater risk of overshooting the RER and is therefore harmful to trade and investment. Thus there is a trade-off between the effectiveness of the monetary policy and international competitiveness under such a system. Under a free floating exchange rate system, the government may also be tempted to pursue a loose monetary policy leading to high domestic inflation.[63]

The present system of managed float, a hybrid of fixed and flexible exchange rate systems, is a suitable exchange rate arrangement in the existing circumstances because, compared to a free floating system, it can avoid wide swings in the exchange rate that can lead to adverse price and resource movement implications. Speculative capital movements are also discouraged as they are denied a one-way bet because, being discretionary, the timing and potential size of intervention are difficult to speculate. On the other hand, in comparison with a fixed exchange rate system, external balance to a certain extent can be addressed through exchange rate changes. Internal demand management policy is thus not constrained to the extent existing under the fixed exchange rates. The nature and the degree of management that should be attempted are important issues under this system. In the case of Sri Lanka, management of the managed float, does not seem to have been completely successful in maneuvering the RER to realise the above-mentioned objectives. The exchange rate system, even though officially a managed float, gradually evolved into a more market-clearing one.[64] Such a movement however is not appropriate since there are certain factors in operation to misalign the RER, and also because the capital account transactions are still subject to various restrictions.[65] If the management of the managed float is difficult and leads to unwanted movements in the RER, then a system of a "wider band," another hybrid arrangement of fixed and flexible exchange rates,

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63 Recently, these credibility related arguments led some economists to propose greater rigidity in exchange rate policy in developing countries as a means of financial discipline and thereby to provide a nominal anchor for inflation. For more details, see Edwards (1993).

64 See, Central Bank Economic Bulletin (July-August, 1990), Bertrand and Robertson (1993), and The Daily News (April 4, 1995).

65 Institute of Policy Studies (1995).

seems to be appropriate since it would retain some flexibility while being more stable than a managed float.[66]

Turning again to the management of the managed float, as we have noted before, the limited applicability of sterilised intervention to offset monetary implications of transitory capital inflows, and high fiscal deficits, have been the causes of the RER misalignment during the 1990s. Therefore, under the system of the managed float, to prevent these factors influencing currency over-valuation and having detrimental effects on the real economy, the NER should have been depreciated at a faster rate. This does not necessarily argue for a net depreciation of the RER. As we have found, the behaviour of several RER fundamentals necessitated an appreciation of the RER. The inducements from the RER fundamentals to increase the prices of non-tradables should not be tampered with by changing the NER or, in other words, the prices of tradables, since it signifies a RER misalignment. The net outcome depends on the relative strengths of these opposing forces. During the 1990s, the RER appreciating influences of fundamentals have been the dominant force and therefore a modest appreciation of the RER during this period would have been the correct policy. Actual RER appreciation however would have been more than what was warranted since the NER moved towards a market based-system.

A properly managed float or a wider-band system of exchange rates would help to ease the perception of exporters that the RER is overvalued since the NER is periodically adjusted to reflect the changes in the inflation differentials arising from the sources of misalignment. Another advantage is that a modest appreciation of the RER in an event of changes in the fundamentals would sharpen competitive pressures in the economy by sending signals to exporters to become more efficient and move their products up-market.[67]

This last aspect needs further elaboration because exporters have recently been vying for a constant or even a depreciated RER. Large currency devaluations to keep exports competitive cannot be supported because this type of leaning-against-the-wind

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66 These types of arrangements, such as the "target-zone proposal", which is a sophisticated extension of the wider-band proposal, are however against the policy of gradual opening of the capital account.

67 The Economist (August 19, 1995).

policies are justifiable only if RER appreciation denotes a gross misalignment which, as we have noted, has not been the case. Maintenance of the RER unchanged while fundamentals pressure it downwards represents a RER misalignment and is costly. We can elucidate this aspect further by considering the implications of maintaining RER unchanged while increasing foreign capital inflows; the most important RER fundamental in the present context, requires its appreciation. As we mentioned before, foreign capital inflows are beneficial since they relieve the external resource constraint. They also entail certain costs. As these additional resources are being absorbed into the economy the pressure on available resources is increased leading to increased prices of non-tradables and appreciation of the RER. If a continued inflow of foreign capital is needed for economic development, then the associated costs should be borne by all economic sectors including the tradables sector. If policies were implemented to counter RER appreciation through increased prices of tradables, scarcity of non-traded goods (such as, for instance, lack of proper infrastructure facilities) could continue to be a binding constraint on foreign capital inflows and economic growth.

On the other hand, to be effective, a devaluation should be accompanied by domestic dis-absorption policies to prevent erosion of the competitive edge thus acquired.[68] Since large fiscal deficits have been the prime source of excess aggregate demand, improved government finances (especially through reduction in expenditure) will be the most appropriate way to reduce domestic absorption. Large cuts in government expenditure at present, however, are not feasible because of short-term fiscal inflexibility mainly due to the North-East conflict. Alternatively, a subsidy can be granted to industries whose profitability is squeezed following RER appreciation.[69] This policy however leads to a further worsening of the fiscal imbalance. A self-financing subsidy scheme could overcome this problem.[70] However, the disadvantages associated with such a scheme are that they go against the government's foreign trade

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68 It is assumed that deflationary implications of a currency devaluation are not strong enough to bring about the necessary disabsorption.

69 A general profit squeeze in the economy during the RER appreciation periods is not supported by the available evidence. The real wage index in the industry and commerce sectors, for instance, declined on an annual average basis by about 6 per cent and 2 per cent during the 1980-84 and 1990-93 periods, respectively (See Table 6, Appendix 1).

70 For an exposition of self-financing subsidy schemes, see Corden (1971).

liberalisation policy and the credibility of the temporary nature of these policies may be open to question.[71]

Thus, the demands for a RER depreciation cannot be supported. Since there have also been some elements of misalignment of the RER, only a reduction in the rate of RER appreciation is acceptable. As far as the competitiveness is concerned, the best policies are to focus more on productivity improvements in the tradable sector and to reduce the upward pressure on the prices of non-tradables.

5.3 Fiscal policy

Since high fiscal deficits seem to have been a source of RER misalignment during the 1990s, maintenance of stable exchange rates and low inflation in the context of high capital inflows also require fiscal discipline.[72] Despite some improvements lately, the size of the public sector, fiscal deficits, and modes of financing the deficits have led to high inflation, high interest rates and large current account deficits.[73] Monetary policy in this context is assigned to internal balance violating the Mundell assignment. To insulate the capital account from speculative short-term capital inflows in response to the high interest rates that result from these policies, capital flows are controlled, despite the fact that the efficacy of such restrictions is considered highly doubtful. The best policy would be fiscal control, thereby relieving pressure on aggregate demand and releasing the interest rate for the purpose of exchange rate management. Monetary and fiscal policies could thus be assigned optimally to achieve external and internal balances, respectively.

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71 See Calvo *et al.* (1993)

72 A policy of fiscal tightening is usually put forth when a country is experiencing large capital inflows in order to cool down the economy and thereby relieve the pressures on RER to appreciate. In the case of Sri Lanka, fiscal policy has a bigger role to play since RER misalignment has partly been self-inflicted. Even though high domestic interest rates have their roots in financing needs of large fiscal deficits, the impact of fiscal tightening on the RER through this channel is not clear since foreigners are not yet allowed to invest in fixed-return investments.

73 The high interest rate structure in Sri Lanka has largely been caused by huge budget deficits. Faced with high and persistent deficits, domestic non-bank market borrowing has been driving the Treasury bill rate which, in turn, has been instrumental for very high rates in other financial assets. When almost risk-free Treasury bills fetch a high rate of interest, it is justifiable on the part of commercial banks to charge a much higher rate from private borrowers since these are risky assets relative to investment in Treasury bills.

The form of fiscal adjustment required is a reduction in the deficit and at the same time a change in the composition of expenditure so as to guarantee increased allocations for the purpose of raising the supply of non-tradables. Fiscal improvement could be achieved through an expenditure reduction or by increasing revenues. The reduction of government expenditure, particularly on non-traded goods, is the most appropriate policy since it reduces the pressure on prices of non-traded goods and inflation directly. It is preferable to an increase in revenue because, when a country experiences large capital inflows, an individual's expenditure is independent of tax liabilities due to increased credit availability. This is especially true when the increased taxes are seen to be transitory.[74]

In actual practice, however, the ability to restrain government expenditure seems rather limited. As we have noted, increased expenditure on infrastructure becomes a priority in the event of high capital inflows as a way to increase the absorptive capacity of the economy and thereby reduce the pressure on the prices of non-tradables. Moreover, re-adjustments in government expenditures which had been set on the basis of medium-term or long-term considerations in response to short-term fluctuations in international capital inflows, cannot be considered as rational. Experience shows that recurrent expenditure is highly resilient to budget cuts because it is very difficult to get public support for such programmes. The inflexibility of government expenditure in Sri Lanka has further increased because of the ongoing North-East conflict.

Fiscal consolidation under the structural adjustment programme initiated in 1988 has been a move in the right direction. This included reduction of government spending, tax reforms and an increased tax base, efficiency and compliance, and privatisation of State-owned enterprises. Fiscal policy also should concentrate on inducing foreign direct investments in the services sector since an increased supply of non-traded goods and reduced budget deficits will reduce the pressures on RER appreciation and thereby increase the competitiveness of the other sectors. Since defence expenditure has been a heavy strain on the government budget, an early settlement of the North-East crisis would produce great dividends.

74 Calvo *et al.* (1993).

5.4 Microeconomic policies

Microeconomic policies are implemented in the face of high capital inflows for a variety of reasons: to prevent erratic fluctuations in the RER, to limit reserve accumulation and appreciation of the RER, to increase allocative efficiency, and to increase the absorptive capacity in the economy. A failure to effect these changes would lead to various economic costs. Excessive fluctuations in the exchange rate are associated with various adjustment costs.[75] The costs of RER misalignments have already been discussed. The reversibility of short-term capital inflows is a concern of policy-makers since it could lead to a run on the currency, financial instability and to an economic downswing. Sterilisation of monetary impulses of reserve accumulation could lead to extra fiscal burdens. Increased inflows of capital would also lead to over-heating of the economy and, consequently, to high rates of inflation if the absorptive capacity is limited.

Policy-makers have access to various microeconomic policy instruments with which to achieve these objectives. Restrictions on short-term capital flows are mainly used to prevent excessive fluctuations in the RER. Liberalisation of existing capital outflow controls and further trade liberalisation are implemented to prevent reserve accumulation and appreciation of the RER and also to prevent over-heating of the economy following large capital inflows. To achieve the efficiency goal, trade liberalisation and financial market reforms are usually pursued. In the following section we analyse these policies in the context of Sri Lanka. However, we do not intend to dwell on the highly involved Issues of trade and payments liberalisation and financial market reforms.

Trade liberalisation measures are recommended during periods of high capital inflows in order to guarantee efficient allocation of resources. In Sri Lanka, the recent episode of high capital inflows witnessed a rapid march to current account convertibility. However, the allocative efficiency gains from trade liberalisation measures could have

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75 Since wide fluctuations in the real exchange rate would have detrimental effects on the real sector, taxation of the short-term capital flows is sometimes recommended Tobin (1978). Krugman also favours controls on capital flows to protect the tradable sector from short-term instabilities Krugman (1987). In the presence of irreversible investment, the superiority of the Tobin taxes on short-term capital flows is also highlighted by Tornell (1990).

been eroded to a large extent by levies introduced in an ad-hoc manner during the same period.

As regards payments controls, policies with respect to capital inflows are dealt with first, followed by capital outflow regulations. The recent level of private portfolio capital inflows was not excessive enough to be a destabilising force. A run on the rupee and consequent financial sector failure have not therefore been real issues. Portfolio investments have been kept low by regulations on foreign investments in domestic financial instruments and foreign borrowings. Given the economic conditions at that time, this seems to have been an appropriate form of intervention because capital inflow controls should be eliminated only after certain pre-conditions have been established and probably in a series of steps rather than instantaneously.[76] These pre-conditions include fiscal discipline, a well-established non-traditional export sector, and liberalisation of the foreign trade and financial sectors.[77] In Sri Lanka, these conditions have not yet been fulfilled. Despite some improvements, fiscal control has not yet been achieved. The non-traditional export sector is not yet well established. Even though foreign trade has been liberalised, as we have noted earlier, simultaneous increases in other import duties would have distorted the relative prices considerably. Finally, despite the fact that there has been a considerable liberalisation of the financial sector since 1977, the continued dominance of the State-owned commercial banks has been a stumbling block in efficient allocation of financial resources. In the present situation, financial opening would not contribute substantially to an increase in capital stock, and foreign capital would move into more liquid forms of investments.[78]

However, this does not imply that these inflow controls should be continued indefinitely. As we have already noted, this involves directing monetary policy towards internal balance signifying an unstable assignment of policies. At the same time, restrictions on portfolio investments contradict the government's objective of stock market

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76 Past experience shows the danger of premature liberalisation of the capital account. The Southern Cone countries in the 1970s, Britain in 1979, and New Zealand in 1984 experienced large RER appreciations followed by chaotic macroeconomic conditions.

77 If the non-traditional sector is not well established, RER appreciation following large capital inflows would be harmful to the export sector. There is potential to perpetuate fiscal indiscipline in the face of capital inflows. Financial and trade reforms are required to assure allocative efficiency.

78 Fisher (1993).

development. One aim of the recent capital account liberalisation measures was to induce foreign portfolio capital into the stock exchange since low foreign participation was perceived to be the main hindrance to the development of a vibrant stock exchange. Re-introduction of capital controls would also adversely affect investor confidence with detrimental effects on long-term private capital inflows. Finally, the efficacy of such restrictions is liable to erode quickly as market participants find means to circumvent them. This then calls for further broadening of the restrictions in order to sustain their effectiveness. All these arguments lead to the conclusion that capital inflow controls should be enforced on a short-term basis until the necessary fundamental conditions are satisfied, or to insulate the economy only from temporary external shocks.

Further liberalisation of capital outflow controls is sometimes recommended to ease the problem of reserve accumulation and to increase the efficiency of domestic financial institutions by subjecting them to international competition. This policy could, however, lead to reduced domestic investment if savings are placed abroad resulting in a reduction in long-term investment and lower economic growth. It might also erode the tax base.[79] As long as a country faces the possibility of capital flight, capital outflow liberalisation would be distinctly hasty. Even after a country goes beyond this point, the removal of capital outflow controls should not be seen as a means of fine tuning the flow of capital, because it is impossible to know whether a relaxation of capital outflow controls is more likely to cause a net outflow than a net inflow.[80] However, as in the case of inflows, the ability to impose effective capital outflow controls must be expected to erode progressively as a result of growing integration of trade, financial innovations and financial opening by other countries.[81] Thus, the question is not whether to liberalise outflows, but when to liberalise, and this depends fundamentally on the

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79 If a country applies a residence principle of taxation, income earned from holding foreign financial instruments is liable to taxation. However, it would be difficult to enforce tax laws on income earned abroad.

80 Removal of capital outflow controls paradoxically increased capital inflows to Britain in 1979 and Yugoslavia in 1990 Williamson (1993). In Chile, elimination of certain capital outflow restrictions to contain excessive accumulation of reserves and to prevent RER appreciation had not succeeded. Laban and Larrain (1994). Sri Lanka also experienced increased private capital inflows following recent capital account liberalisation measures. Karunatilake (1993).

81 It is often argued that capital controls are so porous that their removal would not significantly increase the capital outflows. However, since capital controls have effectively prevented long-term institutional savings being placed abroad, the ineffectiveness of capital controls in developing countries is sometimes exaggerated. Williamson (1993).

adequate flexibility of policy instruments to cope with a high degree of capital mobility and arrangements to limit erosion of the tax base. As far as flexibility is concerned, either willingness to accept a flexible exchange rate system or a high degree of flexibility in fiscal policy to control aggregate demand is needed. Since these two conditions are yet to be fulfilled, prudent hesitation in liberalising capital outflows, and a measured pace of liberalisation is the most appropriate strategy.

Financial market reforms usually precede capital account liberalisation in order to guarantee allocative and operational efficiency, and to prevent instabilities in the financial system.[82] Financial markets in developing countries are generally characterised by weak competition due to oligopolistic structures, segmented credit markets, inadequate institutional arrangements for prudential supervision and regulation. Excessive risk-taking due to free deposit insurance and lack of prudential supervision and regulations have often led to a large overhang of bad loans. This situation has not only led to financial instability but also to misallocation of resources. Increased capital inflows further aggravate these problems because of the increased flow of funds to the banking system and because of the foreign exchange risk emanating from open foreign exchange positions. The stability of domestic financial institutions could also be at stake as more established foreign banks undermine the viability of domestic banks. Until the financial market reforms that were introduced in 1977, Sri Lanka's commercial banking system was oligopolised by the two State banks and, until recently, these banks were also beset by the problems we have mentioned above. Financial markets have been subject to considerable reforms since 1977 with the aim of enforcing domestic competition, strengthening prudential regulation and supervision, establishing legal and accounting systems to cope with systematic risks, and re-structuring the domestic banking system. These reforms have helped to effect a noticeable transformation in the banking industry leading to increased allocative and operational efficiency. However, the State-controlled commercial banks that dominate the financial scene still need to be reformed to operate as autonomous financial institutions without political interference.

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82 Almost all capital account liberalisation attempts, although to different degrees, experienced banking crises. They were more pronounced in the Southern Cone countries. Fisher (1993).

Countries experiencing excessive capital inflows are advised to eliminate any subsidies to inward investment, such as free deposit insurance.[83] One of the important reasons for speculative bubbles is free deposit insurance and lack of policy credibility. The optimal policy would therefore be a firm commitment on the part of the government not to bail out speculators in the event that the bubble bursts. The credibility of commitment to this type of policy is always questionable since a bubble-burst could result in a general bank failure, which is normally costlier than bailing out speculators. Thus, the banks usually end up receiving free deposit insurance. A mandatory deposit insurance scheme for banks is usually suggested to overcome this problem. Apart from this, there are other policies that could be implemented to insulate banks from bubble-bursts. To prevent banks from intermediating new capital inflows, the reserve requirement ratio can be increased. Marginal reserve requirements could be sharply raised so that they become higher as the maturity of deposits shortens. Although this scheme would impose a burden on the banking system and could result in some dis-intermediating of capital inflows, it has the advantage of decreasing banks' exposure to the risks of capital flow reversals. Large capital inflows also lead to speculative bubbles in equity and real estate markets and the government in this case can also insulate the banking system from bubble-bursts by limiting investments in these markets.

To summarise, the main objectives of policy intervention when a country is experiencing large and persistent foreign capital inflows are to guarantee efficient utilisation of resources and the maintenance of financial stability. Policies are also expected to address the need to increase the overall absorptive capacity of the economy. Policy interventions deal with aspects relating to accommodating stable capital inflows and neutralising the effects of unstable capital inflows that were allowed to enter into the country. Policies would also be needed to completely restrict some categories of capital inflows and outflows to achieve these objectives. These policy interventions are expected to be maneuvered in such a manner as to strike a proper balance between external competitiveness and domestic aggregate demand management.

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83 These policies are not directly relevant in the present context since capital inflows to Sri Lanka are not excessive. However, we mention them here to complete our discussion on policy issues.

The accommodation of capital inflows pushes the RER down. In this situation, allowing the exchange rate to appreciate at a modest rate is considered the correct policy. A tight fiscal policy, on the other hand, is expected to play a complementary role to cool down the economy heated by capital inflows, and thereby dampen the rate of RER appreciation. The case for modest appreciation of the RER in the face of continued stable foreign capital inflows is further strengthened in the case of Sri Lanka by fiscal inflexibility. Appreciation of the RER during this period however was more than what was warranted by the changes in the fundamentals. This led to decreased competitiveness of exports. Thus, to maintain stable exchange rates to safeguard competitiveness and, at the same time, to facilitate the achievement of aggregate demand management objectives, some intervention in exchange rate determination in the form of an optimal band of fluctuation seems to be the correct policy. It is also important to reduce aggregate demand for non-tradables. Reduced government expenditure and increased foreign direct investment in this sector are the appropriate policies in this regard.

In neutralising the effects of unstable capital inflows, the monetary authorities resorted to sterilised intervention. They failed to offset the monetary impulses of exchange market interventions. However, domestic aggregate demand and inflation would have been much higher had there been no sterilised intervention. Direct controls were also used to limit unstable capital movements during this period.

6. Summary and conclusions

The main aim of this paper was to analyse the macroeconomic policy implications of capital inflows to developing countries, using the Sri Lankan experience as a case study. Sri Lanka experienced large capital inflows during the 1990-93 period. These were triggered by both internal and external factors. Domestic policy reforms were a major contributory factor for these high capital inflows. Other domestic factors included bullish trends in the stock market, and the return to relative political stability. Among the external factors, recession and low interest rates in industrialised countries were important. A significantly large part of the capital inflows during this period were stable flows. Foreign portfolio investments in the Colombo Share Market were the main unstable element.

In the face of high capital inflows, the objectives of domestic economic policy interventions are to guarantee efficient utilisation of resources, to maintain financial stability and to increase the absorptive capacity of the economy. Policies were directly involved with issues relating to the accommodation of stable capital inflows, neutralising the effects of transitory capital inflows and the complete restricting of other capital inflows and outflows. Policy interventions are expected to be carried out in such a way as to maintain the stability of the RER to safeguard the competitiveness of exports and domestic aggregate demand management -- two conflicting objectives to be achieved simultaneously.

The policies followed during this period of high capital inflows included sterilised exchange market interventions, improving public finances, further relaxation of foreign trade and payments controls, and some microeconomic policies to increase the allocative efficiency and absorptive capacity of the economy.

Exchange rate policy was a managed float. It increasingly moved towards a more market-based system. The managed float led to depreciation of the nominal exchange rate despite large capital inflows. The RER however tended to appreciate. The need to accommodate stable capital inflows and the behaviour of the other fundamental determinants of the RER generally justified RER appreciation during this period. The increased domestic price level and appreciated RER were therefore largely equilibrium adjustments. However, given high fiscal deficits and limited success in sterilised intervention, RER appreciation to a certain extent represented a misalignment. The appreciation of the RER led to decreased competitiveness of exports. One important objective of intervention thus could not be achieved.

The need to maintain domestic macroeconomic stability and low inflation, the other objective of intervention, was further strengthened by continued fiscal expansion. Fiscal deficits, though relatively low, continued to be a major source of demand pressure. Thus monetary policy continued to be tight during this period to contain aggregate demand. Easy fiscal and tight monetary policies led to high domestic interest rates and, to insulate the capital account, restrictions on speculative short-term capital movements were therefore sustained. Sterilised intervention to neutralise the effects of high and persistent transitory capital inflows was also attempted. These

policies were not effective in arresting domestic aggregate demand. Even though capital inflows necessitate an equilibrium upward movement in the price level, a double-digit level of inflation was a symptom of an over-heated economy. The interventions of the authorities thus failed to maintain both targets; external competitiveness and aggregate demand management. However, the difficulty in achieving two conflicting targets simultaneously should be emphasised. The Central Bank on the other hand cannot be expected to credibly commit itself to price stability when fiscal deficits are large.

In the present context, exchange rate policy should be formulated with a view to maintaining a stable RER with the ultimate objectives of safeguarding export competitiveness, allowing some effectiveness of the monetary policy for the purpose of aggregate demand management, and minimising the unfavourable implications of short-term capital movements. The arguments for a market-based exchange rate system cannot be defended in the presence of RER misaligning factors and restrictions on free capital movements. Therefore, we argued for the need for nominal exchange rate devaluation to eliminate the existing extent of RER misalignment under the managed float, or intervention in the determination of the exchange rate in the form of an optimal band of fluctuations with the aim of preventing RER misalignment. The demands for a depreciation of the RER however cannot be supported since the movements in the RER fundamentals, especially large capital inflows, necessitated its appreciation. In maintaining the competitiveness of the tradable sector, it is also important to focus on improving productivity.

Fiscal consolidation is another appropriate policy to tackle problems associated with capital inflows. Fiscal policy should be implemented with the intention of achieving both macro and composition effects. Reduced government expenditure could counteract increased aggregate demand being financed by capital inflows to the government as well as to the private sector. It also releases monetary policy to partial exchange rate management. Fiscal inflexibility due to the on-going North-East conflict, however, constraints the implementation of devaluation cum disabsorption policies, so that in the short-run, there seems to be no other option but to live with the RER misalignment. The cost of RER misalignment should be borne by all economic sectors including the export sector.

Government expenditure, on the other hand, should be re-directed to increase the supply of non-tradables, for instance, to increase infrastructure facilities or to modernise the existing ones. This will enhance the absorptive capacity of the economy and will in turn reduce both the excess demand for these goods and their prices. Foreign direct investments in the services sector should also be promoted with the objectives of reducing fiscal deficits and increasing the supply of non-tradables.

As far as microeconomic policies are concerned, further liberalisation of the capital account should be attempted only after the required pre-conditions have been met, and not for the purpose of fine tuning capital movements. Resource allocative efficiency acquires further importance in the presence of high capital inflows. Distortion of domestic relative prices recently by some ad hoc levies on tradables thus cannot be justified on efficiency grounds. If capital inflows require appreciation of the RER, reduction of existing import tariffs would be more appropriate since it also reduces the existing price distortions.

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Appendix 1

Table 1
Private capital inflows, 1970-93, Period Averages

	1970-77		1978-93							
			1978-82		1983-90		1991-93		Whole period	
	Rs. bn.	% GDP	Rs. bn.	% GDP	Rs. bn.	% GDP	Rs. bn.	% GDP	Rs. bn.	% GDP
Direct investment	0.0	0.0	0.7	1.0	1.0	0.5	5.7	1.3	1.8	0.8
Portfolio investment	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.4	0.4	0.1
Private long term	0.0	-0.1	1.2	1.3	-0.2	0.1	3.1	0.6	0.9	0.6
Private short term	-0.1	-0.2	0.7	1.0	1.0	0.4	5.0	1.1	1.6	0.7
Total.	-0.1	-0.3	2.6	3.3	1.9	1.1	15.6	3.4	4.7	2.2
Private transfers	0.0	0.0	3.2	3.5	8.9	4.6	19.6	4.2	9.4	4.2
Total incl. pvt. transfers	-0.1	-0.3	5.8	6.8	10.8	5.7	35.2	7.6	14.1	6.4

Source: Central Bank of Sri Lanka, Annual Report, Various issues.

Table 2
External sector, 1978-94

Year	Merchandis exports total	Merchandise imports				Total trnasfers	Current account	Net capital inflows				Overall balance
		total	% of total					Total	Public	Private	Other	
			Con.	Inter.	Cap.							
1978	13.2	14.6	38.5	38.4	23.1	1.2	-1.0	2.9	2.5	0.1	0.3	1.9
1979	15.3	22.4	34.9	40.8	24.4	3.0	-3.6	4.3	2.4	0.9	1.0	0.8
1980	17.6	33.8	30.0	45.9	24.1	4.5	-10.9	7.9	2.6	4.0	1.4	-3.0
1981	20.5	36.5	25.3	52.9	21.8	7.0	-8.5	8.1	5.1	2.6	0.4	-0.4
1982	21.1	41.8	20.6	51.7	27.7	8.9	-11.8	10.8	5.4	5.5	-0.1	-1.0
1983	25.0	45.4	19.6	53.8	26.6	10.5	-11.1	11.5	6.6	4.0	0.8	0.3
1984	37.2	47.0	17.2	56.9	25.9	12.2	-1.4	8.5	8.7	0.1	-0.3	7.1
1985	35.7	50.2	20.8	58.5	20.7	12.0	-11.4	10.3	7.4	1.6	1.3	-1.1
1986	33.9	51.4	23.8	55.6	20.5	13.1	-11.9	9.8	8.2	0.9	0.7	-2.1
1987	41.1	59.8	23.1	57.9	19.0	14.5	-10.1	8.9	5.9	3.2	-0.2	-1.2
1988	47.0	69.8	25.0	57.7	17.3	16.8	-12.4	9.0	7.8	0.5	0.7	-3.3
1989	56.2	78.2	26.8	57.8	15.4	18.6	-11.1	9.2	8.2	2.4	-1.4	-1.9
1990	79.5	107.6	26.4	51.8	21.8	21.7	-10.4	17.9	16.4	2.5	-1.1	7.5
1991	84.4	126.4	25.6	50.8	23.6	25.0	-20.0	30.1	22.1	5.1	3.0	10.1
1992	107.9	152.1	21.2	54.3	24.5	28.3	-18.9	28.4	10.2	13.2	5.0	9.5
1993	138.2	191.8	19.5	54.2	26.3	34.8	-18.8	43.0	12.6	28.5	1.9	24.1
1994	158.6	233.5	19.7	51.4	28.9	39.1	-37.8	54.9	10.3	37.7	6.9	17.2

Notes: In Rs. billion unless otherwise indicated.
Source: Central Bank of Sri Lanka, Annual Report, Various issues.

Table 3
External debt and reserves, 1978-94

Year	External debt		Debt service payments		Debt service ratio	External reserves	Import capacity
	Private	Public	Amortisation	Interest			
	Rs. billion				%	Rs. billion	months
1978	2.7	14.6	1.9	0.5	15.5	7.5	4.3
1979	3.4	15.8	1.6	0.8	13.0	9.7	4.0
1980	7.7	22.3	1.8	1.0	12.4	6.8	3.4
1981	15.4	29.2	2.1	2.4	16.8	9.2	2.2
1982	20.9	35.3	2.6	2.7	18.6	11.2	2.7
1983	24.0	46.7	3.1	4.0	21.6	13.0	3.0
1984	26.7	54.2	3.4	4.6	17.5	18.9	3.2
1985	28.0	69.5	4.5	4.8	21.0	18.4	4.1
1986	28.8	88.3	6.9	4.7	26.2	17.3	4.0
1987	34.6	112.4	9.6	4.9	27.5	18.5	3.4
1988	36.9	125.7	11.0	6.2	28.6	19.0	3.1
1989	47.4	156.3	9.9	7.2	24.2	23.4	2.8
1990	56.8	176.9	10.0	8.0	17.8	34.5	2.6
1991	61.4	214.6	11.4	8.8	18.5	49.2	3.3
1992	78.7	235.5	14.3	9.3	17.1	66.2	3.8
1993	106.5	270.2	14.3	9.7	13.7	105.3	4.1
1994	134.7	300.2	14.9	11.4	13.7	130.3	5.4

Source: Central Bank of Sri Lanka, Annual Report, Various issues.

Table 4
Government finance and monetary expansion, 1978-94

Year	Revenue			Expenditure			Budget deficit	Primary deficit	M2	External assets	Domestic assets
	Total	Tax	Non-tax	Total	Current	Capital					
	% of GDP								% change		
1980	21.1	19.8	1.3	41.8	18.5	17.3	-22.2	-18.8	31.9	-46.7	80.6
1981	17.4	16.1	1.3	33.0	17.2	13.2	-15.6	-11.2	23.1	-19.0	34.3
1982	16.3	14.9	1.5	33.8	18.5	15.5	-17.4	-12.3	24.8	-19.3	24.8
1983	19.2	16.4	2.8	32.6	18.1	13.0	-13.4	-8.0	22.1	34.4	16.3
1984	22.2	19.5	2.7	31.1	16.0	13.0	-9.0	-4.6	16.6	212.7	1.3
1985	22.3	18.7	3.6	34.0	20.1	13.3	-11.7	-7.1	11.5	-6.9	18.6
1986	20.7	17.4	3.3	33.0	18.9	12.9	-12.2	-7.4	5.1	-4.5	8.2
1987	21.4	17.9	3.6	32.5	20.1	11.6	-11.1	-5.9	14.7	4.9	17.9
1988	18.8	16.2	2.6	34.5	20.8	10.3	-15.7	-10.0	16.5	-24.0	28.2
1989	21.4	18.9	2.6	32.6	22.6	8.2	-11.2	-5.5	12.5	-33.0	5.6
1990	21.1	19.0	2.1	31.0	22.3	6.1	-9.9	-3.5	19.1	115.7	17.1
1991	20.5	18.3	2.2	32.1	22.5	6.8	-11.6	-5.7	23.2	70.8	12.0
1992	20.2	18.0	2.2	27.5	21.1	5.9	-7.3	-1.2	16.6	38.6	14.2
1993	19.7	17.2	2.5	28.1	20.5	6.7	-8.4	-2.4	23.5	87.9	3.5
1994	19.0	17.2	1.8	29.0	22.0	5.3	-10.0	-3.4	19.6	37.7	14.7

Source: Central Bank of Sri Lanka, Annual Report, Various issues.

Table 5
Income, expenditure, and savings, 1978-94

Year	Real GDP	Consumption		Investment		Exports and Imports		Investment-Saving		Current A/C balance	Capital A/C balance	Reserve movements
		Private	Public	Private	Public	Exports	Imports	Private	Public			
	% change	% of GDP										
1978	8.2	75.2	9.5	13.7	6.4	34.8	39.5	-7.2	4.8	-2.4	6.8	-4.4
1979	6.3	77.1	9.2	18.7	7.1	33.7	45.8	-8.2	1.4	-6.8	8.3	-1.5
1980	5.8	80.3	8.5	25.2	8.6	32.2	54.8	-15.2	-1.2	-16.4	11.9	4.5
1981	5.8	80.9	7.4	23.1	4.7	30.5	46.5	-11.6	1.6	-10.0	9.5	0.5
1982	5.1	79.8	8.3	25.8	5.0	27.4	46.3	-15.1	3.2	-11.9	10.9	1.0
1983	5.0	78.1	8.1	24.0	4.9	26.3	41.4	-11.9	2.8	-9.1	9.4	-0.3
1984	5.1	72.3	7.8	21.3	4.6	28.8	34.7	-6.5	6.3	-0.9	5.5	-4.6
1985	5.0	77.9	10.2	19.0	4.8	26.0	38.0	-7.9	1.2	-7.0	6.4	0.7
1986	4.3	77.7	10.3	18.3	5.3	23.7	35.3	-8.0	1.6	-6.6	5.5	1.2
1987	1.5	77.2	9.9	17.7	5.7	25.2	35.7	-7.4	2.1	-5.1	4.5	0.6
1988	2.7	78.1	9.8	16.9	5.9	26.1	36.8	-10.0	4.5	-5.6	4.1	1.5
1989	2.3	77.3	10.5	16.0	5.7	27.3	36.8	-9.1	4.7	-4.4	3.6	0.8
1990	6.2	75.9	9.8	18.3	3.9	30.2	38.1	-6.8	3.6	-3.2	5.6	-2.3
1991	4.6	77.4	9.8	18.6	4.3	28.7	38.9	-8.3	2.9	-5.4	8.1	-2.7
1992	4.3	75.4	9.6	21.1	3.2	31.8	41.0	-5.0	0.6	-4.5	6.7	-2.2
1993	6.9	74.8	9.2	21.4	4.2	33.8	43.3	-6.3	2.6	-3.8	8.6	-4.8
1994	5.6	75.1	9.7	23.9	3.2	33.8	45.7	-3.8	-2.7	-6.5	9.5	-3.0

Source: Central Bank of Sri Lanka, Annual Report, Various issues.

Table 6
Wages, Prices, and Inflation, 1978-94

Year	Inflation			TOT	Share prices		Real wage rate(a)	Exchange Rates			Nominal devaluation		Nominal interest rates		
					CSE										
	CCPI	WPI	GDPD		All	Sensitive		NEER	REER	RER	NER(b)	NEER	TB (c)	Deposit (d)	Lending (e)
	% change			1985=100							% change		%		
1978	12.1	15.8	7.8	146.9	-	-	118.1	68.2	110.4	94.6	-0.4	8.6	-	8.5	18.0
1979	10.8	9.5	15.7	105.7	-	-	121.1	67.2	106.7	95.7	-0.4	-1.5	-	8.5	18.0
1980	26.1	33.7	18.2	92.9	-	-	121.3	78.6	113.7	100.9	16.5	17.1	-	14.5	19.0
1981	18.0	17.0	20.5	87.1	-	-	110.7	81.2	108.4	106.5	14.2	3.2	15.6	17.9	19.0
1982	10.8	5.5	13.6	81.7	-	-	106.6	79.3	99.6	101.7	3.7	-2.4	12.3	17.5	17.8
1983	14.0	25.0	14.6	100.4	-	-	94.9	87.8	99.4	106.0	17.3	10.8	12.4	18.3	13.3
1984	16.6	25.6	17.1	122.1	-	-	91.3	84.9	85.1	97.8	5.1	-3.4	13.1	19.8	13.2
1985	1.5	-15.2	0.9	100.0	100.0	100.0	100.0	100.0	100.0	100.0	4.3	17.8	13.4	17.3	13.4
1986	8.0	-2.9	5.8	89.3	141.4	218.2	102.0	114.6	102.6	93.7	4.1	14.6	10.5	12.2	11.6
1987	7.7	13.4	7.0	98.7	218.0	384.1	108.1	143.3	119.3	96.2	7.9	25.0	7.3	11.5	9.8
1988	14.0	17.8	11.5	93.0	172.4	309.6	100.6	147.0	110.0	94.3	7.4	2.6	13.6	13.2	12.4
1989	11.6	9.0	9.6	91.4	179.5	341.7	111.2	169.9	118.9	107.4	21.1	15.6	14.8	16.4	13.2
1990	21.5	22.2	20.0	87.4	384.4	680.3	103.5	179.6	106.9	92.1	0.6	5.7	14.1	19.4	13.0
1991	12.2	9.2	11.0	85.7	837.8	1198.6	111.6	192.0	103.0	87.0	5.8	6.9	13.8	18.5	13.8
1992	11.4	8.8	10.0	89.1	605.3	826.6	111.7	199.4	96.5	84.9	8.0	3.8	16.2	18.3	13.0
1993	11.7	7.6	9.5	90.9	979.0	1442.4	103.3	217.8	93.5	83.1	7.7	9.2	16.5	18.4	16.4
1994	8.4	5.0	9.3	86.6	98.7	1439.0	100.3	-	-	-	-	-	12.7	15.3	13.0

Source: Central bank of Sri Lanka, Annual Report, Various issues
International Monetary Fund, International Financial Statistics, various issues.
Author's calculations based on data from the above sources.

Notes: a: Real wage rate in industry and commerce.
b: Based on bilateral nominal exchange rate of Rs. *vis-a-vis* US$.
c: Treasury Bill Rate (60c, IFS): Short-term government paper issued or traded in the market.
d: Deposit Rate (60l, IFS): rates offered to resident customers for demand, time, and savings deposits.
e: Lending Rate (60p, IFS): Short-term and medium term financing needs of the private sector.

Appendix 2

Figure 1
Capital inflows, reserve accumulation, and exchange rate movements, 1990.I - 1993.IV

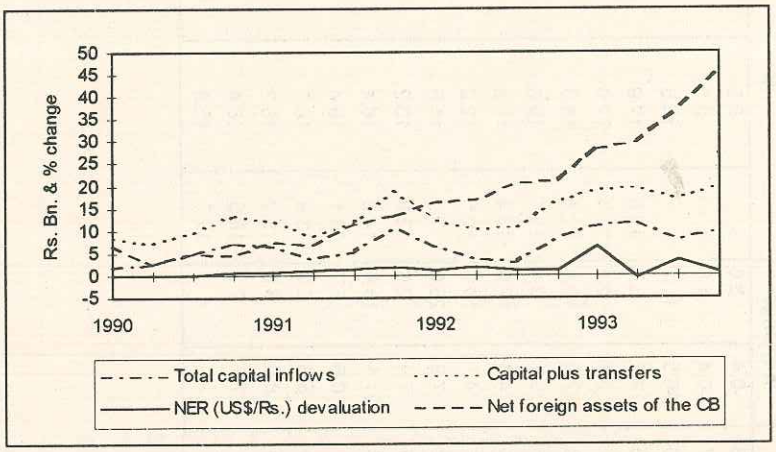


Figure 2
Foreign capital inflows and RER movements, 1978-93

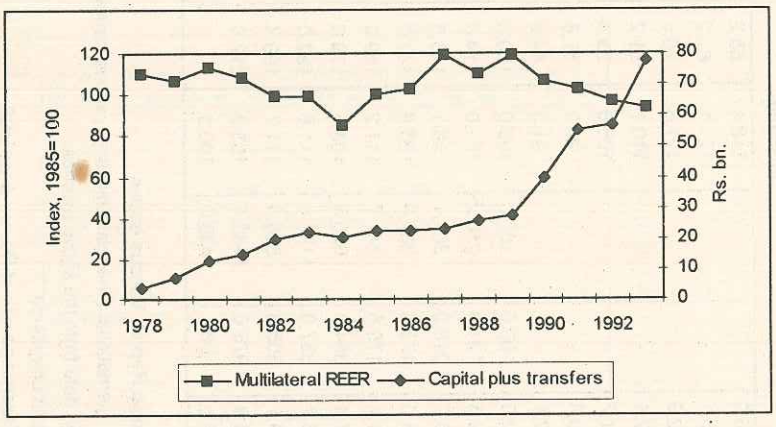


Figure 3
Budget deficit, monetary expansion, and inflation, 1978-93

