

V. Balance of Payments

1. Balance of Payments Forecasting

a. General considerations

Several *general* issues typically need to be considered in forecasting a country's balance of payments.¹ The interconnections among these different issues also need to be taken into account in producing a consistent forecast.

- External sector forecasts involve interrelationships with the rest of the world and must, therefore, take into account *developments in the world economy*. For example, the values of exports and imports depend on the prices of commodities in world markets and the levels of economic activity in partner countries. Interest rates in international markets are an important determinant of net interest payments in the current account and, in relation to domestic interest rates, significantly influence the size and direction of capital flows.

Projections of developments in the world economic environment can be obtained from various private, government, and international institutions. The International Monetary Fund, for instance, publishes the *World Economic Outlook (WEO)* twice a year. The *WEO* contains the relevant projections on the global economic environment required to forecast the balance of payments for any country. Nevertheless, because a considerable degree of uncertainty underlies any such forecasts, it is useful to undertake sensitivity analyses of the effects of deviations from the projected levels of some of the more important external variables, such as interest rates, commodity prices, and output growth in industrial countries.

- There is considerable diversity among the individual categories of transactions that need to be projected. The types of *behavioral relationships* and *explanatory variables* needed to explain the various items in the trade, services, and capital accounts depend on the particular item under consideration. Moreover, there may be deficiencies in the availability and quality of data, as well as problems in identifying stable behavioral relationships that are particularly acute in times of structural change. Changes in the structure of production and commerce, for example, can result from reforms in the agricultural, financial, and manufacturing sectors. The stability of economic relationships may also be affected by changes in policies (for example, trade liberalization that removes quantitative restrictions in favor of greater reliance on the price

¹ A survey of the more technical problems involved in forecasting the balance of payments is presented in George McKenzie, "Imports and Exports," in David F. Heathfield, ed., *Topics in Applied Macroeconomics*, (London: Macmillan, 1976), pp. 144-63. See also Morris Goldstein and Mohsin S. Khan, "Income and Price Effects in Foreign Trade," in Ronald W. Jones and Peter B. Kenen, eds., *Handbook of International Economics*, Vol. II (Amsterdam: North-Holland, 1984).

mechanism) and in economic institutions such as the exchange rate regime. In such circumstances, analysts making quantitative forecasts may need to rely heavily on their own judgment.

- Any forecast of the balance of payments needs to be consistent with the other macroeconomic accounts—that is, it must take into consideration factors such as the stance of economic policies, the projected level of economic activity, and the volume of domestic and foreign financing required by both the private and public sectors. The current account needs to be consistent with the saving-investment balance derived from the national accounts, as well as with the monetary and fiscal policies that support individual saving and spending patterns (see Chapter II).
- In extreme circumstances, capital flows and available reserves may not be sufficient to finance a current account deficit of the magnitude implied by the projected stance of fiscal and monetary policies. In this case, either exceptional financing (such as a rescheduling of debt service obligations) must be found or financial policies tightened to reduce the current account deficit.
- The way the forecast is modified to ensure consistency with other macroeconomic accounts and within the external accounts depends upon the nature of the likely adjustment. In turn, the adjustment is related to the country's circumstances and policy orientation. The adjustment process can involve a *depreciation of the currency* and/or the *introduction of other measures* (including fiscal and monetary policy measures) to increase net exports. If, however, the authorities react by intensifying *administrative restrictions* on imports, the adjustment process for exports, domestic output, investment, and prices will obviously differ. *External payment arrears* reflect an extreme case of payments limitations; this method of "adjustment" further reduces a country's creditworthiness and thus its imports, investment, and growth potential.
- Another important consideration in a forecasting exercise is the sustainability of the projected current account outcome. A country's ability to attract capital inflows to sustain a current account deficit without running into debt service problems depends, among other things, on how lenders perceive the country's creditworthiness and how efficiently the borrowed funds are used. In particular, if foreign borrowing is used for investments that generate sufficient returns to finance repayment of the loans, debt servicing problems should not arise. But debt servicing problems can be expected when resources are used inefficiently or to support domestic consumption only. In addition, changes in world economic conditions may significantly affect the availability and affordability of foreign resources. For example, rising interest rates in the early 1980s exacerbated the debt servicing difficulties many developing countries were experiencing.

The following discussion proceeds through the major items in the balance of payments, suggesting methods for formulating individual projections.

b. Exports

The so-called small country assumption, applied to exports, implies that an economy is so small relative to the world market that it can sell as much as it wants without affecting world prices—that is, demand is infinitely elastic. This assumption obviously applies only to exports that account for a relatively minor share of global markets.

For such commodities, the availability of domestic supply acts as the effective constraint on exports. In these cases, an explanation of export volumes requires consideration of the domestic supply process. In principle, the analysis may be broken down into two stages: a review of factors affecting domestic production, and consideration of the proportion of output that is exported. Price incentives play a key role in both stages. The relevant price incentive affecting production is the price of output in domestic currency relative to the costs of production. The price at which goods can be sold abroad (the world price in domestic currency) relative to the domestic price affects the proportion of supply that is exported.

Empirical formulations of export supply functions can be based on the following simplified equation:

$$\left[\frac{X}{PX} \right]_t = d_0 + d_1 \left[\frac{PX}{PD} \right]_t + d_2 CU_t - d_3 DD_t \quad (5.1)$$

where:

- X = value of merchandise exports in domestic currency;
- PX = unit value of exports in domestic currency;
- PD = domestic prices;
- DD = real domestic demand; and
- CU = utilization of productive capacity in the export sector.

The relative price variable captures the effect on export volume of movements in world export prices and exchange rates relative to costs of production, as reflected in domestic prices. For example, a depreciation of the domestic currency raises the export price producers receive in domestic currency and increases the profitability of exports relative to domestic sales. The existence of a given productive capacity in the export sector sets limits on the amount of exports. In practice, given data limitations, empirical estimates for this variable can be obtained by examining proxy indicators—that is, the “trend” for manufacturing output can be used as a proxy for the productive capacity for manufacturing exports. If exportable products are also sold in the domestic market, the level of domestic demand in the home country is likely to affect exports. A fall in domestic demand relative to productive

capacity in the export sector will induce producers to expand their sales abroad in order to maintain profitability.

The situation is more complicated when a country is important enough in global markets for its actions to affect world prices. In this case, the prices and volumes of exports in world markets are determined by the interaction of demand and supply, both of which need to be assessed in order to obtain a projection of the value of exports. In general, the demand for exports depends on the level of income or expenditures in the trading partner countries, as well as on the price of exports relative to that of goods produced domestically in these countries, or to competitors' export prices. Constructing appropriate scale and relative price variables requires information on incomes in trading partner countries and prices in trading partner or export competing countries, averaged using appropriate weights.

A demand function for exports can be specified as follows:

$$\left[\frac{X}{PX} \right]_t = e_0 + e_1 YW_t - e_2 \left[\frac{PX}{PW} \right]_t \quad (5.2)$$

where:

YW = real world income; and

PW = weighted average of competitors' export prices (in domestic currency).

In principle, the simultaneous consideration of supply and demand factors requires a more complex econometric specification. To some extent, forecasting is simplified if exports are disaggregated into products affected primarily by supply- or demand-side considerations.

c. Imports

The value of a country's imports depends on its residents' desire to purchase them (the *demand for imports*) and the willingness of foreigners to supply them (the *supply of imports*). A simple equation for forecasting the volume of imports based on demand factors can be written as:

$$\left[\frac{M}{PM} \right]_t = a_0 + a_1 DD_t - a_2 \left[\frac{PM}{PD} \right]_t \quad (5.3)$$

where:

M = value of merchandise imports in domestic currency;

PM = unit value of imports in domestic currency;

PD = domestic prices; and

DD = real domestic demand.

This equation is based on the hypothesis that residents' demand for imports depends positively on real domestic demand (a scale variable) and negatively on the ratio of import to domestic prices. As the relative prices of imported goods rise, there is a tendency to reallocate expenditure toward domestic goods. The domestic purchaser, in considering whether to buy domestic or imported goods, compares relative prices in the same currency. Consequently, changes in the relative price variable can reflect movements of domestic and foreign prices in their respective currencies, alterations in the exchange rate, and/or changes in the rate of import duty.

Estimating the equation in this form involves making several important assumptions. In order to predict imports using only a demand equation, it is necessary to employ the so-called small country assumption discussed in section 1. This assumption holds that changes in the importing country's demand for imports do not significantly affect the foreign currency prices of its imports—that is, supply is infinitely (or close to infinitely) elastic. To the extent that this assumption is not realistic, an import supply equation and the impact residents' purchases could have on world market prices need to be explicitly considered.²

The specification in equation 5.3 assumes that actual imports adjust to the desired level within the observation period. However, full adjustment may not occur within one period because of the costs involved in making short-run changes in the level of imports or because of the limitations imposed by contractual arrangements. The following partial adjustment specification may then be more appropriate:

$$\left[\frac{M}{PM} \right]_t - \left[\frac{M}{PM} \right]_{t-1} = \delta \left[\left[\frac{M}{PM} \right]^* - \left[\frac{M}{PM} \right]_{t-1} \right] \quad (5.4)$$

$$\left[\frac{M}{PM} \right]^* = b_0 + b_1 DD_t - b_2 \left[\frac{PM}{PD} \right]_t \quad (5.5)$$

where:

$$\left[\frac{M}{PM} \right]^* = \text{desired import volume, } 0 \leq \delta \leq 1$$

Substituting equation 5.5 into equation 5.4 and rearranging the elements yields:

² See Mohsin S. Khan, "Import and Export Demand in Developing Countries," *IMF Staff Papers*, Vol. 21 (November 1974), pp. 678-93.

$$\left[\frac{M}{PM} \right]_t = c_0 + c_1 DD_t - c_2 \left[\frac{PM}{PD} \right]_t + c_3 \left[\frac{M}{PM} \right]_{t-1} \quad (5.6)$$

where:

$$\begin{aligned} \delta b_0 &= c_0 \\ \delta b_1 &= c_1 \\ \delta b_2 &= c_2 \\ (1-\delta) &= c_3 \end{aligned}$$

The values of the coefficients c_0 , c_1 , c_2 , and c_3 can be estimated directly from the regression. These estimated values can then be used to derive the estimated values for b_0 , b_1 , and δ in equations 5.4 and 5.5.³

Several other factors (apart from income and relative prices) can influence the level of imports, particularly the availability of credit to finance imports or other activities. The total availability of credit may affect imports indirectly through its impact on the growth of domestic demand. Imports in many countries are influenced by various forms of quantitative restrictions, as well as by tariffs and other measures that affect prices. Forecasters must allow for the effects of any changes in restrictions on the level of imports. In countries where imports are substantially rationed, the availability of foreign exchange may be an important factor influencing the introduction and effectiveness of legal changes in restrictions.

d. Services and transfers

Services form a rather heterogeneous group of transactions and include the following major categories:

- *Freight and insurance receipts and payments*, which are often related to the movements of exports and imports, respectively. Payments, for example, may be estimated on the basis of a fixed ratio to import values.
- *Receipts from and payments for other transportation*, such as port and passenger services, that are also influenced by merchandise trade flows. Additional factors that can affect these services include the overall level of tourism, the competitive situation of domestic carriers, and the cost of fuel.
- *Travel receipts and payments*, which are generally influenced by incomes and pricing. Travel receipts, for example, can reflect both income levels and cyclical developments in the countries from which travelers come. An analysis of the effects of price competitiveness

³ Note that $c_3 = 1 - \delta$, and therefore $\delta = 1 - c_3$. If equation 5.6 is estimated in logarithmic form, then c_1 and c_2 become estimates of short-term demand and relative price elasticities, respectively. Similarly, $c_1/(1 - c_3)$ and $c_2/(1 - c_3)$ become estimates of long-run demand and relative price elasticities.

should also be incorporated in projections. A comparison must be made between price changes that affect domestic tourism and prices and exchange rates in countries competing for tourists. Other important factors influencing tourist flows include transportation costs to destination countries; in the short run, social and political instability; and in the longer term improvements in tourist services—for example, new hotels.

- *Income from investment*, which includes both income from direct investment and other investment income. These earnings depend on past accumulated foreign investments as well as on the returns from these investments. For other investment income, interest payments and receipts reflect the amount and cost of past foreign borrowing and lending, the level of international reserves and other foreign assets, and the rates of return obtained on these assets.
- Workers' remittances often form the major component of *private unrequited transfers*.⁴ A distinction must be drawn between the total earnings of workers in the host country and the amount that is repatriated. Total earnings may vary according to cyclical developments in the host country. The decision to repatriate earnings is influenced by incentives to return funds, including exchange rate expectations and tax factors.⁵
- Balance of payments forecasts of *official unrequited transfers* should be consistent with budgetary estimates of foreign grants.

e. Capital flows

Capital flows can be divided into four main categories: direct investment, portfolio investment, other medium- and long-term finance, and short-term flows. Further disaggregation can be made within these categories—for example, between official and private capital. Disaggregation is useful for purposes of forecasting, as the behavior of the economic agents involved in the various transactions can be expected to differ. A breakdown by type of credit is also useful, as disbursements are often tied to particular economic activities. For example, project lending is typically tied to the level of investment expenditure, while trade credits are associated with the value of exports and imports.

The amount of *direct investment* is related to the presence of investment opportunities and the prospects for rapid economic growth. Clear rules and

⁴ In the balance of payments accounts, remittances from persons working abroad for less than one year are included under labor income. Remittances from workers who have lived in foreign countries for more than a year are included under private unrequited transfers.

⁵ See A. G. Chandavarkar, "Use of Migrants' Remittances in Labor Exporting Countries," *Finance and Development* (June 1980) for a review of incentives.

regulations are part of a favorable investment climate, as are credible government policies designed to achieve macroeconomic stability.

Portfolio flows include public sector bond flotations abroad and private transactions in securities and equities. *Other medium- and long-term capital flows* encompass disbursements of loans (net of amortization). *Short-term capital flows* typically cover trade credits and other short-term loans. These flows can be affected by capital flight, which often takes the form of underinvoicing exports or overinvoicing imports.

Projections of net inflows of official capital can be based on information from the budget, development plans, and donors. Private flows are by their nature more difficult to forecast. For many countries, access to international bank lending is limited and tends to vary with conditions prevailing in international capital markets and with the country's creditworthiness. In turn, creditworthiness is influenced by the general prospects for the balance of payments, the stance of economic policies, and the political and social situation in the debtor country.

In addition, in cases where capital flows respond to market forces—that is, where there are few restrictions to capital flows and some substitutability between domestic and foreign securities—interest rate differentials play an important role, with funds tending to move from markets with low interest rates to those that provide higher returns. However, the effect of interest rate differentials needs to be viewed in the context of expectations about movements in the exchange rate.

2. Overview of the External Transactions of Sri Lanka

Agriculture—particularly tea, rubber, and coconut products—once provided the chief source of external earnings in Sri Lanka. In 1970, agricultural products accounted for 88 percent of export receipts; this proportion had declined to about one-half by the early 1980s and dropped to less than one-third in 1990 (Table 5.1). Currently, the most important exports are industrial products such as garments and textiles, gems, and other manufactured goods, including refined petroleum products.

The composition of imports has also changed. Consumer goods, including food, declined from over half of imports in 1970 to about 30 percent in 1990 (Table 5.2). Capital goods have typically accounted for about 20 percent of the value of imports, with two exceptions: the mid-1970s, when they were limited by restrictions, and 1982–84, when they expanded owing to a major irrigation and hydroelectric project. Imports of intermediate goods, most prominently textiles for the manufacture of garments, expanded from 20 percent in 1970 to one-half of imports in 1990.

In 1977, the new government introduced a major reorientation of economic policies. The basic aim was to shift the focus of economic policy management away

from administrative controls and toward reliance on realistic relative prices that would influence the allocation of resources. Major changes in the external trade and exchange system included the unification of the exchange rate system and the adoption of a managed floating rate, the elimination of most import licensing requirements and of the foreign exchange allocation system for all imports, the restructuring of the customs tariff, and elimination of a number of import monopolies enjoyed by government departments and public enterprises. This shift in policy orientation was aided initially by a substantial rise in the price of tea and excellent harvests. However, export growth failed to keep pace with the effective demand for imports, and current account deficits expanded rapidly, peaking at 16 percent of GDP in 1980 and falling to only 9 percent of GDP in 1983. Exceptionally high tea prices and a drop in imports temporarily eliminated the current account deficit in 1984, but it rose to 5–6 percent of GDP during the remainder of the decade before declining to 3 percent in 1990.

The production of export crops has failed to expand. Even in the best years, the volume of tea produced was just 92–95 percent of the 1968 level, and it was not until 1988 that tea production increased, albeit marginally. As production stagnated, Sri Lanka's share of the total global supply of tea dwindled from about 40 percent in 1950 to some 12 percent in 1990. Also, rubber output during the 1980s fluctuated at about 90 percent of the 1968 level. The volume of coconut product exports, which typically accounted for about 10 percent of the value of agricultural exports, fluctuated in response to world prices and weather conditions.

Exports of textiles and garments—chiefly the latter—grew from less than SDR 3 million in 1975 to more than SDR 460 million in 1990, accounting for nearly one-third of total export receipts, despite the limitations imposed by importing industrial countries. Domestic value added in the production of garments totaled only about 25 percent of the gross export receipts, since virtually all of the fabrics used were imported. Earnings from exports of gemstones climbed from SDR 31 million in 1980 to SDR 122 million in 1990, more than doubling in the second half of the decade. Receipts from refined petroleum and other industrial products expanded gradually to reach 16 percent of total exports in 1990.

Consumption and hence imports of some food staples (particularly rice, wheat, and flour) and fertilizer have been subsidized from the budget. With the exception of rice, these subsidies were eliminated in 1989. Severe drought during 1985–87 and civil conflict in 1988–89 increased the volume of rice imports significantly. Falling oil prices and the development of hydroelectric power have reduced the share of petroleum in total imports to about 12 percent, in contrast to a peak of 22 percent in 1977, when price controls helped boost consumption.

Some 55–60 percent of Sri Lanka's exports have traditionally gone to industrial countries, 15–20 percent to the Middle East, and about 12 percent to Asia (excluding Japan) (Table 5.3). Imports have been more widely distributed, with about 35–40 percent originating in industrial countries and a similar proportion in Asia.

Recently, *net service debits* have tended to exceed SDR 100 million, although this amount declined to SDR 65 million in 1990, primarily because of a recovery in tourism after the civil disturbances abated (Table 5.4). The net balances of shipping and insurance and of government and other miscellaneous services have been small. Net investment income payments first exceeded SDR 100 million in 1983 and subsequently grew further as the government continued borrowing abroad—mainly on concessional terms—to finance public infrastructure projects.

After declining in 1986, *private unrequited transfers* gradually recovered and in 1990 reached their former level of some SDR 270 million (Table 5.5). Most of these transfers came from Sri Lankan workers resident in the Middle East. *Official grants* peaked in 1984 at nearly SDR 200 million and then declined gradually (to SDR 130 million in 1990) as the Mahaweli irrigation and hydroelectric project was completed.

Government drawdowns of foreign credits reached nearly SDR 400 million in 1984, then declined through 1989 before recovering (to SDR 360 million) in 1990. Through the mid-1980s, the primary source of foreign credit was project financing, but by 1990 the focus of lending by multilateral development banks had shifted to economic restructuring and agricultural and financial sector programs. Amortization of official debt grew to SDR 126 million in 1989, then dropped to SDR 94 million in 1990.

Private foreign borrowing during 1988–90 was limited by reactions to civil disturbances, and there were net outflows of private portfolio capital. Similarly, private direct investment was less than it had been in 1979 and the early 1980s, following the policy reorientation, and fell significantly short of the nearly SDR 60 million peak of 1982. In 1989 and 1990, the authorities encouraged short-term private borrowing, mainly in the form of trade credits, to help ease a shortage of foreign exchange.

During 1985–89, *the overall balance of payments* remained in deficit, but a significant surplus was recorded in 1990. This reversal was not generated by improved trade performance (which in fact remained unchanged) but resulted mainly from a rise in earnings from tourism and increased official borrowing, net of amortization.

As a low-income country, most of Sri Lanka's external borrowing has been on concessional terms (Table 5.6). The ratio of debt to GDP dropped to 63 percent during 1988–90; the commercial debt contracted in the early 1980s was paid off and little new nonconcessional debt contracted. Over the same period, the total debt service ratio declined from nearly 30 percent to less than 20 percent, and the proportion of concessional debt in the total rose progressively (Table 5.7).

3. The Exchange Rate System

Following the 1977 policy reorientation, the float of the rupee was closely managed. During 1980–84, exchange rate policy was geared toward offsetting inflationary pressures that stemmed from the government's expansionary fiscal policy, which incorporated an ambitious public investment program. During 1985–89, the strategy was modified to give greater weight to considerations of international competitiveness. Thus, from early 1979 to mid-1984, the real effective rate of the rupee appreciated by some 60 percent; this trend was partially reversed by a depreciation that continued into 1989 (see Figure 5.1). A further devaluation in September 1989 brought the real effective rate close to its early 1979 level, but a subsequent nominal depreciation was not sufficient to offset inflation, and the real effective rate appreciated again during 1990.

In August 1990, the authorities introduced a system under which the Central Bank set a daily reference exchange rate, a weighted average of the previous day's spot transactions in the local interbank market that served as an initial central rate for the day. This rate was subject to adjustment by the authorities within an unannounced band.

In 1990, exports of a number of specified items, notably gems, required a license, as did imports of rice and wheat, motor cars, certain consumer goods, drugs and pharmaceuticals, fertilizers, goods made of concrete, and selected other (mostly manufactured) goods. The availability of foreign exchange for travel abroad was restricted, and investment abroad was prohibited unless it was likely to promote exports. Profits and dividends of nonresident partners in Sri Lankan firms could be remitted without prior approval, as could the proceeds from the sale of enterprises funded through foreign direct investment. Resident nonnationals were allowed to maintain foreign currency accounts, as were Sri Lankans who were or had been employed abroad.

4. Trade Policy and Export Promotion

The Greater Colombo Economic Commission (GCEC) was established in 1978 to promote economic growth, and in 1979 an Export Development Board and Free Trade Zone were created to facilitate foreign investment and foster exports. Despite these efforts, export growth faltered, in part because of the real effective appreciation of the rupee. Exports were also viewed as a source of revenue, and the effective tax on tea exports, derived from a combination of ad valorem and specific levies, rose from 8 percent in 1977 to 43 percent in 1978.

Beginning in 1984, the government took several steps to promote exports, and an Industrial Policy Committee was formed. The real effective exchange rate began depreciating, and export taxes were also reduced, initially by nearly one-half. The effective tax rate on tea exports fell to 5 percent in 1989.

Throughout most of the 1980s, Sri Lanka maintained high external tariffs to protect domestic industries and encourage import substitution. With the exception of wearing apparel, manufacturers concentrated on the domestic market. The development strategy emphasized the rehabilitation of infrastructure, the implementation of major new irrigation and hydroelectric projects, the construction of housing, and urban development. This approach drew resources into activities that proved to have little export potential. Over 1988-91, a phased reform of the tariff system was effected that reduced the maximum rate from 100 percent to 50 percent, raised the minimum rate from zero to 5 percent, and reclassified dutiable goods into four categories rather than the previous six. These changes reduced the effective rate of protection from about 80 percent in 1988 to about 35 percent by 1990, with a further reduction of 5 percentage points scheduled for 1991.

In 1990, exporters enjoyed full income tax holidays and full exemption from import duties on machinery, equipment, and raw materials, including indirect inputs. Although the ratio of exports to GDP rose in 1986-90 to 25 percent, that level was no higher than the 1981 level, which itself represented a decline from the 31 percent attained in 1978. The volume of traditional exports remained stagnant over the long term, and industrial exports grew considerably more slowly than in competing Asian countries, contributing only modestly to employment and domestic value added.

5. Guidelines for Forecasting the Balance of Payments in Sri Lanka

This section provides some guidelines on how to forecast Sri Lanka's balance of payments. Readers should not feel obliged to follow the methods described exactly, since there are several possible approaches.

a. Exports

At 25 percent of GDP in 1990, exports were significantly below their 1978 peak (31 percent), when harvests were abundant and prices for primary products strong. However, toward the end of the 1980s exports showed some progress, rising gradually from the low of 19 percent of GDP recorded in 1986.

The major exports are the traditional commodities—tea, rubber, and coconuts—and the output of the rapidly expanding garment manufacturing industry. Exports of gems have also expanded to almost 10 percent of export value (Table 5.1). Exports can be forecast either on the basis of growth in the pertinent sectors (see Chapter IV), as a percentage of nominal value added in these sectors, or econometrically. A forecasting equation can be used to project the increase in the volume of exports, which can then be combined with a forecast of export prices obtained from a source like the IMF's *World Economic Outlook* (Table 5.8) to yield

a projection of nominal values.⁶ The most appropriate procedure may be to use the two techniques in tandem.

Exports as a percentage of value added in the production of the three traditional commodities and in the manufacture of industrial exports are presented in Table 5.9. On average during 1986–90, 98 percent of value added in the traditional agricultural export sector—including that created through the processing of tree crops—was in fact exported. In some years, more than 100 percent of value added was exported, the result of a lagged response to movements in the rupee price for export commodities relative to local costs.⁷ Agricultural exporters withhold shipments during years when prices are low and increase shipments from accumulated stocks when prices rise. The intensity of harvesting and processing can also be geared to price movements and expectations for near-term changes.

In 1990, industrial exports increased abruptly to 98 percent of domestic value added plus the cost of textile imports, or significantly more than the rising trend that was recorded through 1989. This development reflected an increase in the relative importance of petroleum product exports, which in 1990 grew 7 percent in volume and nearly 40 percent in price (but still earned less per barrel than the cost of crude oil imports) (Tables 5.1 and 5.2).

The relative importance of the garment manufacturing industry also continued to increase and, like other industries, the sector became more export oriented. During 1986–90, about 25 percent of the export value of garments constituted domestic value added, although this proportion apparently rose toward the end of the period. If the cost of imported textiles is ignored, industrial exports in 1989–90 substantially exceeded manufacturing value added, so that a projection of the value of industrial product exports in 1991 based on the cost of inputs should include both domestic value added and the cost of textile imports. Certain garment exports are restricted by industrial country quotas, holding export growth below the normal expansion of demand. However, Sri Lankan producers were also making efforts to shift to other types of garments with higher value added, which are not limited by quotas. A forecaster may have to make a subjective judgment about the adjustment that is needed to account for these circumstances.

As an alternative forecasting approach, an export volume equation is presented below. Real GDP is utilized as an explanatory variable to gauge the expansion of productive capacity. The relative price variable had the expected sign and proved to be statistically insignificant.

⁶ For example, SDR exports in 1991 =

$$\text{SDR exports in 1990} \times \left(1 + \frac{\text{percentage change in volume}}{100} \right) \times \left(1 + \frac{\text{percentage change in export prices}}{100} \right).$$

⁷ A lagged supply response to price changes can occur when decisions about planting or cultivation must be made several months or more before harvesting. For a detailed explanation, see James M. Henderson and Richard E. Quandt, *Microeconomic Theory, A Mathematical Approach*, Third Edition (New York: McGraw-Hill, 1980), pp. 117–19. “Cobweb” cycles are distinguished by supply functions which indicate that the quantity supplied at any time depends on the price the product was able to fetch during the preceding time period.

$$XVOL = 0.00110 \text{ } GDP\text{R} - 29.9465 \quad (5.7)$$

(13.67) (3.40)

$$\bar{R}^2 = 0.94 \quad D.W. = 1.66 \quad F_{1,11} = 186.76$$

If the relative price variable is included, the equation becomes:

$$XVOL = 0.00106 \text{ } GDP\text{R} - 0.37250 \left[\frac{XUV_{-1} \times ENSA_{-1}}{WPI_{-1}} \right] - 17.7465 \quad (5.8)$$

(11.92) (0.95) (1.14)

$$\bar{R}^2 = 0.94 \quad D.W. = 1.68 \quad F_{2,10} = 93.01$$

where:

- XVOL* = Index of export volume (1985 = 100);
- GDP*R = Real Gross Domestic Product, in millions of 1982 Sri Lanka rupees;
- XUV* = Index of export unit value in SDR terms (1985 = 100);
- ENSA* = Exchange rate, Sri Lanka rupees per SDR, annual average; and
- WPI* = Wholesale price index (1982 = 100).

Year	<i>XVOL</i>	Predicted	Residual
1978	63.83	57.77	6.06
1979	63.33	63.10	0.23
1980	62.44	68.16	-5.71
1981	74.43	73.85	0.58
1982	83.44	79.14	4.30
1983	77.76	84.46	-6.69
1984	88.50	90.29	-1.79
1985	100.00	96.30	3.70
1986	104.30	101.73	2.57
1987	99.61	103.70	-4.10
1988	100.40	107.31	-6.91
1989	111.35	110.47	0.88
1990	126.05	119.17	6.87

b. Imports

As a proportion of GDP, imports constituted the same percentage in 1990 as in 1978: slightly over one-third, or considerably below the peak of one-half in 1981, when large public investment projects were under way and oil prices were high. However, toward the end of the 1980s, the average propensity to import edged upwards. This trend reflected both the phased reduction of tariff barriers and the consequences of civil unrest and drought.

Rice, wheat, sugar, and other assorted foodstuffs made up the bulk of imported consumer goods and these imports fluctuated inversely according to the abundance of harvests (Table 5.2). In 1990, when agriculture enjoyed a good year, imports of other miscellaneous consumer products amounted to a bit over half (by value) of food imports; in other years, this proportion was less.

Sri Lanka has always imported the bulk of its petroleum in the form of crude. Imports of refined products fluctuated particularly widely over 1988-89, but as a percentage of the value of crude imports, the two-year average did not diverge substantially from the 19 percent average of 1986-87 and 1990.⁸ Sri Lankan exports of low-value refinery residual products such as naphtha had a lower per-barrel value relative to crude imports in most years (Table 5.1). During 1987-88 and 1990, net imports of crude minus the residual averaged 8.6 million barrels annually. Petroleum is a relatively minor element in Sri Lanka's external accounts, with gross imports constituting 10-14 percent of total payments for imports (7-10 percent net).

Textiles, the other major identifiable category of intermediate goods imports, are cut and manufactured into garments for export. The value of textile imports has remained stable at slightly above SDR 200 million annually, in contrast to a rising trend in the value and volume of garments exports. This disparity suggests a gradual increase in local sourcing of textiles. The value of miscellaneous intermediate goods imports maintained an upward trend, reflecting the uninterrupted expansion of real economic activity in 1986-90.

The SDR value of imported investment goods declined in 1986-89, paralleling the decline in real gross fixed investment over this period, but recovered in 1990 as domestic conflict eased and external credits to both official and private borrowers in Sri Lanka increased.

Imports in 1991 and during the medium term can be forecast informally on the basis of expectations of domestic food production and consumer demand, manufacturing activity (including garment exports), and the level of real investment activity. The major relevant considerations in following this approach are outlined here and in Chapter IV.

⁸ Every other year, the refinery was closed for maintenance and repairs. In 1989, a major overhaul was undertaken, resulting in a low volume of crude imports and a high value of refined product imports.

An alternative method of projecting total import volume is to use one of the equations presented below. A useful procedure is to make independent projections according to both approaches and then check to determine if they are generally in agreement.

$$MVOL = \underset{(4.16)}{0.00057} GDP\text{R} - \underset{(3.84)}{1.58766} \left[\frac{MUV \times ENSA}{WPI} \right] + \underset{(2.47)}{58.2324} \quad (5.9)$$

$$\bar{R}^2 = 0.89$$

$$D.W. = 1.42$$

$$F_{2,10} = 49.03$$

where:

MVOL = Index of import volume (1985 = 100);

*GDP*R = GDP in constant prices, in millions of Sri Lanka rupees; and

MUV = Index of import unit value (1985 = 100).

Year	<i>MVOL</i>	Predicted	Residual
1978	45.41	56.19	-10.78
1979	52.20	50.06	2.14
1980	59.09	53.17	5.92
1981	60.15	61.42	-1.27
1982	72.83	69.35	3.49
1983	84.44	83.53	0.92
1984	91.17	94.44	-3.27
1985	100.00	90.94	9.06
1986	101.70	93.43	8.27
1987	88.07	90.28	-2.21
1988	87.98	92.46	-4.48
1989	87.54	92.62	-5.08
1990	93.32	96.04	-2.72

$$\ln MVOL =$$

$$\underset{(5.48)}{1.01019 \ln (GDPR)} - \underset{(3.42)}{0.46680 \ln \left[\frac{MUV \times ENS4}{WPI} \right]} - \underset{(2.39)}{5.85049} \quad (5.10)$$

$$\bar{R}^2 = 0.90$$

$$D.W. = 1.36$$

$$F_{2,10} = 57.68$$

Year	MVOL	Predicted	Residual
1978	45.41	52.68	-7.27
1979	52.20	51.61	0.58
1980	59.09	54.67	4.42
1981	60.15	60.62	-0.47
1982	72.83	67.03	5.81
1983	84.44	80.47	3.98
1984	91.17	95.63	-4.47
1985	100.00	90.46	9.54
1986	101.70	93.95	7.75
1987	88.07	90.24	-2.17
1988	87.98	93.06	-5.08
1989	87.54	93.50	-5.96
1990	93.32	98.06	-4.74

c. Services

Services may be projected on the basis of the following categories: port, transportation and insurance charges; travel; investment income; and other miscellaneous services.

In recent years, port, transportation, and insurance credits have comprised as much as 8.7 percent of exports; similar debits have amounted to about 6 percent of imports. Forecasts of these items can be based on the expectation that such ratios will be maintained.

Travel credits depend primarily on factors related to national security and on price competitiveness. Following the easing of civil conflict and the rupee devaluation in

1989, travel earnings surged by over 70 percent and exceeded SDR 100 million in 1990. More gradual sustained growth depends on the continuation of these circumstances. Travel debits can be projected according to a steady growth trend.

Investment income receipts and payments depend on relative investment positions and interest rates at home and abroad. Interest receipts, other than those received by the Central Bank, were stable over 1987-89 and grew by nearly one-third in 1990. This sharp increase may reflect additional earnings on capital transferred abroad in 1989 because of concerns about civil instability. A further increase on this scale is unlikely, and with the return of a calmer environment, liquid investments placed abroad may once again begin flowing to Sri Lanka. (The average of interest earnings over several recent years can be utilized in a forecast.) After two years of declines, profit and dividend payments also surged in 1990. Higher payments reflected improved domestic business conditions and possibly a return to normalcy; thus, an average can again be used for estimation. Interest payments from sources other than the Central Bank declined in 1990, although total debt increased (Table 5.6). An increase in concessional borrowing by the government outweighed a drop in outstanding commercial debt, a configuration that has been repeated annually since at least 1987. Moreover, the average interest rate on both concessional and nonconcessional debt eased in 1990 (Table 5.7). Interest payments can be projected on the basis of the forecast for concessional and nonconcessional borrowing (as indicated in the capital account), in combination with anticipated movements in interest rates (as contained in the outlook for the external environment) (Table 5.8). On average, new debt may be assumed to be outstanding for half of 1991.

d. Transfers

Private transfers grew in 1989 and 1990, and further increases can be expected unless economic activity in Sri Lanka expands sharply enough to significantly reduce unemployment and induce some expatriate workers to return home. By contrast, official grants have moved irregularly, and in the absence of specific indications from donors, are likely to remain within the recent range.

e. Capital flows

The rise in disbursements of loans to the government in 1990 reflected an expansion of lending for agricultural commodities and adjustment programs, since loans for projects were little changed. A forecast for these categories is best prepared from information made available by multilateral lending agencies. Private borrowing rose in 1990 but remained well below earlier amounts. A resolution of civil difficulties may permit a return to the levels of previous years.

An amortization schedule for medium- and long-term debt is indicated in Table 5.8. Private short-term inflows in 1989-90 substantially exceeded earlier amounts, in part because the Central Bank encouraged private entities to borrow abroad to ease the shortage of foreign exchange and in part because domestic civil strife abated somewhat.

6. Exercises and Issues for Discussion

a. Exercises

(1) Prepare a forecast of the balance of payments for 1991, completing Tables 5.4 and 5.5. Tables 5.1 and 5.2 may also be completed. The projections should be consistent with those developed in other workshops, in particular the workshops on prices, output, and expenditure, and should incorporate the information on world market developments provided in Table 5.8.

(2) List the main assumptions and policies underlying your forecast.

b. Issues for discussion

(1) Review the acceptability of the balance of payments projection prepared for 1991. To the extent that the forecast indicates problems (for example, the financing requirement is unrealistically high, pointing to the emergence of a financing gap), what are the major options open to the authorities?

(2) Comment on the possible impact of changes in the following items on the forecasts for the current and capital accounts:

- domestic credit
- domestic consumption
- the exchange rate
- foreign or domestic interest rates

(3) How would devaluation of the rupee impact the national income accounts? The fiscal accounts?

(4) What are the main issues of macroeconomic stabilization pertaining to the external sector at the end of 1990? What are the main issues of structural underperformance or disequilibria? Please enter your assessment and possible policy responses in Table 5.10.

Table 5.1. Sri Lanka: Exports by Commodity, 1986-91

	1986	1987	1988	1989	1990	1991 Baseline
<i>(Value in millions of SDRs)</i>						
Total	1,029.5	1,077.1	1,097.5	1,217.2	1,480.9	
Agricultural products	479.4	457.6	470.1	478.3	530.0	
Tea						
Value	281.2	279.6	287.6	295.8	364.3	
Volume (million kg)	207.8	201.1	219.8	204.2	216.0	
Unit value (SDR/kg)	1.35	1.39	1.31	1.45	1.69	
Rubber						
Value	78.7	76.8	86.7	67.4	56.6	
Volume (million kg)	110.0	106.0	99.3	86.0	86.8	
Unit value (SDR/kg)	0.72	0.73	0.87	0.78	0.65	
Coconuts						
Value	48.8	37.3	20.8	41.6	33.9	
Volume (million nuts)	1,105.0	538.0	224.1	571.0	507.7	
Unit value (SDR/nut)	0.04	0.07	0.09	0.07	0.07	
Coconut products	23.7	18.8	15.0	21.4	17.3	
Other agricultural products						
Value	45.8	45.0	59.9	52.1	58.0	
Volume (million kg)	38.5	39.7	56.0	30.8	57.3	
Unit price (SDR/kg)	1.19	1.13	1.07	1.69	1.01	
Industrial products	432.3	495.0	525.7	615.5	743.9	
Gems (value)	54.8	68.6	86.5	118.2	121.6	
Processed diamonds (value)	31.8	30.6	38.1	70.5	67.7	
Other						
Value	23.0	38.0	48.4	47.7	53.9	
Volume (thousand carat)	4,019.0	5,411.0	15,627.0	17,052.0	20,167.0	
Unit value (SDR/carat)	5.7	7.0	3.1	2.8	2.7	
Garments and textiles						
Value	291.0	338.5	333.5	381.8	482.0	
Volume (million pieces)	166.6	185.2	185.6	206.9	247.1	
Unit value (SDR/piece)	1.75	1.83	1.80	1.85	1.87	
Other industrial products (value)	86.4	87.9	105.7	115.5	160.3	
Petroleum products	71.7	68.0	53.0	48.6	73.0	
Volume (million barrels)	5.2	4.7	5.0	4.3	4.6	
Unit value (SDR/barrel)	13.7	14.5	10.5	11.3	15.7	
Miscellaneous exports	46.3	56.5	48.7	74.8	114.0	
<i>(Shares in total exports; in percent)</i>						
Traditional exports ¹	42.1	38.3	37.4	35.0	32.3	
Of which: tea	27.3	26.0	26.2	24.3	24.9	
Nontraditional exports ²	50.9	55.4	57.8	61.0	62.7	
Other agricultural products	4.5	4.2	5.5	4.3	4.0	
Garments and textiles	28.3	31.4	30.4	31.4	31.6	
Gems	5.3	6.4	7.9	9.7	8.3	
Other industrial products	8.4	8.2	9.6	9.5	11.0	
Other	4.5	5.3	4.4	6.2	7.8	
Petroleum products	7.0	6.3	4.8	4.0	5.0	
Exports/GDP (in percent)	19.0	20.9	21.1	22.3	24.7	
Export unit value (in SDR, 1985 = 100)	76.2	83.4	84.4	84.3	89.4	

Source: IMF Institute database.

¹ Consists of tea, rubber, coconuts, and coconut products.

² Excludes petroleum products.

Table 5.2. Sri Lanka: Imports by Commodity, 1986-91

	1986	1987	1988	1989	1990	1991 Baseline
<i>(Value in millions of SDRs)</i>						
Total	1,678.4	1,801.8	1,665.0	1,737.5	1,979.5	
Consumer goods	444.6	418.6	473.4	561.4	584.3	
Rice						
Value	32.0	17.9	42.3	73.5	32.3	
Volume ('000 metric tons)	230.8	112.8	210.4	311.9	172.0	
Unit value (SDR/ton)	138.7	158.6	201.0	235.7	187.8	
Wheat						
Value	72.1	56.3	85.5	107.5	69.7	
Volume ('000 metric tons)	685.0	578.6	612.1	726.0	576.0	
Unit value (SDR/ton)	105.3	97.3	107.0	148.0	121.0	
Sugar						
Value	53.6	62.6	68.5	93.7	95.1	
Volume ('000 metric tons)	321.9	376.3	319.0	319.0	305.3	
Unit value (SDR/ton)	166.5	166.4	214.6	293.8	311.5	
Other food	119.4	115.1	128.1	117.3	177.0	
Other consumer goods	167.5	166.7	169.0	169.4	210.2	
Intermediate goods	797.8	852.3	857.9	873.1	1,008.4	
Crude petroleum						
Value	180.9	186.9	157.3	128.8	227.8	
Volume (million barrels)	12.1	13.1	13.9	9.4	13.2	
Unit value (SDR/barrel)	13.3	14.2	11.3	13.7	17.3	
Refined petroleum	30.3	41.9	6.2	53.4	38.2	
Fertilizer						
Value	39.0	28.2	57.9	38.0	54.4	
Volume ('000 metric tons)	378.2	301.8	555.8	355.0	504.7	
Unit value (SDR/ton)	103.1	93.5	104.2	107.1	107.8	
Textiles	193.1	212.2	205.7	216.0	201.7	
Other intermediate goods	374.4	383.1	430.7	436.8	488.3	
Investment goods	320.9	297.4	282.6	260.2	351.5	
Of which:						
Machinery and equipment	177.1	174.3	164.8	135.9	159.1	
Transport equipment	44.3	37.2	32.9	39.7	85.7	
Building materials	27.6	18.8	24.3	21.5	19.2	
Other	71.9	67.3	60.6	63.1	107.5	
Unclassified	115.1	33.5	51.6	42.9	35.3	
<i>(Shares in total imports; in percent)</i>						
Food	16.5	15.7	18.3	22.6	18.9	
Petroleum	11.4	14.3	9.8	10.5	13.3	
Textiles	11.5	13.2	12.4	12.4	10.2	
Other intermediate goods ¹	24.6	25.7	29.3	27.3	27.4	
Investment goods	19.1	18.8	17.0	15.0	17.8	
Other	16.8	12.5	13.2	12.2	12.4	
Imports/GDP (in percent)	30.4	30.8	32.1	31.5	33.6	
Import unit value (in SDR, 1985 = 100)	82.2	90.6	94.3	98.9	105.7	

Source: IMF Institute database.

¹ Includes fertilizer.

Table 5.3. Sri Lanka: Direction of Trade, 1985-90

(In percent)

	Exports						Imports					
	1985	1986	1987	1988	1989	1990	1985	1986	1987	1988	1989	1990
European Community	19.4	24.0	28.5	24.4	26.3	25.7	15.5	15.5	20.4	20.6	16.6	14.3
Of which:												
France	1.2	1.4	2.0	2.0	2.6	2.3	1.7	1.4	1.7	2.3	1.7	1.6
Germany ¹	5.4	7.1	7.8	7.3	6.4	6.6	5.4	4.7	4.4	4.7	3.4	3.2
Netherlands	3.5	4.0	3.1	3.3	3.0	2.5	1.1	1.2	1.2	1.7	1.4	0.8
United Kingdom	5.4	5.8	5.8	5.7	5.9	6.0	5.3	5.6	6.9	5.7	6.0	5.2
United States	22.3	26.0	27.5	25.8	26.8	25.8	7.1	6.4	5.6	6.9	6.6	7.9
Japan	5.1	5.6	5.2	6.0	6.0	5.6	15.4	17.4	15.0	13.8	12.4	12.3
Middle East	22.9	18.3	18.4	18.6	16.3	17.5	21.7	10.5	12.2	10.5	9.8	11.5
Of which:												
Egypt	5.7	5.2	6.1	4.1	3.8	3.1	0.1	1.1	1.3	1.2	0.4	0.1
Iran, Islamic Republic of	1.3	1.4	1.6	2.2	2.3	3.4	9.1	2.1	5.1	4.6	4.6	8.4
Iraq	4.3	2.6	2.7	3.6	2.6	2.0	—	0.2	0.2	0.1	0.5	0.1
Saudi Arabia	3.8	2.8	2.4	2.6	2.2	2.2	10.9	0.6	0.6	0.6	2.2	1.2
Asia ²	11.3	10.9	11.4	14.9	11.9	10.0	23.5	30.7	36.8	37.5	40.0	40.7
Of which:												
China	1.3	1.5	1.3	1.7	0.2	0.2	3.9	4.8	3.1	4.8	4.9	4.6
India	0.5	1.0	0.5	1.4	0.7	1.1	4.1	4.3	4.1	4.1	3.1	4.5
Pakistan	2.2	2.9	2.4	3.7	3.0	1.7	1.8	2.5	2.3	3.2	2.4	1.9
Singapore	3.6	2.4	2.5	3.1	2.4	2.6	4.0	3.9	4.9	4.2	4.5	3.9
U.S.S.R., Eastern Europe	2.5	1.4	1.3	1.6	2.3	2.4	0.4	1.2	0.9	—	0.6	0.5
Other countries	16.6	13.8	7.7	8.9	10.4	13.0	16.3	18.3	9.1	10.7	14.0	12.8
All countries	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: IMF Institute database.

¹ Formerly Federal Republic of Germany only.² Excluding Japan.

Table 5.4. Sri Lanka: Services, 1986–91

(In millions of SDRs)

	1986	1987	1988	1989	1990	1991 Baseline
Total services	-107.1	-125.4	-117.3	-123.0	-64.8	
Credits	323.1	307.3	305.4	314.4	397.9	
Debits	430.2	432.7	422.7	437.4	462.7	
Port, transportation, and insurance	-3.1	2.3	5.0	-7.6	8.1	
Credit	83.6	89.1	95.0	101.6	126.9	
(As percent of exports)	8.1	8.3	8.7	8.3	8.7	
Debits	86.7	86.8	90.0	109.2	118.8	
(As percent of imports)	5.2	5.4	5.4	6.3	6.0	
Travel	25.3	6.8	-2.0	5.6	43.9	
Credits	71.3	55.1	48.0	59.3	102.1	
Debits	46.0	48.3	50.0	53.7	58.2	
Investment income	-114.9	-128.7	-125.5	-124.1	-118.1	
Receipts	58.2	53.4	51.6	45.1	70.6	
Profits and dividends	0.4	0.2	1.0	0.4	0.3	
Interest	41.8	32.4	34.2	34.2	45.0	
Central Bank accrued interest	16.0	20.8	16.4	10.5	25.3	
Payments	173.1	182.1	177.1	169.2	188.7	
Profits and dividends	16.0	26.6	14.0	12.5	20.5	
Interest	141.1	134.7	146.7	146.2	142.9	
Central Bank accrued interest	16.0	20.8	16.4	10.5	25.3	
Government services	-3.7	0.9	1.1	1.6	-1.5	
Credits	11.7	15.7	16.7	17.0	9.9	
Debits	15.4	14.8	15.6	15.4	11.4	
Other services	-10.7	-6.7	4.1	1.5	2.8	
Credits	98.3	94.0	94.1	91.4	88.4	
Debits	109.0	100.7	90.0	89.9	85.6	
Memorandum items:						
Exports of goods and nonfactor services (In percent of GDP)	1,294.4 (23.7)	1,331.0 (25.8)	1,351.3 (26.0)	1,486.5 (27.3)	1,788.2 (30.3)	
Imports of goods and nonfactor services (In percent of GDP)	1,935.4 (35.4)	1,852.4 (35.9)	1,911.0 (36.8)	2,005.7 (36.8)	2,253.5 (38.2)	

Source: IMF Institute database.

Table 5.5. Sri Lanka: Balance of Payments, 1986-91

	1986	1987	1988	1989	1990	1991 Baseline
<i>(In millions of SDRs)</i>						
Trade balance	(649)	(525)	(568)	(520)	(519)	
Exports	1,030	1,077	1,098	1,217	1,461	
Of which: traditional	435	413	410	426	472	
nontraditional ¹	524	597	634	742	916	
Imports	(1,678)	(1,602)	(1,666)	(1,737)	(1,979)	
Of which: petroleum	(191)	(229)	(164)	(182)	(264)	
Services, net	(107)	(125)	(117)	(123)	(65)	
Receipts	323	307	305	314	398	
Of which: travel	71	55	48	59	102	
Payments	(430)	(433)	(423)	(437)	(463)	
Of which: interest	(141)	(135)	(147)	(146)	(143)	
Private transfers, net	242	242	238	258	274	
Official transfers, net	153	139	154	146	131	
Current account	(361)	(269)	(294)	(239)	(178)	
Capital account	291	241	193	226	294	
Medium and long term, net	302	210	181	154	244	
Disbursements	416	343	341	316	380	
Government	349	265	303	301	360	
Private ²	67	78	38	15	21	
Amortization	138	177	192	176	151	
Government	89	111	124	126	94	
Private ²	49	66	68	49	57	
Direct investment, net	24	45	32	14	15	
Private short term, net ³	(11)	30	12	73	50	
Errors and omissions	4	(30)	37	(55)	14	
Overall balance	(66)	(58)	(64)	(67)	130	
Monetary movements, net	66	58	64	67	(130)	
Gross official reserves (Increase = -)	138	109	22	(7)	(77)	
Use of Fund credit	(77)	(89)	72	11	11	
Central bank borrowing, net	3	40	(39)	45	(14)	
Commercial banks, net	2	(2)	9	18	(50)	
Memorandum items:						
Gross official reserves at year end	353	244	222	229	306	
(In months of current year imports)	2.5	1.8	1.6	1.6	1.9	
SL Rupees/SDR (annual average)	32.86910	38.07412	42.74573	46.20371	54.35536	
<i>(In percent of GDP)</i>						
Current account deficit	-6.6	-5.2	-5.7	-4.4	-3.0	
Current account deficit (excluding official transfers)	-9.4	-7.9	-8.6	-7.1	-5.2	
Capital account	5.3	4.7	3.7	4.1	5.0	
Overall balance	-1.2	-1.1	-1.2	-1.2	2.2	
Debt service ratio ⁴	26.1	28.7	29.8	24.8	18.2	
Total debt ⁴	65.9	77.0	74.8	82.2	72.6	

Source: IMF Institute database.

¹ Excludes petroleum exports.² Consists of public corporations and private companies.³ Consists of trade credits, short-term borrowings of public corporations and private corporations, and liabilities to the foreign currency banking units of domestic banks (FCBUs).⁴ Total debt, including use of IMF credit, private sector debt, and short-term debt, as a percent of exports of goods and nonfactor services.

Table 5.6. Sri Lanka: External Debt Outstanding, 1986–90

(In millions of SDRs)

	1986	1987	1988	1989	1990
Total medium- and long-term debt ¹	2,987	3,062	3,273	3,340	3,444
Concessional	2,246	2,346	2,589	2,714	2,861
Commercial	742	716	684	626	584
Government	2,546	2,611	2,844	2,951	3,095
Concessional	2,246	2,346	2,589	2,714	2,861
Multilateral	685	709	797	890	984
Bilateral	1,560	1,638	1,791	1,825	1,876
Commercial	300	265	255	237	235
Public corporations ²	244	225	182	153	135
Private sector ²	65	96	112	108	108
Other public corporations	22	8	7	6	5
Other private sector	112	123	128	123	102
Short-term debt	165	243	208	324	341
Central Bank	7	47	8	54	39
Commercial banks ³	27	35	26	24	5
Trade credits	131	162	174	246	296
IMF	234	165	254	275	288

Source: IMF Institute database.

¹ Excluding the use of IMF credit.

² With government guarantee.

³ Excluding nonresident foreign currency deposits.

Table 5.7. Sri Lanka: External Debt Service Payments, 1986–90

(In millions of SDRs)

	1986	1987	1988	1989	1990
Interest	141.1	134.7	146.7	146.2	142.9
Government	60.7	63.8	72.3	69.9	70.6
Concessional	33.1	40.1	47.3	47.4	47.3
Multilateral	5.2	6.5	8.0	7.0	8.1
Bilateral	29.9	33.6	39.3	40.4	39.2
Nonconcessional	25.6	23.7	25.0	22.5	23.3
Private	37.7	29.8	27.8	24.4	21.3
Public corporation ¹	27.8	21.7	20.1	16.1	15.8
Private sector ¹	1.6	1.9	1.3	1.3	1.5
Other public corporations	1.5	1.0	0.1	0.7	0.5
Other private sector	6.8	5.2	6.4	6.3	3.5
Fund	21.2	18.3	23.4	22.7	20.6
Short-term debt ²	21.5	22.8	23.2	29.2	30.4
Amortization	196.4	246.8	256.0	221.7	182.6
Government	88.7	111.4	124.3	126.3	93.4
Concessional	56.3	54.1	64.5	59.6	60.1
Multilateral	23.8	24.0	23.6	16.8	11.6
Bilateral	32.5	30.1	40.9	42.8	48.5
Nonconcessional	32.4	57.3	59.8	66.7	33.8
Private	49.3	66.0	67.6	49.4	56.8
Public corporations ¹	40.2	34.5	38.2	30.6	25.9
Private sector ¹	2.6	2.7	3.4	2.2	1.9
Other public corporations	0.2	22.0	0.8	0.9	1.0
Other private sector	6.3	6.8	25.2	15.7	28.0
IMF repurchases	58.4	69.4	64.1	46.0	31.4
Memorandum items:					
Total debt service ratio ³	26.1	28.7	29.8	24.8	18.2
Of which: interest payments	10.9	10.1	10.9	9.8	8.0
Medium- and long-term official debt service ratio ⁴	23.3	24.3	25.7	21.2	14.7
Interest payments/total outstanding debt	4.2	3.9	3.9	3.7	3.5
Average interest rate on concessional debt	1.7	1.7	1.9	1.8	1.7
Average interest rate on nonconcessional debt	7.9	8.4	9.3	9.0	8.8

Source: IMF Institute database.

¹ With government guarantee.

² Includes interest payments on trade credits, borrowings from FCBUs, central bank and commercial bank liabilities and foreign currency deposits of nonresidents.

³ Including the Fund, private sector debt, and short-term debt.

⁴ Including the Fund.

Table 5.8. Sri Lanka: Data for Trading Partners of Sri Lanka, Composites of Selected Indicators, 1986-95 ¹

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
I. Output and demand in partner countries (export-weighted market growth)										
Real GDP	3.1	4.3	4.2	3.7	1.8	-0.9	5.3	4.6	4.5	3.0
Real total domestic demand	3.5	3.4	4.2	3.1	2.0	0.4	2.9	3.3	3.1	3.0
Volume of merchandise imports										
Total	3.6	4.1	8.6	7.1	3.0	-1.4	9.0	7.7	6.7	5.7
Non-oil	3.1	4.6	8.9	7.3	3.2	-1.5	9.0	7.8	6.8	5.7
II. Costs and prices of partner suppliers (import-weighted, in U.S. dollar terms)										
GDP deflators	29.4	16.2	10.2	-1.9	8.5	3.9	0.3	1.9	2.1	2.1
Consumer prices	27.9	15.9	9.8	-1.6	9.5	4.4	0.3	2.0	2.2	2.2
Export unit values										
Total	2.3	11.5	4.7	1.9	13.1	2.2	0.6	2.7	2.7	3.1
Non-oil	9.1	10.2	8.3	1.5	3.3	1.8	1.0	2.6	2.6	2.6
III. Costs and prices of industrial trading partners (export-weighted, in U.S. dollar terms)										
Export unit values	7.7	6.7	5.7	0.7	5.2	-0.1	0.2	2.2	2.3	2.6
Unit labor costs	18.1	8.7	2.4	-0.9	8.5	1.8	-1.0	0.4	0.7	0.7
IV. World market prices for nonfuel commodities (in U.S. dollar terms)										
Weighted by Sri Lanka's commodity composition of exports	-2.4	-3.4	9.4	2.4	12.7	-5.6	-2.9	2.1	3.6	3.4
Weighted by Sri Lanka's commodity composition of imports	-10.9	6.0	26.5	13.3	-12.0	-4.1	-1.1	4.2	7.8	4.8
V. Commodity prices										
Tea (\$/KG)	1.58	1.80	1.76	1.86	2.29	2.05	1.87	1.89	1.90	1.9588
Petroleum (spot crude; \$/BBL) ²	13.80	17.80	14.20	17.20	17.20	17.80	18.20	19.50	20.00	20.70
VI. Debt (in millions of SDRs) ³										
Stock as of December	3221	3227	3527	3615	3733					
Amortization due on existing debt	196	247	256	222	183	219 ⁴	230	190	187	185
Interest due on existing debt	141	135	147	146	143	145	137	138	136	135
VII. Exchange rate (SDR/U.S. dollar)										
Period average	0.8524	0.7734	0.7441	0.7802	0.7371	0.7310	0.7100	0.7200	0.7300	0.7400
VIII. Interest rate (U.S. dollar 6-month LIBOR)										
	6.8	7.3	8.1	9.3	8.4	8.0	8.0	8.0	8.0	8.0

Sources: IMF Institute database.

¹ Actual data 1986-90; projected data 1991-95. From IMF *World Economic Outlook*, various years.

² Petroleum price is average of spot export prices for U.K. Brent (light crude), Dubai (medium crude), and Alaska North Slope (heavy crude), equally weighted.

³ Including IMF.

⁴ Of which, IMF repurchases: SDR 64 million.

Table 5.9. Sri Lanka: Selected Exports Relative to Value Added, 1986–90

(At current market prices and in millions of SDR, except as noted)

	1986	1987	1988	1989	1990	Average 1986–90
Tea, rubber, and coconuts						
Exports	434	413	410	426	472	
Value added, including processing (SL Rupees millions) ¹	13555	16904	19569	20111	24014	
Plantation crops	8074	10579	13118	13286	15274	
Tree crop processing	5481	6325	6451	6825	8740	
Value added (SDR) ¹	412	444	458	435	442	
Exports/value added in percent	105.1	92.9	89.6	97.9	106.8	98.3
Industrial products, including refined petroleum						
Exports	504	563	579	664	817	
Manufacturing value added (SL Rupees millions) ^{1, 2}	19388	22145	24847	28116	34388	
Manufacturing value added (SDR) ^{1, 2}	590	582	581	609	633	
Textile imports	193	212	206	216	202	
Exports/value added and textile imports in percent	64.4	70.9	73.5	80.5	97.9	77.7
Minor agricultural and miscellaneous exports	92	101	109	127	172	
Percent of total exports	9.0	9.4	9.9	10.4	11.8	10.2
Total exports	1030	1077	1098	1217	1461	
Memorandum:						
SL Rupees/SDR (annual average)	32.86910	38.07412	42.74573	46.20371	54.35536	

Sources: IMF Institute database; Tables 5.1 and 5.2.

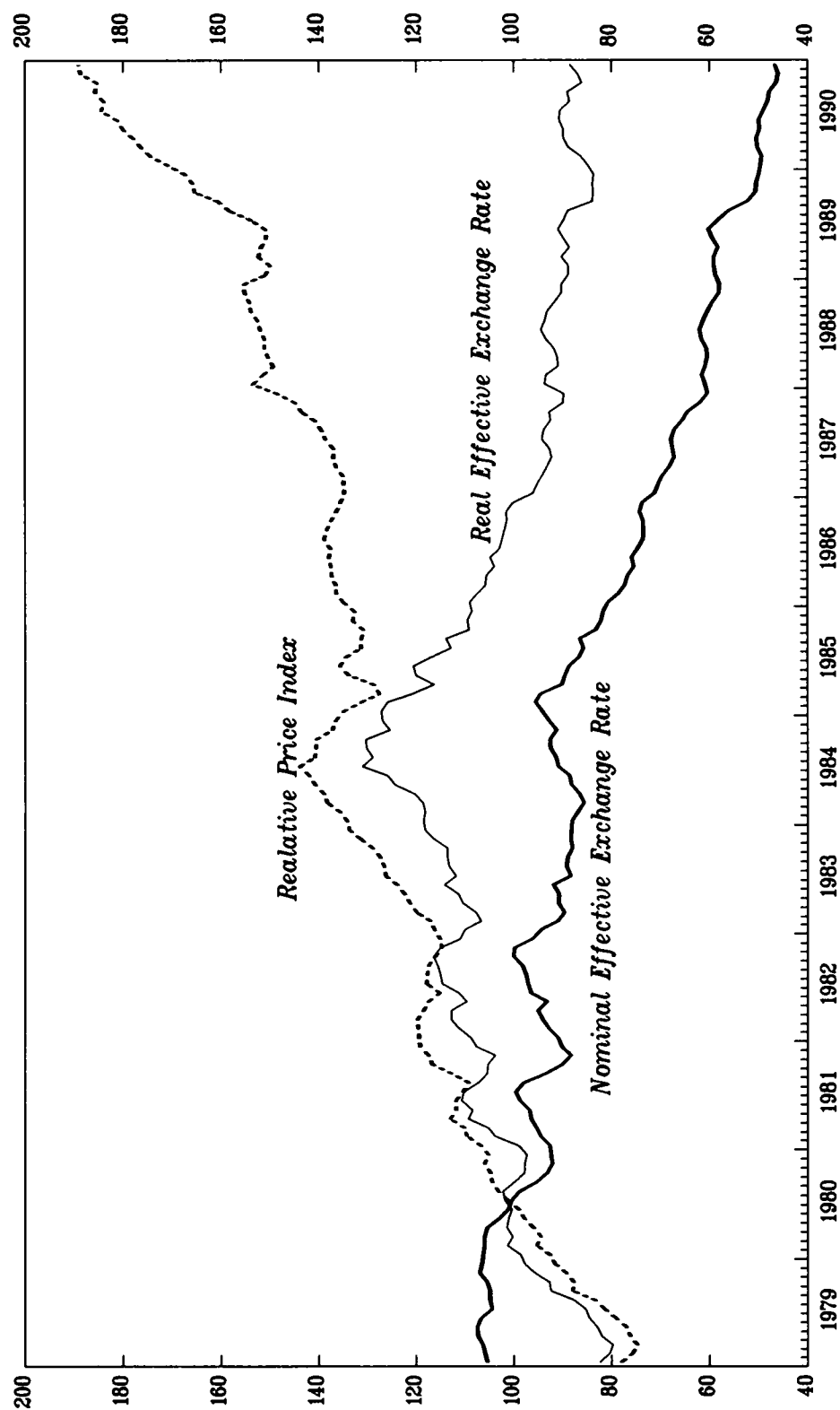
¹ At factor cost.

² Excluding tree crop processing.

Table 5.10. Sri Lanka: Problems and Policies With Respect to Macroeconomic and Structural Adjustment (External Sector)

	Stabilization		Structural Adjustment	
	Problems	Policies	Problems	Policies
1.				
2.				
3.				
4.				
5.				

Figure 5.1
Sri Lanka
Exchange Rate and Prices Indices, 1979-90



Source: IMF, Information Notice System.