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THE THEORETICAL FOUNDATIONS OF COMPETING STABILISATION POLICY PRESCRIPTIONS: THE SRI LANKAN EXPERIENCE, 1970-1988

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CONTENTS

I. INTRODUCTION 1

II. THEORETICAL OVERVIEW OF MONETARIST AND STRUCTURALIST APPROACHES TO ECONOMIC STABILISATION 2

II.1 Monetarism in Theory 3

II.2 A Structuralist Perspective 8

III. THE ECONOMY : 1970-1988 14

III.1 The Economic Background 14

III.2 Macro Trends: 1970-1988 16

IV. MONETARIST AND STRUCTURALIST TRANSMISSION MECHANISM OF INFLATIONARY PHENOMENA AND PAYMENTS IMBALANCES 1970-88 19

V. CONCLUDING REMARKS 33

REFERENCES 41

THE THEORETICAL FOUNDATIONS OF COMPETING STABILISATION POLICY PRESCRIPTIONS: THE SRI LANKAN EXPERIENCE, 1970 - 1988

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I. INTRODUCTION

The main aim of this paper is to present the theoretical foundations of competing stabilisation policy prescriptions. A secondary objective would be to analyse the causal factors and transmission mechanisms of economic instability in Sri Lanka during the period 1970-1988. Stabilisation problems are taken to mean problems of inflation and external payment imbalances.

The theoretical backdrop to this study will be the debate between monetarists and structuralists. Within this context the monetarist approach will investigate the extent to which changes in money supply is autonomous, and in which way (if at all) it has been responsible for inflationary pressures. It will also include a study of the alleged stability of the demand for money and, analogously, the stability of the income velocity of circulation. The study will also inquire the extent to which excess domestic credit creation has led to external payment imbalances. The sources of expansion of money supply will be analysed from the flow of funds approach, which looks at the assets and liabilities of the entire banking system. In terms of the structuralist approach, the proposed study will investigate the nature of cost-push pressures in the Sri Lankan economy. Given that Sri Lanka is a small open economy, the analysis will mainly focus on changes in import prices and terms of trade, and their direct and indirect (through the budget deficit) impact on the rate of inflation. The study will also examine the extent to which terms of trade deteriorations have led to balance of payments

problems and the relevance of currency devaluations in light of the price elasticities of demand for Sri Lanka's exports and imports and the price elasticity of supply for its exports, which will be calculated.

The study will not concern itself with the success or otherwise of the various stabilisation policies that have been implemented during the period 1970-1988. Nor will the paper deal with such issues as the consequences of economic instability. Moreover the aim of analysing the causal factors and transmission mechanisms is to suggest directions in which one might move to `test' hypotheses more scientifically, rather than provide strong support or rebuttal of particular hypotheses relevant to this study.

The outline of the paper is as follows. Section two provides a theoretical overview of monetarist and structuralist approaches to economic stabilisation. It aims to show that economic policies pursued vis-a-vis instability are not technical in the sense of being free from either theoretical choices and perspectives, and that they logically and necessarily follow from the assumptions of the respective theories. The third section discusses certain salient structural features of the economy and macro-economic trends over the 1970-1988 period. It also considers the magnitude of the country's instability problems and the general economic policy environment within which stabilisation measures were adopted. Section four provides a brief analysis of monetarist and structuralist causal factors and transmission mechanisms of inflationary phenomena and external payments imbalances during the period 1970-1988. The final section offers some concluding remarks derived from the preceding analysis.

II. THEORETICAL OVERVIEW OF MONETARIST AND STRUCTURALIST APPROACHES TO ECONOMIC STABILISATION

The starting point in understanding the rationale behind the monetarist and structuralist approaches to economic stabilisation is an appreciation of the fact that both schools of thought have distinct views of society, the economy and the development process in general.

II.1 Monetarism in Theory

For monetarists, society is not composed of classes or ethnic groups, but of ahistoric, asocial, rational individuals endowed with a given set of tastes and talents. These individuals are assumed to behave in such a way that they maximize their personal utility (satisfaction) through consumption, subject to a budget constraint (income). While the actual consumption patterns of individuals are determined by their tastes, their budget constraint it is argued depends on their productivity, and thus ultimately on their talents.[1] Where productivity is increased by a division of labour, then there is an apparent separation between the individuals, as consumers and producers, leading to an economic interdependence between them. Social phenomena is thus the product of the interaction of individuals trying to maximize utility and relating to one another through exchange. The dynamics of change for the monetarists is the development of new wants, and the precondition for this is the market since it offers incentives for technological change. Given that the primary economic problem for them is the efficient allocation of scarce resources among infinite competing wants, it follows that the best form of organization of society to achieve the optimal allocation of resources in terms of the maximization of individual utility is a free exchange system. Under such a system there is assumed to be no fundamental conflict of interest within society (between individuals), and production is seen as a harmonious process of co-operation for mutual gain. Given that the state is seen as partial in that it represents vested interest and is never neutral, monetarists like Friedman argue that the state should not intervene, apart from facilitating a monetized economy and preventing undesirable elements and monopoly groups (such as trade unions) from infringing upon the individuals' freedom to maximize their consumption and production decisions (Cole, Cameron & Edwards, 1983; Friedman, 1980; Nicholas, 1984)

In terms of policies concerned with stabilisation the principles underlying the monetarist approach are as follows. The real side of the economy (i.e. capital formation, output, employment etc.) is ultimately affected only by real factors such as the quantity and quality of land, labour and capital, and is considered to be separate from monetary factors as well as being inherently stable. The real economy is also regarded as having a natural tendency towards full employment equilibrium (not only in

1 There is an implicit assumption here that the individuals who get the largest share must have earned it.

terms of employment, but also productive capacity utilization), technical change, and economic growth. The monetary side is on the other hand seen as being potentially unstable since it is affected by government policy. Monetary phenomena such as inflation and balance of payments problems are seen as resulting from government "monetary mismanagement" (i.e. budget deficits) leading to an excessive expansion in the money supply.

The mechanism by which an increase in the money supply leads to an increase in the general price level rests on a number of distinct assumptions, and operates as follows. The monetarist view of the relation between prices and the supply of money (which according to them is given exogenously, independent of the factors determining the demand for money) is usually represented by the quantity equality, which relates the stock (or supply) of money (M) and the speed at which the stock circulates in the economy (i.e. the velocity of circulation, V), to the quantity of goods bought and sold (Q) and their price (P). Thus the total amount of money spent on the output of the economy (MV), must equal the total value of that output (PQ); i.e. MV=PQ. On the other hand, the quantity equality has been restated in the almost identical Cambridge demand for money equation Md=kPY, where Y is real income (or output), P is the price level and k (=1/V) is the fraction of income held in the form of cash. Monetarists also argue that the demand for money is generally stable in relation to the money value of national income, so that V is more or less stable. Thus, a stable demand for money is seen as implying a stable velocity of circulation and vice versa. According to these economists, V is determined by factors such as the efficiency of institutional arrangements for making transactions and changes in the desirability and cost of holding money. Since these factors are considered to change very gradually over time, V is assumed to be stable. In LDCs this assumption is considered to be particularly justified since the financial system is relatively underdeveloped and, so it is argued, money is held primarily as a means of circulation (Khatkhate, 1982). In addition it is assumed that Y cannot be easily increased because in LDCs capital is limited and, the production structure is not versatile. (Khan & Knight, 1981; Khan & Knight, 1982). With V and Y assumed constant, it then follows that in equilibrium, prices adjust to equate the demand for money to an exogenously determined supply. In the quantity equality these changes in P (and therefore changes in money income) are moreover considered to be equi-proportionate to changes in the money supply. It

is also argued that where the expansion of the money supply does not generate a proportionate expansion in the level of nominal income, it will give rise to an expansion in demand for imports, hence inducing an accompanying balance of payments problem. The mechanism whereby a change in the money supply leads to a change in the price level is through the excess demand for goods since increases in money income occur in response to increases in aggregate demand and expenditure. Increases in money supply lead to an increase in demand for goods which cannot be met given inflexible production capacity, so that prices rise.

Although the demand for money equation is usually specified to also include the cost of holding money as an explanatory variable, the above line of reasoning remains the same, and the equalisation of the demand for money to an exogenously determined supply almost inevitably leads to a theory of the expansion of the money supply as a cause of inflation. For variables, other than income and the price level, that the demand for money is assumed to depend, these are considered unlikely to change sufficiently to absorb an increase in the money supply, especially if inflation does occur. Consequently, whenever there is inflation, some form of quantity theory or monetary explanation is proposed as in the modern monetarism associated with Friedman and his followers.

For monetarists, the money stock is determined by domestic credit expansion and changes in net foreign asset holdings. Domestic credit in turn is determined by credit to the private sector and credit to the government. Alternately the money supply is related to the bank multiplier and high powered money. High powered money in turn is composed of net external assets and net domestic assets (net claims on the government and net claims on commercial banks) of the Central Bank. (Goodhart, 1984). For these economists (especially in the context of LDCs) it is typically credit to the government, and in particular, borrowing from the banking sector to finance budget deficits, that is the major source of growth of the money stock, and the major cause of inflation. Due to the weakness of government bond markets, little expansion in government-sponsored aggregate demand takes place without concomitant growth in the money supply. Net foreign asset inflows are considered to be only of secondary importance. Budget deficits in turn are usually seen as the result of state involvement

in the economy through active industrial promotion and economic management policies.

According to the monetary approach, overall balance of payments disequilibrium (reflected by reserve flows) is a monetary phenomenon in the sense of being determined by disequilibrium in the money market. It is based once again on the assumption of a stable demand function for money. The crucial variable here, as in the case of inflation, is domestic credit creation (especially to the government), an excess of which, it is argued, will lead to a balance of payments deficit. This is because in the absence of a developed domestic capital market (a situation which, as noted above, characterizes most LDCs), excess domestic credit creation is assumed equivalent to excess expenditure which in turn will leak into imports. This in turn will lead to a reserve outflow and a reduction in money supply. By this means equilibrium in the money market and the balance of payments will be restored and the flow of reserves will cease. The balance of payments problem is thus a temporary phenomenon resulting from a monetary disequilibrium which will get corrected automatically provided that the authorities do not sterilize the effects of changes in reserves by compensating adjustments in domestic credit creation. (Polak, 1977). Moreover, the monetary approach implies that a balance of payments deficit can in the first place only be avoided by halting excess credit creation by the government or by import controls, but the latter option, it is argued, will give rise to inflation. (Eshag, 1983).

Since monetarists base their hopes of controlling inflation and reducing external payments imbalances on the control of domestic credit (and thus domestic demand), they believe that increases in production, employment and profits should therefore come from increased exports resulting from gains in international competitiveness. Hence where countries are experiencing severe payments imbalances, monetarists assume that this is due, in addition to excess credit creation, to the fact that their rates of exchange are not realistic (i.e. over-valued) and, therefore, they also call for a devaluation of the exchange rate in line with the rate of inflation, to maintain competitiveness. A realistic rate of exchange is generally taken to mean one which reflects the purchasing power parity of the currency, such that the world price of tradeable goods cover their domestic cost of production. The success of devaluation moreover rests on a number of crucial assumptions which include the substitutability of

goods produced at home and abroad, the substitutability of resources between the traded and non-traded sectors, a high income elasticity of demand for Sri Lanka's exports, a high degree of price elasticity of supply and of foreign demand for exports and a high degree of elasticity of demand for imports.

Most monetarists also attribute problems such as cyclical unemployment to monetary instability, arguing that while the real side is inherently separate from the monetary side, it is nevertheless affected in the short-run by monetary disequilibrium via "incorrect inflationary expectations". Moreover, in the context of LDCs, even short-run monetary/real transmissions are denied by some monetarists due to the relatively fixed nature of output. According to this view people are supposed to possess rational expectations.

Thus apart from government policies which promote competition, private enterprise and free trade, state intervention in the economy is viewed not just as unnecessary, but also as undesirable, since it is considered to be inefficient (unable to affect real factors), leads to a distortion of the correct relative prices/incentives, and therefore discourages more efficient private enterprises. This, is because, monetarists argue, no matter how state expenditure is financed, economies are bound to suffer: if government expenditures are financed by borrowing, private sector investments will be "crowded out"; if it is financed through increased taxation, incentives to innovate and increase productivity will be choked off; and if the expenditure is financed by printing money, then (as noted above) the public will off-load the increase in their money balances, and prices will rise. Monetarists view the last alternative as a "politically soft option" and predict that inflation is all too likely to be generated by governments attempting to buy temporary political support in this way. Thus, if markets are allowed to work, they argue, the economy will grow and stabilize (i.e. there will be no inflation and payments problems). Accordingly, developing countries are urged to reduce state ownership, end active industrial promotion through direct state investment, encourage private investment (especially foreign private investment), reduce corporate, business and income taxes (switching to sales taxes, if necessary), and eliminate state subsidies on basic foods and on public services such as transport, health, education etc.

To summarize, the major stabilisation policy recommendation of monetarists for developing countries is the balancing of their budgets and the reduction of the size and economic role of the state. Monetarists argue that if this is done, governments would be able to control the money supply and price expectations will be correct. If countries are experiencing severe payments imbalances then monetarists recommend both a reduction in budget deficits and a devaluation of the exchange rate in line with the rate of inflation to maintain their competitiveness.

II.2 A Structuralist Perspective

Unlike monetarists, in structuralist thinking there is generally a tendency not to separate development policy from stabilisation due to a perception that the two interacts.. Market phenomena are determined, according to structuralists, by both real and monetary factors, and monetary factors such as changes in the money supply can affect output and employment.

The objectives of development according to Keynesians is to increase growth as well as social welfare. The basis of development is the generation of a surplus for which there is a need for appropriate structures. Appropriate structures are also needed to ensure that the product is properly distributed. It follows that the aim of production for these economists is not consumption but the production of a surplus, and development is brought about by the introduction of the right kind of structures, technology, and a redistribution of income. Development is thus not simply an increase in GNP. The causes of underdevelopment in LDCs are similarly due to structural obstacles to growth in the form of a shortage of capital, population growth, poor resource endowment, absence of domestic markets, nature of LDC exports, inappropriate technology, dualism, and a foreign exchange constraint (Nicholas, 1982; Singer & Ansari, 1977; Seers, 1962; Seers 1981).

The unit of analysis for Keynesians is not the individual endowed with given tastes and talents, but distributional groups, or classes. These groups are assumed to behave in such a way as to maximize their share of surplus product. This is a social phenomenon, which is the interaction of these groups in their attempt to maximize their surplus appropriation is therefore not a harmonious process, but is characterized by

conflict. Some structuralists (i.e. the neo- Ricardians) explain economic cycles in terms of conflicts over distribution in that although production is seen as a neutral and harmonious process it is argued that it can nevertheless be damaged by conflicts over distribution. Structuralists also do not see the system as being inherently stable due to the behaviour of speculators and market rigidities which result in market forces lagging behind changing production conditions. This, according to them, has meant that markets do not respond adequately to price signals (with prices themselves being rigid) and there is no necessity for a full employment equilibrium. Moreover, the free market system is suspected by some within this school of thought of being an "ideological veil" disguising a reality in which resources are allocated with little regard to the general social interest. Hence state intervention is considered to be a necessary condition for economic health. It is considered necessary to stimulate technical change, stabilize economies (i.e. demand management), prevent arguments over income distribution from blocking the introduction of advanced technology necessary for economic growth, and to compensate for market failures. The state, according to post-Keynesians, is, or should be neutral (Cole, Cameron & Edwards, 1983; Edwards, 1980; Edwards, 1985; Nicholas, 1982).

Similar to this school's view on the development process in general the structuralist approach to economic stabilisation also asserts that the roots of inflation and external payments imbalances are imbedded in the economic structure. Structuralists contend that as growth proceeds, the economy is prone to develop extended bottlenecks since the changes in demand associated with higher income levels are not followed by an adequate supply response. A characterization of the main bottlenecks would include: the supply of food products; the availability of foreign exchange; the rigidity in the expenditure and revenue structure of the government; the inability to raise domestic savings and the scarcity of various intermediate inputs such as fuel, fertilizer, transport facilities, electricity, and credit (Canavese, 1982; Foxley, 1981; Seers, 1962; Seers, 1981).

The essence of a structuralist stabilisation programme is therefore a development programme to achieve the needed structural changes. Almost by definition, this would be long-term in nature since structural disequilibrium can be eliminated only by a reallocation of investment.

More specifically, the structuralist inflation theory is based on autonomous or structurally-induced changes in relative prices and costs of production (ie. changes in factor costs and raw materials which have an economy-wide bearing), and structurally-induced changes in the level of aggregate demand. (Burbridge, 1979; Canavese, 1982; Lakshman & Nicholas, 1989; Seers, 1962). Structuralists thus do not consider the demand-pull orientation of orthodox theory a necessary condition for inflation. They do, however, maintain that a sustained increase in the general price level would require structural factors to be propagated by distributional conflicts, rising budget deficits and a passive money supply. Distributional conflicts are usually taken to mean conflicts between classes and groups over income shares which are manifest in rising wages. Structuralists accept that such propagating factors can at times also constitute structurally-induced and autonomous sources of inflation. For instance, wages could rise irrespective of the cost of living due to trade union militancy or a government-imposed wage increase. These wage increases in turn could lead to a wage price spiral propagated by a passive monetary policy. According to this view changes in money supply are the consequence, not the cause, of changes in money income (and prices) (Kaldor, 1980). There could also be pressures on the government to stimulate growth and employment which in the face of inelastic revenues could lead to ever increasing budget deficits. (Lakshman & Nicholas, 1989).

While structuralists differ in the emphasis they give to various factors in generating inflation, they tend to cite institutional rigidities in the agriculture, foreign trade and government sectors as being particularly important. For instance, a growing industrial sector and increased urbanization produce an increased demand for food from the agricultural sector which the latter is unable to supply due to its low productivity which is often ascribed to an outmoded land tenure system. The relative price of agricultural goods thus tends to rise, while industrial prices are slow to adjust in either direction due to its oligopolistic market structure. Propagation elements then transfer such structural inflationary pressures: rises in wages take place because of the rising cost of living which leads to rises in costs of production in the industrial sector; such rises in costs imply higher money prices for industrial goods if profit margins are to be maintained, and so a new adjustment of relative prices is needed beginning once again the process just described. Structuralists argue that balance of payments disequilibria caused by inelastic demand for imports and exports of LDCs and an

inelastic supply response (of their primary exports) would lead, in the absence of compensating capital movements, to disequilibrium-correcting measures such as exchange rate devaluations and import quotas, which would change the prices of imported consumer goods and inputs, and thus set up structural inflationary pressures which are transmitted to the rest of the economy by propagation elements. The payments imbalances are often aggravated in the short run by the import substitution industrialization policies of these countries, which invariably lead to increased demand for intermediate and capital goods imports that are not met by a sufficient expansion in industrial exports. A similar process occurs in the case of deteriorating terms of trade caused by a fall in the world market price of exported commodities or/and a rise in the foreign currency price of imported goods (particularly of intermediate and investment goods). Finally, budget deficits are thought to rise automatically since, apart from the need for state intervention to stimulate growth and employment, the deteriorating terms of trade cause tax revenues from exports to fall and/or government expenditure to rise, while increasing world interest rates add to the debt service burden.

Apart from these major sources of inflation, the structuralist approach also considers the impact of factors such as an increase in indirect taxes including tariffs, increases in administered or controlled prices, a reduction in subsidies etc., which may at different times influence the aggregate price level.

According to structuralists, balance of payments problems of developing countries are primarily due to external factors such as: (i) deteriorating terms of trade which affect export earnings and cause expenditure on imports to rise; (ii) rising world interest rates which cause foreign debt repayments to rise; and (iii) recession in industrial countries which lead to a fall in demand for developing country exports (Burbridge, 1979; Nicholas, 1982; Seers, 1962). This latter point is of crucial importance to structuralists since they contend that demand by developed countries for developing country products is generally price inelastic (at least in a downward direction) and income inelastic (in an upward direction), while the supply of these products (particularly tree-crops) due to their nature are typically price inelastic. These economists also contend that developing country demand for developed country products are also price inelastic and highly income elastic in an upward direction. (Eshag, 1983). This contrasts with the tacit assumption of the monetarists, which is

one of a high degree of price elasticity of demand and supply for exports and imports (at least in the medium term). Structuralists maintain that the respective price elasticities suggest that devaluation will actually aggravate the inflationary and current account imbalances faced by developing countries. They argue that there are many more instances where the general criteria for devaluation is not really adequate to establish a case for it. For instance, they point out that if the payments imbalance of a country is mainly due to terms of trade difficulties resulting from world over-production of its main export-commodity, devaluation by that country or by the major exporters of that commodity, while not affecting the world price level (since the latter, in the case of economies which are small in terms of world markets is assumed given), will nevertheless stimulate its production further and lead to a further deterioration in the terms of trade. Similarly, where the terms of trade deterioration is due to a rise in price of an essential import (which is non-substitutable in the short-run) such as oil, currency devaluations may aggravate the loss of real income by making the deterioration in the terms of trade even larger (Kaldor, 1983).

Structuralists thus argue that monetarist policy prescriptions to deal with stabilisation problems are wrong. The use of restrictive demand management policies to cure inflation generated by factors such as deteriorating terms of trade is incorrect, say the structuralists, since inflation has not been caused by excess demand in the first place. Restrictive demand management policies cause domestic consumption to fall and resources to be transferred to the export sector, while not curbing inflationary tendencies. Currency devaluations, on the other hand, provide an additional impetus for prices to rise and is also detrimental to growth, leading, according to them, to a combination of stagnation and inflation, or "stagflation".

The structuralist policy implications are thus clear. Government intervention in the economy is considered essential if permanent stagflation is to be avoided. Given their objective of achieving rapid economic growth and employment, this necessitates policies of investment (including those led by the state such as import substitution industrialization strategies). The problem here, according to them, is one of low domestic savings due to low per capita income and hence the need to rely on external savings. Structuralists thus advocate budget deficits that allow for public investment in proportion to the availability of external finance. To them, budget deficits

are therefore one of the most important policy instruments available to the government, and they see the need to off-set any possible adverse effects budget deficits may have on inflation and payments imbalances against the resulting benefits in terms of growth and employment. Structuralists thus tend to a certain extent to view stabilisation problems as an inevitable by-product of development. In terms of controlling inflation, structuralists recommend (i) the adoption of basic food strategies to expand domestic food supplies and keep wage demands down; (ii) some type of price and income policy, (iii) attempts at an international agreement on prices; and (iv) relatively fixed exchange rates supported by adequate external adjustment funding. In terms of achieving external balance, the structuralist policy prescriptions include: (i) control of non-essential imports; (ii) commodity agreements that serve to eliminate over-production and restore remunerative prices for exports; and (iii) export diversification towards industrial products using import tariffs, export subsidies, and perhaps dual exchange rates. The rationale behind the move towards export diversification is that developing countries would thus become less dependent on a trading pattern in which primary commodities are exchanged for manufactures. A switch to manufactured products through export diversification would, it is argued, entail a move into products for which world demand was stronger and which would also generate greater domestic value added. This would also have the effect of arresting the secular decline in the terms of trade which developing countries are supposed to face. The advantage of dual exchange rates, for structuralists, is that they permit the adaptation of existing domestic cost structures necessary for making *selected* domestic goods competitive with foreign goods. This is because they feel that the main obstacle to the industrialization of LDCs is not that their costs are generally too high, but that the costs of producing manufactured goods are higher in relation to their costs of producing primary commodities. The introduction of dual exchange rates would, it is argued, thus confine devaluation to non-essential imports and to those cases where, as a result of domestic inflation, the cost of production of a country's staple exports has got seriously out of line with world prices, expressed in terms of local currency at the prevailing rate of exchange. Even here, structuralists maintain that the devaluation should be lagged behind the rate of inflation so that it is not too damaging to domestic inflation. Moreover, structuralists such as Kaldor argue that if there is a large over-valuation of a domestic currency necessitating devaluation, this usually occurs only as a result of prolonged domestic inflation, generally due to structural causes. Hence, they argue

that devaluation would not provide a lasting solution since it would not deal with the underlying factors responsible for the external imbalance.

The solutions put forward by the structuralists for tackling stabilisation problems are thus not as simple as those advanced by the monetarists, but then, say the structuralists, neither is the world.

III. THE ECONOMY : 1970-1988

III.1 The Economic Background

At independence in 1948, Sri Lanka's economy was predominantly agricultural and dualistic in nature in that it comprised two different types of production organisations. On the one hand the majority of the population, using most of the land, was employed in primitive subsistence production, while the bulk of the remainder was engaged in the plantation sector producing a few basic products -- tea, rubber and coconuts -- mainly for the world market. This meant that apart from export processing (of the plantation crops) there was virtually no significant manufacturing industry. Moreover, since the entire plantation sector was privately owned, it also meant that the state's involvement in production was negligible.

The dynamics of the economic system -- its growth and development potential -- thus tended to be greatly influenced, if not determined, by the plantation sector. It was this sector alone that provided the foreign exchange needed to buy certain basic consumption goods and the intermediate and capital goods necessary for any industrialization strategy. It was also this sector that provided the bulk of the government's revenue (through export taxation) and thereby its ability to aid development. The problem with this structural over dependence on the plantation sector was that the country's export earnings and the government's revenue base have been severely constrained by a tendency for the terms of trade to deteriorate.

As for the general condition of the economy after independence, Sri Lanka experienced a continuous cycle of low per capita income, low savings and investment, and low growth. Much of the modest gains made during this period was continually eroded by terms of trade deteriorations in that any increase in the productivity of the plantation sector was dissipated through the payment of higher prices for imports. The problem with Sri Lanka's exports was that they were of a kind for which world demand was relatively price and income inelastic, while due to their nature the supply of these products was typically price inelastic. By contrast, Sri Lanka's own demand for a bulk of its imports tended to be price inelastic and highly income elastic in an upward direction. The effort to make domestic incomes less dependent on external factors and the need to provide employment to a growing population led successive governments since the Bandaranaike government of 1956 to pursue active interventionist policies. These policies aimed at stimulating the domestic production of imported items (both agricultural and industrial goods) as well as diversifying exports through a combination of subsidies, tariff barriers, dual exchange rates and direct state involvement in production through the means of public manufacturing corporations. Despite some modest gains, these attempts were, however, inadequate to overcome the country's economic problems.

Slow economic growth however did not, at least until the 1970s, prevent successive governments from achieving major advances in health and education. Mortality, and fertility rates were very favourable in relation to per capita income. Nutrition levels were also generally considered adequate in terms of per capita availability of both calories and proteins in most years, although malnutrition, particularly among estate workers, became an acute problem during the 1970s. The commitment to social objectives over the years also found its expression, to varying degrees, in the supply of mass consumption goods such as textiles, at low prices and the distribution of a minimum quantity of food free, or below, cost. The provision of public services such as education, health and transport has also been free of charge, or substantially subsidized.

The main financial basis of these social policies has been the earnings of the export sector, which has shrunk over time as a result of the deterioration in the terms of trade. Moreover, due to a high level of political participation -- the product of over half

a century of adult suffrage -- every government since independence has had to be sensitive to political pressures and has been reluctant to curtail these popular social and subsidy programs that contributed significantly to welfare. The welfare claims on the earnings of the traditional export sector, together with the insufficient progress in restructuring production (especially domestic food production) and export diversification, have meant that they seriously affected the ability to generate savings and foreign exchange. This, in turn, was one of the main reasons for inadequate capital formation and economic growth in the 1970s which, in turn, began to erode these welfare gains.

III.2 Macro Trends: 1970-1988

The period 1970-1988 can be usefully divided into the sub periods 1970-1977 and 1978-1988 since they were characterized by different governments with quite divergent policy regimes which had important implications for the structure and dynamics of the economy.

Between 1970 and 1977, the government increased its presence throughout the economy, especially in the management of economic resources, with many prices being administered and production and consumption being subsidized. By 1977 over 6000 items were under price controls, and the transfer on subsidies came to account for around 23% of total government current expenditure. During this period the tree-crop plantations, both domestic and foreign owned, were nationalized and hundreds of other private businesses,mostly small and medium concerns in manufacturing and services, were taken over under the Government Business Acquisition Act. The state thus became the country's largest exporter and producer.

During 1970-1977 the average annual GDP growth rate fell from 4.4% in the previous decade to 2.9%. This sluggishness in the growth performance has to be explained in the main by the acute shortage of foreign exchange caused by the poor performance of traditional exports and sharply escalating import prices for Sri Lanka's major imports. While recurrent drought was an important factor in explaining output trends in the agriculture sector as a whole, the poor performance of the tree-crop sector was due to inadequate investment, as reflected in low replanting rates due to poor

financial returns caused by low world market prices (the latter being the case at least until the first half of the 1970s), and uncertainty caused by nationalization and land reform. Paddy production declined during this period as a result of shortages in a wide range of imported inputs and of farm power, reflecting the acute shortage of foreign exchange and higher import prices. Growth of manufacturing output -- which had been stimulated in the 1960s by a vigorous import substitution drive, supported for the most part by strong protectionist policies -- also decelerated in the 1970-77 period due to declining real investment levels brought on by the shortfall in foreign exchange and the fact that import substitution industrialization did not lead to a sufficient expansion of industrial exports to meet the import requirements of that sector. During this period capacity utilization in industrial plant averaged only 60%. A further consequence of foreign exchange scarcity was low domestic savings and this, in the absence of any significant foreign capital inflows, led to a fall in gross fixed capital formation from 19% in 1970 to 14% in 1977. This in turn led to a rise in unemployment of around 20% of the labour force, or over one million people, many of whom were among the educated and younger age groups.

In terms of stabilisation issues, the depressed production levels of tree- and food-crops and the sharp increase in import prices had serious implications for the balance of payments, public finances, and domestic price stability during this period (see section 4).

In contrast to the inward looking economic policies of 1970-1977, the development strategy adopted since late-1977 has commonly been called a monetarist one. It gave priority to export-led growth, a reduction in the role of the state in the economy (with a corresponding increase in that of the private sector) and to the expansion of market forces in the allocation of resources. To this end there was a reduction in price controls and subsidies, an elimination of quotas and their replacement by tariffs, a unification and thereafter regular devaluation of the exchange rate, a considerable relaxation of controls on foreign exchange transactions, incentives for foreign investment, the opening up of domestic trade to the private sector, and recourse to interest rates for allocating credit.

When compared with the preceding 1970-1977 period, 1978-1988 period recorded a GDP growth rate of 5% and an increase in the level of investment from 15% to 27% of GDP. These increases were made possible, however, not by any appreciable expansion in exports, but by massive capital expenditures undertaken by the state and funded, in the absence of adequate national savings, by an unprecedented (for Sri Lanka) volume of foreign, mainly official, finance. Moreover, the conscious reduction in the role of the state in the production process in more recent years, coupled with the failure of the private sector to fill the void left by the former and the present disruption to production caused by internal unrest, has led to a reversal of this situation.

While increased growth resulted in a fall in open unemployment, the increased extraversion of the economy at a time when world market forces have been disruptive has meant that growth was accompanied by mounting instability problems. Between 1978-1988 for instance, the massive deterioration in the terms of trade led to a worsening of the external current account balance from a surplus of Rs.1,266 million at the end of 1977 to a deficit of Rs.13,841 million by end-1988, and a rise in the debt service ratio from 16.0% to 28.8% during the same period. This in turn is adding to the current account difficulties. This deterioration in the terms of trade coupled with increased domestic demand resulting from the massive expansion in public investment, has also led to an increase in the average annual rate of inflation (as measured by the GDP deflator) from 11.1% between 1971-1977, to 12.1% during 1978-1988. In a bid to correct these imbalances, the government, with the active backing of the IMF, launched a stabilisation programme for the 1987-1989 period which consisted essentially of reducing public expenditures from 33% of GDP in 1986 to 28.5% by 1989, of maintaining fiscal revenues at 20% of GDP and of adopting a more realistic exchange rate policy. Although the budgetary targets specified in the stabilisation programme have not been met due to heavy expenditures on defence, the reduction in public sector expenditures on economic infrastructure and the sharp devaluation of the currency in more recent times have led to a worsening of Sri Lanka's instability problems, already aggravated by internal political unrest.

IV. MONETARIST AND STRUCTURALIST TRANSMISSION MECHANISM OF INFLATIONARY PHENOMENA AND PAYMENTS IMBALANCES 1970-88

While this chapter uses simple econometric models to test certain hypotheses relevant to an analysis of monetarist and structuralist transmission mechanisms of inflationary phenomena and payments imbalances, the econometric exercise is not rigorous or comprehensive enough for its conclusions to provide 'strong' support or rebuttal of the issues dealt with here. The results of the econometric exercise will therefore be used mainly to substantiate arguments developed through other means. Moreover, the structuralist approach to inflation and external imbalances is generally stated in an intuitive form and has not been rigorously formulated or tested. The approach adopted here does not intend to derive a formal structural model but rather to suggest directions in which one might move to test hypotheses more scientifically.

The starting point of any monetarist analysis of inflation and the balance of payments is the demand for money, or more precisely the stability of the demand for money. As was noted above, monetarists contend that the demand for money is most sensitive to changes in income. Therefore, a stable demand for money is seen as implying a stable income velocity of circulation and vice versa. Figures IV.1 and IV.2 reveal that during 1971-1988, contrary to the monetarist assumptions, fluctuations in the income velocity of circulation, (V), for both definitions of money supply (i.e. M1 and M2) were not small and appeared to offset rather than reinforce the changes in money stock. More formally, the money demand function in its simplest formulation could be depicted as:

$$M = a_o + a_1 Yn + a_2 E + u \qquad [IV.1]$$

where M = nominal money stock, Yn = nominal income, E = the cost of holding money and u = an error term. Although the cost of holding money is usually represented by either the short- or long-term rates of interest (or both), given the relative dearth of alternative financial assets to money in many LDCs such as Sri Lanka, most of the substitution is considered to take place between money and physical goods. As such the opportunity cost of holding money is the return on physical goods -- the degree of inflationary expectations (E). The latter in turn is defined here as the change in the

previous year's rate of inflation, or the percentage change in the price level for period (t-1) minus the percentage change in the price level for period (t-2).

The demand for money function was estimated using the technique of ordinary least squares for the period 1971-1988. Both the narrow (M1) and broad (M2) definitions of money were used, and the price level that was utilized in the calculation of E was the GDP deflator.[2] All the variables have been expressed in logarithmic form. To avoid spurious correlations as a result of trend factors, the variables were transformed into first differences. The results of estimation of equation IV.1 are given in Table IV.1.

In both equation 1(a) and 1(b) [Table IV.1] the estimated coefficients have the correct signs. The broader definition of money supply (M2, corrected for first order serial correlation) appear to give better results than the narrower M1. The coefficient of determination of equation 1(b) is considerably better than that for 1(a). The standard error of estimate is also lower for 1(b) than 1(a). The estimated coefficients of the independent variables in equation 1(b) are statistically significant, or nearly so, at the 5 per cent level, while the estimated coefficient of the nominal income variable in equation 1(a) is insignificant.

The above model embodies a number of simplifying assumptions which can be questioned. For instance, changes in income are assumed to have the same effect

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2 Although there are several price indices at present regarding movements in aggregate price levels [ie. the Colombo Consumer Price Index (CCPI), the Central Bank of Living Index (CBCOL), the Wholesale Price Index (WPI), and the GDP deflator (GDPD)] only the CCPI and GDPD go back to 1970. The price index used here to analyse movements in aggregate price levels during the 1970-1988 period is the GDPD since it has several advantages over the CCPI]. The CCPI is based on a 1949-1950 consumption pattern. It is clearly unlikely that the composition of goods and the weights which this consumption pattern represents, both in terms of the general division between traded and non-traded goods and in terms of the relative importance of individual items, will be of much relevance today. Moreover, items which had a particularly heavy weight in the CCPI (such as imported foodstuffs) were subject to price controls during the 1970-77 period and were not accurately reflected in the index. The GDPD on the other hand covers all goods and services which originate in Sri Lanka and the individual items which comprise the index are weighted according to their respective contribution to total output. While it thus could be considered as the best possible indicator of inflationary forces operating within the economy, it has one major disadvantage (when compared to the CCPI) in that there is no distinction between traded and non-traded goods and it therefore does not reflect changes in world market prices directly. This means that one would tend to observe something of a lagged response of the GDPD to external price changes as compared to the CCPI. Moreover, the disadvantages of the CCPI (in terms of the obsolescence of its coverage and assigned weights) more than offset this one advantage it has over the GDPD. For a more in-depth analysis of the differences in the various price indices see Nicholas (1986) and Sanderatne (1985).

on the demand for money irrespective of whether they originate from changes in real output or in prices. It is also assumed here that adjustment to equilibrium is achieved within a single time period. Monetarists criticize this as being unduly restrictive since they argue that people take time to become aware of changes in income and inflationary expectations and thus make revisions in their money-holding habits. A lagged process of adjustment to equilibrium suggests a two-equation model describing not only the equilibrium condition, but also the adjustment mechanism. One such model, as given by Ghatak (1986) and Goodhart (1984), is:

$$M_t^* = a_0 + a_1 Yr + a_2 E + a_3 P + ut \qquad [IV.2]$$

$$M_t - M_{t-1} = b(M_t^* - M_{t-1}) + vt \qquad [IV.3]$$

where M_t^* = desired (or equilibrium) money balances, P = the price level Yr = real income and b = a constant representing the average proportion of the discrepancy between actual and desired money balances eliminated during a given time period. Combining the equations the following reduced form is obtained.

$$M_t = ba_o + ba_1 Yr + ba_2 E + ba_3 p + (1-b)M_{t-1} + wt \qquad [IV.4]$$

where $wt = bu_t + v_t$, a composite error term. For both M1 and M2, equation [IV.4] was estimated with, and without, a constant term. The results of the estimation are given in Table IV.1.

Somewhat surprisingly, these estimates are rather worse than those given in equation IV.1. In the equations where the constant term is present, although the standard error of estimate is lower than its value with the constant term suppressed, the sign of the real income variable is wrong (negative), and the estimated coefficients of real income and the price level are statistically insignificant. Moreover, there is evidence of multicollinearity between real income and lagged M2 (the simple correlation coefficient is 0.83). Therefore, not much can be read into these results. When the constant term is suppressed, the estimated coefficients of the explanatory variables have the correct sign and their statistical significance has generally improved (though still in the range of 10 to 20 per cent for M1, and insignificant for real income in M2).

This is because some of the influence of the statistically significant constant term is being attributed to them. However, there is still multicollinearity between real income and lagged money supply, which perhaps explains the relatively low statistical significance of the variables.

We have therefore dropped lagged money supply as an explanatory variable, and the results so obtained (with and without a constant term) are given as equation 3 in Table IV.1. The equations with the constant term suppressed give better results in terms of the significance of the explanatory variables, though the properties of the equation with M2 as a dependent variable (corrected for first order serial correlation) are better than those of the corresponding equation with M1. Moreover, in both equations the estimated coefficients of the inflationary expectations variable are only significant at the 10 per cent level. Once again, the equation with the constant terms present gives lower standard errors of estimate than with the constant term suppressed. The sign of the real income variable in the former set of equations is however wrong, and the estimated coefficients of real income and price (for M1 as a dependent variable) are insignificant. Although a dummy variable was introduced in all of the above equations to take account of the change in economic policies since 1978, this did not improve the statistical properties of the equations.

The above analysis indicates that the demand for money is perhaps not as predictable a function as monetarists would have us believe.

It was noted above that the supply of money is assumed to be determined exogenously. In equilibrium, given the level of real income and the cost of holding money, the price level will adjust to equate the demand for money to an existing supply. The price level can thus be expressed as a function of the quantity of money, the level of real income, and the cost of holding cash. If it is further assumed that the effects of increases in the money supply on the price level occur over time, then money supply enters the equation in the form of a lagged distribution. The price level could be depicted thus:

$$P = a_o + a_1 Yr + a_2 M_t + a_3 M_{t-1} + a_4 E \qquad [IV.5]$$

This equation was estimated using the earlier definitions of money supply and inflationary expectations. Once again the variables have been expressed in logarithmic form and have been transformed into first difference. The results of the estimations are presented in Table IV.2.

Clearly, the properties of the estimated equations are very poor. All parameter estimates are insignificant, and the coefficients of determination are very low. In equation 4(a) [Table IV.2] there is some indication of collinearity between current money supply and inflationary expectations (the simple correlation coefficient being 0.52). When we first exclude current money supply and then the opportunity cost variables from the estimation, although the statistical significance of the estimated coefficients improves as a result, they still remain insignificant. In equation 4(b) [Table IV.2] the simple correlation coefficient, as noted above, between the real GDP and lagged money supply variable is 0.86, while the correlation coefficient between current and lagged money supply is 0.56. The exclusion of lagged money supply, while once again improving the properties of the estimated coefficients, still renders them statistically insignificant. The introduction of a dummy variable to take account of changes in economic policies since 1978 did not improve the statistical properties of the equations. It thus appears that the above formulation of the price equation is inadequate.

In terms of the response of the economy to changes in the money stock, monetarist theory postulates that there is a strong statistical relationship between changes in money supply and changes in money incomes. Moreover, given their assumption of an exogenously determined money supply (i.e. changes in money income do not influence changes in money supply), it follows that the existence of a statistical relationship between changes in money stock and money incomes must be assumed to reflect the influence of changes in the money stock on incomes.

As noted above, the income velocity of circulation in Sri Lanka for both definitions of money supply fluctuated quite considerably during the 1971-1988 period. This in turn would imply that money stock changes by themselves would represent a poor explanation of income growth. This is further corroborated by regression analysis. Regressions of changes in nominal income against changes in both M1 and M2 (taken separately, and all expressed in logarithmic form) reveal insignificant

parameter estimates and very low coefficients of determination. Changes in money stock would be expected to precede changes in money income. Indeed, Professor Friedman has claimed that there is a long and variable time-lag in movements of income after changes in money stock. Others have claimed that the lag is in fact much shorter. The existence of a lag, however, seems apparent from regression analysis. For instance, regressions of changes in nominal income (Yn) against changes in lagged money supply ($M1_{t-1}$ and $M2_{t-1}$) yield:

$$\ln Yn = 0.09 + 0.43 \ln M1_{t-1} \quad R^2 = 0.25 \quad DW\ Stat = 1.43$$
$$(2.91) \quad (2.23)$$

$$\ln Yn = 0.10 + 0.36 \ln M2_{t-1} \quad R^2 = 0.28 \quad DW\ Stat = 1.93$$
$$(3.23) \quad (2.39)$$

Despite very low coefficients of determination (indicating a considerable extent of residual variation in the relationship), the estimated coefficients are all significant. In order to examine this proposition further, the income series were disaggregated into its component parts and regressed against money supply. The estimated relationships, however, gave contradictory results to those obtained from the aggregate series. For instance, neither M1 or M2 (both current and lagged) was at all successful in explaining changes in private consumption, with the estimated coefficients being insignificant. Indeed, the relationship between the two series when money supply was current, was perversely negative. It thus seems implausible to suggest, as the monetarist would do, that the inflationary process experienced during this period was the result of the public off-loading the excess of their nominal money holdings on consumption goods (in the absence of a developed domestic capital market) and thereby causing prices to rise (i.e. the public quickening the pace of adjustment of its nominal money holdings to the desired real level). It should however be noted that, despite a relatively low coefficient of determination, there appeared to be a statistically significant relationship between investment, and current and lagged broad money supply. Moreover, it does not follow that the series that lead always cause the change in the series that follow. For instance, the desire for increased investment expenditure may lead to an accumulation of cash necessary to finance that expenditure. The increase in money supply does not cause the increase in investment, but facilitates it. All this perhaps go to show that there are forces other than money supply at work causing money GDP to move parallel

with lagged money supply.

The above findings could however be attributed to the fact that we have been dealing with monetarist models that assume a closed economy. These do not take into account the "importance of expenditure on imports as one fundamental source of the discrepancy between changes in money stock and changes in money GDP, and, therefore, an important explanation of the variation in income velocity of circulation. Specifically, when money supply expands (contracts), if money GDP does not expand (contract) proportionately, the difference is explainable by an increase (decrease) in aggregate expenditure on imports, either immediately or with something of a time lag" (Nicholas, 1986).

Table IV.3 moreover indicates that imports cannot be accorded an important role in the variation of V since there appears to be no evident relation between the current or lagged growth rate in expenditure on imports of goods and services, and the difference between the growth rate of money stock and income.

In terms of the sources of money supply expansion, Figure IV.3 reveals that the financing of government excess expenditure (as reflected by budget deficits) does not automatically imply an increase in money supply. This is also confirmed by the data in Table IV.4. The figures reveal that although bank borrowing to finance the budget deficit amounted to 61% of the change in M2 for the 1971-1988 period as a whole, there was considerable variation as between different sub-periods and selected years. During 1971 -1979, for instance, while broad money supply grew by Rs.11,943 million, bank borrowing to finance the budget deficit amounted to Rs.1,837 million or only 15% of the change in M2. During 1980-1988, on the other hand, bank borrowing to finance the budget deficit amounted to 72% of the change in M2. It does therefore appear that the massive expansion in government expenditure in the latter period and the resulting increase in bank borrowings did have a major influence on money supply growth in certain years. Moreover, the extreme variation in bank borrowing as a percentage of change in money supply -- from -42.8% to 149.6% -- is in such complete contrast to the narrow range of variation in the year-to-year growth of money supply (from 4.1% to 38.2%) as to rule out the possibility of one series exerting a systematic influence on the other. If the monetarist assertion that bank borrowing to fund the budget deficit was the major source of money supply expansion was correct, one would

expect the data in columns 3 and 4 to have varied in sympathy with each other. There is no such evidence of this and, indeed, there appears to be a perversely negative relation between the two series in some years. Thus, in 1977, when bank borrowing was actually negative, (the government using its inflated revenues from high export prices to repay the banking system), M2 growth at 37.9% was at its second highest rate of increase for the period as a whole. Again, in 1984, when bank financing of the budget deficit was significantly negative and at its lowest level for the entire period, M2 grew at 16.6%, while in 1988, when bank borrowing was at its highest level, money supply growth averaged only 16.5%. Regression results confirm impressions gained from a visual scrutiny of the data. A regression of changes in money supply against bank borrowing to finance the budget deficit (TBB) reveals:

$$\ln cM2 = 6569.38 + 0.12 \ln TBB \quad R^2 = 0.70 \quad D.W.Stat = 1.85$$
$$(1.38) \quad (1.01)$$

Although the above equation corrected for first-order serial correlation gives a satisfactory coefficient of determination, the parameter estimate of bank borrowing is insignificant, indicating that variations in TBB do not systematically influence changes in money supply.

These observations receive further confirmation by a scrutiny of the data on credit expansion in Table IV.5 which reveal that, contrary to monetarist assertions, it was credit to the private sector and not credit to government that was predominantly responsible for the overall expansion of domestic credit and money supply during the 1971-1988 period. For instance, while total credit expansion during 1971-1988 was Rs.92,691 million, credit to the private sector, including government corporations, accounted for Rs.48,696 million or approximately 52% of the total increase, and net credit to government[3] (NCG) expanded by Rs.43,994 or 48% of the total. Even if we exclude credit to government corporations from credit to the private sector, and include the former with credit to government, the picture is not fundamentally altered. Credit to the private sector still accounts for 53% of domestic credit expansion. A breakdown by sub periods confirms the overall importance of private sector credit expansion and the

3 The data for net credit to the government is given by the Central Bank and these are not consistent with the figures for bank borrowing to finance the budget deficit.

more recent importance of NCG (including government corporations). For instance, while private sector credit expanded by 212% and 676%, respectively, during 1970-77 and 1978-88, NCG expanded by 63% and 1009%, respectively, during the same periods. Table IV.6 accounts for the growth in money supply in terms of four sources: (1) changes in net credit to government (including government corporations); (2) changes in credit to the private sector; (3) changes in net external assets; (4) changes in other liabilities. These four elements are so defined as to add up to annual changes in broad money supply. It is apparent from this Table that, since 1977, net external assets had a significant impact on money supply expansion during certain years.[4]

The above findings tend to cast doubt on the monetarist assumption of an exogenously determined money supply. Clearly, some of the factors that tend to influence money supply expansion are endogenous. For instance, a large domestic borrowing requirement by the government or a balance of payments surplus would tend to enlarge money supply. As these factors also lead to expansionary pressures in the economy, there are reasons to expect increases in money incomes and money supply to be associated, without any necessary causal link running from money, to money incomes.

In terms of the monetary approach to the balance of payments, monetarists in practice often use the current account deficit instead of the overall balance (as reflected in reserve movements) since capital inflows into LDCs could mainly consist of foreign official assistance, which is pre-determined. Current account deficits are then the result of disequilibrium in the money market caused by excess domestic credit creation. The exponents of the monetary approach thus once again assume a stable demand for money function. In its simplest formulation, the current account surplus of the balance of payments is a positive function of the demand for nominal money balances and a negative function of domestic credit, and could be depicted as:

$$CA = a_0 + a_1Y_r + a_2E + a_3P - a_4DC \qquad [IV.6]$$

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4 It should be noted that the impact of changes in credit to government and the private sector on total domestic credit expansion (as given in Table IV.5) and money supply expansion (as given in Table IV.6) cannot be compared due to the effect of changes in net other liabilities on the two credit variables in Table IV.6.

where CA = current account balance and DC = domestic credit. All the other variables have been defined earlier in the text. Once again the variables have been expressed in logarithmic form and the independent variables have been transferred into first difference. Given the earlier estimations of unstable demand for money functions, the results of the estimations here are, not surprisingly, poor (see Table IV.7). Although the estimated parameters have the correct signs, they are all insignificant and the coefficient of determination is also very low. The use of various formulations of the demand for money function did not improve the statistical properties of the equation.

In terms of money supply expansion, although structuralists would not deny that government expenditure financed by unfunded borrowing did in fact play a role in increasing the money supply this was itself partly due to a deterioration in the terms of trade causing the government's budget deficit to worsen (as its expenditure on imports rose, while its tax revenues derived from exports fell) and the need to finance it by printing money. Movements in the terms of trade and the government budget deficit do appear to indicate a relationship between the two series during 1978-88 (see Figure IV.4). For instance, while the sharp deterioration in the terms of trade since 1978 was accompanied by a steadily worsening budget deficit, the improvement in the terms of trade during 1982-1984 was accompanied by a slowdown in the deterioration and a subsequent improvement in the budget deficit. The deterioration in the terms of trade since 1984 has once again led to a corresponding deterioration in the budget deficit. The 1970-1977 period was one in which the government deliberately tried to keep a lid on its expenditures (especially during 1971-1974) and the deterioration and subsequent improvement in the terms of trade had only a marginal impact on the budget deficit. Notwithstanding the indirect impact of terms of trade deteriorations on the budget deficit, the main reason for the sharp increase in the budget deficit and the accompanying increase in money supply during 1978-88 was undoubtedly the massive expenditures on economic infrastructure and (latterly) on defence, which were undertaken by the state, and funded by foreign capital inflows and bank borrowings.

In the absence of a significant recourse to unfunded borrowing by the government during 1970-77, structuralists would attribute the 180% rise in the money supply during this period to increased private sector borrowing from the banking sector as a consequence of the rise in domestic prices caused by poor domestic harvests,

rising import prices and rising wages. These economists would also argue that ,notwithstanding the expansion of money supply that resulted from budget deficits, private sector credit expansion caused by rising prices still constituted an important reason for the growth in money supply during the subsequent 1978-88 period. In this instance, money supply, according to them, merely accommodated the rising expenditure brought on by rising prices, and provided another mechanism for propagating inflation.

Structuralists would, as noted above, attribute inflationary developments to changes in relative prices, costs of production and structurally induced demand pressures emanating from both internal and external sources. They would attribute the inflation experienced during the 1970-1977 period mainly to the 228% rise in import prices which fed into domestic prices, causing the GDP deflator to rise by 116%. The rise in import prices in turn would be attributed to the rise in the foreign currency price of imports (i.e. oil, basic food commodities etc.), and the imposition of tariffs and various quantitative restrictions on account of the severe foreign exchange shortage, which was aggravated by the increased import demands of the newly-created import substitution industries. There is also evidence to suggest that import substitution industrialization led to an upward pressure on factor costs (labour) throughout the economy (see below). That there was pressure on the foreign exchange position of the country is clear by the fact that the average annual nominal growth rate of imports during 1970-1977 was 18%, while the average annual nominal rate of growth of the economy was 15%. Moreover, given that net foreign capital inflows during this period accounted, on average, for only 12% of imports, imports and thus GDP could not grow any faster than the 21% nominal growth rate in exports suggested. Structuralists also argue that rising import prices would have undoubtedly had a greater impact on domestic prices. Structuralists argue that rising import prices would have undoubtedly had a greater impact on domestic prices if it were not for the price controls, subsidies, rationing and the dual exchange rate system that existed at that time (see Figure IV.5). While the 163% rise in import prices continued to have an influence over the 220% rise in the domestic price level in the subsequent 1978-1988 period, this was mainly due to the depreciation of the Sri Lankan Rupee consequent to the abolition of the dual exchange rate and the adoption of more open economic policies since the end of 1977. For instance, between November 16, 1977 and end December 1988, the Sri Lankan Rupee

depreciated from Rs.9 to Rs.33 against the US dollar. There is some evidence to suggest that during periods of a marked depreciation of the currency (i.e. from end-1979 to end-1980 and from end-1986 to end-1988) the import price index rose sharply, while during periods of a slower rate of depreciation of the currency (i.e. between end-1981 and end-1985), the rate of increase of the import price index slowed considerably. These were periods which also roughly corresponded to an acceleration and deceleration in the rate of increase of the GDP deflator (see Figure IV.5). Once again, the presence of a foreign exchange bottleneck is demonstrated by the fact that the average annual nominal growth rates of GDP and imports during 1978-88 were 18% and 21%, respectively. Moreover, due to the larger net inflow of foreign capital during this period (accounting for 18% of imports), both imports and GDP were able to grow faster than the 16% nominal growth rate in exports suggested. The large foreign capital inflows in turn were conditional on the rupee devaluations. The depreciation of the rupee also led to domestically consumed exports such as tea, coconuts and coconut products, to rise in price due to the increased rupee price of these exports.

As has been noted earlier, the removal of subsidies and the adoption of full-cost pricing policies also led to an increase in prices during the 1978-88 period. For instance, administered price increases during 1978-88 ranged between 157% (for sugar) to 766% (for kerosene). These increases undoubtedly had a significant impact on prices given that administered items account for around 38% of total current expenditure.[5]

The impact of domestic food production (say, for instance, paddy, the main staple crop) on the general price level is difficult to discern in the specific Sri Lankan context. During the 1970-1977 period, poor harvests in 1971, 1972 and 1975, in particular, were not fully reflected in the general price level due to the subsidies that were applicable at that time. Although most subsidies were eliminated during 1978-1988, poor harvests in this period were once again not fully reflected in the price level due to the maintenance of large buffer stocks and the importation of cheaper food.

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5 This figure is an approximation and has been calculated from separate data given for administered prices and total current expenditure in the World Bank's Sri Lanka Country Economic Memoranda and the Central Bank's Consumer Finances and Socio- Economic Survey 1981/82, respectively.

As regards the impact of rising wages on the rate of inflation during the 1978-1987 period, this was not an important consideration, with most real wages (as reflected in the minimum wage rate index numbers for both government employees and workers in Wages Board Trades) declining or rising marginally. During the 1970-1977 period, however, although real wages for government employees declined, real wages for workers in Wages Board Trades showed a sharp increase. These wage increases in turn appeared to have an influence on private sector expenditure and credit expansion. For instance, the sharp increase in private sector wage rates during 1974 and 1977 appears to have aggravated the rate of inflation which was already affected by the inflationary pressures arising from deteriorating terms of trade (in 1974) and the dismantling of price controls (in 1977). This was accompanied by an above average increase in private sector credit expansion during this period.

Finally, the massive expansion in the government's budget deficit during 1978-88 and the accompanying growth in money supply undoubtedly led to inflationary pressures, especially since the increase in expenditure during this period was not matched by a commensurate increase in goods and services. For instance, the large infrastructure investments had long gestation periods, while the internal unrest in recent years have led to a serious disruption in production and the marketing of commodities.

Figure IV.6 indicates that there is evidence to support the structuralist argument that a deterioration in the terms of trade and internal rigidities (especially in the area of domestic food production) adversely affected the trade deficit. For instance, the growing trade deficit between 1973-1975 could be seen as the result of a combination of factors, such as the need for increased food imports due to low domestic agriculture production in those years, and a deterioration in the terms of trade caused by the massive increase in oil prices and a temporary, but steep, increase in the price of imported food items. The recovery and surplus in the trade deficit between 1975-1977 in turn resulted from the improvement in the terms of trade following a sharp increase in price for Sri Lanka's traditional exports. The trade deficit during 1970-1977 would have undoubtedly fluctuated more if it were not for the stringent import controls applied as a consequence of the shortage of foreign exchange. In the subsequent import liberalization period of 1978-1988, the impact of the terms of trade on the trade balance was more evident. Thus the 63% deterioration in the terms of trade that

occurred between 1978 and 1982 was accompanied by a sharp increase in the trade deficit, while the 32% improvement in the terms of trade as a result of the rise in price for Sri Lanka's tree-crop exports (especially for tea), during 1982-1984, led to a considerable improvement in the external account. Similarly, a sharp fall in the export price of tree crops during 1985 led to an equally sharp deterioration in the trade balance (see Figure IV.6).

Between 1978 and 1984 the Sri Lankan Rupee appreciated by nearly 25% in real terms against the currencies of its major trading partners (on a trade-weighted basis) before depreciating nearly 40% in the subsequent 1985-1988 period. The nominal effective exchange rate depreciated by nearly 17% and 38%, respectively, during the same time periods. The appreciation of the Rupee during 1978-84 would, according to monetarists, have been a major contributing factor to the lack of buoyancy of exports during this period, and the above-average performance of sectors producing non-tradeables, such as construction and services.

While structuralists would not deny the importance of a certain measure of flexibility in the exchange rate, particularly for non-traditional exports, they would argue that, given the overall nature of Sri Lanka's exports and imports, the respective price elasticities suggest that devaluation *per se* will not transform the trade imbalance. For instance, they would point to the fact that the sharp depreciation in the real exchange rate since 1984 has been accompanied by an equally sharp deterioration in the trade balance.

Regression estimates of Sri Lanka's import demand, export demand and export supply functions reveal that the price elasticity of demand for Sri Lanka's imports and exports are -0.34 and -0.29, respectively, while the price elasticity of supply for its exports is 0.26 (See Table IV.8). These estimated elasticities which are highly inelastic tend to lend support to the structuralist argument against devaluation. The estimated equations given in Table IV.8 have desirable statistical properties. All the equations have high coefficients of determination. The estimated coefficients of the explanatory variables have the correct signs and are statistically significant at the 5% level of significance (except for the estimated coefficient of the domestic price variable in the export supply function, which is significant at the 10% level). All the variables have been expressed in logarithmic form.

V. CONCLUDING REMARKS

The money demand function does not appear to be as stable as orthodox monetarists would have us believe. Relatedly, the income velocity of circulation is not particularly stable and the monetarist formulation of the price equation is quite inadequate. There is also no evidence to suggest that excess domestic credit creation offers an adequate explanation of the current account deficit of the balance of payments. The findings of this paper would also tend to cast doubt on the monetarist assumption of an exogenously determined money supply and a causal link running from money, to money incomes. Moreover, there is evidence to suggest that the direction of causality could, in fact, be the reverse to that postulated by monetarists (i.e. running from money incomes to money), with the money supply merely accommodating a rise in expenditure caused by increased prices.

As structuralists would maintain, there is some evidence to suggest that terms of trade deteriorations were a contributing factor in budget deficits and an increase in money supply. Credit to the private sector was also a major cause of expansion of money supply during the entire 1970-1988 period. Notwithstanding this, it is also clear that the need to undertake large-scale development projects in the 1978-1988 period, in the face of inelastic revenues, led to ever expanding budget deficits and inflationary pressures. Terms of trade deteriorations were also clearly responsible for the deterioration in the trade balance, while the calculated price elasticities would suggest that the monetarist pre-occupation with devaluation may be misplaced.

It would therefore appear that while cost-push factors were mainly responsible for inflationary developments during 1970-1977, domestic credit expansion and net foreign asset inflows were important considerations during 1978-88. Terms of trade deteriorations undoubtedly had a major role to pay in the deterioration of the balance of payment during the entire 1970-88 period. While the impact of terms of trade on the balance of payments was somewhat masked during the 1970-1977 period by the stringent import controls that were applicable at that time, in the subsequent import-liberalization period of 1978-88, the impact of the terms of trade on the trade balance was more evident.

Table IV.1 OLS Estimates of Money Demand in Sri Lanka 1971-1988

Dependent Variables	Constant	Yn	Yr	E	P	M_{t-1}	R^2	S.E.	D.W.
Equation 1 (a)	0.20	0.16 (0.51)	--	-0.03 (-2.23)	--	--	0.28	0.0	1.62
Equation 1 (b)	0.15	0.53 (1.66)	--	-0.02 (1.85)	--	--	0.54	0.07	2.20[1/]
Equation 2 (a) i	0.20	--	0.71 (0.53)	-0.03 (2.47)	0.06 (0.16)	0.41 (1.29)	0.38	0.07	1.89
Equation 2 (a) i i	--	--	1.84 (1.32)	-0.03 (1.63)	0.51 (1.20)	0.46 (1.10)	-0.18	0.10	1.72
Equation 2 (b) 1	0.13	--	-1.69 (0.86)	-0.04 (3.17)	0.29 (0.91)	0.99 (2.76)	0.64	0.07	2.38
Equation 2 (b) ii	--	--	1.17 (0.74)	-0.03 (2.43)	0.62 (1.98)	0.68 (1.84)	0.51	0.08	2.04
Equation 3 (a) i	0.24	--	-1.03 (0.48)	-0.02 (2.05)	0.27 (0.67)	--	0.32	0.08	1.74[1/]
Equation 3 (a) ii	--	--	2.45 (0.48)	-0.02 (1.35)	0.73 (1.67)	--	-0.27	0.10	1.68[1/]
Equation 3 (b) i	0.21	--	-0.66 (0.35)	0.02 (1.77)	0.50 (1.59	--	0.56	0.07	1.96[1/]
Equation 3 (b) ii	--	--	3.01 (3.01)	-0.02 .(1.61)	0.81 (2.40)	--	0.41	0.08	2.21[1/]

1/ - Correct for first order serial correlation

Notes - The 't' statistics of the estimated coefficient are shown in parentheses

Table IV.2 Estimates of the Determinants of the Aggregate Level 1971-1988

Dependent Variables	Constant	Yr	Mt^{al}	$M_{t-1}{}^{al}$	E	R^2	S.E.	D.W.
Equation 4(a)	0.07	-0.18 (-0.16)	0.04 (0.16)	0.22 (0.79)	0.01 (0.68)	0.18	0.06	1.66
Equation 4(a)i	0.07	-0.21 (-0.20)	--	0.24 (0.96)	0.01 (0.76)	0.180	0.060	1.681
Equation 4(a) ii	0.08	-0.14 (-0.17)	-0.05 (-0.27)	0.35 (1.50)	--	0.17	0.06	1.66
Equation 4 (b)	0.06	-0.65 (-0.35)	0.24 (0.91)	0.04 (0.09)	0.02 (1.15)	0.24	0.06	1.82
Equation 4 (b) i	0.06	-0.53 (-0.48)	0.26 (1.36)	--	0.02 (1.69)	0.24	0.06	1.81

al - The money supply and lagged money supply variables used inequations 4(a) and 4 (b) were M1 and M2 respectively

Notes - The 't' stiatistics of the estimated coefficients are shown in parantheses

Table IV.3 Money Supply (M2), GDP and Expenditure on Imports, 1971-1988 Percentage Changes

Year	Expenditure on Imports	M2	GDP	M2-GDP
1971	-4.89	10.28	2.8	7.48
1972	-2.93	15.70	8.5	7.20
1973	22.81	4.52	20.7	-16.18
1974	76.36	9.97	29.2	-19.23
1975	14.39	4.14	11.8	-.76
1976	1.56	32.88	13.6	19.28
1977	16.12	37.90	20.5	17.40
1978	148.01	24.96	17.2	7.76
1979	44.68	38.24	22.8	15.44
1980	50.27	31.89	27.0	4.89
1981	6.51	23.09	27.8	-4.71
1982	14.89	24.80	16.7	8.10
1983	8.93	22.11	22.5	-0.39
1984	8.50	16.56	26.4	-9.84
1985	13.21	11.47	5.6	5.87
1986	-0.44	5.06	10.5	-5.44
1987	10.53	14.70	9.6	5.10
1988	16.65	16.48	13.4	3.08

Source: Central Bank of Sri Lanka

Table IV.4 Bank Borrowing to Fund the Budget Deficit and Changes in Money Supply (M2) (1971-1988)

Year	Bank Borrowing Rs.mn.	Changes in M2 Rs. mn.	Bank Borrowing as a % of change in M2	% change in M2
1971	117	320.1	36.6	10.3
1972	317	539.3	58.8	15.7
1973	-65	179.7	-36.2	4.5
1974	15	414.2	3.6	10.0
1975	161	188.9	85.2	4.1
1976	621	1563.9	39.7	32.9
1977	-185	2395.9	-7.7	37.9
1978	176	2175.3	8.1	25.0
1979	680	4165.5	16.3	38.2
1980	7127	4802.6	148.4	31.9
1981	3917	4586.6	85.4	23.1
1982	4006	6063.1	66.1	24.8
1983	1204	6746.9	17.8	22.1
1984	-2644	6170.5	-42.8	16.6
1985	7451	4981.6	149.6	11.5
1986	2299	2451.4	93.8	5.1
1987	3306	7474.7	44.2	14.7
1988	11289	9610.8	117.5	16.5

Source: Central Bank of Sri Lanka

Year	Changes Private Sector Credit Expansion Rs. mn.	Net Credit to Government[il] Rs. mn.	Changes in Domestic Credit Rs.mn.
1971	80.2	220.3	300.5
1972	223.7	250.7	474.4
1973	121.5	-248.9	-127.4
1974	430.3	508.1	938.4
1975	214.5	236.4	450.9
1976	539.5	499.9	1039.4
1977	1186.3	336.5	1522.8
1978	2333.2	-433.1	1900.1
1979	2255.7	2041.2	4296.9
1980	4004.4	6827.5	10831.9
1981	3980.8	4182.0	8162.8
1982	3880.3	4550.7	8431.1
1983	6804.9	90.5	6895.4
1984	3848.7	-3215.5	633.2
1985	3217.0	6082.9	9299.9
1986	2383.6	2499.1	4882.7
1987	4327.7	7129.0	11456.7
1988	8864.1	12437.4	21301.5
Sum Total	48,696.4	43,994.7	92,691.2

il - Includes government corporations

Source: Central Bank of Sri Lanka

Table IV.6 The Sources of Growth of Money Supply (M2) (1971-1988)

Year	Private Sector Credit Expansion	Net Credit to Government	Net External Assets	Other liabilities	Changes in Money Supply (M2)
	Change, expressed as % of change in money supply				
1971	40.75	89.57	-11.61	-18.71	100
1972	40.85	83.72	-8.01	-16.56	100
1973	42.01	74.11	0.77	-16.89	100
1974	47.62	78.51	-3.22	-20.91	100
1975	50.24	80.36	-7.60	-23.00	100
1976	46.34	68.39	1.72	-16.45	100
1977	47.21	53.45	42.51	-43.18	100
1978	59.21	38.80	51.32	-49.33	100
1979	57.81	41.62	45.21	-44.64	100
1980	63.99	65.93	18.28	-48.21	100
1981	68.27	70.67	12.03	-50.97	100
1982	67.42	71.54	7.77	-46.74	100
1983	73.48	58.83	8.55	-40.86	100
1984	71.90	43.07	22.94	-37.91	100
1985	71.15	51.20	19.15	-41.50	100
1986	72.40	53.65	17.42	-43.47	100
1987	70.54	58.99	14.43	-43.96	100
1988	73.61	68.95	6.84	-49.40	100

Source: Central Bank of Sri Lanka

Table IV.7 OLSEstimates of the Current Account Balance 1971-1988

Dependen variable	Cons-tant	Yr	E	P	DC	R^2	S.E.	D.W.
CA	6.81	59.86	-0.35	10.63	-5.98	0.22	2.52	1,93
		(1.38)	(0.85)	(0.90)	(1.13)			
CA	8.32	29.83	--	3.01	-5.73	0.10	2.45	0.99
		(0.82)		(0.29)	(-1.11)			

Note: The 't' statistics of the estimated coefficients are shown in parentheses

Table IV.8 Estimates of the Import Demand, Export Demand and Export Supply Functions

Import Demand Function

ln MV = -3.72 + 1.67 ln Yr - 0.34 ln MP + 0.79 ln Dummy
(3.988) (-2.463) (6.850)

R^2 = 0.976; Standard error of estimate = 0.100; Durbin Watson Statistic^{al} = 1.879

Export Demand Function

ln XV = 1.29 ln ICY - 0.29 ln XP
(4.152) (-2.495)

R^2 = 0.914; Standard error of estimate = 0.071; Durbin Watson Statistic^{al}=1.555

Export Supply Function

ln XV = 0.26 ln XP - 0.04 ln DP + 0.59 ln XV(-1)
(3.231) (-1.478) (4.335)

R^2 = 0.948; Standard error of estimate = 0.105; Durbin Watson Statistic^{al} = 2.179

al - Corrected for first order serial correlation

Notes - MV = Import Volumes
MP = Import Price
Dummy = Dummy variable to take account of changes in economic policies since 1978
XV = Export Volumes
ICY = Industrial Country Income
XP = Export Prices
DP = Domestic Prices
XV(-1) = Export volumes lagged one period

The 't' statistics of the estimated coefficients are shown in parantheses

Figure IV.1
Percentage Change in Narrow Money Supply (M1) and Income Velocity of Circulation of M1, 1971-1988

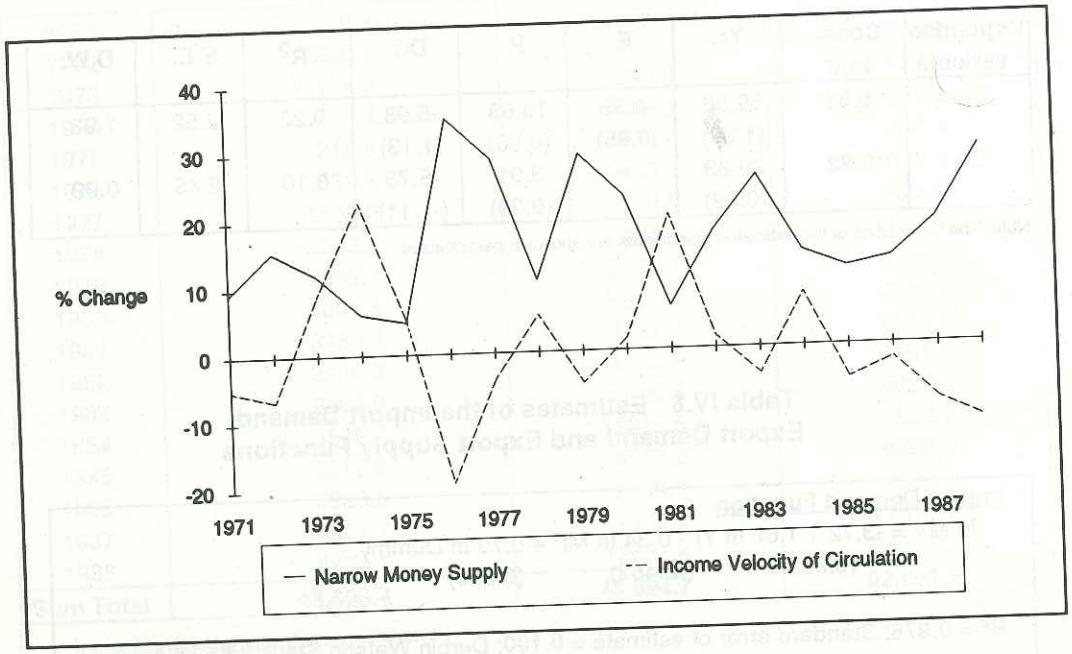


Figure IV.2
Percentage Change in Broad Money Supply (M2) and Income Velocity of Circulation of M2, 1971-1988

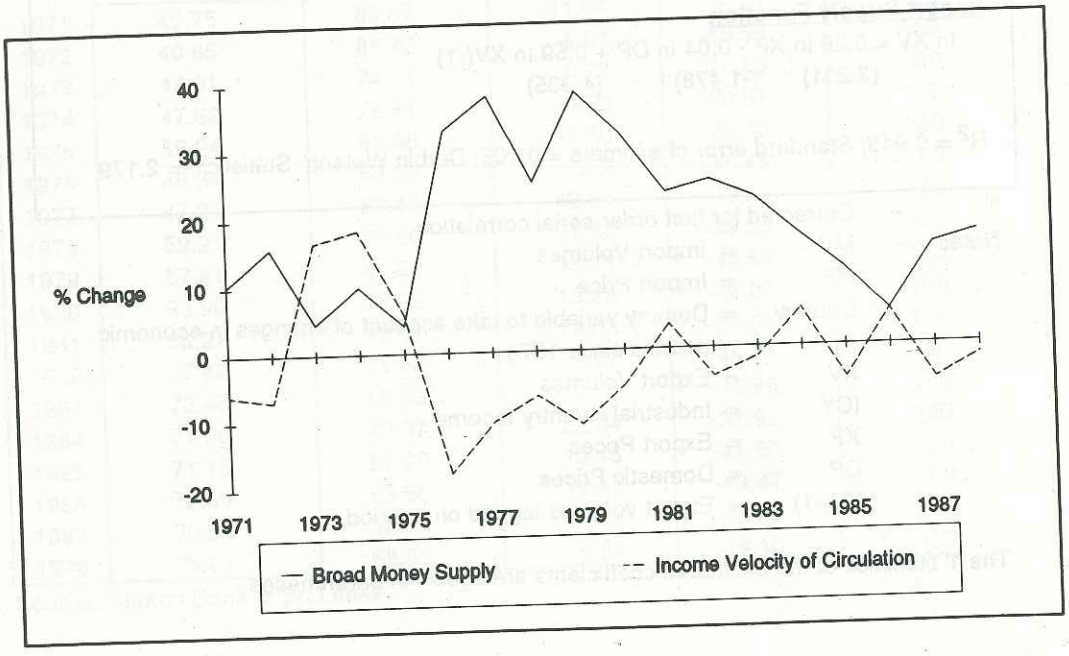


Figure IV.3
Percentage Change in Budget Deficit and Broad Money Supply (M2), 1971-1988

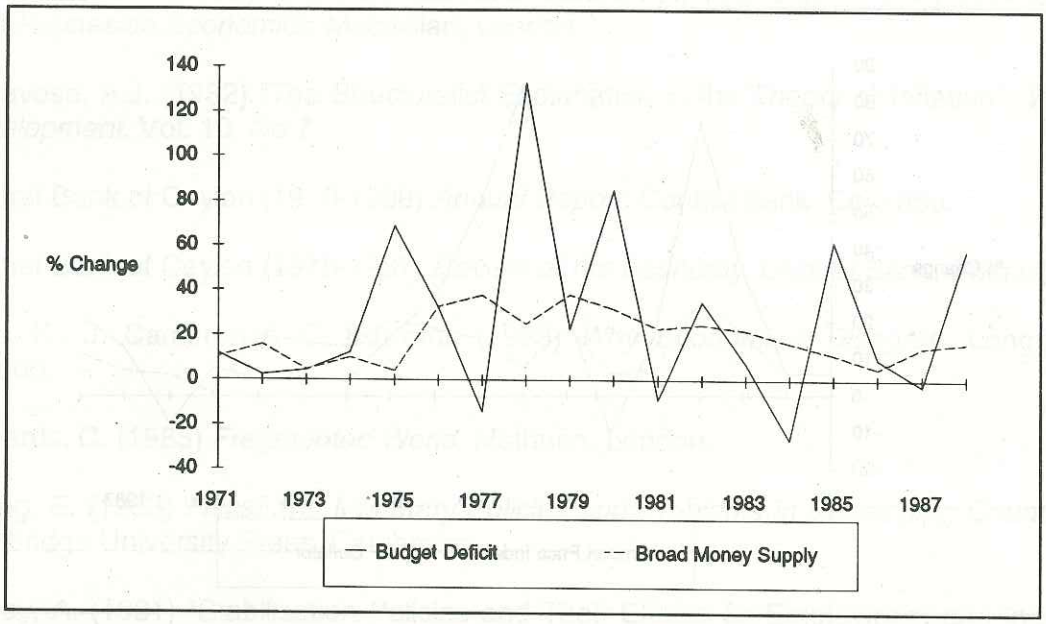


Figure IV.4
Percentage Change in Budget Deficit and Terms of Trade, 1971-1988

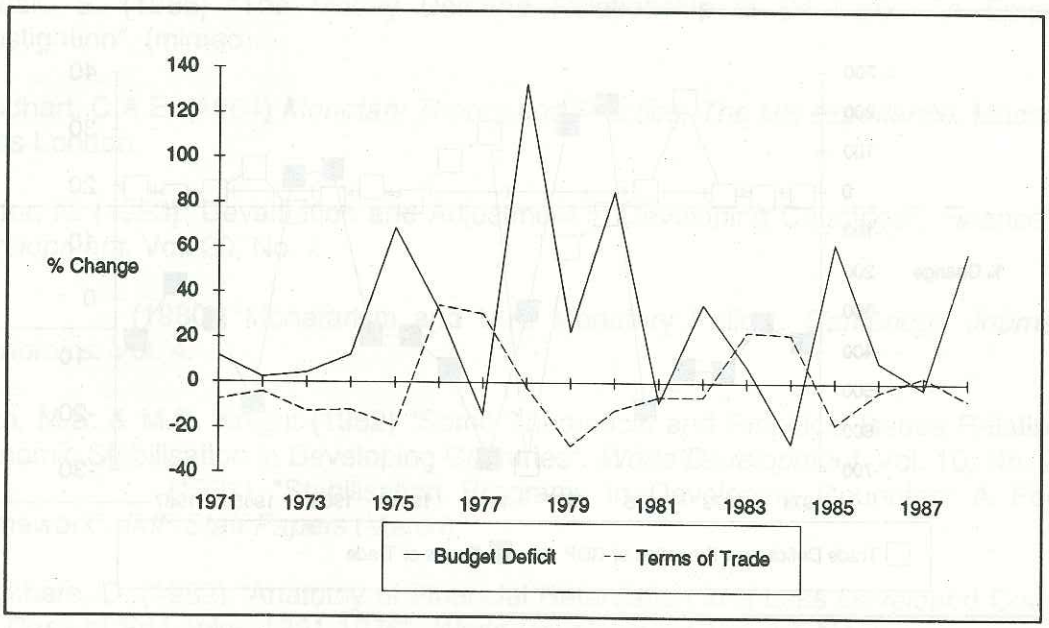


Figure IV.5
Percentage Change in Import and Domestic Prices, 1971-1988

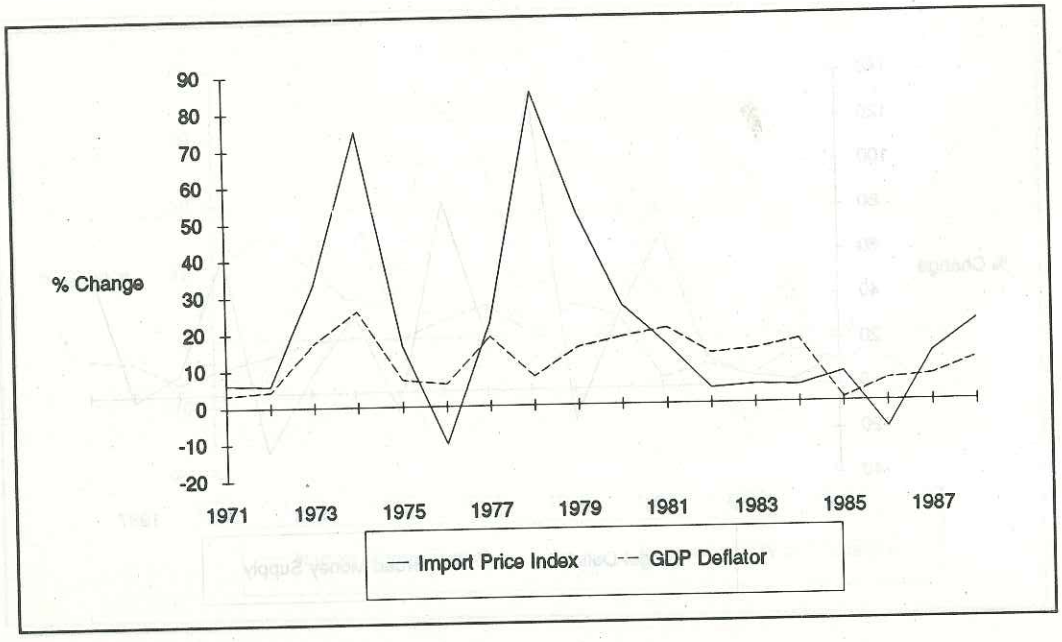
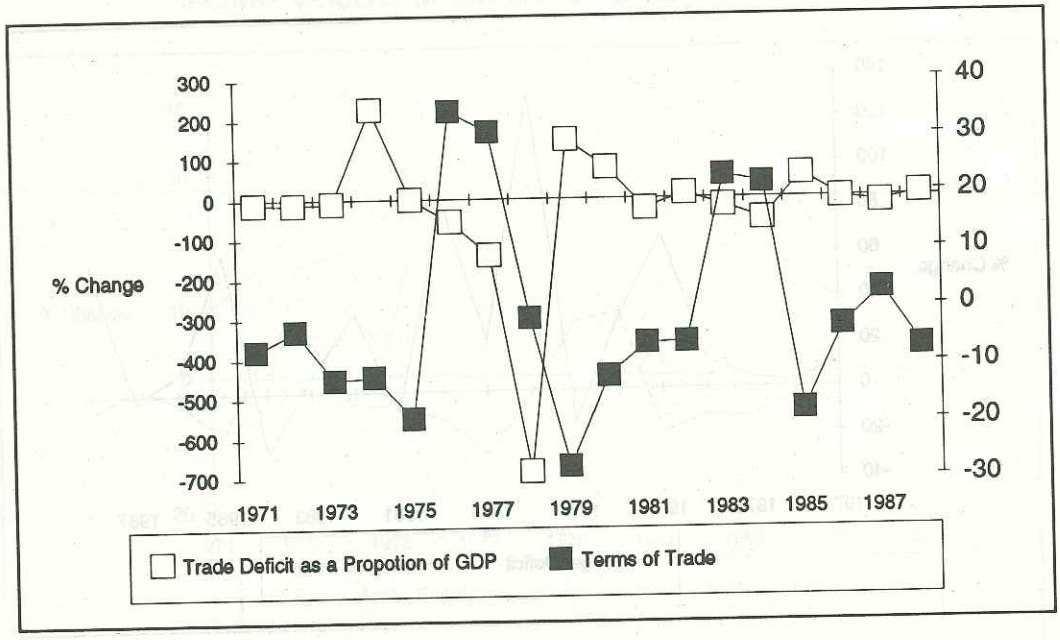


Figure IV.6
Percentage Change in Budget Deficit and the Terms of Trade, 1971-1988



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