COMMONWEALTH ECONOMIC PAPERS NO. 23

Economic Policies in Small Open Economies: Prospects for the Caribbean

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Foreword

The Commonwealth Secretariat has long had a significant programme of activities for the benefit of small states. These countries are increasingly concerned about the possibility of further marginalisation of their economies as a result of the rapid changes that are taking place in the world economy. Recognising these developments, Commonwealth Heads of Government, at their 1989 Kuala Lumpur meeting, asked the Secretariat to give priority to small states in its economic work. This directive was reiterated at their 1991 meeting in Harare.

As a result, the Secretariat has been undertaking more projects to help Commonwealth small states. For instance, a programme of work on financing development in the Caribbean culminated in a conference in Barbados in December 1989, held jointly with CARICOM and the twenty-first meeting of the Regional Programme of Monetary Studies of the University of the West Indies. In March 1991, a symposium entitled "Small States: Problems and Opportunities in a World of Rapid Change" was held in St Kitts and Nevis, with support from the Eastern Caribbean Central Bank. It focussed on the special problems confronting the management and development of small states' economies.

The present study deals with some of the major issues discussed at that symposium. The Secretariat felt that it should be given wider circulation because of its relevance to policy makers in small states, as well as to stimulate further discussion of the complex and special problems of these countries. In a world of rapid technological change, greater economic integration, and the strengthening of regional blocs, the future of small states remains a topical issue, both in an economic sense and as regards security. Their economic prospects need frequent reconsideration, especially at times of recession, since their structural characteristics have important implications for their adjustment.

The study, prepared by Delisle Worrell, Deputy-Governor of the Central Bank of Barbados, argues that the economic adjustment strategies adopted by many Caribbean economies in the 1980s were inappropriate in trying to restore external balance and raise economic output. The analysis pays particular attention to the economic adjustment strategies of Barbados, the Dominican Republic, Guyana, Jamaica and Trinidad and Tobago. To improve the performance of Caribbean economies, the author calls for a better mix of stabilisation policies with a deliberate export promotion strategy.

The views expressed in the study are those of the author and do not necessarily reflect those of the Commonwealth Secretariat.

B Persaud,
Director and Head, Economic Affairs Division,
Commonwealth Secretariat, February 1992

Preface

This research was undertaken while I was on a Fulbright fellowship at the Institute for International Economics, Washington, DC during the fall of 1989. I benefited from the collegiate atmosphere at the Institute, from the comments of the staff and from the insights gained from Institute seminars. John Williamson's critical analysis was particularly helpful in clarifying some of the argument and Tom Bayard was always most encouraging. I also had the opportunity to interact with the staff of the international financial institutions, development agencies and economists involved in Third World affairs. The searching comments of the Washington community of scholars of Caribbean affairs influenced the final outcome.

I am also grateful to the administrative staff of the Institute who made flawless arrangements for accommodation, computer services and all the other details that might have distracted me. The Council for the International Exchange of Scholars and the Barbados office of the US Information Service arranged for my visit to go without a single hitch. Everything was done to ensure that I would be as productive as possible.

Thanks to Pamela Arthur, for assistance in numerous ways – data gathering, secretarial assistance, scheduling and whatever else needed to be done; and to Monica Drayton, for unfailing support and trust.

Delisle Worrell
Central Bank of Barbados
November 1991

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CHAPTER 1

A Summary of the Argument

Only a few of the smallest Caribbean countries have survived the 1970s and 1980s with healthy economies. The majority of the Caribbean populations are no better off in 1991 than they were in 1970. Earlier, I explored the roots of economic decline in the English-speaking Caribbean (Worrell, 1987). This study discusses strategies and prospects, and the possibilities for economic growth and stability.

The content of economic adjustment policies in less developed countries has been at the centre of economic discussion for most of the last two decades. The Caribbean has received some attention, with studies of single countries (for example Boyd, 1988, Brown, 1981, Ceara-Hatton, 1989) and surveys that cover the region (such as Beckford and Girvan, 1989, and Worrell and Bourne, 1989) but there is little confidence that the strategies currently in place will serve to restore external balance and raise economic output. Our aim is to search for alternatives and improvements.

Although each country's economic situation is singular in many respects, it should be possible to find guidelines for policy within groups of rather similar countries. Caribbean nations share economic characteristics (see Table 1.1) which affect the outcomes of various policies and determine the range of policies available. The characteristics of Caribbean-type economies, discussed in Chapter 2, centre on the distinctively different markets for tradable and non-tradable goods, the mobility of finance and skills, the characteristics of the monetary sector and the organisation of labour markets. Because of shared features we may expect Caribbean economies to react in similar ways to exchange rate devaluations, interest rate policy and tariff protection, although magnitudes will vary from place to place. These responses in many respects are quite different from those of large LDCs such as Brazil or countries where factors and goods cannot move across borders so freely.

We examine the way the Caribbean economy adjusts to fiscal policy, exchange rate changes, monetary policy and administrative controls. A strategy combining elements of these policies may be designed so as to address each economy's needs and circumstances. We place Caribbean economies in four categories, according to their economic circumstances. Category 1 countries have no adjustment problem; their economies grow steadily, their external balance is sustainable and they have a sound infrastructure. Category 2 countries are subject to intermittent disequilibrium; economic growth is too low, output may be contracting when the balance of payments is in equilibrium or the balance of

Table 1.1 Caribbean Structure and Performance

OECS Countries											
Antigua & Barbuda	0.44	83	2788	0.6	6.1	39	37	167.5		73.0	-
Dominica	0.75	78	1314	0.1	5.7	14	-	38.6	-	74.0	-
Grenada	0.35	99	1128	-	4.9	15	9	63.6	-	69.0	-
Montserrat	0.10	12	3833	-	-	-	-	-	-	-	-
St Kitts & Nevis	0.27	48	1974	3.3	5.2	-	-	-	-	68.0	-
St Lucia	0.62	131	1260	2.3	3.9	26	7	78.4	-	70.0	-
St Vincent & the Grenadines	0.29	106	1293	1.2	4.6	19	-	69.2	-	69.0	-
Other Caricom											
Bahamas	13.94	249	11767	0.9	6.3	57	-	81.2	28.5	68.0	93.0
Barbados	0.43	256	5535	2.4	6.1	27	-	49.5	10.8	72.7	99.0
Belize	22.96	170	1269	1.9	1.1	20	1	56.6	-	-	-
Guyana	214.97	989	348	-4.4	13.6	20	536	46.7	45.0	68.2	91.30
Jamaica	11.42	2409	1188	-1.5	19.4	-6	266	42.1	13.2	73.0	73.10
Trinidad & Tobago	5.13	1224	3856	1.3	6.2	-2941	-	25.6	15.6	68.7	97.20
Non-Caricom											
Haiti	28.00	6100	360	0.5	7.9	-25	-	19.2	108.2	52.7	37.00
Dominican Republic	49.00	6700	730	2.3	16.3	-180	285	31.5	37.6	64.1	69.40
Suriname	163.27	420	2328	1.8	4.1	-219	-	27.3	27.6	68.0	80.20
	Area (sq kms)	*Pop. ('000)*	*GDP/Cap US$ 1987*	*Growth, 1985-7*	*Inflation, 1980-7*	*Reserves, cum. 1983-7 ($million)*	*Arrears, cum. 1983-7 ($million)*	*Imports, % GDP*	*Infant mortality /'000*	*Life expectancy*	*Literacy rate*

Sources: ECLAC, *Economic Survey of English-speaking Caribbean Countries*, mimeo, August 1989;
The World Bank, *World Development Report*, 1989
IMF, *IFS Yearbook*, 1989
IDB, *Economic & Social Progress in Latin America*, 1989 Report

Notes: Guyana, arrears and reserves, 1983-85

payments deficit may be unsustainable at reasonable growth rates. Category 3 countries have a persistent adjustment problem; they will have suffered several years of economic decline accompanied by foreign exchange reserve losses; usually there are arrears on external payments. Category 4 countries are afflicted by a prolonged crisis: output is contracting, external payments are in arrears and infrastructure has begun to deteriorate or is inadequate.

The new orthodox policy enshrined in the conditions required for credit from the World Bank and IMF includes the following: adjustment of nominal exchange rates, interest rates greater than inflation, low values for the ratio of fiscal deficits to GDP, low uniform customs tariffs and non-intervention in the prices of goods and factors. The international financial institutions attempt to negotiate a politically acceptable compromise around this core. Heterodox policies include some elements of the above but they also include intervention to control the prices of goods and factors, tariff discrimination, special incentive regimes, differential pricing and fiscal subsidies. We hope to arrive at a view as to whether orthodox policies are suitable for Caribbean economies and in what circumstances. Where they might not be suitable we try to suggest the content of heterodox policy.

An implication of the economic structure of small open economies, as set out in Chapter 2, is that the tradable sector sets a limit on the overall economic growth rate, except in the short run. Non-tradables are import-using, and their expansion must be supported by growth in the tradable sector, if foreign exchange reserves are to be maintained at levels sufficient to support the exchange rate. If tradables grow too slowly the exchange rate depreciates, causing inflation and a decline in real income, unless the depreciation stimulates the output of tradables sufficiently. The exchange rate relieves the tradable constraint on growth if the supply of tradables is very elastic with respect to the exchange rate in the medium as well as in the short run. If the supply is inelastic the exchange rate will eventually depress income by enough to reduce demand for foreign exchange to the supply, imposing the tradables constraint at a lower level of income.

Domestic price inflation in the small economy deviates from the international trend only to the extent of exchange rate depreciation, either on official or unofficial markets. Excess of aggregate demand or domestic cost push appears as a balance of payments deficit which sooner or later drives the exchange rate downwards, inflating domestic prices. An increase in local factor costs depresses the supply of exports, and, by increasing the price of non-tradables while reducing their supply, eventually produces a reallocation of the consumption basket in favour of imports. An increase in aggregate demand also drives up non-tradable prices and diverts expenditure to imports. In both cases reserves decline and the exchange rate depreciates. If the shocks are not sufficient to produce an exchange rate change the domestic inflation rate reverts to correspondence with the international rate. Balance of payments adjustment is therefore the pivot of adjustment in the small open economy, both for growth and stabilisation.

We are rather more confident about policies for stabilisation than about policies for growth. A reduction in aggregate demand through a contraction of the

fiscal deficit seems to be a reasonably predictable way of stabilising external payments, though the extent of the contraction necessary in particular circumstances may be beyond the country's capacity to undertake within the horizons of politicians and international financial institutions. Growth may be possible for some time without any new investment, if there is excess capacity in the tradable sector, though it is not always easy to identify excess capacity. The fact that capital equipment is not fully utilised does not necessarily imply that additional output of the same quality may be supplied at the same price (or more cheaply). Eventually excess capacity is exhausted and new investment in tradables is required. The factors which determine that investment are the weakest segment of adjustment theory (and practice), and the least amenable to quantitative policy influence. The strongest macroeconomic lever seems to be tax policy – not exchange rate adjustment, because of the importance of imports in the wage good and in producers' goods – but it is by no means decisive. We recommend countries individually tailor export promotion strategies which stress institutional development.

The record of Caribbean countries which have undertaken orthodox adjustment programmes under the auspices of the IMF and World Bank is no more encouraging than for the majority of developing countries. Economic growth has been slow and intermittent, and countries have been unable to recover ground lost during the seventies. They remained in danger of a renewed slump, even in the years when output increased. Investment rates have not been strong enough or sufficiently persistent to reduce the unemployment rate in any country. Investment has typically been concentrated in one or two lines of activity – mainly tourism and assembly plants in free trade zones – rather than in a wide cross-section of economic activity. There has been severe contraction in the living standards of the poorest in society, and standards of health, education, housing and nutrition have declined in most adjusting countries. The distribution of income seems to have become more uneven in most cases.

Exchange rates in adjusting countries have been unstable, depreciating in erratic and unexpected fashion. Experiments with a variety of ways of managing the rate have not produced any system of changing nominal rates that has predictable results, and that moves in accordance with the underlying trade elasticities. Fixed rates backed by ample foreign reserves seem to be the only system that produces stable expectations; once reserves are no longer adequate and the rate has to be moved, no country has avoided exchange rate instability. Countries have experienced intermittent inflation, usually associated with sharp exchange rate depreciation, as might be expected. On the other hand the adjustment policies have usually arrested the excess demand for foreign exchange and reduced the amount of foreign payments arrears, with the help of a succession of belt-tightening policies.

Unorthodox policies have been an unrelieved failure in the Caribbean. They have resulted in high inflation and chronic balance of payments deficits, in addition to difficulties similar to those experienced by countries which opted for

orthodox policies. Inflation has appeared on unofficial markets in countries where attempts were made at rationing and price control. Investment and output contracted, and maintenance and infrastructure were neglected because of foreign exchange shortages. Countries have eventually fallen back on orthodox strategies as foreign arrears of payment accumulated and vital trade relationships were eroded. Caribbean experience suggests a choice of orthodox policies that produce little growth, and unorthodox policies that result in instability and contraction.

Adjustment policies may be improved upon by better articulation of fiscal policy. Fiscal policy must bear a much greater burden of responsibility for export promotion, economic stabilisation and ensuring the provision of essential social and economic services. The stabilisation function has always been recognised, and the importance of essential services and the protection of the poor is on the agenda for most adjustment programmes in the late 1980s, but there remains scepticism about the government's role in investment promotion.

The management of the exchange rate is a second area for review. Adjustment programmes have failed to admit the delicacy of exchange rate management. Artificially high values of local currency will not hold in the face of emerging parallel markets, but attempts to alter relative prices at home and abroad by means of the nominal exchange rate have no better chance of success. Getting the official exchange rate "right" is a delicate confidence act, depending mainly on the use of fiscal policy to establish the credibility of the rate. Where the official rate must be set (in order to equate to the endogenous nominal rate as defined in Chapter 4) depends on current and expected fiscal policy.

In implementing policies countries must adapt to the circumstances of the markets through which the policy levers work. One may not act as though exchange rates and interest rates will adjust to eliminate inefficiencies and excess demand in the presence of banking oligopolies and of unlicensed unofficial money and exchange dealers, often operating illegally. A surprising mythology has built up of entrepreneurship in informal markets, but in fact they are poorly informed, lacking in financial and organisational skills, deficient of any of the usual kinds of transaction insurance and highly risky for the providers of services and their clientele.

The obvious failures of tightly regulated regimes seem to have led to an over-reaction in favour of hands-off and market-led price formation, though in practice even orthodox stabilisation programmes have never gone as far in that direction as the protagonists of deregulation have advocated. Programmes have allowed for some form of exchange rate guidance, even when the rate was market-led, in contrast to interest rates, which have often been completely deregulated. In fact all financial and exchange markets need economic guidance and strong prudential regulation if prices are to be free of excessive fluctuation and prolonged periods of waywardness. It is government's responsibility to provide that guidance, together with comprehensive public information which allows the public at large to participate in the assessment of the market and the appropriateness of policy.

Adjustment programmes have suffered from our inadequate understanding

of the determinants of investment. The assumption that changes in relative prices would be sufficient to spur additional investment has proved unreliable; in some activities and in some countries investment has increased as the relative price of tradables rose, but there are other activities and other countries where there was no response to incentives of the same magnitude. Moreover, in many countries where investment was most vigorous there was no improvement in the relative price of tradables. There has, in general, not been sufficient attention paid to the qualitative aspects of investment.

Chapters 3-5 deal with these arguments in some depth, as they discuss the probable effects of various policies in the circumstances of small open economies. There have been changes over time in the content of orthodox adjustment policies. Responding to criticisms that stabilisation programmes in the seventies were exclusively demand-oriented, international institutions introduced a strong emphasis on supply in the eighties. Unfortunately they focussed almost exclusively on nominal exchange rate adjustment, high interest rates and an attack on import substitution, none of which is an appropriate instrument for adjustment in small open economies. (The nominal exchange rate is a target to be set in light of actual and intended fiscal policy, the interest rate should not be higher than the international rate and import substitution is a trivial issue.) Only recently has there come recognition that government investment may be highly productive for private investment, and much greater insight is needed with respect to investment in the medium and long term.

While basic needs and the welfare of the poor have long been a dominant concern of the community of development scholars and of the international development institutions, these concerns have only recently been incorporated as integral to the adjustment process. It is now accepted that programmes which fail to incorporate the effects on income distribution and basic needs may stand little chance of stabilising the balance of payments even in the short run, because of the decline in productive effort. Moreover, such programmes have virtually no chance of reviving output because of the deterioration of human resources. The implications of human resource development for the content of economic adjustment programmes are not yet fully worked out.

Orthodox stabilisation policies need to be amended and strengthened if they are to form the basis of a strategy for adjustment with growth in small open economies. This study makes the case for a fuller articulation of fiscal measures, linking them to their effects on the several targets – rates of return on investment, aggregate demand, relative prices, income distribution – that fiscal policy may address simultaneously. We argue for a more nuanced linkage of fiscal and exchange rate targets, to secure an exchange rate that may be held unchanged over the medium term, using fiscal measures to adjust relative prices and aggregate demand, and building foreign reserve stocks to enable the authorities to ride out periods of exchange rate nervousness. The central bank should give sensible guidance on local interest rates, anchoring them on the trend of international rates. If the exchange rate policy is successful domestic inflation will be in line with

international inflation, so there will be no need to anticipate the "real" rate of interest.

Small countries need individually tailored export promotion strategies, with emphasis on institutional development, management enhancement and organisational skills. A sophisticated regulatory framework is called for, with clear ground rules, systems for public information, and rules which make for transparency of the activities of financial agents. For many countries none of the above amounts to a feasible strategy unless there is a programme for relief of external debt servicing which goes much beyond anything that is currently on the cards.

CHAPTER 2

Economic Characteristics of the Caribbean

Dualism

Output in Caribbean countries may be divided into those goods and services which may be traded among countries, such as clothing, agricultural products and tourism, and those which by their nature must be provided locally, such as government services and public utilities. Small economies must accept the ruling selling price of traded goods. Anything they produce is too trifling in amount to make a difference to the international price. When their production costs change, firms in the traded sector have to change levels of output, and use new kinds of organisation, marketing and technology if they are to survive and prosper. Firms in the non-traded sector may adopt similar strategies, but in addition they may change the price at which they offer to sell. The market will tolerate some change in price depending on the strength of demand; consumers have no option of appeal to cheaper foreign suppliers.

Fiscal and monetary policies will have different effects on the traded and non-traded sectors. For example, measures to reduce costs (such as lower tariffs on inputs and reduced lending rates) should lead to an increase in the output of tradables, but the effect on non-tradables is ambiguous. For items where the country only needs as much as it already consumes prices may fall instead. Policy error will result if the effects on traded and non-traded production are not separately measured. The extent of supply response may be over-estimated or the extent to which an increase in output arises in the traded sector may be miscalculated, causing an over-optimistic forecast for the improvement in the balance of payments. When the expected foreign reserve gain does not materialise the entire policy package may be threatened.

The Mobility of Capital

Because finance moves readily across borders in search of the most profitable locus of investment, domestic saving does not act as a brake on the possibilities for growth. The limitation to investment is failure to identify areas of comparative advantage where domestic firms are able to supply products of internationally acceptable quality. Once such opportunities are perceived investment funds are available from international sources in unlimited quantity. There is evidence throughout the Caribbean in support of this contention, most obviously in the tourism sector. The prerequisites for investment are an orderly, stable society with

legitimate political authority, dependable public utilities and transport and basically sound education, health and social services. Once these are provided for, investment may be expected to follow profitability.

Many economists still believe that domestic savings are the key to sustained economic growth. That is true if the country chooses not to admit overseas investment, but there are no Caribbean countries remaining in that category. It is also true if investment is directed to the non-tradable sector where it does not generate the foreign exchange necessary to service the foreign debt. In fact, there are only a few instances of major foreign investment in non-tradables in the Caribbean, concentrated by and large in public utilities. (They can be said to have a payoff in foreign exchange in the long run, to the extent that they are essential for investment in the export sector.)

Where infrastructure is inadequate fiscal resources should be allocated to bring it to the required minimum. Tax and other incentives which enhance the rate of return on investment should feature prominently in a growth-oriented strategy. For overseas investors the tax regime in the investor's country of origin must also be taken into account. Specifically, will his own tax authorities allow him to make deductions for local taxes forgiven just as though he had paid that tax? Such allowance is possible under some double taxation agreements.

Efforts to raise the domestic savings rate in the absence of demonstrated investment opportunities have no value. The real savings rate will not rise even if people try to increase their holdings of bank deposits and other financial "savings". Where there is no urge to invest banks lend any additional funds for consumption. The increased financial "savings" are matched with increased consumption, not more investment. If the demand for consumer credit is weak banks will accumulate reserves with the Central Bank, destroying money and dampening expenditure rather than increasing savings.

Limits to Import Substitution

For small non-subsistence economies importables are a small percentage of national output, usually less than 10%. (If we treat the Caribbean as a single market in defining importables the percentage is no higher, though for single countries the Caricom market may be highly significant.) Non-subsistence economies require a wide range of consumption goods and services. If any small economy tried to produce more than a handful of these items we would see a multitude of tiny producing plants, each one much too small to attain the economies of scale required to sell at world market prices. The list of items for which the domestic market is sufficiently large or the economies of scale sufficiently small is soon exhausted.

Attempts to stimulate import substitution in the Caribbean by administrative decree result in high prices, inconsistent quality and a parallel market of international trade in competing products. A few import substitution activities find

themselves able to compete domestically, usually with the aid of a moderate tariff. They are to be encouraged so as to enhance employment generation and to nurture entrepreneurship. But the overall contribution of import substitution to national output will remain small so long as the economy does not revert to subsistence levels of consumption. Small countries therefore need not be concerned about incidental "anti-export bias" which might arise from justifiable tariff policy. The import substitutes which become profitable as a result account for such a trivial proportion of human and financial resources that they do not inhibit investment in export production.

Endogenous Exchange Rate Adjustment

Small countries with very large richer neighbours do not have much discretion in their choice of exchange rate. The value of Papua New Guinea Kina in Australian dollars, the value of Botswana Pula in South African Rand, the value of the Dutch guilder in Deutschemark and the value of the Jamaican dollar in US dollars are all determined by the small country's foreign exchange reserves and balance of payments performance. If, with whatever value of domestic currency people have grown used to, fiscal and monetary policies are so designed as to secure adequate foreign exchange reserves, the value of the currency may remain unchanged indefinitely. Elimination of exchange rate uncertainty encourages trade and investment flows. Other circumstances such as relative factor use, technology, marketing and choice of products adapt over time to this well-known relationship, thereby preserving comparative advantage. The only really favourable circumstance for a currency change by a small country is a very high level of foreign exchange reserves and a strong underlying economic growth trend. But there is little incentive to change the exchange rate in such circumstances.

If, on the other hand, foreign exchange reserves are low and the balance of payments weakens, the local currency will be devalued. The authorities do not have much choice in the matter. They may wish to insist that the currency's value remains unchanged – and they often do – but they have insufficient foreign exchange to sell at that rate. Increasingly over time the market ignores the central bank and traders set rates for buying and selling among themselves. The longer the central bank delays devaluation the more its share of the foreign exchange market dwindles. Ultimately, it will command foreign exchange only from primary exporters.

Endogenous Money

Central banks in small open economies have little effective control over the supply of money because of the international mobility of finance. Currency controls have very limited power to influence these flows; their effects are more likely to be on the proportion of financial transactions that pass through formal channels than on the supply of money.

The mechanisms of money supply adjustment are discussed in Chapter 3. The stock of money is determined by the demand for transactions balances, the accumulation of foreign exchange reserves and government borrowing. Attempts to set interest rates and limit the availability of credit have no lasting effect on economic outcomes. Monetary policy is effectively a subset of fiscal policy, depending on government's requirement for financing from the central bank.

Wage and Price Formation

Domestic inflation has a large import element and wages are sensitive to inflation. This circumscribes the extent of domestic cost adjustment where wages are a substantial proportion of total costs. The leeway for cost adjustment depends on how far wage increases lag behind price increases, on technical change affecting labour productivity and on the level of unemployment, which affects workers' bargaining strength. These factors may be influenced by fiscal policy, for example by providing incentives for investment in techniques with higher labour productivity or by slowing the pace of wage reaction through leadership in the government sector. Fiscal policy may also weaken wage reaction if it results in an increase in unemployment.

Background to the Model

A point of departure for the construction of a model of the archetypical Caribbean economy is the equilibrium of internal and external balance defined through the relationship between relative prices and output. (Such models, in the tradition of Mundell-Fleming, are commonly used in the analysis of adjustment policies. For recent examples see Reinhart, 1989, Edwards, 1988 and Minford and Walters, 1989.) The external balance schedule may be regarded as a locus of equilibria between the supply of foreign exchange, determined by the production of tradable goods, and the demand for foreign exchange to purchase imports, which depend on relative prices and output. Internal balance is determined by the demand and supply for non-tradable goods. Demand is an increasing function of relative prices (defined as the price of tradables divided by the price of non-tradables) and supply is a decreasing function. The shape of the internal balance schedule depends on the elasticities of demand and supply. In the static economy we may presume that an equilibrium exists which defines output and relative prices.

A more useful framework envisages a dynamic economy with adjustment processes where the patterns of growth of tradables and non-tradables are defined over time. We assume no capacity limit and speedy adjustment of supply, both of tradables and non-tradables. The adjustment process involves wages and exchange rate changes. Wages react to changes in relative prices in ways that may dampen the initial relative price effect, effectively raising domestic prices in

response to foreign prices. A decrease in the relative price of tradables precipitates a loss of foreign exchange reserves and a depreciation in the exchange rate which also dampens the relative price effect. Both adjustments are asymmetrical. A fall in relative prices seldom leads to a decline in wages and a rise in relative prices will not cause an appreciation of the exchange rate.

The expansion paths for tradables and non-tradables are interdependent via the balance of payments. Expansion of tradables generates a net supply of foreign exchange while the expansion of non-tradables generates a demand. The demand and supply of foreign exchange will equate via exchange rate depreciation when there is an excess demand but foreign exchange reserves will accumulate when there is excess supply. To attain external balance of supply and demand often requires income contraction because of the relatively inelastic supply of foreign exchange with respect to relative prices. However, once the exchange rate stabilises for some time, foreign exchange begins to accumulate.

Supply is thought to be more elastic in the medium term. The capacity constraint is relieved by new investment in the tradable sector in response to changes in relative prices. This leads to the familiar J curve effect. We may more confidently expect an improvement in the balance of payments in the medium term than in the short run as new capacity provides for a more robust supply response from the tradable sector. If a persistent excess supply of foreign exchange builds up, the authorities may accelerate growth by increasing the demand for non-tradables. The most obvious tool for generating additional demand is a money financed fiscal deficit of moderate proportions.

The expansion paths are also interdependent by way of wages. A change in relative prices affects wages because of the high import content of the consumption basket, but the wage reaction may be delayed. On the other hand, anticipation of a wage reaction may cause investment to be postponed or delayed and the expected supply response may not materialise.

In summary, the dynamic model provides for growth paths of tradables and non-tradables linked via asymmetrical exchange rate and wage adjustment with lags in the adjustment process. The mechanisms are partly self-correcting. There is some tendency to frustrate the original policy and there are possibilities of J curve reactions.

In real world circumstances, economies are subject to ongoing shocks and are never on an equilibrium growth path. The shocks may be policy induced (from an increase in the fiscal deficit), caused by changes in structure (changes in productivity, in the bargaining strength of unions or in the expectations of inflation) or they may be external (changes in the prices of tradables). For each displacement a new expansion path can be anticipated. Moreover, the system is subject to random, unexplained displacement with unpredictable effects. Policy-makers are acutely conscious that the fundamental problem of economics, not satisfactorily resolved, is to explain a disequilibrium world with some variant of equilibrium analysis.

Components of the Model

The model has the following features. Growth is limited by the expansion of tradables; there are different market adjustment mechanisms for tradables and non-tradables; wages react with a lag to prices and are endogenous; there is international mobility of capital and finance; and the exchange rate adjusts, but not continuously. The model is fully set out in Appendix I.

1. The Markets for Tradables and Non-Tradables

The output of tradables depends on their cost of production relative to the selling price on world markets. The cost of production includes unit labour costs, the unit price of capital goods and the unit costs of financial services. In the non-tradable market there is a tendency towards equilibrium of supply and demand according to adjustment norms which may be peculiar to each country. Demand is influenced by policy, in particular monetary policy, which may boost expenditures. The adjustment process affects relative prices and costs of production in the non-tradable sector. Output of tradables is subject to an upper limit which is defined by the existence of spare capacity and the amount of recent investment.

From knowledge of the price of tradables, unit labour costs, finance costs, investment, monetary expansion and the incremental capital output ratio, we may deduce the rate of growth of output and the rate of inflation from this segment of the model.

2. Investment

Because of the mobility of capital no investment takes place if the domestic rate of return is below the foreign rate. For local investment, a premium for country risk is needed above the foreign rate of return. The rate of return is the same in both the tradable and non-tradable sectors and is determined in the tradable sector. Investment in the non-tradable sector adjusts – given the productivity differentials between tradables and non-tradables – until the rate of profit in non-tradables equates to what is available in the tradable sector. If the social and political infrastructure is adequate, investment in the tradable sector is a function of the rate of return, provided that return exceeds the foreign rate plus the country risk premium. This investment sets the limit on the growth of output in the tradable sector.

3. The Labour Market

Factor markets are homogeneous and the same wage rate rules in both sectors. It is determined by expectations of inflation, by productivity and by the

bargaining strength of workers and employers. The supply price of labour depends on the existing wage and expected inflation while the demand price is influenced by labour productivity changes and expected inflation. The weight of demand and supply in the finally agreed market price depends on the bargaining strength of employers and workers. Labour market adjustment may vary from country to country. In some cases, the market may clear but in others there may be a lagged adjustment which never results in an equilibrium on the labour market. We may derive unit labour cost once we know the labour productivities, the expected prices and factors such as unemployment which may influence the relative bargaining strengths of workers and employers.

4. The Balance of Payments

Foreign exchange receipts are the sum of export sales of tradables minus small amounts of import substitutes and exogenous capital flows. Import substitutes are a very small subset of tradables and the supply curves rise very steeply for import substitutes. In aggregate analysis we may therefore assume that they are approximately equal to zero. From the export earnings we must deduct imports determined by a conventional demand function. If reserves accumulate there is no change in the exchange rate but if reserves fall to the point where the stock is seen as inadequate the exchange rate depreciates.

5. Money

Additions to the monetary base raise spending power over and above what is earned from the production of goods and services. This boosts demand for imports and for non-tradables. Fiscal policy and exogenous capital inflows are the sources of increases in the money supply. Capital inflows are not destabilising because they provide the country with foreign exchange with which to meet the additional import demand generated by the expansion in money. Fiscal expansion has the potential for destabilisation by generating an excess demand for foreign currency.

Growth Limited by Tradables

Suppose government primes the economy by fiscal expansion, causing an increase in base money. That generates additional expenditure and greater demand for imports and for non-tradables. Foreign exchange reserves decline and the prices of non-tradables rise. If the fiscal pressure is quickly removed and foreign exchange reserves are ample, no further reaction might occur. If the deficit continues to be financed by increases in money the loss of foreign reserves will trigger a depreciation of the exchange rate and general price rises. This leads to

wage increases in subsequent periods and an increase in unit labour costs.

The adjustment process continues through the balance of payments and labour cost adjustments. If there is spare capacity in tradables and the wage reaction is muted an increase in tradable output may restore balance of payments equilibrium and allow growth to continue. If there is no spare capacity and wage reaction is slow increases in profits may lead to investment in the tradable sector and eventually output growth may be resumed, but there is a temporary hiatus. If there is no spare capacity and vigorous wage reaction, investment in tradables stagnates; output does not increase and the exchange rate depreciates continuously.

Aggregate Demand and Inflation

Domestic inflationary pressure is exerted via the depreciation of the exchange rate. Domestic prices will not remain far out of line with foreign prices over time except the exchange rate depreciates. Consider an increase in the monetary base; if it is not sustained, a one-shot increase in non-tradable prices quickly peters out. If it is sustained, prices will not rise unless the exchange rate depreciates. If foreign exchange reserves are very considerable and there is a mild wage reaction there will be no large increase in domestic inflation. Strong inflation does not set in until the continuing reserve drain raises public apprehension about the stability of the exchange rate. At this point, there is a flight of capital, the exchange rate depreciates and domestic prices rise.

Domestic expansionary pressure has a potentially depressing effect via the output of tradables. In the non-tradable sector costs and prices may rise in response to demand. If these cost increases spill over to the tradable sector they will depress the output of tradables. The increase in non-tradable production will not make up for the lost output of tradables because it is foreign exchange using. As a result, the exchange rate may come under pressure and a change in relative prices may be needed to restore balance in the growth paths of tradables and non-tradables.

CHAPTER 3

Fiscal and Monetary Policies

Fiscal policy plays a pivotal role in small open developing economies. It has direct effects on the main outcomes – growth, the balance of payments, inflation and social welfare; it offers a rich menu of choices and combinations, to address several targets; and there is a comparatively large area over which each fiscal policy instrument may range. In contrast, monetary and exchange rate policies are largely circumscribed because of the mobility of finance. In this chapter we discuss the effects of fiscal policy, an approach to fiscal policy making, the usefulness of monetary policy, and suggestions for monetary policy making.

The Bases for Fiscal Policy

Fiscal policy has real output effects arising from any change in the provision of government services – usually approximated by the change in government employment. It has aggregate demand effects – in addition to those that arise from any increase in output and income – measured by the additional supply of money that is generated by an increase in central bank credit to government (or any other increase in domestic finance for government which does not displace an equal amount of financing for the private sector). There are investment effects, from the incentives provided by tax rebates, exemptions, write-offs, etc. Government investment can improve the productivity of private investment. There are relative price effects, arising from the effects of tariffs on costs and on the prices of final goods, the inflationary effects of taxes on goods and services, the effects of income taxes on the relative prices of labour and leisure and on the relative returns to skilled labour at home and abroad, and the effect of tax incentives on the relative prices of capital and labour.

Fiscal policy also has income distribution effects. Income distribution is treated as a target variable in the present analysis. The desired pattern of income distribution, in so far as it relates to entitlements of basic services, helps to define the level of government expenditures and the structure of the income tax. Changes in income distribution by themselves are not thought to have significant effects on investment, the balance of payments, growth and inflation.

1. Output

An increase in the provision of government services is an increase in national output, unless it can be demonstrated that government has displaced private output of equal or greater value. Government may crowd out the private sector by taxing or borrowing away private resources, or by monetary expansion which raises domestic prices sufficiently relative to foreign prices that it displaces domestic production by imports. Whether there is crowding out, and by how much, depends on the counterfactual that you set up (in Buiter's (1985) phrase, crowding out is model-determined). For example, if government services expand by $10 million, we may think of several alternatives had government services remained constant. Taxes might have been $10 million lower, government might have borrowed less from locals or abroad, or there might have been a contraction in the monetary base, compared to its actual value. In the event taxes were lower we need to specify how the change would have been distributed among the available taxes. With this menu of arbitrary choices no definitive statement may be made about the extent of crowding out in practice, and we shall assume that fiscal choices may be so engineered that it is of no consequence.

2. Aggregate Demand

An increase in government expenditure which is financed by an addition to the money supply produces an increase in aggregate demand, with an unchanged marginal propensity to spend out of income. We assume that, to a useful approximation, taxes and spending have symmetrical effects on aggregate demand, and we abstract from the real output and relative price effects of government expenditure, which are treated separately above and below. A similar increase in aggregate demand is possible as a result of an autonomous increase in private spending, for example if there were a shift in the propensity to save as income per head or the age structure of the population changed. However, with the high propensity to import there would be an increase in imports, a decline in foreign exchange reserves and a resulting fall in the money supply, which would tend to correct for the increase in spending. (If it did not correct sufficiently the exchange rate would adjust to bring about the adjustment.) In the case of government spending the central bank aborts the self correction mechanism when it creates money to finance the government expenditure increase.

3. Investment Incentives

The sources of investment incentive are the tax system and the aspects of industrial and export strategy which are reflected in government expenditure. Institutional arrangements for export promotion may be the incentive most likely to procure additional investment. Production in the small economy's traded sector

is divided sharply between small enterprise for the local market (in the Caribbean this is meant to include the regional market as well) and medium-large enterprise for the export market. To increase investment in tradables from domestic sources government must finance the acquisition of knowledge, research and development costs and reorganisation costs to enable local firms to grow sufficiently large. It is important to specify the expected relationship between target investment and promotional expenditure in the government budget.

We may use established methodologies (see King and Fullerton, 1984, Lim, 1983) to measure the investment incentive offered by tax incentives and exemptions, but this calculation accounts only for local finance, in countries where major investment programmes usually involve foreign participation. Moreover, the relationship between the rate of return, which is the tax "handle", and investment, which is the government's objective, is obscured by the weight of other factors in the investment decision. The effects of tax incentives remain uncertain, but the need for investment is so crucial that no potential inducement may be neglected.

4. Government Investment

There is currently a debate as to whether government investment promotes or diminishes investment in the private sector. Probably all parties would agree that where infrastructure is very weak government investment does increase the productivity of private investment, but the effect diminishes as essential social and economic services reach some level of comprehensiveness and reliability. Many believe there is a point beyond which government investment is counterproductive. The argument is about where each country lies on this schedule. (There are individual government investments at all points on the schedule which are clearly counterproductive, and they are often erroneously used to infer that all or most government investment is inefficient.) Efforts have been made to derive rough estimates of the relationship of government and private investment for countries at differing income levels (Blejer and Khan, 1984); although they rely heavily on proxies and they use cross-section data that conceals important country peculiarities, this kind of analysis is the best guide we have at the moment. On balance, government investment seems to do more good than harm. More empirical work needs to be done to afford better guidance to policy makers in this area.

5. Relative Prices

Tariffs increase the relative price of tradables on the home market, and they inflate costs and the prices of final goods. They may be expected to depress output and increase prices. Output in the export sector may fall by more than does output in the non-traded sector because exporting firms have no way of influencing selling prices. For the usual magnitudes of tariff changes the effects on national aggregates may be quite small because of relatively weak price elasticities. However, there may be significant impact as a result of major tax reform. In many

countries the effects of tariffs on exports are mitigated by extensive exemptions for imported producers' goods, through free trade zones and incentives for industry and tourism.

Taxes on goods and services cause a one-shot increase in inflation and a fall in output. For reasons just given, the magnitudes are not large, except for a major tax reform. These indirect taxes are regressive, to an extent that depends on how revenues might have been raised in their absence, or how expenditure might have been adjusted to eliminate them. Since we begin with an income distribution target, we would suggest that government survey household entitlements to basic services, determine whether the results of tax changes produce an acceptable distribution of benefits, and institute compensating action to remedy the deficiencies.

Income taxes affect the relative prices of labour and leisure, but the effects on the supply and quality of labour are too complex for generalisation, despite considerable research on the topic (Hausman, 1985, Saunders and Klau, 1985, Sumner, 1983). Some economists harbour the suspicion that a steeply progressive tax system may affect the supply of skills by provoking migration, but empirical work has not isolated this as an important motive for migration. The sporadic use of corporate tax rebates for job creation and the use of labour intensity criteria for tax benefit have not provided sufficient evidence of the effect of the tax system on labour intensities.

The Design of Fiscal Policy

The authorities in the small open economy have the task of designing fiscal policy which, supported by exchange rate and monetary policy, will secure a target rate of investment, economic stabilisation in the short run and a target income distribution (or provision and entitlements to basic services). We define fiscal policy as a package of taxes, their rates, structures and exemptions; the cost of providing government services; government investment; debt service; transfers; the size of the deficit; and government's foreign borrowing. (The content of the fiscal package is illustrated in Chart 3.1.) Small changes in the fiscal package are made every year, with wholesale reforms from time to time. The analysis must be based alternately on large discrete changes and cumulative changes measured for a suitable interval of perhaps five years.

The authorities might proceed by calculating the rate of return which seems necessary to achieve the investment target, and the changes in the incentive system that might be implemented to achieve it, either through promotional expenditure or through the tax system. They should examine the consumption of basic goods and services by households, decide on targets to be achieved, a combination of tax changes and expenditures, and a schedule for implementation. Estimates of tax elasticities should be amended to reflect tax changes, and a projection made for revenues. Government investment should be projected, based on the deficit of essential infrastructure and the investment needed for the intended increase in

services. Expenditures may be projected on the following basis: employment at current levels, plus or minus changes in government services; wages at the levels expected to prevail in the economy generally; transfers at the current levels plus any changes set down in the target for entitlements; interest payments on the basis of actual and projected debt and expected interest rates; subsidies to firms at current levels plus any changes embodied in new investment incentives; and other expenditures at the rate of inflation. The fiscal deficit may be derived and a target set for the pattern of foreign borrowing over the plan horizon, using judgements about the desirable levels of debt servicing in relation to expected receipts from exports of goods and services. From estimates of the net supply of finance from the domestic private sector the authorities may deduce the amount of inflationary finance required, and determine whether it is within the economy's range of tolerance. If it is not, adjustments must be made and the exercise repeated.

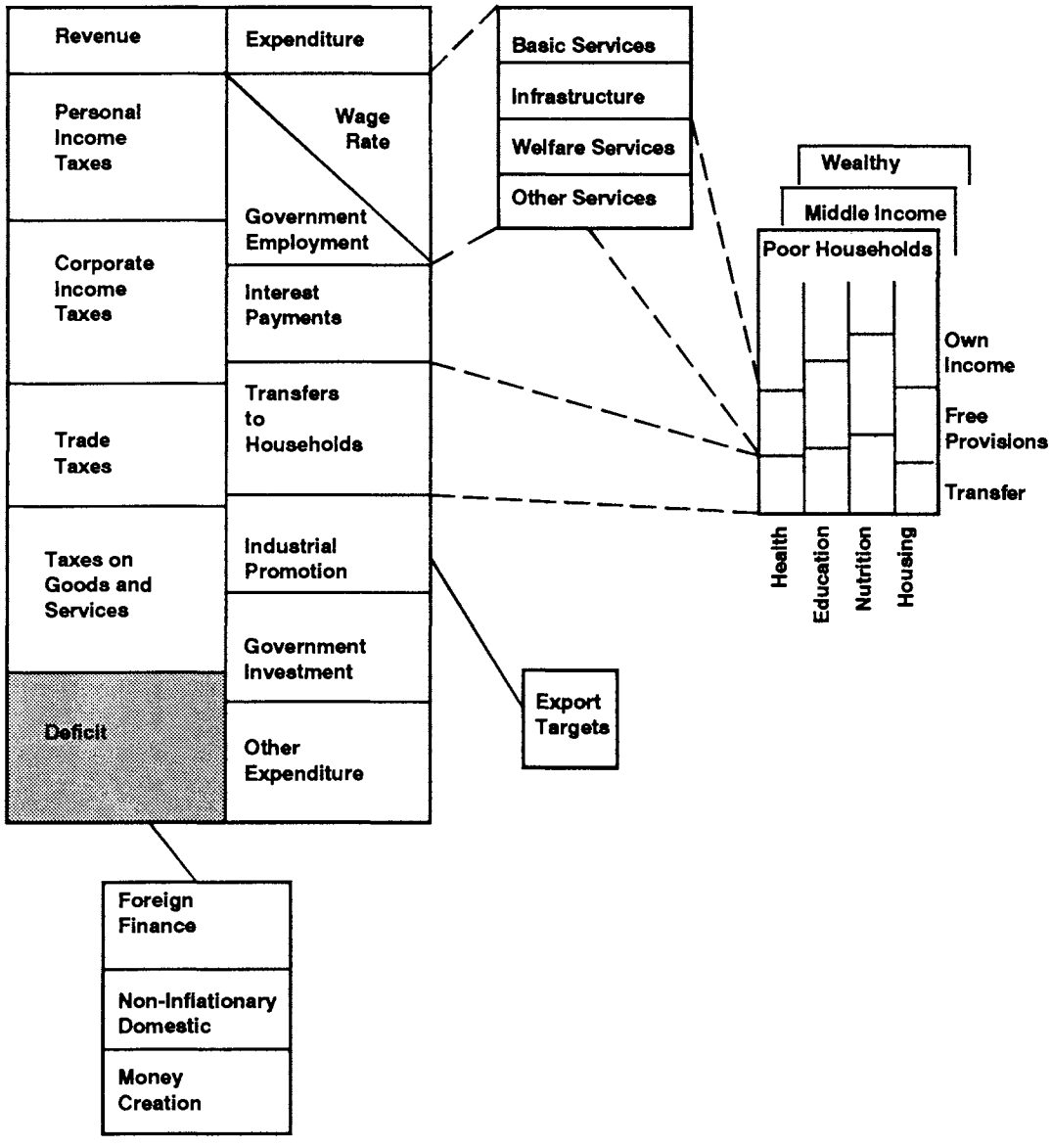
The principal effects of fiscal policies, expected over a plan period that may be five years or more, include investment incentives, basic social welfare and public services, and the stabilisation of the balance of payments. Investment incentives arise mainly from export development expenditure, with possible assistance from income tax rebates and allowances. Infrastructure and services targets are constrained by the allowable size of the deficit, and are pursued by juggling taxes and spending. The balance of payments determines the size of the overall deficit each year; it must not exceed what may be financed without such large increases in money supply that foreign exchange reserves decline below acceptable levels.

Monetary Policy

The financial levers available to address economic growth, balance of payments stability and inflation in small open economies are: stipulations by the central bank on any of a variety of interest rates (the discount rate, the rate for government securities, and loan or deposit rates); fixing of reserve requirements by the central bank; stipulations on lending to government by banks and other financial institutions; purchases and sales of securities by the central bank; exchange controls; and the provision of specialised financial services by government or state agencies.

All, except for the last mentioned, have their impact through changes in interest rates. Because it is so easy to move finance between small open economies and the nearest major financial centre (or major trading partner) only small interest rate disparities can persist. If the foreign-local rate differential is large, or if a modest differential persists for a long time, funds flow into or out of the country. Unless the authorities take timely action to bring the rate in line, an adjustment process is set in train which, though it may eventually restore local rates to comparability, may do so at the cost of major disequilibrium. (For high inflation countries, the comparison ought to be among "real" rates, for which the nominal

Chart 3.1
The Government Budget



rate less the current rate of inflation is the usual, though quite unsatisfactory, proxy; where the local economy maintains an inflation rate in line with that in nearby international financial centres the nominal rate is a satisfactory guide.)

For example, take the usual case where domestic rates are far below foreign rates and there is an outflow of finance. An unrelieved excess demand for foreign exchange causes exchange rate depreciation, inflation and a reduction in real income which depresses monetary liabilities and drives up the interest rate. (As explained below, if the exchange rate is held officially, funds are diverted through informal channels which feature higher rates.) The interest rate will eventually move into line with foreign rates if nothing is done, but the costs of adjustment are so high that the authorities are unlikely to allow this scenario to play itself out.

The domestic rate is determined by the foreign rate, but only approximately. There is limited scope for domestic interest rate setting. The margin arises because of the costs of making international financial transactions, uncertainties and differences of opinion in the market about the future of interest rates, and the uncertain relation between real and nominal inflation rates in high inflation countries. The authorities may use this margin to smooth the pattern of interest rate fluctuation, while tracking the trend in foreign rates. Because domestic financial markets are quite thin and oligopolies are the rule, the effects of interest rate variation are magnified if they are allowed to affect the market without a filter which highlights longer term trends.

This margin does not permit interest rate policy to stabilise the balance of payments, accelerate growth or curb inflation. The most promising line of attack might seem to be raising interest rates to attract financial inflow and bolster foreign reserves. This may temporarily improve the reserve position, but the resulting increase in the money supply may result in spending which reverses the reserve accumulation. Rather than a permanent improvement in the balance of payments the country experiences a violent upswing, followed by a reversal. At the same time the interest rate increase drives up production costs for firms which depend heavily on local bank finance for working capital; that may push up their prices and reduce their output, but the magnitude of these effects would have to be established.

It is often argued that a high interest rate may serve to increase financial saving, by increasing the real rate and diverting funds from such inflation hedges as real estate, precious metals and rarities. This view depends on the assumption that substitution effects dominate income effects in the motives for financial saving; there is no *a priori* reason why they should. Moreover, it may very well be the case that an increase in interest rates leads to expectations of higher rates of inflation. A high interest rate may be taken as evidence that the authorities expect inflation to quicken, in which case the increase would have a perverse effect on financial saving. Even if financial saving were to increase there is no effect on economic growth unless the rate of return on investment increases. An interest rate increase should not affect the returns for firms that depend mainly on foreign finance, and it might well increase the finance costs of firms that do borrow heavily

on the domestic market, reducing their profitability. An increase in financial saving under these circumstances is likely to be matched by increased consumption, as the demand for consumer credit tends to crowd out the demand for producers' credit at high interest rates.

Interest rates are not a useful anti-inflationary measure in small open economies. Low rates encourage capital outflow which could lead to an exchange rate depreciation and inflation. High rates encourage capital inflow and increase producers' costs. Both the cost increases and the addition to the money supply from the capital inflow tend to increase prices.

Monetary policy is left with limited objectives: to keep domestic interest rates within a band around the trend in foreign rates and to avoid destabilising exchange flows; and to identify short term volatility in foreign rates, so as to insulate domestic rates against these swings.

The several measures listed at the beginning of this section may be seen as alternative ways of securing these interest rate objectives, as explained below.

1. Direct Interest Rate Intervention

The central bank may stipulate any of a list of interest rates – its own discount rate, the rate for government securities, loan and deposit rates for financial institutions, etc. It makes no sense to try to structure interest rates, because of the fungibility of finance. The central bank should choose the rate which has the best chance of leading the market and allow all others to adjust to it. Requirements for financial restructuring will have to be addressed by other means such as institutional arrangements to foster greater competition among financial institutions and financial support for infant industry. The strongest interest rate candidates for central bank control are the rate on government securities, the minimum rate on savings deposits or some form of an average loan rate. The discount rate is ineffective except in a liquidity crunch, and the other rates are too difficult to administer.

2. Reserve Requirements

Reserve requirements are a cumbersome mechanism, and are best avoided. The oligopolistic banking systems of small open economies often feature large excess liquidity over long periods. To effect an interest rate change under these circumstances a substantial increase in requirements is needed. As the amount of excess reserves varies the requirement would have to be changed to ensure that it remained binding. If the requirement is binding and banks are short of liquidity they may find it profitable to borrow to make up the deficit, either from the central bank or abroad. The increase in the money supply in either case triggers a sequence of events that leads to an increase in interest rates (through the expansion of aggregate demand, the deterioration of the balance of payments, depreciation of the exchange rate, inflation and a fall in real income which reduces the demand for

money), if it is sustained; if it is not, its effects are innocuous.

If banks cut their credit rather than borrow to make up the reserve deficiency, the excess demand for credit should drive up the interest rate. By whichever mechanism, if the reserve requirement has an effect it will appear as an increase in interest rates. It is a clumsy device to achieve what might be done directly.

3. Lending to Government

Except where fiscal policy is deliberately expansionary, the central bank wants to avoid direct advances to government. With a given deficit and foreign borrowing capacity the policy will be to secure any additional financing from banks and the private sector, by increasing stipulations for the holding of government securities and/or raising the interest rate on government securities. In using stipulations the central bank faces a difficulty similar to the difficulty of managing reserve requirements. The requirement must first be adjusted to absorb all excess holding, both of securities and of cash at the central bank. If banks may buy government securities with excess cash holdings they will effectively be financing government out of net increases in the money base, with exactly the same effect as a direct advance to government by the central bank.

An increase in the requirement for government securities (after all excess has been cleared out) creates an excess demand for credit. This leads to credit rationing or an increase in interest rates, or both. Over time, if the loan rate is controlled, funds will be diverted to the higher-interest non-bank or informal financial markets. An effective increase in the community's cost of funds has not been avoided. Moreover, the strengthening of informal financial markets and non-banks may be quite undesirable, because of the absence or weakness of prudential safeguards in these markets. The informal market is also unevenly informed, sensitive to rumour, prone to excessive volatility, and therefore relatively inefficient.

Higher rates on government securities may achieve larger amounts of credit for government without boosting informal markets. The central bank may issue government paper at higher rates, invite tenders for increasing amounts of securities and/or sell from the bank's portfolio of government securities at a discount. It is less certain in this case that government will attract the required financing than in the case of a binding requirement. Even though the loan rate rises as government competes for funds the demand for credit by the private sector may be relatively insensitive to the increase. However, from a macroeconomic viewpoint there is little to choose; in both cases an increase in the supply of money finances the government if the demand for credit by the private sector is strong. With an increase in the rate on government securities government fails in its bid to attract funding from the private sector; with an increase in the securities requirement banks borrow from the central bank to meet the demand from the private sector. If the demand for credit by the private sector is sufficiently strong

an increase in the central bank's discount rate will be readily passed on to the banks' customers; and if the central bank refuses advances to financial institutions, the informal sector grows in relative importance. The central bank will not wish to encourage disintermediation, so measures to increase private lending to government essentially turn out to be indirect policies to change the level of interest rates.

4. Purchases and Sales of Securities

The central bank may attempt to reduce the supply of finance by selling securities from its portfolio. In few developing countries does the central bank hold private securities; for the most part it is government securities that are for sale. By a process quite similar to that just described, this causes an increase in interest rates. The central bank will need to sell at prices which offer attractive returns. In response, firms and households competing with the central bank for the same pool of funds will be prepared to pay more. The disadvantage of this mechanism is that the market is so thin that the interest rate reaction may be exaggerated.

5. Credit Controls

Credit controls enjoyed a long and undeserved popularity; they are now in danger of being wholly discarded. But they may serve as a useful temporary stabilising device in credit markets, in circumstances where it is preferable to ration credit than to raise interest rates – for example, where there is a temporary excess demand for credit. Controls must be removed soon, even if it turns out that the reason for their imposition does not reverse itself as was expected. Continuing credit controls risks financial disintermediation and strengthening of informal finance. The excess demand for credit must be allowed to express itself as a higher interest rate. Controls on credit for particular sectors are ineffective, because of the fungibility of credit.

6. Exchange Controls

Exchange controls are often designed to isolate the domestic financial system from the international, but in small open economies this proves impossible because of the array of devices – legal, doubtful and illegal – which are available for the international transfer of funds. Transfers may be accomplished by placement of trade credits. If it is less expensive to borrow at home than abroad importers borrow at home and pay cash rather than accept credit from overseas suppliers, while exporters offer longer credit terms, since their customers are prepared to pay higher rates than the local banks offer. Firms may also over- or under-invoice exports and imports as necessary, accelerate profit repatriation, conceal interest payments as expenses, barter goods and services – including capital goods and business services – and relocate bases for providing internation-

ally traded services.

Exchange controls on the capital account and on some non-trade transactions may be useful for monitoring and providing an orderly framework for these transactions. The controls tend to break down when they are used as a rationing device. They work best when the guidelines are standardised and applied in a predictable manner. Exchange controls cannot be used to provide greater scope for domestic interest rate determination, independently of the foreign interest rate. Instead, they will lead to the marginalisation of the official foreign exchange institutions, as more and more business is transferred to the informal sector.

7. Specialised Financial Services

The specialised financial services which fledgling export firms in small developing nations may require include export credit, credit insurance, venture capital sources, selective credit re-scheduling, relatively long original maturity on credit for the purchase of durable producers' goods, incentives for equity participation, and finance linked to technical assistance, particularly for small firms. Improvements can be made in the financial system to accommodate these needs, and they will serve to complement fiscal incentives.

Government needs to contribute to the funding of *export credit* in the early stages of the export drive, when there are considerable development costs to be financed, and firms are still building up their store of knowledge of markets and production processes. To encourage banks to become involved in the financing of exports, it may be helpful to provide a scheme for guaranteeing export credits, especially when producers need credit to purchase raw materials and to finance working capital. In time, when the profitability of exporting has been established and firms have built up a track record, the need for short term export credit and insurance by government agencies will diminish, as the financial system sees dependable opportunities for profit. However, there may remain a role for official provision of some medium term export credit, if the country exports durable goods.

Most countries complain of a shortage of *venture capital*; developing countries are largely characterised by extremely undercapitalised firms. In a vibrant economy most venture capital will come from the private sector, and suitable tax incentives may be the most important factor in increasing the supply of such funds. However, an official contribution in the early years may serve as a catalyst for speeding up investment in new ventures.

Selective re-scheduling may be required in the early years of an export drive because of the high incidence of failure and set-back. If private markets are required to absorb the full loss the export sector may never reach a critical mass. There should be an evaluation system, perhaps by referral from private financial institutions, which carries out a case-by-case analysis and decides to refer to a re-structuring board only those cases which seem to have a future. The board devises

a rescue plan, imposes conditions on the borrower and sets up an officially sanctioned programme of re-scheduling and refinancing.

Financial markets in developing countries typically insist on relatively short maturities for the *financing of producers' durables*. The markets need more institutions that will perform the financial gearing function – merchant banks, mortgage banks and development banks. A mix of all three types probably works best, with mortgage banks providing highly specialised finance backed by conservative security, on very long terms; merchant banks providing medium term loans to companies; and development banks providing long term loans linked to technical assistance.

Very attractive tax treatment is probably the most effective way to encourage the growth of *equity* participation in firms. Typically, this participation will be by way of partnerships and privately held firms rather than by way of a stock exchange and subscription to public companies. Experience has shown that banks, public utility companies and large trading conglomerates can attract active participation on stock exchanges, but the many newer companies which are most seriously undercapitalised do not enjoy the public confidence that would make them candidates for stock market funding.

8. An Overview of Monetary Policy

Monetary policy reduces to the orderly management of interest rates, within the corridor set by transactions costs on either side of the foreign interest rate. The local rate can be managed with a combination of direct intervention to set some rate, and financial market intervention by auction, purchase or sale of securities. Reserve and securities requirements and credit controls are less effective and may have undesirable side effects. Exchange controls should not be used as a monetary control tool. The nurturing of specialised financial services makes an important contribution to the growth of output.

CHAPTER 4

Exchange Rate Issues

We find it useful to employ the term "nominal exchange rate" to refer to the rate at which an average citizen carries out foreign transactions. That rate is endogenous for small open economies and depends on the reserve level and the demand and supply of foreign exchange. The nominal rate is to be distinguished from the official exchange rate. They are equal only when reserves are high and the expected supply of foreign exchange equals or is greater than the expected demand. Where demand is greater than supply or reserves are inadequate, whether the nominal equals the official exchange rate depends upon how the official rate is managed. If it is adjusted so there is no unofficial market the nominal and official rates may remain equivalent. In the typical case of a parallel market the nominal exchange rate should be considered a weighted average of the official and unofficial rates. The reader should bear in mind this distinction between the nominal and the official rate; in the usual practice the two terms are used interchangeably.

The fact that the nominal rate is endogenous does not imply that it is pointless to enquire into its effects. Although the authorities cannot set an independent exchange rate we need to know what consequences may follow from any rate which is dictated by economic policy and circumstance. Both nominal and official rates are to be distinguished from the effective or real exchange rate. The last two terms are often used interchangeably and in some circumstances together. The concept behind them is a rate at which a basket of home produced goods exchanges for an equivalent basket of foreign produced goods. Countries do not produce equivalent goods so a variety of proxies are used. Perhaps the most helpful in the case of small open economies is the relative prices of tradables and non-tradables. The price of tradables is equivalent to the international price level because of the small country assumption. The price of non-tradables is the domestically determined price. Depending on the intention of the analysis a number of other indices of real effective exchange rates might be employed. They include the relative wages at home and abroad, measured in the same currency; and the prices of tradables sold by domestic producers compared with their prices sold by competitors, measured in the same currency.

The issues to be discussed in this chapter include the circumstances in which the nominal and official exchange rates coincide; the expected effects of nominal exchange rate changes on exports, imports, the capital account, inflation, competitiveness, investment and factor use; the credibility of official exchange rate policy

and associated policies; the dynamics of official exchange rate adjustments; the effects of official exchange rate movements which are due to shifts in the rates among third countries; and indices of effective exchange rate changes.

The Nominal Exchange Rate

The one case where authorities may choose the nominal exchange rate level is only of academic interest. Where foreign exchange stocks are large and rising and where domestic absorption seems to be slack, an appreciation in the currency is indicated. A higher value should switch funds from the accumulation of foreign financial assets to expenditure on imports of goods and services. Since this presents a tougher competitive challenge for exports it will be strongly resisted unless export industries are strong enough to rise to the occasion. No Caribbean countries and very few LDCs worldwide find themselves in this situation. The typical cases range from situations of adequate foreign exchange reserves and balance of payments equilibrium to falling reserves, external payments arrears and parallel markets in foreign exchange.

Exchange rate appreciation is seldom possible in countries which have adequate reserves, balanced external payments and reasonable economic growth. The appreciation raises a spectre of unsustainable reserve losses that would eventually force a depreciation in the nominal exchange rate. A depreciation of the rate in order to make exports more competitive tends to cause inflation, a loss of credibility and capital flight. Outflows on the capital account may deplete stocks and will dictate how the nominal exchange rate depreciates. Fiscal and monetary policies to accompany the devaluation are unlikely to retain policy credibility if the devaluation is thought to be unnecessary.

Conceivably, an official devaluation may not engender a crisis of confidence if external balance is being maintained deliberately by economic stagnation. But in this case, the providers of domestic factor services are unwilling to suffer a further reduction in their purchasing power as a result of devaluation and fiscal and monetary stringency. There is a strong likelihood of capital flight.

The most frequently observed case is of countries with falling reserves and an inadequate stock of foreign exchange. The authorities are not in control of the nominal rate because rationing devices are useless in small open economies. Either the official rate is adjusted according to supply and demand or, more typically, a parallel market emerges at a rate below the official rate. The nominal rate, which may be measured as a weighted average of the official and the unofficial, varies with demand and supply.

"Real" Exchange Rates

The concept of a real exchange rate is elusive. It is a shorthand measure of the foreign purchasing power of a bundle of domestic value added. No single real

exchange rate measure is wholly satisfactory because the relative prices that determine outcomes differ according to the sector or target under consideration. The point is best illustrated by example. For measuring exchange rate effects on aggregate demand, imports, the prices of non-tradables and the output of non-tradables the appropriate real exchange rate is the relative prices of tradables and non-tradables. For measuring effects on exports it is more appropriate to use relative wages in the same currency or the relative price of value added in the traded sectors in the home country and competing countries. For investment effects and long-term capital flows the relevant measure is the expected relative profitability domestically as compared to competitive locations. For short-term capital flows the relevant index must incorporate expected changes in the nominal exchange rate together with expected interest rates at home and abroad. For effects on the imports of consumption goods relative consumer price indices at home and abroad may be best. Each index may show a differing response to the same nominal exchange rate change because of the different parameters that define the reactions. A few examples are given later in this chapter.

The best way to anticipate the effects of nominal exchange rate changes is to use a testable model which includes as many prices as are needed to measure the principal macroeconomic outcomes. At a minimum one needs a model that will pick up the effects of relative prices of tradables and non-tradables and will describe the process of price determination and of wage determination (see Tables 8.2 - 8.6). Even this is a superficial level of abstraction. In practice the policymaker would wish to get much closer to the model of Appendix I in order to have any confidence about the measured outcomes of nominal devaluation. The relative prices of tradables and non-tradables, relative wages, relative levels of profitability and the price of tradables at home and in competing locations are all indices of some assistance in partial analyses; together they may produce a fair approximation about the implications of a fully articulated model. In contrast the various price adjusted official exchange rates in common use are of little assistance.

The effects of changes in the nominal exchange rate on the relative prices of tradables and non-tradables depend on their impact on inflation, the percentage of imports in the wage good, the relationship between wages and prices, the relative price and income elasticities of the demand for non-tradables, the price elasticity of supply of non-tradables and the price elasticity of supply of tradables.

The nominal exchange rate drives up the price of imports and causes significant inflation because of the high import ratio. There is a lag in wage response depending on the bargaining strength of labour and on the import content of the wage good. All else being equal a higher import content will produce a larger increase in wages. Cost increases, increases in wages and import prices drive up production costs. In the traded sector product prices increase by the full extent of nominal devaluation while costs increase by the proportion of imported inputs immediately and by the proportion of wages in the next period. If the supply price is elastic and there is excess capacity output will increase.

In the non-traded sector prices will not rise by the full amount of nominal

devaluation if the output of non-tradables contracts. Non-tradable output will contract if the elasticity of demand for non-tradables with respect to relative prices is significant or if income contracts, driving down the ability to consume non-tradables. Measured relative price elasticities in the Caribbean are never very large. Income need not contract if the increase in the output of tradable goods is substantial and the loss of output of non-tradables is slight. We would expect the relative prices of tradables and non-tradables to move in the same direction as the nominal exchange rate when all these factors are accounted for, but the magnitude of the response is highly uncertain.

In some export sectors, exchange rate effects derive from changes in domestic costs relative to those in competing producing countries. The gain in domestic cost competitiveness depends on the strength of inflation, the percentage of imports in the wage good, the relationship between wages and prices and the share of imported imports in traded production. The higher the proportion of the wage good the stronger the inflation and wage reactions and the larger the share of imported imports the less the cost advantage.

A cost comparison based on relative wages alone assumes the use of comparable technology in all competing locations and similar costs of all other factors. A more comprehensive measure would compare total factor cost and make allowance for different factor productivities that might be induced by changes in relative prices. For example, suppose that the Dominican peso depreciated by 20% against the Jamaican dollar and that the resulting gain in wage competitiveness for the Dominican Republic was 10% (i.e. 5% of the depreciation was lost to internal reactions by Dominican labour). Producers in the Dominican Republic may decide to widen the cost advantage by investing in more labour intensive technology now that labour is relatively cheaper. Their competitive advantage may therefore rise by more than 10%. However, Jamaican producers may respond to the competitive threat by investing in less labour intensive technology narrowing the comparative advantage below 10%. An appropriate measure of comparative advantage in this case is the price of tradables at home and in competing locations.

The investor is interested in the effects of nominal exchange rate changes on the expected relative profitability of investment at home and abroad. In addition to considerations of wage changes, changes in technology and changes in productivity, he makes judgements about the future time paths of all the relevant variables. It is possible to measure the expected profitability over the time horizon of a potential investment, to discount by an appropriate opportunity cost and to compare with a similar calculation for a competitive location. However, this will overestimate investor response, if investors fear further exchange rate depreciation, an acceleration of inflation and increased indexation of wages to expected inflation.

Export Responses

The export response to a devaluation of the nominal exchange rate varies with the type of activity. Four types of export may be identified in Caribbean economies: supply-driven activities, such as manufacturing; demand-driven activities where there is product differentiation, for example tourism; minerals which are sold via arrangements within multinational corporations; and supply-driven activities where there is a substantial lag, particularly agriculture. The effects in the short run depend on the availability of excess capacity; the long run effects depend on the incentive to invest created by devaluation.

Measures of excess capacity in export sectors are elusive. In much of the Caribbean manufacturing firms operate with only one shift, suggesting excess capacity. But their processes are often obsolete and their production quality too low for export markets. Additional capacity cannot therefore be activated without new investment. Similarly, in tourism, apparent excess capacity is often substandard and investment in refurbishment is necessary for an increase in output. There will be no short run gain for agriculture except for the sale of any accumulated stocks. For these reasons considerable scepticism has developed about the near term export effects of devaluation in the Caribbean.

In cases where excess capacity is available the increase in exports depends on the composition of the export basket. Exports of manufacturing goods and other supply driven sectors are determined by the shift in supply curve in response to the increase in international prices. Shifting the supply curve depends on the proportion of imported inputs, the extent of labour usage and the wage reaction. The change in exports of tourism and other product differentiated activity will depend on the shift in demand as well as the shift in the price of exports. In the mining sector and in other activities where exports are sold on specified markets the export response depends on the extent of comparative cost gains. Exports of agriculture will respond only very slowly because of the length of the production chain.

The long run effects depend on the strength of the impact of devaluation on expected profitability, on the responsiveness of investment to increases in profitability and on the robustness of the initial gains in domestic comparative cost. These are empirical questions about which not enough is known. A framework for evaluating the effects of exchange rate changes on profits in the export sector appears in Worrell (1986) but the paper presents no results. There are no empirical studies of the determinants of investment in the Caribbean. Studies for less developed countries by Tun Wai and Wong (1982) and by Blejer and Khan (1984) shed no light on the influence of expected profits on investment. The difficulties in the way of firm empirical inference are large, including discounting of non-economic factors and externalities which affect the investment decision and specifying how expectations are formed.

Import Response

Evidence on import functions in the Caribbean suggests that income is the main influence on imports but that a sufficient change in relative prices may also be of consequence (Codrington & Worrell, 1989). The results would help to explain why devaluations in open economies tend to be large when they are effective. There are very few instances of official devaluations of less than 25% in the Caribbean and nominal devaluations have been much larger. A large nominal devaluation has a sufficient effect on relative prices and it also depresses real income through terms of trade losses; the combined effects are needed to secure import compression. Imports may increase or decline in the long run. There may be a decline if income stagnates but if income increases the income effects are likely to outweigh the relative price effects and imports may exceed their initial value.

The Capital Account

Government foreign borrowing should not be affected by nominal or official devaluation. The foreign debt service will rise as a proportion of total government expenditure but government should be able to tax away the additional financing from the private economy. This is a redistributional problem only, so long as nominal national income does not decline. We are unlikely to find a situation where the additional local financing required to meet the increased local cost of debt servicing is greater than the increase in nominal income gained by the private sector from the devaluation.

Private investment inflows should increase as a result of a nominal devaluation which raises the expected rate of return on domestic investment (discounted for country risk) relative to foreign rates of return. Almost no empirical results are available to indicate the nature of this relationship.

Short-term capital flows are of two types: speculative, to make gains from expected changes in the exchange rate; and store of value, motivated by a fear of future devaluation. Speculative outflows may be lured back into the country after devaluation by an interest rate that is sufficiently above the available foreign interest rates. However, funds exported to preserve their purchasing power are a permanent loss to the economy. Whether this is a continuing loss depends on the frequency of exchange rate changes. Government is advised to increase balance of payments support borrowing to provide a war chest for defending a devalued parity against intense speculative attack. The massive flight from domestic currency which follows most devaluations is the primary reason why so many exchange rate parities prove untenable once a long standing rate is changed.

The speed of the capital account reaction may set off an explosive spiral of devaluation and inflation. An unusually perceptive government will decide upon a devaluation when it is clear that reserves will soon be exhausted. More typically, the decision is taken only after reserves are all gone and arrears have begun to

accumulate. There is very little to defend the new rate other than balance of payments support loans tied to the devaluation and to economic adjustment policies. Public reaction to the devaluation is an inevitable run on foreign exchange. Unless there is a drastic cut in purchasing power or massive external borrowings the proceeds of the balance of payments support loans may soon be exhausted. The cycle of devaluation and borrowing must begin all over again. Repeated devaluation sets up strong expectations of continuing inflation, and domestic factors exert pressure for indexation. In the end, there may be little change in relative prices despite high inflation and continuing currency depreciation. Factor price indexation is seldom defeated except by means of economic contraction and severe unemployment.

The international mobility of capital is a principal channel by which the exchange rate in open economies is made endogenous. The size of capital flows in a given period may vastly outweigh current account flows. A sufficiently large run on foreign currency spurred by actual or expected devaluation ratchets the exchange rate down. The rate falls well below what the current account balance would require even in the long run. It may keep on falling if strong wage reaction sets in. The only cure is a deep recession, sufficient to cut domestic demand for foreign exchange to what remains after all who can afford to convert their assets to foreign currency have done so.

Inflation, Costs and Competitiveness

Devaluation is inflationary in small open economies because of their high import content. It raises the prices of traded goods imported in final form and generates price changes for non-tradables, depending on demand elasticities and the extent of imported materials used in their production (see Holder and Worrell, 1985).

Cost effects depend mainly on factor price reaction to inflation. Although import prices may affect such local inputs as energy and infrastructure, wages are the principal local cost component. The wage response to inflation that results from devaluation may be deduced from empirical studies (see Chapter 8). In the Caribbean wages generally do not keep up with inflation even after a one-year lag. Devaluation therefore increases competitiveness (the comparative rate of return vis-a-vis investment in competing locations) by driving a wedge between the price of tradables and the cost of domestic factors.

This is a dubious growth strategy for the longer term, since it condemns wage earners to an unimproved standard of living. A non-subsistence standard of living may be improved upon in the small open economy by increasing the ability to purchase imports. The devaluation strategy deliberately reduces that capacity. It stimulates output if there is a severe excess supply of labour at the prevailing wage. If the strategy succeeds the excess supply of labour is absorbed in time and wages can be expected to rise. When this happens, it will no longer be feasible to maintain competitiveness by depressing the international purchasing

power of the domestic wage.

It might be argued that the strategy is misplaced in the first instance. Instead of depressing the external purchasing power of wages one might invest in advanced technology which provides a competitive edge at a relatively high wage (in terms of foreign currency). This strategy puts the country on the right track from the outset and will not require a process of replacing low technology industry when full employment is reached. The fact that the high-tech strategy absorbs labour more slowly is no great disadvantage for small countries with access to large markets. Even with low labour intensity, market demand may stretch the limits of the small country's production capacity. Devaluation may improve competitiveness in the wrong direction since it does not focus on the longer-term competitive advantage.

Investment, Capacity and Growth

Investment in the tradable sector will, in the long run, determine whether the exchange rate stabilises and the economy expands. If investment in the tradable sector is insufficient export production will not increase and it will not be possible to balance external payments at a positive growth rate. Income will have to contract so as to depress imports; otherwise, as imports exceed foreign exchange earnings the exchange rate depreciates, generating inflation and wage increases. Devaluation therefore promotes growth and stability to the extent that it induces additional investment in the tradable sector. A vital empirical question is the minimum devaluation required to make a significant difference to the expected rate of return in the tradable sector. The improvement in the rate of return must be large enough to cause a meaningful increase in investment in tradables.

In calculating the expected increase in the rate of return we assume that the exchange rate will remain at its new value or depreciate further. Only if the exchange rate is expected to appreciate might there not be an investment response to the increase in expected rates of return. The calculations must also make allowance for the strength of the domestic cost reaction to devaluation-induced inflation. The devaluation must be larger than it appears from its impact on the price of exports if it is to provide sufficient rate of return after we take account of the cost increases. The problem becomes acute when the exchange rate is expected to depreciate further. There may be too much uncertainty about the extent of domestic cost reactions. Though the expected increase in the rate of return may be quite large its variance may also be high – high enough to inhibit investment.

This is an important dilemma of exchange rate management. It is quite difficult to make a once-for-all change in the exchange rate and to sustain it, because of speculation and capital flight. However, if there is doubt that the new rate will hold, people prefer to keep their surpluses in liquid assets and they shun fixed investment. The devaluation then fails to produce an additional investment incentive.

So long as investment in tradables comes about as a result of devaluation the

rate of growth should improve. Investment provides increases in foreign exchange to finance the additional imports which income growth requires. If income appears sluggish in these circumstances it will be because of depressed demand for non-tradables and it may be cured by judicious fiscal expansion. Uncertainty about the future of the exchange rate inhibits investment in tradables and income is likely to decline.

To avoid a long immiserising process it is usually wise to cut the demand for non-tradables immediately by fiscal contraction. This also helps to cut imports and stabilise the exchange rate. The hope is that by stabilising the balance of payments by economic contraction in the short run the authorities may stimulate additional investment and renewed growth in the long run. Whether devaluation promotes growth depends on the strength of the investment in tradables. If that investment is not vigorous, devaluation will secure balanced external payments only at the expense of economic contraction.

The Credibility of Exchange Rate Policy

The effects of exchange rate changes depend crucially on the credibility of the current exchange rate. It is generally accepted that fiscal and monetary policies must be consistent with exchange rate policies. Exchange rate adjustment without changes in fiscal and monetary policy will not have the intended effects. It is probably more realistic to maintain that the way to achieve a target exchange rate is by choosing appropriate monetary and fiscal policy. The credibility of the exchange rate depends on the associated monetary and fiscal policies, not on the exchange rate *per se*.

The timing and frequency of exchange rate changes also affects credibility. Timing is as much good luck as good judgement. There is no great merit in early devaluation. It may create a motive for capital flight where none existed. It is notoriously difficult to predict foreign exchange flows, which are the best indicator of the sustainable value of the exchange rate. With wide variance in the expected value of foreign exchange reserves it is difficult to choose a trigger point for exchange rate action. Using indicators other than foreign exchange reserves may give confusing signals because no other indicator includes both capital and current account effects. Policy failures may be the result of using purchasing power parities, real effective exchange rates and other devices which ignore the capital account. On the other hand, to devalue after the foreign exchange market has determined that the currency will depreciate prejudices the chances that sufficient foreign exchange reserves will remain to defend the new rate.

To have any effect exchange rate changes in the Caribbean must be sizeable. Therefore, if they happen more than once or twice in any year expectations of further devaluations become entrenched. The only practical way to manage exchange rates in a non-inflationary manner is to make occasional discrete changes. After each episode there should be a period – preferably of several years – of no change.

This is possible only if the demand and supply of foreign exchange stabilises at the new exchange rate once the initial period of scepticism has passed. Fiscal and monetary policies to secure this equilibrium must be within reach.

Many countries' circumstances will not permit them to achieve a fixed official rate. They may have no external creditworthiness with which to borrow to acquire a stock of foreign exchange reserves, or the economy may not withstand the extreme stress involved in depressing national expenditure sufficiently to generate a surplus for foreign exchange accumulation. Under these circumstances a dual exchange rate seems inevitable. The official exchange rate will not clear the market. A possible target for the authorities is a rate which attracts a sufficient supply of foreign exchange to official channels in order to meet the demand for a specified list of essential goods that might be limited to basic foods, fuel and drugs. There should be no quantity ration on these items; if the supply of foreign exchange does not meet existing demand that is a signal that the official exchange rate needs to be devalued. Other transactions should be allowed to find an exchange rate level in a licensed unofficial market. Dual exchange rate regimes create enormous incentives for rent-seeking activity. They are feasible only if the official market is confined to a small number of relatively undifferentiated products.

A fixed exchange rate system is potentially crisis prone. Large capital movements threaten to precipitate unwanted devaluations which are inflationary and do nothing to accelerate investment. The best answer would seem to be high reserve levels, aggregate demand management to keep domestic inflation no higher than foreign inflation, nominal interest rate differentials in favour of domestic financial assets and mild exchange controls on the capital account only. The exchange controls should be designed to record and direct the pace of legitimate capital flows, not to ration the supply of foreign exchange.

The alternative is to replace the fixed exchange rate with a crawl or managed auction. There are circumstances where this would be the preferred strategy – when the country has difficulty in accumulating foreign exchange reserves or is unable to sustain a dual exchange rate. The authorities might then announce the intention to attain a medium term official exchange rate target by process of gradual depreciation. The target would be set in order to achieve a specific relative price ratio. It would be conditional, usually on the increase in wages. If the wage increase exceeds expected levels, official exchange rate depreciation must be accelerated so as to achieve the relative price target. The system is stable if there is no wage indexation. If indexation becomes entrenched it carries the risk of hyperinflation.

Monetary authorities in Caribbean economies may not avoid a credibility gap by holding the exchange rate fixed and rationing foreign exchange. Rationing leads to the establishment of a parallel market in foreign exchange; the authorities cannot exercise effective monopoly on foreign exchange transactions. The persistence of a parallel market exchange rate, different from the official rate, creates an ongoing fear of devaluation of the official rate. Some confidence may return if both rates remain unchanged for a sufficiently long period and if the parallel rate is not too far away from the official rate.

Dynamics of Exchange Rate Adjustment

1. Wages and Inflation

Wages in Caribbean economies respond to inflation with a lag. Increased wages will erode part of the cost advantage gained by devaluation in the long run. Policy makers need to be reassured that wages will not over-react, leading to an explosive wage price spiral and a continuous cycle of new devaluations. Also, there is a danger that the pattern of wage–price interaction may change in the inflationary post-devaluation period, particularly in countries which previously had grown accustomed to low rates of inflation. The fact of a devaluation may itself raise expectations of high inflation. Domestic prices, wages and other factor costs may rise in anticipation and the spiral of wage–price inflation and further devaluation may become a self-fulfilling prophecy.

2. Domestic Factor Use

Almost all analysis of exchange rate changes uses the assumption of fixed technology. In fact devaluation may seduce firms away from investment in the new technologies needed for competitiveness in the long run. This is especially true of activity such as communications where computers have completely revolutionised the industry. A strategy of devaluation to maintain low domestic wage cost might make firms profitable for a while with pre-computer technologies but their failure to retool will eventually make them obsolete. The exchange rate should be targeted to the country's future comparative advantage. This requires assumptions about the technologies to be used for local production in the future and the rate of adoption of new technology by the country's competitors.

3. The Product Mix

Similar considerations apply to the mix of activities in national output. Tastes and markets are changing within the country and in the external markets where the country buys and sells. The economic strategy must be designed to drive the output mix in the direction of the future basket which the authorities' best judgement recommends. A strategy which addresses the current product mix can have only limited success. It will be overtaken by economic change in the rest of the world, even if local consumption and production do not create disequilibrium.

Changes in the Exchange Rates of Third Countries

Volatility among exchange rates worldwide faces small economies with the need to compensate for exchange rate fluctuations between the currencies of major

markets or major suppliers, and with the consequences of devaluation by competing producers.

Exchange rate changes among the country's trading partners create sectoral income redistribution but do not significantly affect underlying trends of growth, inflation and the balance of payments. Most external transactions of small open economies are with a single trading partner whose currency may be regarded as the *numeraire*. If other countries' exchange rates appreciate relative to the *numeraire* there are windfall gains to the sectors exporting to those countries and increased costs for sectors importing from them, all in terms of local currency. One might expect export supply to shift towards the appreciating currency and import demand to shift towards the *numeraire* if the new third country parities are expected to persist. But experience of the last two decades gives no reason to expect persistent long run trends in the exchange rates of major currencies, so that traders may be reluctant to switch. If any switching does take place it will be in the sourcing of imports. The penetration of new export markets is relatively difficult and time consuming.

Changes in the home country's exchange rate in terms of the *numeraire* are not a useful counter for third country exchange rate changes. A mechanism is needed to neutralise the internal income redistribution so as to capture the windfall surplus from exports to the appreciating currency country and pass the windfall to the sectors which import from that source. The redistribution might be done efficiently by a combination of taxes and subsidies. This action is warranted only if the foreign currency appreciation is very large and persists for some time. Subsidies may be unnecessary as importers will tend to switch to cheaper sources if the appreciation persists.

Changes in the official exchange rate on these grounds alone would clearly be a mistake. It would imply altering a basic equilibrium in the demand and supply of foreign exchange to accommodate a relatively small shift whose consequences are mainly for the internal distribution of income. The point is worth mentioning because such an exchange rate response is implicit in recommendations that the domestic currency value be linked to a basket of currencies. Where the nominal exchange rate is different from the official, changes in third country rates may cause the nominal rate to shift, if they are sufficiently large or persistent; but changes of the order of magnitude of US–Sterling fluctuations in the past two decades have altered nominal rates by very few points.

Third country exchange rate variation does increase the uncertainty of investment decisions. In addition to anticipating technical changes, competitive conditions, inflation, interest rates and wage increases the investor must also anticipate changes in a variety of exchange rates. To minimise the uncertainty, investment in export sectors might focus on the dominant trading partner. As far as possible investment might be made in products and services which can be sold on several foreign markets. A proportion of investment directed to sales in other currencies might be determined by the risk preference of investors.

It is often suggested that the official exchange rate be devalued in response

to devaluations by competing countries. Competitors' devaluations cannot affect the supply of manufactures or agricultural goods since these activities are able to exploit an infinite international demand at the ruling world prices. It might affect tourism as competitors gain a larger slice of a shared market. Minerals might also be affected if incremental output is switched to the devaluing country. The availability of investment finance should not be affected; infinite amounts of finance are available on international markets for countries which are creditworthy. However, investment in the home country may be expected to take place in different activities using different technology than in the country which devalues. The production of import substitutes may be affected but their potential contribution to economic growth is limited.

A country's main competitors in tourism are not necessarily the same as for minerals. A devaluation by any one competitor may not cause a major loss of business if the home country has a diversified export base. Countries which export manufactures and agricultural products will not be much affected. The implications for economic growth are not serious since investment should not be affected. The principal effect of third country devaluation is to change the countries on the list of competitors for domestic producers. The domestic country's export product mix and use of technology may be expected to diverge from that of devaluing countries, as they gradually drop from the list of competitors. There is no strong case to be made for domestic exchange rate changes in response to third country devaluations or appreciations.

Exchange Rate Indices and Continuously Variable Exchange Rates

To devise a conceptually correct exchange rate index one needs to project into the future and to incorporate both the capital and the current account. An exchange rate index should be based on projections of the future product mix and therefore on the exchange rate itself, projections of future technology, projections of external market prices, projections of domestic import requirements (also depending on the exchange rate) and projections of capital inflows and official borrowing. It is possible to envisage an index which incorporates most of these features. In effect, it would be the reduced form of a structural model. The available indices are a far cry from what is really required.

An index using export elasticities as weights for currencies may serve as a starting point for assessing the exchange rate target. Projected some distance into the future it gives an indication of what the country's export performance might be if current structures remain unchanged. That is only part of the information required to set the exchange rate target. Other effects which then have to be factored into the calculation include import demand, expected growth rates, inflation, changes in the structure of production and capital account effects.

This process bears little resemblance to the typical use of exchange rate indices. Exchange rate targets in the economic adjustment programmes supported

by finance from international financial institutions are still subject to the following strictures. They use trade weights which have no theoretical foundation and give the wrong signals. A country which successfully adapts production and exports to an appreciating nominal exchange rate is treated as having an overvalued currency nonetheless. The assessments are always based on the current exchange rates, with no projections of future economic circumstances. The choice of the base period for comparison is entirely arbitrary, which exposes the protagonist to an accusation of having chosen the base period in order to secure a preconceived result. The indices, as currently used, take no account of structural changes, of growth, inflation, import reactions or the capital account. The continued use of these inadequate measures is a considerable disservice to the developing world.

The use of a basket for pegging the official value of domestic currency alleviates the income redistribution effects of third country exchange rate fluctuations to some extent (provided economic circumstances are such that the nominal and official rates are equal), but the redistribution will not be complete. While exporters will wish to capitalise on the full extent of a depreciation importers may delay purchases in the hope of a reversal of the exchange rate change. We continue to assume that there will be no major change in sources of imports and destinations of exports. Theoretically, a basket leads to a smaller variance of income, but in practice this may not be significant if there are asymmetrical reactions to appreciations and depreciations. Furthermore, uncertainty about the value of domestic currency in terms of the currency of the *numeraire* may aggravate exchange rate speculation. The ensuing short-term capital flows may make it necessary to change the official value of domestic currency in terms of the basket when otherwise it would have remained stable. The variance of income, with the basket, is greater than the variance of income with a single currency peg because the exchange rate itself varies more (in terms of every other currency) with the basket than it would under a single currency peg. In any case, because external transactions are predominantly with one country, the reduction in the variance of income and the income redistribution that may theoretically be achieved by the basket are not very great. The case for a basket fails because, in the best of circumstances, the potential gain is slight. Moreover, that gain is unlikely to be fully realised because of incomplete adjustment to fluctuations in third country exchange rates. The basket peg will have perverse effects if it triggers exchange rate speculation. Caribbean countries will therefore wish to peg to the currency of the dominant trading partner.

Capital Flight

In the analysis of the relationship between capital movements and exchange rate changes insufficient emphasis may have been placed on the importance of foreign currency as a store of value. For Caribbean-type economies, the yardstick of real worth is the power to purchase the goods of the dominant trading partner. A single devaluation results in a drastic fall in the purchasing power of domestic

financial assets. The value of real assets may catch up with time but often they are not fully restored to their pre-devaluation worth. The earnings on financial assets, even at generous real interest rates, are not enough to protect against this loss of purchasing power unless these earnings may be compounded for several years when there is no devaluation. The same is true for the appreciation in value of real assets.

Capital gains of a year or two are wiped out by devaluations; several years must go by to allow sufficient worth to accumulate.

Domestic assets are a dependable store of value only if devaluation is a rare occurrence. Once exchange rate movements become commonplace, capital flight becomes endemic as foreign assets, both real and financial, come to be the preferred form of holding surpluses. There is no domestic policy other than maintaining an unchanged value of the exchange rate in terms of the dominant trading currency that will alleviate the flight of capital which is motivated by the desire to accumulate.

However, capital flight is only a minor problem so long as the condition for sustained growth obtains, i.e. that investment in tradables is profitable by international standards of comparison. This implies that the return on investment in tradables is competitive with returns on foreign financial assets and that such investment is therefore an attractive alternative to capital flight. Those who wish to hold their assets in liquid form will still prefer foreign assets. The proportion of foreign investment in total investment in the tradable sector might be greater than it would have been in the absence of capital flight even if the exchange rate remains unchanged over a long period. A larger proportion of the net foreign exchange earned or saved must therefore be paid in foreign dividends and debt service but this may be compensated for by earnings on the capital that has flown the country. Countries should focus on solving the essential growth requirement, i.e. securing an internationally competitive rate of return on investment in tradables. Securing this return also solves the problem of capital flight.

Exchange Rate Guidelines for Caribbean Type Economies

Policy makers in small open economies should recognise that the nominal exchange rate is an endogenous variable. They should set a target exchange rate to be attained by choice of suitable fiscal and monetary policy. The target exchange rate should be in accordance with future production and consumption, taking account of prospective comparative advantage, changes in products and technology, and prospects for the capital account and debt service. It is best to base the target on a macroeconomic model, however rudimentary, supplemented by as much concrete information on current sectoral trends as is available. An elasticities weighted export index may be used as a parameter of the model to help write the scenarios for deciding on the exchange rate target. Conventional trade weighted indices and real effective exchange rates should be avoided, as they may lead to error.

Once the target rate has been determined upon, policies should be designed to take the rate to that point and to hold it there. Whether it is possible to do so in a single move will depend upon the country's economic circumstances. In some circumstances a managed float or crawl is unavoidable. The rate should be fixed in terms of the currency of the dominant trading partner. The exchange rate is an anchor for the adjustment process. An unchanging rate cures expectations of high inflation, inhibits currency speculation and restores confidence in domestic assets as a reliable store of value.

The burden of adjustment falls on monetary and fiscal policy. These policies must be manipulated so as to secure a balance of external payments and rates of return on investment which will maintain a stable exchange rate, positive growth and inflation in line with international inflation rates. Fiscal policy must also be used to compensate for third country fluctuations where necessary.

CHAPTER 5

Investment Policy

In order to form opinions about investment policy we must establish what are the significant factors in the decision to invest. This chapter discusses these factors in the context of small open economies, drawing on Caribbean examples. Because of the foreign exchange constraint the focus is on investment in the tradable sector.

Investment Performance in the Caribbean

Investment levels in the Caribbean have not been disastrously low, judging by the performance of the five countries whose prospects are discussed in Chapter 8 (see Table 5.1). In the 1980s investment was in the range of 14 - 22% of GDP for Jamaica (at the low end), with a range of 21 - 33% for Guyana (at the high end). However, investment in all countries during the 1980s fell short of earlier performance. In most countries investment was below what was needed to increase productive capacity and to keep pace with technological change.

More crucially, investment in the export sectors seems to have slackened in relation to investment in non-tradables. Frequently growth was followed by balance of payments crises which brought expansion to a halt. Direct evidence on investment in exports is scanty but the proportion of construction in investment has been especially high in the 1980s in Barbados, Trinidad & Tobago, the Dominican Republic and Guyana, suggesting that the major proportion of investment went to the non-tradable sector.

Government investment has from time to time been severely cut back in efforts to reduce the overall fiscal deficit. However, in general, efforts were made to protect government investment from the most severe cuts. The relationship between government investment and increases in income has generally been positive.

The Dominican Republic seemed in 1990 to have the most promising investment prospects for the 1990s. Although the rate of expansion in investment has slackened, real investment continues to grow. The country attracts direct foreign investment, albeit at levels which have diminished in comparison to those of the 1970s. Investment efficiency, as measured by the incremental capital output ratio, has been improving.

Jamaica's investment performance is not quite so encouraging, but it seems to be on the mend. Real investment increased slowly in the 1980s. Investment

efficiencies measured by the ICOR have been somewhat better in recent years. Nonetheless, there is still no direct foreign investment of any significant magnitude in Jamaica.

Trinidad & Tobago has struggled throughout the late 1980s to maintain real investment and the share of investment in GDP. However, the country has been unable to replace lost oil revenues and to restore output growth. Investment seems to have stabilised in real terms and as a percentage of GDP, but significantly below the 1970s level; there has been no direct foreign investment in recent years.

Barbados has suffered a fall in investment in real terms and as a proportion of GDP during the 1980s. Moreover, an increasing proportion of investment was for house and commercial building. As a result, the investment efficiency measured by the ICOR declined in the 1980s. Direct foreign investment has been negligible for most of the 1980s.

Guyana remains something of an enigma, with sustained real investment and a high ratio of investment to GDP. Investment efficiency seems to have increased, with lower incremental capital output ratios in the 1980s than in earlier periods. However, there has been no direct foreign investment and the economy has stagnated at a low level of production.

Table 5.1 Investment Data – Selected Countries

	B'dos	*DR*	*Guy*	*Ja*	*TT*
Investment/ GDP ratio, 1980s avg (%)	23	21	27	20	21
ICOR, 1980s					
Max (yr)	6.7(82)	2.4(82)	5.1(88)	1.7(82)	3.1(81)
Min (yr)	0.9(80)	0.5(88)	0.5(87)	0.6(84)	0.8(80)
Direct Foreign Investment/GFCF, 1980s avg (%)	2	4	3	-	6

Source: IMF, *International Financial Statistics*

The Determinants of Investment

The accelerator is the standard approach to the determinants of investment used in most recent analyses of developing countries (for example Khan, 1988, Blejer and Khan, 1984, Tun Wai and Wong, 1982), but it may not be the most useful for open economies. The accelerator, which finds the motive for investment in the growth of income in previous periods, is of importance only for the non-traded sector of open economies. If the accelerator is weak and investment in non-tradables is slow government investment can always be increased to make up the deficit. However, this policy may be sustained only if the output of tradables grows quickly enough to support the importation of the additional investment goods required, and the import demand from the additional income generated by the expansion of non-tradables. To put the argument another way, there is always a rate of growth of non-tradables that can be supported by the growth of tradables. If that growth is not achieved because of limited private investment in non-tradables, and if the excess demand for non-tradables does not produce a sufficient investment response from the private sector, government may make appropriate investment to close the gap.

In the tradable sector investment incentives should not vary perceptibly with the growth of incomes in their potential market because small countries account for such a miniscule share. Even in a sluggish world economy such countries may find an abundance of opportunities for expansion, in their areas of comparative advantage.

For investment in the tradable sector we may compare the expected return on the project with the cost of the capital needed to establish it. In small open economies costs are largely exogenous and returns contain a substantial exogenous element, because the product is exported and the capital goods are imported. One may establish a relationship between the expected return, net of costs, at international prices, and compare with investment in the tradable sector, as the basis for investment policy. There are a number of factors and circumstances which have to be allowed for in making this calculation, and we devote this chapter to considering them.

The calculation of the expected net return involves parameters about which judgements may vary. The inferences to be drawn and the policy implications in any particular case will therefore be subject to interpretation. They will depend on the rate used to discount future returns from the project, projections of the technology to be embodied in the investment, the probability distribution of the expected returns, the assumed life of the project and the proportion of the invested capital that may be recouped should the project not live up to expectations. With so many factors about which we cannot be certain, a wide range of possibilities may have to be entertained for the relationship between the rate of return in any country and the rate of investment.

Investment in the local tradable sector may be thought of as a function of the premium that investors receive over the expected return in locations that supply

a product of comparable quality. The analysis is complicated, in cases where structural changes are envisaged, by the need to incorporate potential rivals and new export products. The premium on local investment may be widened by tax and other policies.

We would not expect rates of return to be equalised internationally among all types of activity. The textbook assumptions of shared knowledge and technology, and variable factor proportions, do not obtain in the real world. Within each product grouping, however, we would expect the decision to locate marginal investment to be made with a view to the highest expected net return, allowing for transport cost differentials and country risk. The countries that compete with local suppliers may differ with the economic activity.

This activity-specific equality of international rates of return is to be regarded as a long term tendency, and it may never be fully realised in actual circumstances. In the short run technology and information differs among firms; while differences in existing knowledge will tend to disappear over time, the march of technology and different rates of diffusion mean that there is a continuing (and sometimes widening) gap of knowledge. Measurement of rates of return and associated investment is best done over suitably long periods – with observations averaged over perhaps five years. For shorter periods the assumption of common technologies should be explicitly recognised, particularly when the investment policy is intended to effect a change in the structure of exports, from traditional exports which are losing their comparative advantage to newer products, or from relatively undifferentiated commodities with little value added per unit to higher quality goods with more value added. The policy maker needs estimates of the elasticities of an equation such as:

$$I_i = f((v_i^* - v_{ic}^*)/p_{ki}, z_i)$$

where i indicates the activity, the v_i^*'s are expected rates of return for the home country and the competition, with allowance for country risk, p_{ki} is the price of the investment good and z_i is a vector of other investment determinants. The v_i^*'s are also properly treated as vectors, with values depending on the investor's domicile and his liability for tax on his returns from the project.

The above is a partial approach, and it assumes among other things that factor proportions do not change in response to differing rates of return. An alternative approach, applicable in some cases, would take the point of view of a global firm contemplating its allocation of investment among competing countries, each with different characteristics of risk, return and product quality. In this case technology, information, sources of finance and factor proportions would be common to all producing units.

The rate of investment is related to the maturity of the product in its target market. A new product attracts a rapid surge of investment once a pioneer demonstrates its profitability. This often leads to over-expansion as newcomers crowd the market, and the investment boom may be followed by a slump. This cycle has been evident in the Caribbean in tourism, some export agriculture and

real estate. It suggests that incentives be withdrawn during the boom in order to reduce the danger of over-investment. A variety of circumstances may set the expansion in motion. The maturing of a competing product may set off a search for a replacement which may be marketed on the basis of novelty, as in the case of some tourism. Technical change may stimulate some investment: jet airliners made mass tourism possible, and microcomputers are responsible for the evolution of the data services industry. Technical change may also depress investment, as has happened with sugar and bauxite, both adversely affected by the increasing use of newly developed substitutes (high fructose corn syrup and plastics, respectively). Changes in tastes, which may be engineered by firms with sufficiently large promotional budgets, also spur investment, as in the case of Puerto Rican rums in the 1960s and cruise liners in recent times. Deliberate government action may also stimulate investment; Caribbean examples include casinos and offshore business services. Some investment booms can be put down to pure serendipity.

Government might choose a judicious mix of activities for intense promotion and support. Some activities might be chosen on the basis of calculations of future comparative advantage, taking account of expected technological changes, expected developments by competitors and product development. Other selections should respond to interest expressed by the private sector.

The investment market in small economies is segmented by size. The small investor, whose capital is typically in the region of US$0.25 million in the Caribbean, is involved in import substitution and in such non-tradable activities as personal services and retailing. Large and medium sized firms, which, with capital of US$1-10 million, are still quite small by international standards, are in the export sector as well as the non-tradable sector. Profit rates for the latter are driven by international comparisons, but small firms are not much affected. Their profitability levels are highly variable, and differ widely between firms. Since they are confined to the limited potential of import substitution small businesses may be regarded principally as a school for entrepreneurship, from which people graduate into larger firms, and investment policy may concentrate on large firms.

The quality of the human resource base helps to determine the quantity and quality of investment. A high proportion of skills in the labour force, a sound basic education (generally distributed across the population), and better-than-LDC averages for sophisticated skills, all attract investment with high value added per unit of output. They also form a useful incubator for domestic entrepreneurship, for identifying new products, adapting processes and technology, and increasing product differentiation. In addition, they provide a welcoming environment for the importation of additional skills. There seems to be a high pay-off for government expenditure on education, as an investment incentive for the long term. This poses a severe dilemma for governments needing to trim fiscal spending in order to stabilise the economy, as education accounts for a very large slice of all government budgets.

The pay-off to education is reduced by migration, particularly as the more

skilled have greater international mobility; but remittances and the enhanced contribution of returning migrants, who have added an intimacy with sophisticated technology and modern organisation to their already superior skills, may well compensate fully. Return migration is mainly inhibited by poor economic policy which destabilises the balance of payments, depreciates the currency and results in high inflation. To some extent human resource deficiencies may be supplied by immigration, but unless this is married with a strong domestic skills base, there is an increasing loss of local sovereignty, and the policy making function begins to resemble the model of the French Caribbean dependencies, where living standards are relatively high but the native population does not set economic strategy.

Natural resource endowment has sometimes been considered a factor influencing the rate of investment, but there is no good empirical support for that position. Countries with few natural resources invest as much as countries that are well endowed, and there are numerous examples of well endowed countries where investment is very low. Tastes, technology and geography may determine whether natural resources have economic value and whether they are exploited, and market demand may well determine whether exploration is undertaken to uncover and quantify them.

Fiscal, exchange rate and interest rate policies have an effect on the rate of investment. Because investment involves a long term commitment investors are hesitant when they anticipate exchange rate volatility and high inflation. Although the prices of tradables and the costs of their imported inputs are not affected, inflation and volatile exchange rates make for unpredictable domestic cost movements which increase the uncertainty of expected returns. We have argued in earlier chapters that inflation can be subdued only by stabilising the exchange rate, and that the exchange rate may be controlled in the short run only by adjusting aggregate demand by means of the fiscal balance, so fiscal policy is the key to a macroeconomic policy environment that favours investment.

Policies are likely to carry most conviction with investors in open economies if they manifest a commitment to a fixed exchange rate, in terms of whatever is the commonly regarded *numeraire* (in the Caribbean it is the US dollar); failing that, government must be willing to move the nominal exchange rate so as to avert a build up of arrears of foreign payment and a considerable volume of unofficial foreign transactions. Governments that have failed to achieve economic stability face a dilemma: to maintain a fiscal stance for long enough to establish policy credibility may involve an extended period of little or no growth in incomes and worsening income distribution, circumstances with which the society may grow weary before investor confidence has been restored. There appears to be a way out only if sufficient excess productive capacity exists in the tradable sector to allow export expansion in the short term.

Retained earnings are another variable sometimes suggested as an investment determinant, but we have reservations. Admittedly, retained earnings are the most significant source of new investment, but we are not convinced that they

will be invested in the country or company where they originated. Only in these cases could we enter profits retained in the home country as a factor influencing investment in the country, or retentions by global companies as influencing investment in their principal area of activity. It is surely more plausible to regard them as part of the international flow of finance which may be invested locally depending on the relative rate of expected return, as outlined earlier in this chapter. However, there may exist a tendency in some firms to favour activities with which they are already familiar, and retained earnings may be an important factor in particular circumstances. They must be dealt with by exception.

Oligopolies in the production of non-tradables may distort investment allocation by attracting marginal investment to the non-tradable sector at the expense of tradables. While diversion of funds and personnel to import substitutes is of no great consequence, diversion to non-tradables, which account for a larger share of GDP than for tradables even in the most open economies, could inhibit growth by depressing foreign exchange-generating tradables in favour of foreign exchange-using non-tradables. Commonly in small open economies half a dozen large firms are dominant in each of the major non-tradable activities: wholesaling, banking, construction and business services. The prices of non-tradables may therefore be higher, and their quantities lower, than would prevail in a competitive market. This may create over-investment in non-tradables from time to time, diverting human resources towards real estate and other non-tradable activities. The supply of finance for the tradable sector is not affected because funds are available from international markets to satisfy any profitable opportunity, but non-tradables may preoccupy the attention of managers whose skills are needed for export promotion. The existence of domestic oligopoly is a rationale for tax policies that discriminate against investment in non-tradables; taxing away their monopoly profit may serve to focus greater attention on the export sector.

We have several reasons to believe that the amount and productivity of investment increases in response to selected items of government expenditure. Expenditures on education enhance the human resource and thereby attract more productive investment, a factor that was discussed earlier. Government expenditures on economic infrastructure are highly productive of private investment, up to a threshold where the country has been provided with internationally comparable transportation, communications and public utilities. Beyond that, diminishing returns set in, and there will be a point beyond which the productivity of further government investment in infrastructure will be negligible.

Generalisations about the productivity of investment in infrastructure are made difficult by the fact that government may not supply all the services itself, and no guidelines exist for determining under what circumstances they should or will be provided by private firms. The infrastructure threshold, below which no investment takes place, varies with the investment project; companies exploiting minerals or engaging in major export agriculture often require very little by way of infrastructure. They install their own transport, housing, public utilities, social services and recreational facilities, in many cases. Most manufacturers and tour-

ism companies require that these services be provided, while electronics firms and those providing traded services may require a good educational standard as well. The geography and topography of the country also determine the required spending on infrastructure; sea defences for Guyana, where most of the settled area lies below sea level, are an expenditure which most other countries do not incur.

Government expenditure in support of research and developmental activity is another potentially productive incentive for investment. Subventions are most effectively channelled through private firms and institutions. Small developing economies have pressing needs for market and process research, involving such items as standards of acceptability, legal and administrative regulations affecting trade, the liabilities to which suppliers are subject, the nature of the competition, and the evolution of technology in the market for the export and related products. This support might include data gathering and dissemination, quality control, adaptation of techniques to local circumstances, and research into the implications of local peculiarities (such as the effects of soil types and climate on the productivity and quality of agricultural products).

Government subventions may also improve the productivity of investment by defraying some of the costs of developing new markets. In most cases the individual firm cannot fully realise the returns on its development costs, and often firms cannot afford the up-front costs of developing new markets, including learning the market, informing buyers and establishing a track record. Tragically, often firms only realise this when they have already fully committed themselves to new markets, and many promising export ventures have floundered because they found after the fact that they could not afford the cost of learning. Government may need to underwrite some of these costs to permit private investors to realise the potential gains from their experiences.

Funding specifically earmarked for venture capital may be highly productive in selected areas. Unfortunately, there is no way of knowing in advance where the pay-off will come, so direct government subvention is usually not the optimal way to promote venture capital. But budgetary support by way of special tax incentives is a useful alternative. Government finance for export credit and non-commercial insurance may also be effective stimulants for investment.

While the above gives strong reasons to expect increased private investment and more productive investment to result from government expenditure, we have no means of quantifying the relationship. Beyond some point additional government expenditure has diminishing returns, and the returns may even become negative eventually. Long before then, some government expenditures may be quite wasteful – military expenditures are the most frequently cited – but it is not easy to gain a consensus on which areas are to be so classified. The empirical tests that have estimated the effect of government on private investment have concentrated on government's investment spending, but some current expenditures also increase the productivity of private investment, whereas not all government investment does. Furthermore, the private investment yields on government

spending appear with varying lags: market development spending may have a fairly short pay-off, research on suitable crop varieties for local conditions may take somewhat longer to show effects, while educational improvements and infrastructure may yield benefits only in the long term. However, the effects which take longer to appear may be very much more significant.

With the present state of our knowledge on these matters, an incremental approach to the assessment of government's effect on investment is perhaps the best that may be suggested. Existing government spending would be examined, item by item, and judgements entered about the probable investment effect of increasing or decreasing expenditure by some standard increment. These calculations would then be used to help in assigning priorities for expansion and contraction of spending to achieve the overall fiscal target.

The placement of international investment so as to minimise tax liability is a possible motive for the location of investment. To measure investment response to this motive requires explicit comparison of the tax provisions of the countries the investor might be expected to consider, as well as the provisions included in double taxation treaties among them. This adds a major additional data burden for the analysis of investment determination, and there has been no attempt to establish a quantitative relationship, though the tools exist for the exercise to be undertaken. The amount invested with LDCs in response to such incentives appears to be quite modest, however. Most financial institutions set up in LDCs for tax purposes manage investments which are placed in industrial countries.

A more substantial proportion of investment in LDCs may be motivated by opportunities for transfer pricing that minimises taxation. Estimates of the extent of transfer pricing are highly controversial, and knowledge of how a particular firm has benefited from transfer pricing does not indicate how important these considerations were in the investment decision. While governments ought to be aware of transfer pricing possibilities there is little that can be inferred by way of policy recommendation.

Investment decisions are influenced by non-economic factors, most crucially by the stability of political arrangements. In the absence of a stable polity investment is unlikely, no matter how strong the other incentives may be. A satisfactory political reputation is built up over a decade or more, and is an asset to be jealously guarded, since it may be dissipated quite rapidly. Many other factors may influence specific investments, and policy makers should not neglect them, though they cannot formulate economic policy to take advantage of any incentive they provide. They include personal preferences of investors, traditional ties of trade and finance, similarity of language and culture between the origin and destination of investment, the attractiveness of the social and physical environment, and the strategic importance of the host country, which may sometimes benefit from political pressure on its behalf.

The efficiency of government administration and government's philosophy with respect to private investment are fundamentals for the growth of investment. This study does not attempt to discuss their importance, but that is not to deny that they are an essential prerequisite.

The Policy Implications

Our analysis suggests that the following have a strong influence on investment: the expected return, compared to that of competitors and to the cost of the investment project, the development of the economic infrastructure, the choice of products at a suitable maturity on the product cycle, the quality of human resources, the credibility of economic policies and the stability of political arrangements. Government expenditures have a strong but diffuse effect, operating at several levels and through different channels. Firm size is strongly correlated with investment in the tradable sector, while the prevalence of oligopoly exerts a weak influence in favour of non-tradables. Tax management considerations are a weak influence on investment in LDCs, as are non-economic factors. Natural resource endowments and retained earnings are not expected to exert any influence.

The most attractive policy regime for investment in tradables would therefore seem to be as follows: a strong tax bias in favour of the expected returns on tradables, through the use of selected tax incentives; a well developed economic infrastructure; a high standard of education at all levels (this might in practice imply competitive rather than general access to education, though a case can be made for universal primary education); fiscal policy that maintains a balance of external receipts and payments over the medium term, so as to avoid exchange rate movement and contain inflation; and government expenditure on selected areas of support for exporters, such as market research and quality control, using a judicious mix of its own initiatives and accommodation to private interests.

Devaluation, which has tended to be the central investment promotion policy in recent "growth oriented" adjustment programmes, will promote investment to the extent that domestic costs are expected to lag behind exchange rate changes, thereby increasing expected net returns. In practice, there is often some doubt as to how the market will project the domestic cost reaction. Devaluation is definitely investment-promoting when it brings the exchange rate in line with the trend in fiscal policy, and is accepted as a means of making the overall government economic strategy credible. It must not lead the country backwards along the product cycle, by making the cost of labour so cheap in countries with relatively well educated labour forces that investment is attracted to products which cannot make use of the comparative advantage offered by education. The exchange rate that satisfies these conditions is to be engineered through fiscal adjustment. The equation of domestic resource costs in export and import-substituting activities, which has also attracted considerable attention in recent adjustment programmes, is not considered important because of the limited potential for import substitutes.

CHAPTER 6

Market Structure and Regulation

The size of the domestic market and the mobility of finance are factors which influence the degree and type of regulation desirable in Caribbean economies. Because of small size oligopolies are prevalent, and it is desirable to set some prices in order to inhibit monopolistic practices. There are practical limits to price setting because of the heterogeneity of most markets. The mobility of finance determines the range within which domestic discretion may be exercised, with respect to exchange rates, interest rates and credit.

Price Fixing and Wage Guidelines

Prices in most markets for goods and services are set by oligopolies. Few of these firms systematically collect and analyse market and macroeconomic data to inform their pricing decisions. There is, in some countries, an embryonic business information industry but it does not cover the full spectrum of domestic and international information pertinent to local decision taking, and its output is not widely used in ongoing management decisions. Official intervention in selected markets may reduce the excess profits garnered by oligopolies provided the regulatory institutions are staffed with professionals trained to observe and interpret local and international markets. These institutions are the source of much of the data used by the private information industry and they are well placed to make decisions which reflect the economic fundamentals.

Price regulation is effective if it is confined to markets for undifferentiated products such as finance and foreign exchange, and provided the authorities ensure that the regulated price does not create a considerable excess of demand or supply. There are insuperable administrative problems for differentiated products and for retail markets. Prices cannot be fixed in perpetuity; the authorities must have guidelines for adjustment which reflect underlying economic conditions in the relevant market. They should have a good information system which provides timely data on the market situation, and that information should be put into the public domain. The public should also be made aware of the guidelines for managing prices, though individual circumstances will govern the level of detail to be provided. The objective is to manage prices so as to create stable expectations. Regulation must be carefully handled and subject to public scrutiny if it is to improve efficiency; but failure to regulate leads to price fixing, occasional price wars, poorly informed markets, and erratic and perverse price movements.

The international financial institutions have failed to appreciate the importance of oligopolies in financial and foreign exchange markets. The case for market interest rates, for example, presumes efficient markets that, left on their own, will put domestic real interest rates equal to an international rate plus country and exchange risk premiums. Uncertainties and the cost of information are ignored (see Zephirin, 1990). The actual experience is that free market interest rates may remain below international rates for a long time so long as the economy remains stable. When the economy falters, interest rates jump suddenly and they may thereafter remain at levels very much higher than economic circumstances warrant. Moreover, the spread between borrowing and lending rates is larger at higher rates than at lower, contrary to what competitive markets should produce. Attempts to establish market driven exchange rates in Caribbean economies have been even more sobering. Unregulated auctions lead to excessive depreciation and high domestic inflation.

In both foreign exchange and financial markets there is a strong case for price setting by a well-informed authority. Interest rates and exchange rates must be set in accordance with economic circumstances; otherwise transactions will be diverted to parallel markets and the actual interest and exchange rates will diverge from the official. Rates should be set according to flexible guidelines which allow discretionary variations within an established norm. Ongoing data and analysis should feed back into the decision process so that rate changes may be implemented in timely fashion. There is a case for setting a floor on the cost of funds to financial institutions and a ceiling on their rate of return so that these oligopolies do not tax their clientele. A managed foreign exchange auction may be a useful device for achieving a durable exchange rate in some circumstances, but the most credible regime for small economies is a fixed rate set at a level which ensures a small excess supply of foreign exchange.

In order to prevent public utilities and natural monopolies from taxing their customers their prices should be regulated to equate to their marginal costs. However, the calculation of marginal costs involves a large element of judgement. In many economies there is no stock market to indicate what a competitive rate of return on investment might be; where stock markets do exist the volume of trading is so small that prices give very poor signals of the expected rate of return. Judgements may differ about the appropriate technology and factor proportions for the industry, as well as the expected rate of technical improvement. The valuation of assets may also be in contention, because of exchange rate variation or inflation. Judgements are needed about the projected growth of demand and possible gains in internal efficiency.

Prices of public utilities and natural monopolies may be set directly by government, by an independent body including public and private representatives, by an auction of the rights to production, or by some combination. Government may establish a final price by determining how large a subsidy (or how much taxation) it wishes to allocate, and adding that subsidy (calculated per unit) to the price at which the private sector supplies the required amount. Price changes,

however determined, may be referred to an independent commission which conducts public hearings and authorises the changes. Whatever the system, prices should be subject to regular update and review. Indiscriminate state subsidies to support fixed prices and complete price deregulation are both to be avoided.

Government's objective is to ensure adequate consumption of essential items by every household, irrespective of income. Price fixing for these items is one of several options, which may be used in combination. Government may provide the services free of cost or at a subsidised price, either generally or to households which are shown to have insufficient purchasing power, by predetermined criteria. Alternatively, a cash grant or special coupons entitling the bearer to free goods or services might be provided to the needy. The most useful combination of regulated, targeted prices and other measures will have to be approached in an incremental way, by considering the least costly way of adding an extra unit of any particular commodity to household consumption. This requires information on the cost of government versus the cost of private provision; whether a subsidy to the private sector would provide the same level of product more cheaply; the cost of administering means tests versus the demand from those who would not qualify for benefits if the test were applied; and the amount of income that would have to be transferred to poor households to enable them to achieve the extra consumption sought. This information, together with the fiscal deficit, should allow decisions about how best to achieve modest shifts towards the desired basic consumption goals, by means of a combination of the measures discussed.

A general price limit cannot be made effective because of changing relative prices among the numerous items that make up national expenditure. Theoretically the overall price might be set at a level which equates supply and demand (which might be manipulated by fiscal policy), but that price would persist only if it involved a structure of relative prices among the constituent commodities which provided for the equation of supply and demand of each item. That is an impossible condition, and the continuing movements of individual prices may well drive aggregate prices beyond the target. In that case there is no corrective mechanism available.

For all practical purposes the rate of inflation of import prices sets the floor on domestic price inflation in small economies. Because of the import content of wage goods and producers' goods even a freeze in the costs of domestic inputs will make for a very slight deflation of price increases, compared to those for imports. Oil exporting countries are an exception; they may hold down the price of fuels, which are a sufficiently important input to bring down the rate of inflation significantly, if this policy is carried far enough. However, adverse effects on the allocation of investment may result. Non-oil exporters may not hold down domestic prices by containing oil price increases because they must make up the difference between the market and the controlled price by means of a subsidy, which increases the money-financed fiscal deficit and eventually depreciates the currency and raises prices.

Labour is the principal domestic factor of production, so there is an attraction

in the notion of wage freezes and wage guidelines as a means of containing inflation and increasing external competitiveness. Unfortunately, these attempts are almost certain to fail. It is impossible to control the relative prices of different qualities of labour, and in a dynamic economy that would be undesirable. The aim for many open economies is to accelerate the growth of exports, relative to the growth of non-tradables. Workers whose skills are used more intensively in the export sector may expect their relative pay to rise. These changes in individual rates may violate the wage guideline. The heterogeneity of the workforce makes for an impossible task of administering wage guidelines, requiring the policing of re-gradings, merit awards and skills differentials. In the small economy a wage guideline that calls for increases lower than the increase in tradable prices implies a reduction in real living standards, and will be resisted. The agencies which promulgate the wage guidelines have no authority to enforce them when the inevitable challenge occurs. Nothing short of the force of macroeconomic circumstances – typically a rising rate of unemployment which increases competition for jobs and weakens the bargaining strength of labour – will contain the rate of nominal wage increase much below the international rate of inflation. (It is a mistake for LDCs to make inferences from the experience of industrial countries which use economy-wide wage norms. They are useful precisely because they bear little of the burden of economic adjustment. Output and prices are manipulated through macroeconomic policies, and the annual wage rounds merely provide an orderly means of ratifying the wage outcome.)

Price guidelines are bound to fail in small open economies, except perhaps for selected items which government may subsidise without strain on the budget. Wage guidelines are useful only as an information mechanism, to help the market to adjust to wage rates that are determined by economic circumstances and macroeconomic policies. They should be targeted flexibly, and understood to be norms. Even then, wage guidelines may be unhelpful; if one or two agreements exceed the norm this may be taken as a sign of incipient inflation and lead to defensive action that may in fact destabilise the exchange rate and trigger inflation.

Financial Liberalisation

For many years Caribbean central banks have engaged in foredoomed efforts to direct the allocation of credit by economic sector and to determine the aggregate amount of credit. Sectoral allocation can have no lasting effect on consumption and investment because of the fungibility of finance. Global credit limits have led to the emergence and expansion of parallel market finance.

In any event, credit control is unnecessary. It is not a shortage of bank finance which inhibits investment but low returns on export production due to poor selection of products and techniques. With respect to consumer durables the unavailability of credit does not inhibit consumption, though it may cause a temporary slowdown. Credit controls are ineffective and unnecessary and should be abandoned.

As we have argued above, interest rate guidance by the authorities is desirable. Also, arguments for interest rate subsidies to non-traditional export sectors should not be dismissed. The exploitation of new markets, the introduction of unfamiliar products, the improvement of quality, the reorganisation of production and the establishment of a new clientele are all very costly, with long pay-off periods. Pioneering firms in these areas may not be able to capture the full extent of returns. There is a case for soft loans and grants for development expenditure and credit insurance for exporters, as part of a package of export incentives.

A modern regulatory framework with prudential controls and efficient monitoring is now recognised as vital for economic growth (see World Bank, 1989, Chapter 6). All institutions which provide financial services should be required to hold licences, which would be granted on condition that they met stipulations with respect to capital and reserves, maximum exposure limits, public disclosure of operations, rules to preclude conflicts of interest and minimum qualifications for managers. The supervisory body must be competently staffed, with powers of inspection, authority to issue directives to individual financial institutions, and the right to replace management and to withdraw licences. Procedures should be set up for public audit. There should be arrangements for the exchange of information between managers, auditors and regulators, and a well-developed system of public information on the performance of individual financial institutions.

Trade Protection

In countries where import substitution will always be a minor activity tariffs are, in effect, a general consumption tax. Ideally, we might have a general consumption tax and no customs tariff; but a tariff with exemptions for raw materials and capital goods will be more or less equivalent. The incidental protection it offers to import substitutes is no significant drain on financial or human resources and it may provide useful psychological support for small businesses.

Quantitative restrictions encourage inefficient monopolies which save little foreign exchange and inflate the cost of the final product. Fortunately, the limited scope for import substitution means that their high costs will not carry much weight in total consumption. Quantitative restrictions encourage rent seekers and divert trade in the restricted items to the parallel market. Instead of import substitution the country suffers inflation, shortages and smuggling. International financial institutions are quite correct to insist on the removal of quantitative restrictions.

Exchange Controls and Foreign Exchange Rationing

The administrative rationing of foreign exchange is extraordinarily difficult. It leaves an excess demand for foreign exchange which is certain to frustrate the objective of rationing. Exchange controls imposed in order to avoid depreciation of the nominal exchange rate merely shift transactions at the depreciated rate to a parallel market, supplied by foreign earnings diverted from licensed institutions and perhaps also by foreign currency sold by the central bank for high priority transactions, since there are irresistible profits to be made by selling foreign exchange allocations to the highest bidder. A global foreign exchange ration is impractical; the central bank cannot sell foreign currency on a first come, first serve basis, if it is to avoid exhausting its stock before essentials such as fuels have been paid for. Even sectoral allocations are too aggregated: luxuries crowd out essentials. The only defensible system requires allocation by item, but that involves a truly massive information system, and demands an administrative system that even wealthy countries have been unable to manage in such a way as to ensure timely payments. Furthermore, it is virtually impossible to fully monitor the final use of foreign exchange sold, where parallel markets exist alongside the formal system.

Controls on foreign exchange for imports are counterproductive. Importers' efforts to obtain foreign exchange on informal markets, which are often risky and poorly informed, result in highly inflated prices for the goods they sell. Import rationing may be more inflationary than the exchange rate depreciation it is meant to avert.

A requirement for the repatriation of export proceeds may help with the official management of foreign liquidity, but it will not add to the available reserves. The regulation depends largely on voluntary compliance, and on the moral sanction it carries. If there is confidence in the trend of economic management high levels of compliance may be expected, but not otherwise. Attempts to penalise exporters are more likely to result in capital flight than in any addition to foreign exchange receipts by the central bank.

Rationing of non-trade current account payments is a disincentive for foreign investors and may lead to disinvestment. It may reduce the prospects of obtaining scarce skills from abroad. And the control may be circumvented by the use of transfer prices and similar devices. Rationing of capital outflows may be useful if applied gently. A slight squeeze on intended investment abroad by locals, by phasing the investment over a longer period, or by allowing smaller tranches in any period, may ease problems of liquidity management, but it will not enhance the total holdings. Prohibiting capital outflows, and subjecting them to stringent limits, are almost certain to worsen the central bank's foreign exchange position, by triggering a flight of capital.

Regulations which require certain procedures and certification for foreign transactions, which are usually included in the definition of exchange controls, are helpful in ensuring the probity of foreign transactions and in providing up-to-the-

minute information. The public should be provided with clearly stated guidelines on the documentation required for each category of transaction, with the assurance that all qualified transactions will be permitted. Such regulations may serve to bolster public confidence in the financial system, provided they are used as a source of regular public information. They may be the only comprehensive source of data on capital flows and debt service, on a current basis.

Exchange controls are not to be regarded as a major tool of macroeconomic adjustment. Rationing of foreign exchange for imports is counterproductive, generating more inflation than would a devaluation. A requirement for the repatriation of export proceeds, and mild rationing of investment outflows, may help with the central bank's liquidity management, but attempts at vigorous enforcement accelerate foreign exchange losses. The regulation of non-trade transactions is desirable, to protect the integrity of the foreign exchange institutions and to provide prompt reliable information.

CHAPTER 7

The Caribbean in the World Economy

The prospects for Caribbean countries depend on the evolution of their terms of trade, on the way economic fluctuations in industrial economies affect their export markets, on the trends in international investment flows, on the availability of new free trade opportunities, on the proliferation of trade restrictions for particular products and on the terms of borrowing. For heavily indebted countries, the future also hangs on the extent of debt relief that they may obtain. These issues are explored in this chapter. In addition we ask how prospects might be enhanced by closer regional co-operation.

Debt and Debt Service

Countries may be distinguished according to the burden of debt they carry. For some – Guyana, for instance – debt service obligations are close to the equivalent of exports of goods and services, and the country has no hope of stabilising the external accounts unless significantly more debt relief is offered. Other countries such as the Dominican Republic and Jamaica will need to pay so much in debt service for the next decade that there may be little net foreign exchange for purchasing the inputs needed to raise output and incomes. A third group of countries – including Barbados and Trinidad and Tobago – has heavy debt service obligations, but could conceivably stabilise the external accounts and regenerate growth with the existing debt structure. In the fourth category are a large number of smaller Caribbean countries which have no debt service problem. Jamaica is unusual among highly indebted countries in having over half of its debt with international financial institutions, much of it with maturities of five to seven years, and no prospect of rescheduling.

The Mexican debt relief package is seen as the prototype for reschedulings and renegotiations with other countries. A major disappointment is that the arrangement offers little new financing, without which the prospects for growth are not good. A similar package would offer limited help to countries like Jamaica where the debt to international financial institutions is substantial. Real interest rates have been reduced in the Mexican arrangements, and the interest rate has been fixed. Heavily indebted countries need interest rate concessions that will bring the rate down to the rate of increase of export prices, as a first step; it remains to be seen whether this can be achieved.

Even with debt relief on the Mexican model net transfer will be made from

heavily indebted countries to international lending institutions for several years. Proposals to agree on minimum terms for debt relief packages for Latin American and Caribbean debtors (SELA, 1989) and for new long term debt instruments to refinance existing debt of middle-income countries have elicited no positive response.

Foreign Investment and New Borrowing

International firms, and particularly the US based companies to whom the Caribbean looks to for most investment flows, seem less inclined to invest overseas than was the case in the 1960s. The 1970s saw the beginnings of a retreat from the Caribbean by US banks, manufacturers and hoteliers, many of whom had shown great enthusiasm for expansion in the area in the previous decade. Although there was something of a resurgence of interest in the tourism sector in the late 1980s, investment in all other areas remains very sluggish.

Economists and government administrations hope that foreign investment will return in due course, if confidence is built up through economic and political stability over several years. All share an apprehension that the period of waiting may be so long that the momentum of economic change is lost. Once confidence does return, foreign investment in the Caribbean should not be much affected by international business cycles, since the region's demands on capital markets are so small, relative to the international supply of finance. For just this reason, the new-found investor interest in Eastern Europe does not further reduce the chances of new investment in the Caribbean. In an effort to overcome the inertia of a long waiting period for new investment this study recommends careful export promotion strategies, designed to tap into targeted sources of potential investment.

The amount of new foreign debt that countries should seek may be derived from each country's economic strategy. It depends on the projected growth in exports of goods and services, the return on projects funded by foreign inflows, the proportion of that return that is received in foreign exchange, the maturity of the new loans, the interest rates, the proportion of equity in new capital inflows, expected rates of inflation, and existing debt service obligations. In many cases the target for new borrowing will be lower than will be needed to allow renewed growth, unless existing loans may be rescheduled with sufficiently long maturities and at real interest rates which are low enough to leave room for adequate new borrowing.

International Trade and Financial Agreements

International arrangements continue to play an important role in Caribbean trade and finance. They include negotiated agreements between states – the Lomé Agreement between the EC and a grouping of African, Caribbean and Pacific basin countries and the Caribcan agreement between the English-speaking Caribbean

and Canada – unilateral provisions by an industrial country – the US Caribbean Basin Initiative, the Enterprise of the Americas Initiative and US sugar quotas – and intra-firm arrangements between local and overseas branches of multinational companies. The provision of the Lomé convention which has so far been most remunerative for the Caribbean is its sugar protocol, which makes provision for the supply of a predetermined amount of sugar at prices linked to the subsidised price paid to European sugar beet farmers. This has sustained commercial agriculture in some countries, and during the 1980s provided perhaps 5% of the foreign exchange earned by countries that benefited. The convention makes members eligible for long term developmental loans for infrastructure, social services and support services for private enterprise. An export stabilisation fund has not been used by Caribbean members, but they have received relief funding in the wake of natural disasters. The convention allows duty free entry to the EC for non-traditional exports, and there have been efforts, none really successful so far, to establish an export trade in vegetables, flowers and garments. The provisions of the fourth convention of Lomé will continue beyond the European single market in 1992. (The English and Dutch speaking Caribbean are members of Lomé; the Dominican Republic joined in 1991.)

The Caribbean Basin Initiative, launched in 1983, is effectively an enhancement of opportunities for free access to US markets which had been available to the Caribbean – and many other small countries – for many years, under specific sections of the US tariff code and GATT concessions for small developing countries (the Generalised System of Preferences, GSP). The immediate potential for enhancing trade through the CBI was limited by the exclusion of garments, the region's largest segment of non-traditional exports, and by the failure to include a sugar quota as part of the arrangement. The CBI helped to increase US investor awareness of the Caribbean, but that could be expected to yield only modest investment flows at a time when the US investor was increasingly looking inward. Since there were no provisions to increase the returns on the activities where the Caribbean already had productive capacity, the overall impact of the Initiative has not been very great. Nevertheless, the Initiative is important because it provides some assurance of a continuity of the free trade provisions, a factor which should affect the long term outlook of investors and assist the efforts which the Caribbean makes to promote new exports. The CBI has not swept away the non-tariff barriers which have proved a major obstacle to the introduction of new exports. (Guyana was the only Caribbean country not included in the list of CBI beneficiaries; it was added in 1989.)

The phasing out of the US sugar quota (a process which is not yet complete) has been a most serious reversal for the Caribbean, and has significantly reduced growth potential in the Dominican Republic in particular. The elimination of the quota is not necessarily a step in the direction of greater efficiency (though the quota price was so much above the "market" price that its demise was inevitable); most world sugar is not sold on free markets, and the "market" price bears no consistent relationship to supply, demand and stocks. The elimination of the

quota, if accompanied by an abandonment of the domestic sugar price support (the outcome depends on the strength of political lobbies for sugar and its substitutes and is impossible to predict), may well cause such a contraction in supply as to send the "market" price soaring and create another round of instability, triggered by producers' attempts to cash in on the bonanza. Managing a quota system with flexible prices might have produced a more stable outcome.

In July of 1990 President Bush of the United States announced the Enterprise of the Americas Initiative (EAI), a wide-ranging collection of measures affecting US economic relationships with countries of the Western Hemisphere. The EAI envisages steps towards free trade between the US and other countries of the hemisphere, negotiated on varying timetables with countries or groups of countries. This will be a lengthy process with somewhat indeterminate outcomes depending on Congressional approval of negotiated agreements. A small amount of money is to be channelled to the Inter-American Development Bank to provide technical assistance for countries involved in a reform of their economic institutions. The package includes some relief on official debt owed to the US by hemispheric countries including repayment in domestic currencies and small debt for nature swaps.

The principal effect of the EAI is to intensify competition from Latin American countries for Caribbean exports to the US. Low cost suppliers of labour intensive products from Latin America, who may not now have access comparable to that enjoyed under the Caribbean Basin Initiative, pose a potential threat to some Caribbean exporters. The EAI offers no trade gains for the Caribbean, which already has free trade access under the CBI. Free trade agreements would not provide preferential prices for Caribbean sugar which is what Caribbean sugar producers require. Caribbean textiles, which are not eligible under CBI, would gain free access but they would have difficulty in meeting the competition from Latin America.

Private and public sector representatives from the US and Latin American and Caribbean countries are to form committees to deal with non-tariff barriers, which have been a critical difficulty for exporters under the CBI. It remains to be seen whether these committees can counter US pressure groups which find ingenious ways to exclude competitive exports.

Jamaica is the only Caribbean country likely to benefit significantly from debt relief under the EAI. That relief will not alleviate Jamaica's problems very much because of the predominance of debt owed to the international financial institutions.

The Caribbean is unlikely to get any additional funds for human resource development from the new IDB-administered Fund. The resources available to the Fund for the whole of the hemisphere are too little and the technical assistance which the Caribbean requires for its remaining institutional reforms is, in any case, negligible.

The Caribbean-Canadian agreement (Caribcan) has not been of much impor-

tance to date. The main items of interest to the Caribbean are by-products of sugar, which face standards regulations, licensing requirements and other non-tariff barriers designed to inhibit entry into the market.

The emergence of large trading blocs as a result of the further integration of Europe and the US-Canada free trade pact should not affect the prospects for the Caribbean in any significant way. No changes are envisioned for traditional exports; for non-traditionals the Caribbean will need to bend its full energies to securing firm niches in one or two markets where demand is already far in excess of the capacity they might aspire to. There is apprehension that the less developed members of the EC – Greece, Portugal and Spain – might compete for the non-traditional markets that the Caribbean aspires to supply, but these fears seem groundless when one recalls the difference in potential supply from the Caribbean and such countries. The Caribbean's best hope is highly differentiated segments of the market, where product characteristics maintain a loyal clientele. Fears have also been expressed about the end of quotas for sugar sales to the EC, but the greater threat to the sugar industry is a failure to rationalise production, increase productivity and reduce unit costs so as to remain competitive with new low cost suppliers and substitute products.

The Caribbean has a vital interest in the controversial issues of traded services and the agreements that will be built into the GATT to accommodate them. Tourism is the main traded service that Caribbean countries now provide. Although some private firms are interested in providing more non-tourism services to industrial countries from Caribbean locations, there is currently a large outflow on the non-tourism services accounts in all Caribbean countries except the Bahamas. (The other territories with net inflows are British dependencies, Bermuda and the Cayman Islands.) The outflows are for consultancy fees, management services and professional services. It is not yet clear what internationally agreed rules on travel might help the Caribbean to counter this by providing the services of skilled and semi-skilled workers to industrialised countries.

Export Markets

Tourism remains the most vigorous export sector in most Caribbean countries in 1991 even though the Gulf War and recession in the US depressed Caribbean tourism in the first half of the year. More than half of the region's visitors are from the US, with most of the remainder from Canada and Europe. Tourism is highly sensitive to economic cycles and it suffers from a tendency for over-expansion during times of rapid growth. There is evidence of this in the Dominican Republic and the Leeward Islands of the east Caribbean, where capacity has risen very sharply since the mid-1980s. The impact of the slowdown in tourist demand may be compounded by the curtailing of hotel construction and other private tourist development. The current rate of tourist expansion may be above the trend rate, and rather sharp fluctuations in activity may be expected. The

Caribbean may defend against a possible downturn to some extent by creating a product that is differentiated and by offering a range of services ancillary to tourism. Both strategies are yet in their infancy.

Contrary to uninformed opinion, sugarcane agriculture is an attractive export activity. The technology is well proven, and it makes use of quite sophisticated processes, which are subject to continuous evolution and improvement. The end-products are versatile: besides sugar in a variety of qualities and specifications, the product may be converted to beverages, industrial raw materials, or fuel, with building materials, animal feeds and other by-products created in the process. There is a growing world demand for sugar, though supply is also on the increase because of high prices on the protected markets of industrial countries. At more realistic prices demand might be even higher, and high cost supply would not command such a large share of the market. Sugar may be stored for long periods, and it is sold worldwide, in markets where futures contracts and hedging provide some insurance against price instability. There are many unrealised possibilities for aggressive new strategies for sugarcane agriculture, but few are being implemented in the Caribbean, where the industry is contracting everywhere because of neglect and unimaginative leadership. There are unexploited markets in North America and Europe for a variety of by-products, but there are non-tariff barriers to be overcome, including discriminatory regulations on alcoholic beverages and defensive strategies by existing firms in the target markets. Initiatives are needed to explore expanded markets for what are now minor products, such as molasses and ethanol. As markets change, and there is less protection for raw sugar, a more diversified mix of end-products is required.

Other agricultural exports are of minor importance and their supply has been erratic, plagued by uncertain delivery times and poor quality control. They include bananas, coffee, cocoa and rice, all of which have been exported for decades. Since about 1970 efforts have been made to develop significant exports of fruit, vegetables, fish, flowers and foliage. Initiatives are under way to resolve the quality and delivery problems for some products – for example, the high quality Jamaican coffees and bananas from Jamaica and the Lesser Antilles – but there is no prospect that non-sugar agriculture will be a substantial export (earning as much as 5% of foreign exchange, say) by the year 2000 in any Caribbean country.

The demand for bauxite and alumina contracted from the mid-1970s to the mid-1980s, first because the high price of oil raised the prices of aluminium, whose production is very energy-intensive. Subsequently, high performance light weight plastics cut into the market for strong light industrial material. The demand may now have stabilised, and Jamaica, the Caribbean's leading producer, may succeed in holding production levels at the average for the 1980s, but it is doubtful that the other significant producers whose output has declined or who have gone out of production altogether – the DR, Haiti, Guyana and Suriname – will be able to regain much of their former market share.

Trinidad and Tobago is the Caribbean's only oil exporter (not including Venezuela, which is sometimes considered a Caribbean country, but is not

included in this survey), and Barbados is the only other oil producer in the region. Both are experiencing declining production as existing wells mature and exploration lags or fails to yield attractive results. Trinidad and Tobago depends on the stabilising of oil prices in the vicinity of $18 per barrel in order to balance the external accounts with the austerity programme which has been put in place. The oil price is less crucial to the Barbados outcome. Other countries' external accounts could deteriorate badly if oil prices rose, particularly those which already have unmanageable debt burdens.

Manufactured exports from the Caribbean are mainly labour intensive products assembled from imported raw materials, with the exception of energy-based products which Trinidad and Tobago began to export in the 1980s. Manufactured exports have grown significantly in countries where income per head has fallen (Jamaica and the DR), and they have declined in Barbados, where output per head has risen. The prospects for expansion depend more on creative marketing than they do on the size of the market, which can absorb any volume the Caribbean can supply at competitive prices. The low-wage high-volume production is constantly under threat from countries with lower living standards and lower wage costs. Assembly plants in the Caribbean which do not attempt to produce a differentiated product or to address a particular segment of the market, find that they are less and less competitive as their own workers' standards of living rise relative to those of competing countries. The immediate prospects for expansion of labour intensive production in the free trade zones of Jamaica and the DR are favourable, because growth must be sustained for several years in order to restore recent losses in living standards. However, if the long term goals of a revived economy and steady growth are attained, the export manufacturers will need to transform their output or their technology in order to remain competitive.

The prospects for Trinidad and Tobago's steel, fertiliser and other energy-based exports appear to be brighter than was once feared. The use of recent technology seems to have given the firms something of an advantage in competitive pricing. However, the situation is far from clear, and competitors in the US maintain that selling prices for some products are being held below cost, and have succeeded on occasion in blocking shipments from Trinidad and Tobago. (That says nothing about the competitiveness of the Trinidadian product because US anti-dumping legislation is notoriously inequitable.)

With the advent of international data communications the Caribbean has entered the market to supply data entry and other information services to the US. The industry uses semi-skilled labour, requiring a level of education one step above the assembly firms, but in the long run they will face the same dilemma: if income per head revives and there is no worsening of income distribution, real wage increases will divert this activity to less successful countries. The scope for continuing growth is quite considerable in the meantime. Knowledge-intensive information services would provide a more secure long term basis for expansion, but they require technical, professional and business skills which Caribbean countries are yet to display in sufficient quantity.

The march of technology has opened new export possibilities by bringing information services into the category of tradables. It has also introduced a new threat to existing comparative advantage: the replacement of some labour-intensive processes by new technologies which use high quality labour more productively. The Caribbean will need to develop a capability to move in step with technological developments, in order to maintain its relative position.

To summarise the trade prospects, the Caribbean faces no significant tariff barriers for its exports, except for sugar and its by-products. Non-tariff barriers are a stumbling block for many lines of activity, including such diverse items as steel, fertilisers, ethanol, fruit and vegetables, and business services. Inadequate marketing is the major inhibitor; many potential avenues remain unexplored, and existing markets are not sufficiently insulated by means of product differentiation. There are also supply problems in many activities, caused by failures of quality control, inadequate planning and forecasting, lack of strategies to cope with contingencies, and failure to take account of technical change.

Migration and Remittances

In the 20th century significant migrations from the Caribbean – to Panama for the building of the canal, to Britain and to the US – have had the effects of relieving job pressure, providing remittances and enriching the pool of human resources with the skills and experience of returning migrants. The current economic crisis in the Caribbean has generated a smaller but nonetheless significant wave of emigration. Migrants' remittances are second to tourism as a source of foreign exchange in the Dominican Republic, and they may well be the principal source of foreign exchange in Guyana and Haiti, where there are no reliable data because funds are transferred via underground markets, and through transactions in kind. The numbers leaving the Caribbean have been too small to affect the job market; migrants have had to resort to sometimes desperate stratagems to get around strict quotas imposed on the unskilled by receiving countries. Migration has lowered efficiencies in some countries, because skilled workers are more successful in finding migration outlets. A trickle of returning migrants to the more economically successful countries has made a disproportionate contribution to entrepreneurship. The prospects are that emigration will continue to provide a small safety valve for weak economies, mainly through the remittances sent back, which relieve the excess demand for foreign exchange somewhat.

Regional Integration

The Caribbean Economic Community (Caricom) agreement provides a framework for the English-speaking Caribbean to co-ordinate efforts to accelerate export promotion and to use scarce skills most effectively. Joint negotiation has proved effective in concluding trade agreements such as the Lomé convention

(and the sugar agreements which preceded it). The Caricom Secretariat has co-ordinated the regional approach to negotiations on traded services in the Uruguay Round, but little progress has been made with joint initiatives in debt restructuring and export marketing.

The Caricom treaty makes provision for joint production and marketing of products between firms in different member countries, but restrictions on capital flows within the region have inhibited such co-operation. There is growing recognition of the importance of freer intraregional movement of capital and skilled labour to take fullest advantage of the available resources. A number of regional institutions have been set up to facilitate this interaction – the Caribbean Development Bank, the Caricom Secretariat, the Caribbean Association of Industry and Commerce and the University of the West Indies – but free movement of factors is not yet a reality.

Caricom countries have focussed heavily on internal free trade, but with small regional markets this never offered much scope for growth, though it is a boon to small business. Currency unification has attracted attention, paradoxically as countries of the region moved further away from achieving unified exchange rates, but unification must follow the stabilisation of exchange rates. The policies which will serve to stabilise the exchange rate are precisely those needed for currency unification.

The Prospects

The prospects for heavily indebted countries are discouraging, under the circumstances of the current strategy for debt relief. The debt service burden remains too large to release resources – foreign exchange in particular – for the purpose of new investment and renewed growth, for at least a decade. In most other respects the prospects for the Caribbean depend on the region's ability to set initiatives in train, to a much greater extent than they do on the state of world markets. Investment remains sluggish, and there seems little likelihood that foreign investors will lead the way. A well designed investment strategy, focussed on targets for export improvement, seems the way forward; even those who are sceptical about incentives and investment policies have no alternative to offer. The current international marketing arrangements for traditional exports are satisfactory for the time being. Again, the onus is on the Caribbean to develop strategies to cope with changes in these arrangements, well in advance. There are opportunities for free trade in almost all non-traditional goods and services that the Caribbean has considered exporting; the region must mobilise more effectively to overcome the non-tariff barriers that stand in the way, or that materialise from unexpected quarters just when prospects for new markets appear most promising. By deepening the process of functional integration in the region all countries' abilities to improve on their returns to scarce human capital may be enhanced.

CHAPTER 8

Forecasts of Caribbean Economic Performance

Within the group of countries that share characteristic Caribbean features we may distinguish four broad categories, based on recent performance. They are (1) countries with no adjustment problem, for example the Bahamas and the Netherlands Antilles; (2) countries with intermittent difficulty, for example Barbados, Belize and the countries of the OECS; (3) countries with persistent disequilibria, for example Jamaica, Trinidad & Tobago and the Dominican Republic; and (4) countries with prolonged crises, for example Guyana, Suriname and Haiti. The circumstances of countries in each group are shown in Table 8.1.

This chapter illustrates the problems and prospects of a selection of countries drawn from categories 2, 3 and 4. A very much condensed version of the model of Appendix I is used to project output, inflation and the balance of payments for the period 1991-1995. The effects of an increase in the relative price of tradables (a "real" devaluation), of monetary contraction and of interest rate policies are explored, to illuminate the choices facing policy makers. Observations are made on the prospects for improving performance. The tests are still at a very preliminary stage and the forecasts are intended for illustrative purposes only. In particular, the reported test statistics are biased because we do not make allowance for the possibility of spurious correlation between variables which move upwards together over time. While we may accept the relationships as indicators of a general tendency we do not lay great store by the reported significance tests.

Barbados

The Barbados results offer few surprises, though we have lost important structural features in aggregating relationships so as to use a small model that may be applied in comparable fashion across countries. (For example, although the tradable sector on the whole has been supply driven for the period of the tests, there is reason to believe that tourism markets are segmented and respond to demand changes.) The results are set out in Table 8.2. As expected, production of tradables increases when their prices rise, while wage and interest rate increases have adverse effects. Aggregate demand has a strong impact on non-tradables and imports, and an increase in the relative price of tradables will depress the demand for imports. Contrary to expectations, that relative price increase also depresses the demand for non-tradables, a phenomenon which deserves further examination. Increases in tradable prices, wages and interest rates all drive up the prices

of non-tradables, but there is an inverse relationship between the price and output of non-tradables, implying a downward sloping supply curve. We doubt that there are significant economies of scale; more probably, the relationship conceals changes in quality or in the mix of products. The elasticity of wages with respect to the lagged value of prices (at the mean values of the variables) is about equal to unity, suggesting that wages just keep pace with the rate of inflation in the previous period. Our test for the determinants of investment is not a satisfactory explanation of the variance, though rising tradable prices do seem to encourage investment while rising wages depress it, as one might expect. (The test is based on annual observations; as we suggested earlier, longer observation periods are probably more appropriate for the investment equation.)

The model has a rather indifferent tracking performance on the actual data during the sample period. The maximum error on the simulation of the growth rate is seven percentage points, while for inflation it is as high as 20 points on one occasion. The largest percentage error for the in-sample forecast of tradables is 15%, for non-tradables 13%, for non-tradable prices 20%, for imports 25% and for wages 25%. However if we were to omit the outliers the general forecast is reasonable for this level of aggregation, except for the forecast of foreign exchange reserves.

Table 8.1 Classification of Economic Circumstances

	Category of Country			
	1	*2*	*3*	*4*
Growth	+	+(-)	-	-
BoP	+	-(+)	-	-
Debt Arrears	NONE	NONE	MINOR	LARGE
Social Services	OK	OK	DOUBTFUL	POOR
Infrastructure	OK	OK	DOUBTFUL	INADEQUATE
Confidence in Govt	STRONG	STRONG	STRONG	LOW

Table 8.2 The Barbados Model

1. $q_t = 396.87 + 134.54p_t - 0.20w - 9.82r$
   (17.62) (1.41) (-0.23) (-2.90)
   Adj.R^2=0.7326, SEE=34.72, DW=0.89, F=22.83; 1960-88

2. $q_n = 239.98 + 0.20a - 169.50p_t/p_n + 0.63q_n(-1)$
   (2.96) (3.42) (-3.09) (7.05)
   Adj.R^2=0.9586, SEE=30.44, DW=1.90, F=193.02; 1960-88

3. $p_n = 0.06 - 0.00q_n + 0.38p_t + 0.01w + 0.00r$
   (0.84) (-1.72) (6.50) (11.54) (1.73)
   Adj.R^2=0.9988, SEE=0.02, DW=2.32, F=4982.58; 1960-88

4. $m = 496.40 + 0.75a - 810.07p_t/p_n$
   (1.67) (6.21) (-3.96)
   Adj.R^2=0.7696, SEE=120.99, DW=1.43, F=43.43; 1960-88

5. $w = 5.33 + 104.42p(-1) - 1.06dq$
   (4.23) (64.26) (-0.06)
   Adj.R^2=0.9935, SEE=4.37, DW=1.00, F=2073.07; 1959-88

6. $i = 318.86 + 86.59p_t - 0.88w + 3.42r$
   (4.45) (0.44) (-0.51) (0.41)
   Adj.R^2=0.0501, SEE=62.60, DW=1.08, F=0.23; 1972-88

7. $a = q_t + q_n + dmo$
8. $dR = (q_t.beta - m)p_t + K$
9. $q < q(-1) + i/ICOR$

Note: *Variables are defined in Appendix I*

The base forecast for 1991-95 is based on tradable prices that expand on the trend line of 1980-90, with net non-trade inflows at the 1990 level of approximately BBD$200 million each year. (Tourism is included in the trade category.) Interest rates are projected to remain at their end-1990 levels, and there are no monetary injections to raise the level of absorption above the level of income. The result is virtual stagnation of output, with very low inflation – a maximum of 4% – but with an unsupportable loss of foreign exchange reserves. Imports rise faster than exports, and by 1995 they are 13% higher than in 1989, while exports are only 7% higher. The loss of reserves would soon lead to a depreciation of the nominal exchange rate.

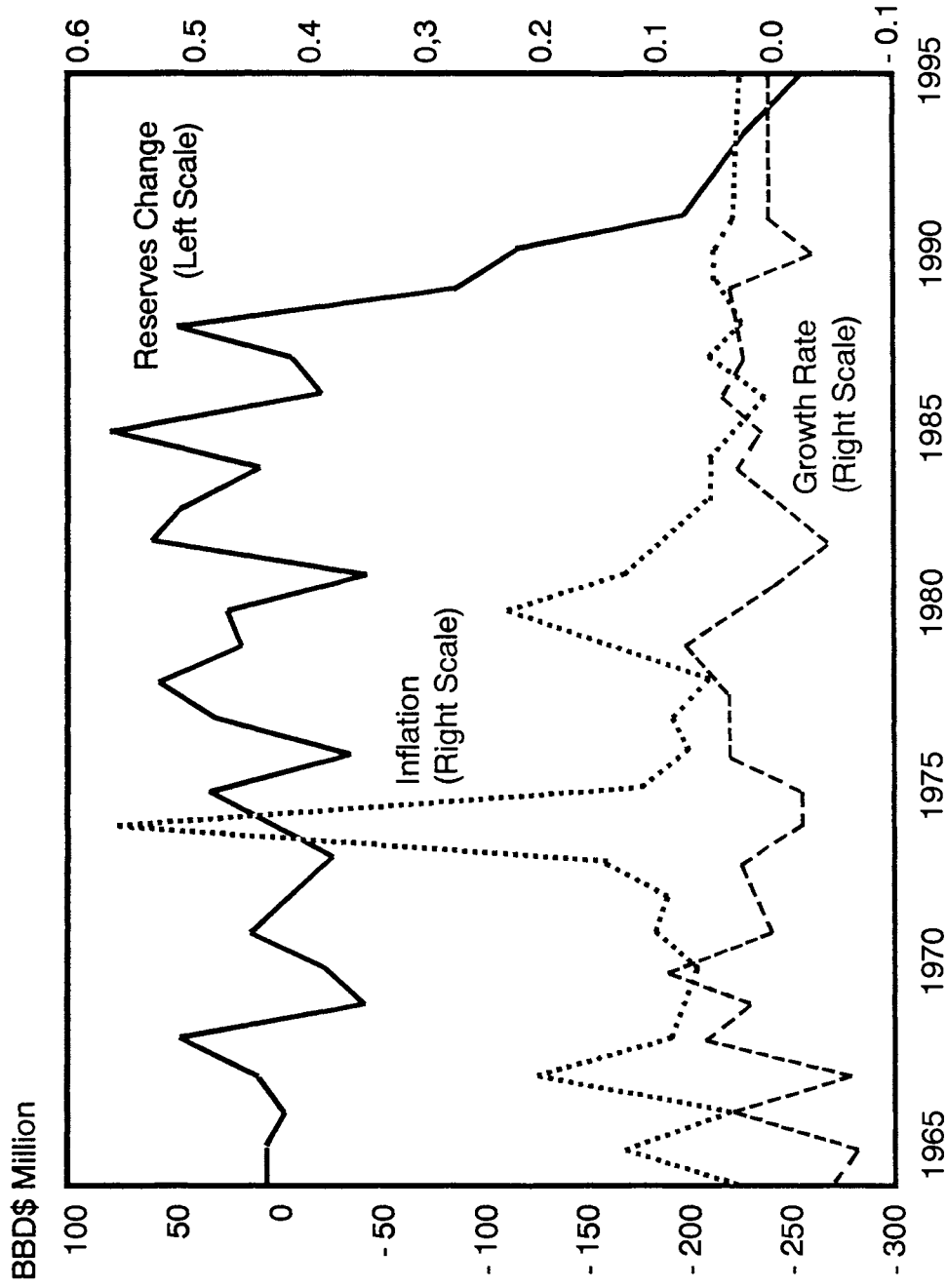
An increase in the relative price of tradables in 1991 causes a turnaround in the balance of payments in that year, and reserves increase. The reserve loss for the next three years is less than in the base scenario, but the advantage diminishes each year. In 1994 and 1995 the reserve loss is greater than for the base projection. Export growth is consistently stronger than in the base forecast; but whereas import growth is dampened initially, imports expand more rapidly in later years.

Monetary expansion in 1991 – with the money supply held at the higher level in all subsequent years – results in a modest acceleration in the growth rate up to 1993. (Although not explicitly represented in the model, monetary expansion can take place only via fiscal expansion, as discussed in Chapter 3.) The faster growth is entirely due to additional output of non-tradables. The gain is 2.5 percentage points in 1991, with the effect wearing off over time to less than one point in 1993. The cost is a dramatic widening of the foreign exchange deficit, and an earlier and more drastic fall in the exchange rate. A corollary is that monetary contraction (or rather fiscal contraction to reduce the supply of money) is the best way to rectify the external imbalance. For a small sacrifice of output growth there are major economies in the use of foreign exchange. A simulation of modest interest rate increases had no measurable effect.

On the present economic course the model sees virtually no growth in the Barbados economy, and the prospect of a balance of payments crisis (Chart 8.1). Unless there is monetary contraction by means of fiscal cutbacks the exchange rate is likely to depreciate. Exchange rate depreciation leads to inflation, an equal increase in wages after a lag of one year and no improvement in the growth rate. A nominal devaluation, whether deliberate or as a result of exhaustion of foreign exchange reserves, should boost foreign reserves immediately, but its effects wear off after some years. (Our simplified model does not measure the impact of nominal devaluation on the relative price of tradables. We assume there will be some effect, but that the relative price change will be smaller than the devaluation.) To achieve meaningful growth in the medium term it will be necessary to lift the rate of investment. We have not attempted to estimate the extent of spare capacity, but activating spare capacity could speed up the rate of growth for a year or two at most.

Changes will be needed in management, technology, organisation and marketing so as to lift export performance. Tourism levelled off in 1990 after a short

Chart 8.1 Barbados: Actuals (64-90) and Forecasts (91-95)



period of buoyancy. Careful marketing is needed to create a loyal clientele and to develop speciality tourism products which will enhance the appeal of Barbados to potential visitors. Environmental protection is also crucial to reduce noise and nuisance, to maintain water quality and to enhance the landscape and architecture. In the manufacturing sector, a capability must be developed for consistent high quality of output. Large-scale export marketing needs to be developed and much lost ground in production is yet to be recaptured. The decline in agricultural production will only be arrested with an entirely new marketing strategy, more efficient processing techniques and a new product mix. International business services is a new area of activity for Barbados and its development depends crucially on the availability of knowledgeable personnel in this area.

Economic performance in Barbados in the 1970s and 1980s was quite reasonable, with modest growth (interrupted by two recessions), very moderate rates of inflation and generally sustainable balance of payments deficits. In the mid-1980s external borrowing to maintain the balance of payments position was rather excessive, however. The economy's capacity for further sustained growth is questionable. The balance of payments is expected to deteriorate as the growth of exports fails to keep pace with a rising demand for imports. The recommended policy focusses on the reform of institutions and the enhancement of human capital so as to restore growth to a sufficiently diverse range of export activities. A contraction in the size of the fiscal deficit to reduce the need to borrow from the central bank and to contain aggregate demand and imports is suggested to avoid a balance of payments crisis.

The Dominican Republic

In Table 8.3 we report the results of the test on the Dominican Republic. The description of the output of tradables is poor, with none of the explanatory variables affecting output in the expected fashion. We shall accept the results for the time being as the way things actually turned out, but an explanation has to be sought by disaggregating the sector. Evidently there are important differences in the markets that determine the heterogenous products that comprise tradables. Aggregate demand effects on imports and non-tradables are strong, but relative price effects are quite small, and, in the case of imports, the reverse of what we might expect them to be. The cost variables have the expected effect of pushing up the price of non-tradables, but the relationship between the price and the quantity produced suggests another downward sloping cost curve. There is some danger of an explosive wage–price spiral, with the elasticity of wage response to the previous year's price index estimated at 1.1, at the mean values of wages and prices.

Within the sample period the model tracks the non-tradable market quite well, with errors of less than 5% for forecasts of output and less than 10% for prices. The model is much less successful with respect to tradables, where the maximum

error is 41%, and for imports, where the errors reach a maximum of 87%. Wages are faithfully tracked.

The forecasts for 1991-95 are based on the trend of tradable prices for 1971-90. The trend in more recent years (i.e. omitting the 1970s) would have produced a more optimistic forecast, but it is unlikely that this rate will be sustained. The model suggests that the process of wage formation constitutes a major adjustment problem for the DR economy: when first simulated, with wages endogenous, the model produced an explosive increase in wages which depressed output severely. The base forecast assumes instead that wages rise on the trend path of the 1980s. Interest rates are proxied by the US prime rate and are held constant at their 1990 value. Net non-trade foreign exchange inflows are set at 3,000 million pesos per annum, a conservative figure in light of the record of the 1980s, though the year-to-year fluctuations have been extreme.

The forecast indicates healthy growth of output, beginning at 8% in 1991 and slackening gradually each year to 4% in 1995, with low inflation in the region of 3% per annum. However, the foreign reserve losses are unsustainable, so this scenario cannot in fact be realised, and instead the exchange rate can be expected to depreciate. By itself a devaluation does not serve to close the foreign exchange gap. A devaluation which increases the relative price of tradables in 1991 worsens the external balance in the short run, and provides only modest improvement from 1992 onwards. The effect of devaluation is weak because of the poor explanation we have of the output of tradables. Devaluation is not inflationary, because of the inverse relationship we find between the prices of non-tradables – which are driven up by a devaluation-induced rise in the price of tradables – and the output of non-tradables.

The combined effect of a 50% increase in the relative price of tradables and a 10% reduction in aggregate demand does close the balance of payments deficit, and allows some build up of foreign reserves. Growth may still be expected, but at a much slower rate. The balance of payments tends to deteriorate over time. The reserve accumulation between 1991 and 1993 would be sufficient to cover the projected deficits to 1995, but unless export growth were speeded up it would become necessary to repeat the devaluation and monetary contraction (Chart 8.2).

The results offer little insight into the determinants of investment and the ways that export growth may be stimulated. Rising tradable prices have the expected positive effect on investment, but both increasing wages and rising interest rates are associated with increasing investment. In the case of interest rates our inexact proxy could be at fault, and it may be that wages and investment are both responding in the same way to economic cycles.

The Dominican Republic experienced severe external imbalances and contraction of major exports in the 1980s. The loss of an assured market for sugar in the US and the decline in the production of minerals depressed foreign earnings severely. After some hesitation the government introduced orthodox stabilisation policies, with flexible exchange rates, interest rate increases and higher prices for public services in order to cut government's deficit. The social costs of the

Table 8.3 The Dominican Republic Model

1. q_t = 926.22 - 1823.14p_t + 15.47w + 73.38r
   (4.37) (-1.89) (2.53) (3.29)
   Adj.R^2=0.7783, SEE=318.88, DW=0.71, F=21.07; 1967-88

2. q_n = - 66.52 + 0.25a + 69.14p_t/p_n + 0.60q_n(-1)
   (-0.20) (4.19) (0.20) (6.02)
   Adj.R^2=0.9951, SEE=91.61, DW=1.51, F=1202.19; 1964-88

3. p_n = - 0.01 - 0.00005q_n + 0.65p_t + 0.003w + 0.01r
   (-0.31) (-2.04) (3.81) (2.80) (1.90)
   Adj.R^2=0.9965, SEE=0.05, DW=1.51, F=1202.19; 1968-88

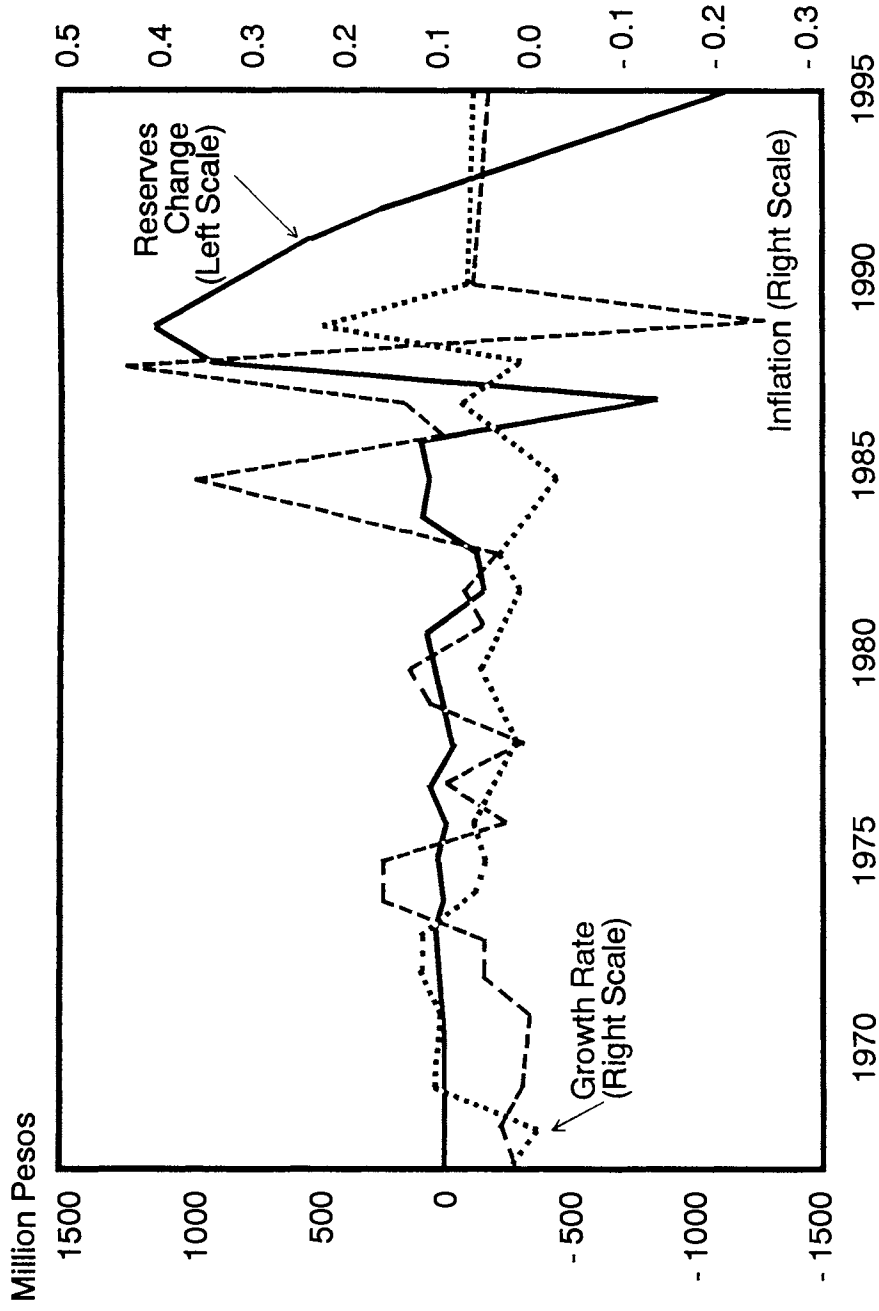
4. m = - 1250.00 + 0.34a + 773.79p_t/p_n
   (-0.80) (8.05) (0.48)
   Adj.R^2=0.7400, SEE=428.31, DW=0.98, F=32.74; 1963-88

5. w = - 8.57 + 194.23p(-1) - 69.89dq
   (-0.75) (25.51) (-0.66)
   Adj.R^2=0.9776, SEE=18.06, DW=1.52, F=414.63; 1967-88

6. i = 190.84 + 281.59p_t + 1.72w + 53.27r
   (1.21) (0.91) (1.05) (3.18)
   Adj.R^2=0.7846, SEE=237.81, DW=0.91, F=21.86; 1967-88

7. $a = q_t + q_n$ + dmo
8. $dR = (q_t.beta - m)p_t + K$
9. $q < q(-1) + i/ICOR$

Chart 8.2 The Dominican Republic: Actuals (67-88) and Forecasts (89-95)



programme proved too high for the tolerance of the population, and the administration which championed the programme was rejected at the polls in 1986. The external disequilibrium remains, and when the orthodox programme was abandoned, the exchange rate was fixed and a regime of trade and exchange controls put in place. Economic infrastructure has deteriorated badly, and electricity services in particular are in a desperate state of disrepair. A remarkable surge in investment in the tourism sector, together with expansion in the DR's free trade zones, has revived economic growth, providing an economic platform from which adjustment policies may be launched. Our simulations suggest that a reduction in the money supply (through the fiscal mechanism) is the most effective way to relieve the excess demand for foreign exchange, and that it might be combined with exchange rate adjustment.

Guyana

Guyana has suffered severe economic contraction and ongoing balance of payments crises since the mid-1970s. Per capita income is now considerably below the early 1970s value and there has been a breakdown of essential services, public utilities and infrastructure. The country has large arrears of foreign debt payment and a severe excess demand for foreign exchange. Economic activity has been diverted to the parallel market largely because of unrealistic government controls. Many believe that the value of parallel market activity exceeds that of documented transactions. (See Thomas, 1989, for estimates of parallel market activity.)

The characteristics of the Guyanese economy, as estimated from the model, are summarised in Table 8.4. The estimates are based on formal economic activity. Tradables react as expected to changes in their prices (positively) and to changes in the interest rate (negatively). Aggregate demand effects account for much of the variation of imports and of the output of non-tradables. An increase in the relative price of tradables has the expected positive effect on non-tradables, but it is also associated with an increase in imports, contrary to expectations. Prices for non-tradables behave in a fashion similar to our observation for other countries, with increases in tradable prices and interest rates driving them upwards but an inverse relationship with output of non-tradables. Investment increases with increases in the prices of tradables, and falls with rising interest rates.

The base projection of economic performance for 1991-95 assumes that foreign prices rise on their historical trend, that interest rates remain at 1990 levels, that public sector domestic borrowing is limited to the funds available from the non-bank private sector, and that capital inflows are G$500 million per year (about US$5 million, at exchange rates of early 1991). The projection yields a sharp contraction in output for 1991, and continuing decline at a less rapid rate for the next five years. There is a balance on external payments before debt service but debt service produces a balance of payments deficit (Chart 8.3). Because of the arrears of external payments no deficit can be sustained and the exchange rate is expected to depreciate. Inflation is largely confined to the parallel market and documented

Table 8.4 The Guyana Model

1. q_t = 456.72 + 1.29p_t - 1.00p(-1) - 49.61dq - 10.10r
   (18.36) (1.59) (-0.91) (-0.25) (-1.97)
   Adj.R^2=0.5142, SEE=31.25, DW=0.82, F=6.02, 1966-85

2. q_n = 27.02 + 0.002a + 1.00p_t/p_n + 0.76q_n(-1)
   (1.01) (0.07) (4.59) (10.16)
   Adj.R^2=0.9411, SEE=17.84, DW=2.67, F=102.12, 1966-85

3. p_n = 43.61 - 0.15q_n + 0.18p_t + 1.23p(-1) - 12.13dq + 0.90r
   (2.31) (-3.02) (0.95) (4.86) (-0.27) (0.59)
   Adj.R^2=0.9674, SEE=6.50, DW=1.34, F=113.78, 1966-85

4. m = 62.74 + 0.48a + 5.20p_t/p_n
   (0.27) (2.24) (2.81)
   Adj.R^2=0.4528, SEE=154.37, DW=1.60, F=8.86, 1966-85

5. e = 2.03 + 0.004dR
   (26.66) (8.73)
   Adj.R^2=0.7506, SEE=0.34, DW=1.38, F=76.24, 1960-85

6. i = 259.64 - 0.23p_t + 5.45p(-1) + 437.34dq - 29.61r
   (5.13)(-0.14) (2.45) (1.08) (-2.83)
   Adj.R^2=0.5623, SEE=63.62, DW=1.08, F=7.10, 1966-85

7. $a = q_t + q_n$ + dmo
8. $p_t = p_f.e/e(-1)$
9. dmo = dR/p + dmb
10. $dR = (q_t.beta - m)p_t + K$
11. $q < q(-1) + i/ICOR$

price increases are negligible. A 50% increase in relative prices in 1990 improves output somewhat, but not strongly enough to arrest the decline. The balance of payments outcome worsens because of a short term rise in imports. At projected investment levels full capacity output is not much in excess of the expected level. To achieve a faster growth rate capacity will have to be increased.

Considerable investment and reorganisation is necessary to increase capacity in traditional export activities. For the bauxite industry, the challenge is to recapture a major share of the market in calcined bauxite, a product which only Guyana and China export in significant quantities. Bauxite production has recently been hard hit by technical bottlenecks. Technical assistance is needed for the rehabilitation of production and investment is required to replace run-down and derelict equipment. Guyana has ceased to produce alumina altogether. Recent management contracts with international companies are only the beginning of what needs to be done to revive bauxite and alumina production.

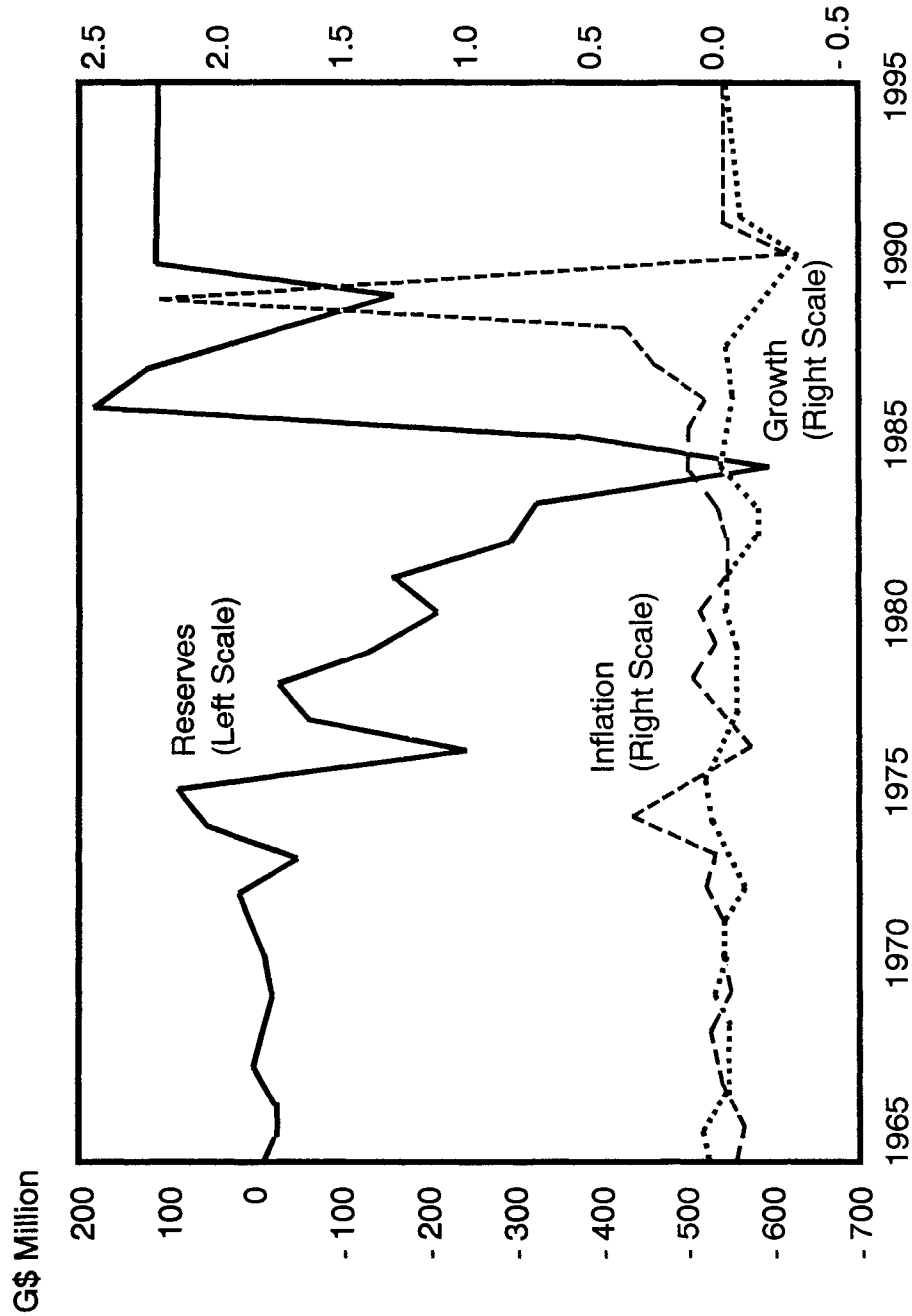
The decline in sugar output has been attributed to labour shortages, industrial unrest and bad weather. Investments will be needed to mechanise production and harvesting. Industrial relations problems will persist so long as the overall economic performance imposes continuing hardship on Guyanese and the present sense of political disenfranchisement persists. To increase rice production technical assistance and investment is needed in the rehabilitation of facilities. Research is also needed in the control of disease.

Additional human resources and revitalised institutions are needed to develop potential in non-traditional activities such as timber, gold mining and fisheries. Production in all these minor activities has been declining in recent years. They depend on the restoration of reliable electric supply and on the provision of foreign exchange for materials and spare parts.

There are a number of general issues which must be addressed as a foundation for new investment and capital expansion. The existing political and social climate does not nurture the growth of human resources; people with skills continue to migrate because of the unacceptable quality of life. In addition to the scarcities of essential goods and services, and the inconveniences to which Guyanese are subjected in the normal course of activity, there remains a sense of social unease. Investment is urgently needed to restore public utilities and infrastructure to functioning levels. Unrealistic government controls have reduced the efficiency of markets for goods, labour and finance.

The recommendations for Guyana begin with institutional arrangements for better articulation of popular opinion and the development of a national consciousness. Exchange rate, price, import and credit restrictions should be relaxed so as to make it easy for people to carry out the transactions they can afford, with no legal impediment. Our preference is for an official exchange rate which matches the supply of foreign exchange available to the Bank of Guyana to the demand for a limited range of essential goods. This might be done through the use of a managed foreign exchange auction. All other supply and demand for foreign exchange would be handled by the private sector at freely negotiated rates. The

Chart 8.3 Guyana: Actuals (64-89) and Forecasts (90-95)



Bank of Guyana issued licences for foreign exchange trading in March 1990 and requires licensed traders to supply information on their transactions. Since January 1991 the official rate has been tied to the average of the rates reported by the licensed foreign exchange dealers.

Divestment of most public corporations would provide funds for essential government activity and the provision of public goods. Government needs to cut back its target for the provision of public goods until the planned provision matches the availability of resources. Tax rates can hardly be increased and borrowing prospects have been exhausted. Allowance must be made for debt service payments. Public service wages ought to be set at the level required to secure the services of competent staff. This determines the size of the civil service after allowance is made for the purchases and equipment needed to carry out government functions. A priority listing of government activity will have to be undertaken and the available staff allocated to government services according to their priority.

Foreign debt restructuring will have to be undertaken. It should be done on a basis which provides the authorities with a plan on which they may reasonably be judged. For example, a certain proportion of foreign exchange earnings might be paid for debt service each year, allotted among creditors on a pre-arranged basis. There might be a write-off of a proportion of the foreign debt after some period of satisfactory servicing. Guyana should expect to live without foreign payments financing and trade credits for the foreseeable future. Capital inflows will be in the form of direct private investment and project loans to government on concessional terms.

Jamaica

Economic output in Jamaica has been on the decline since the mid-1970s with only occasional years of growth. The balance of payments has remained in disequilibrium throughout this period in spite of substantial foreign borrowing for balance of payments support. Episodes of serious inflation have been interspersed with more moderate price rises. According to our forecast, growth is possible but the external accounts remain unbalanced.

Our tests for the Jamaican economy indicate that wage increases depress the output of tradables and inflate the prices of non-tradables. Wages are driven by inflation, with a lag, but the response is less than in proportion to the inflation. International prices do not have significant effects on the output of tradables or on the prices of non-tradables. Their direct effect on domestic inflation is rather small. There is also little switching to the consumption of non-tradables when international prices rise. Increases in the interest rate inflate the prices of non-tradables but they have a benign effect on the output of tradables. This is rather surprising and we can only speculate that higher rates may have provoked greater efficiencies in the production of tradables. Increases in non-tradable prices are the main sources

Table 8.5 The Jamaica Model

1. $q_t = 880.3 + 1.53p_t - 5.61w + 13.08r$
   (14.6) (3.09) (-5.62) (1.56)
   Adj.R^2=0.7957, SEE=46.43, DW=2.08, F=20.47, 1972-87

2. $q_n = -210.4 + 0.08a + 1.67p_t/p_n + 0.88q_n(-1)$
   (-1.30) (1.10) (2.17) (6.95)
   Adj.R^2=0.9151, SEE=58.0, DW=2.07, F=94.38, 1961-87

3. $p_n = -17.43 - 0.01q_n + 0.17p_t + 0.64w + 4.53r$
   (-0.44) (-0.56) (2.61) (5.49) (5.15)
   Adj.R^2=0.9972, SEE=4.30, DW=1.17, F=1320.5, 1972-87

4. $m = 961.72 + 0.72a - 5.67p_t/p_n$
   (1.48) (3.90) (-1.81)
   Adj.R^2=0.4900, SEE=285.37, DW=1.38, F=13.49, 1961-87

5. $w = 32.72 + 0.75p(-1) - 0.74dq$
   (7.01) (20.29) (-1.02)
   Adj.R^2=0.9669, SEE=10.58, DW=0.65, F=220.35, 1972-87

6. $a = q_t + q_n + dmo$
7. $dR = (q_t.beta - m)p_t + K$
8. $dmo = dR/p + dmb$

9. $\log rr = 4.24 + 0.13\log p_t - 0.07\log w + 0.01\log r$
   (9.68) (0.62) (-0.25) (0.03)
   Adj.R^2=0.3652, SEE=0.08, DW=1.24, F=3.88, 1972-87

10. $\log i = 7.44 - 0.26\log rr$
    (1.07) (-0.17)
    Adj.R^2=-0.06, SEE=0.61, DW=0.65, F=0.02, 1970-87

11. $q < q(-1) + i/ICOR$

of inflation and non-tradable prices are mainly driven by wage increases. The output of non-tradables does not significantly influence their prices. The relationships are illustrated in Table 8.5.

Output in Jamaica is driven by wages, interest rates and domestic demand. Inflationary pressure arises from wage increases via the prices of tradables. The balance of payments is adversely affected by wage increases which depress the output of tradables, by falling interest rates and by rising aggregate demand which raises the demand for imports. Changes in the relative price of tradables seem to have relatively small effects. Money financed government deficits may raise the overall growth rate but at the expense of the balance of payments. The model does not give a particularly acceptable description of actual performance in the 1970s. In the 1980s it is usually in the right direction though the magnitudes of changes are exaggerated.

The forecast for 1991-95 is based on a constant price of tradables, foreign prices increasing on the trends of 1960-90, interest rates constant at 21% and increases in real base money of about 20% of real output. This produces a forecast of virtually stagnant output with a growth rate of less than 1% per year. Inflation falls over time from the region of 12% to about 4% by 1995. The loss of foreign exchange reserves implied by the balance of payments deficit is not sustainable (Chart 8.4).

Output has not been limited by capacity during the historical period and it seems that capacity will be in excess of projected output during the forecast period. Capacity is calculated on the basis of expected investment.

The model was simulated to determine whether a reduction in money creation would serve to stabilise the economy. A sufficiently large contraction by means of a reduced fiscal deficit lowers the foreign exchange reserve losses to manageable proportions. However, considerable relief on debt servicing projections would be needed for a sustainable balance of payments. The reduction in money creation eliminates the little real growth that was expected in the initial forecasts, however. The rate of inflation is not affected.

A small increase in the relative price of tradables (of about 10%) in 1991 with no change thereafter has a barely discernible effect on foreign exchange reserves and no significant effect on output or prices. A major increase of a little over 30% results in much stronger growth in 1992 but the effect does not last. The growth for the remainder of the period is much the same as before. Inflation is somewhat lower because of the unexplained inverse relationship between the prices of tradables and non-tradables. The balance of payments is weaker after a large relative increase in tradable prices and foreign exchange reserve losses much larger unless, simultaneously, monetary policy is tightened by means of a reduced fiscal deficit.

An increase in the interest rate in 1991 boosts output in that year but has only a one-shot effect. The increase is quite inflationary: even though the impact decays over time it is still noticeable by 1995. The balance of payments improves slightly in 1991 but worsens a little thereafter.

There appears to be scope for the Jamaica Government to reduce the supply of money by means of fiscal contraction. The government recently embarked on a fiscal reform programme which may have dampened the buoyancies of tax response. Even so, surpluses may be achieved on government accounts if bauxite sales hold up and if expenditure is frozen in real terms, with government employment kept at the levels of 1990. A projection based on the growth of income, imports, prices and wages generated by the forecast model produces fiscal surpluses rising from 1% to 4% of GDP provided that expenditure remains constant in real terms and the wages bill increases at the same rate as the general wage rate. With surpluses of this magnitude, enough money could be mopped up from the financial system to eliminate the projected foreign exchange reserve losses.

The turnaround in fiscal fortunes may not be quite so dramatic. The 1990 levels of expenditure reflected an unacceptable deterioration of health services, education services, internal transport and communications. Public utilities had not grown sufficiently to accommodate the level of economic activity. Real expansion in spending is planned through a "social well-being programme" devised by the Jamaica Labour Party administration of Edward Seaga. It is being put in place in modified form by the present People's National Party administration. Some expansion in government activity is therefore necessary and to be expected.

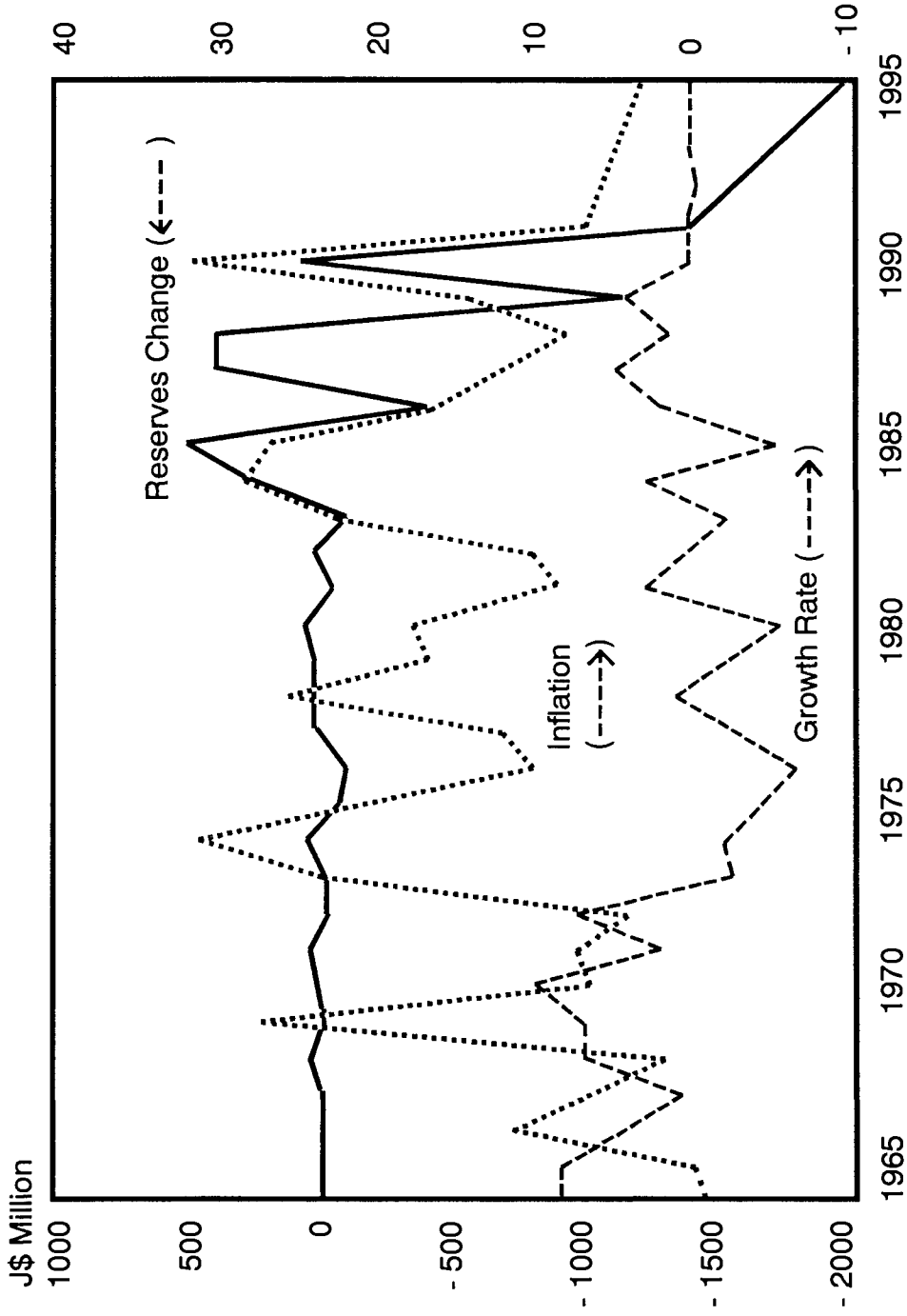
Marketing, organisational and developmental efforts will be required to stimulate the growth of exports. The production of bauxite and alumina has been in decline since 1974. The losses in the 1970s resulted from conflicts between government and the industry. In the 1980s the world market has been soft and Jamaica has been unable to recapture its market share. In 1987 levels of output were 40% lower than in 1980. On the current trend alumina may decline only slightly and the prospects for bauxite in 1991 are a little more encouraging. New arrangements with the producers of bauxite and alumina and the reactivation in 1988 and 1989 of works which were closed during the eighties may allow for some increase.

The production of sugar, the most significant agricultural export, has been in decline since 1965. By 1980 output was only one-third of the 1965 volume. Sugar production has stabilised since 1980 and a contract with an international producing firm has restored efficiencies in selected major sugar producing areas. More extensive rehabilitation is however needed if sugar production is to increase.

In the 1980s tourism output was restored to its levels of the early 1970s. Investment plans currently under way provide for continuing expansion into the nineties and the market prospects are reasonable.

Jamaica continues to face a troublesome adjustment problem. No growth is predicted for the economy and it is not certain that an acceptable compromise can be found between the need to expand government expenditure for the rehabilitation of infrastructure and fiscal contraction to secure an acceptable balance of payments outcome. The recommendations for Jamaica are for export promotion, particularly institutional and organisational developments required to accelerate the growth of exports. Fiscal adjustment is needed to simultaneously repair

Chart 8.4 Jamaica: Actuals (64-90) and Forecasts (91-95)



infrastructure and contain government borrowing from the Bank of Jamaica below projected levels.

Trinidad and Tobago

Trinidad and Tobago, the Caribbean's major oil exporter, enjoyed a period of extreme prosperity during the 1970s when oil prices were high. In the 1980s the economy has undergone a period of contraction. The estimates of the structural equations for Trinidad and Tobago appear in Table 8.6. The price of oil, the major tradable, has an overriding influence on the output of tradables. Although the sector has not been disaggregated in this analysis, it is fairly certain that wage and interest rate increases depress the output of non-oil tradables without much affecting oil output. The output of non-tradables is driven by aggregate demand and by relative price changes. Prices of non-tradables are determined by tradable prices and wages, and once again we notice an inverse relationship between the output of tradables and their prices. The relationship between wages and prices tends towards an explosive spiral, with an estimated elasticity of 1.1 at the mean values. Imports (net of imported crude oil for processing and re-export) are mainly determined by aggregate demand, with little response to relative price changes. Tradable prices account for about 40% of domestic price inflation.

Growth depends on oil prices, which stimulate the output of tradables and increase demand for non-tradables. Oil prices also cause some inflation and therefore drive up wages, slowing the output of tradables in sectors other than oil. This is evidence of the so-called "Dutch disease" which is typical of countries with a boom in the export of a major commodity. The balance of payments remains healthy so long as oil revenues are sufficient to accommodate a strong increase in demand for imports.

The base forecast for 1991-95 is based on the trend of tradable prices in the 1980s, which was downward, though it may be overly pessimistic to assume that oil prices will fall continuously, albeit slowly, over the next five years. Capital inflows are assumed to be just sufficient to cover amortisation and capital repatriation. Nominal wages in government service have been reduced by about 20% since 1986, by a combination of a 10% cut in the standard wage and the elimination of a "cost of living allowance". Other wages in the economy have stagnated. The base forecast assumes that wages remain frozen for five years, which may be unrealistic, even if inflation is as low as is projected. The projections show output declining at between one and two per cent per annum for the five-year period, but inflation is negligible and the balance of payments is in surplus. If the price of tradables were to remain constant the decline in output is arrested by 1995 and there is no significant change from the base scenario in inflation and the balance of payments.

Table 8.6 The Trinidad and Tobago Model

1. $q_t = 781.80 + 308.13p_t - 1.03w - 29.79r$
   (11.07) (4.58) (-2.48) (-2.46)
   Adj.R^2=0.6615, SEE=42.18, DW=1.12, F=12.37; 1966-88

2. $q_n = -55.43 + 0.14a + 255.95p_t/p_n + 0.72q_n(-1)$
   (-0.96) (4.57) (2.48) (16.83)
   Adj.R^2=0.9773, SEE=66.26, DW=1.85, F=258.85; 1967-88

3. $p_n = 0.52 - 0.0006q_n + 0.62p_t + 0.009w + 0.02r$
   (2.44) (-5.86) (3.70) (13.03) (0.76)
   Adj.R^2=0.9906, SEE=0.07, DW=0.96, F=476.39; 1966-88

4. $mno = 2668.78 + 0.85a - 1031.50p_t/p_n$
   (4.14) (2.36) (-0.76)
   Adj.R^2=0.2549, SEE=866.29, DW=0.87, F=3.42; 1966-88

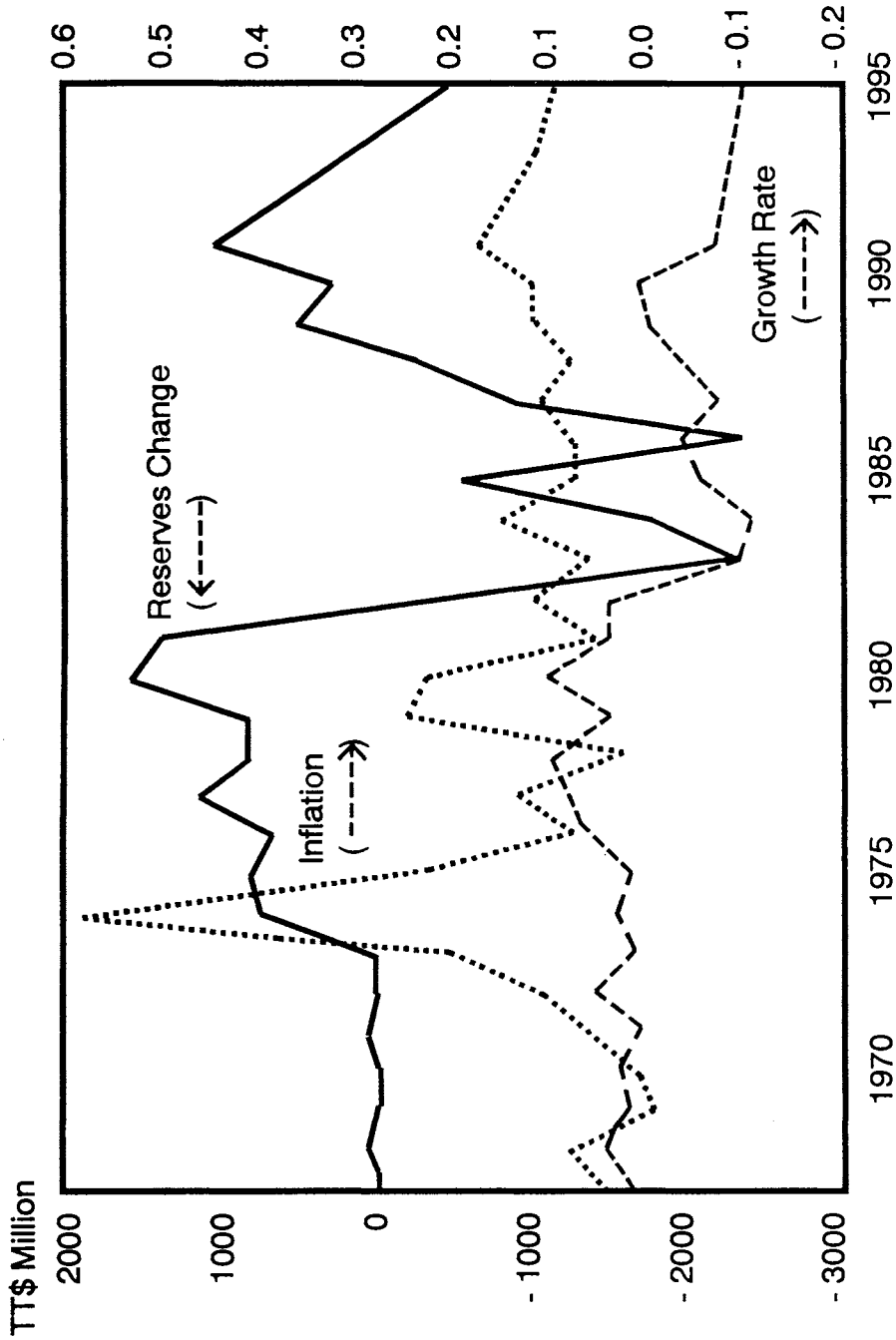
5. $w = -3.43 + 124.89p(-1) - 62.04dq$
   (-0.48) (15.54) (-0.92)
   Adj.R^2=0.9561, SEE=14.56, DW=0.73, F=207.20; 1967-88

6. $i = 5824.48 + 3018.47p_t - 2.21w - 826.09r$
   (5.89) (4.62) (-0.54) (-4.84)
   Adj.R^2=0.8308, SEE=408.71, DW=1.86, F=29.47; 1966-87

7. $a = q_t + q_n + dmo$
8. $dR = (q_t.beta - mno - mop)p_t + K$
9. $q < q(-1) + i/ICOR$

Note: *mno = non-oil imports*

Chart 8.5 Trinidad and Tobago: Actuals (67-90) and Forecasts (91-95)



Raising the interest rate in 1991 depresses the growth rate and inhibits investment, but it is not inflationary and the external accounts are still in surplus. An expansion in the money supply equivalent to 10% of income gives only a small boost to output growth and generates little inflation, but the external accounts deteriorate. If wages are made endogenous to the model the wage rate rises very rapidly, even at the relatively modest rate of inflation, creating an upward spiral of wages and prices. There is a severe contraction of output, both of tradables and non-tradables. Reserves increase between 1991 and 1993, but each year's surplus is lower, and deficits appear in the balance of payments in 1994 and 1995 (Chart 8.5). This wage reaction is typical of the high-growth period of the 1970s, which dominates the estimation period. It is possible that recent fiscal action has altered wage behaviour such that this outcome is not very likely. The economy is not expected to operate much below capacity, at the expected rate of new investment. Most of apparent excess capacity now existing is in outmoded and inefficient plant which is not productive at the projected prices and it must therefore be discounted.

The fiscal prospects depend entirely on oil revenues. If tax receipts from oil companies can be restored to the nominal levels of 1985, a fiscal deficit of 3-5% of GDP is possible. We assume that non-oil taxation will maintain its buoyancy of the 1966-85 period. Though the system is currently under reform, the target is to maintain or even to improve the buoyancy of taxation. No real expansion in government services is contemplated. The wages bill expands at the general rate of wage increase and other expenditure at the rate of inflation.

If oil revenues hold up, it might be possible to adjust the budget without serious harm to social services and infrastructure, but careful allocation and monitoring would be necessary. An analysis of the cost of maintaining the current government provision of services should be made, including data from historical trends. For example, a detailed measurement should be made of educational achievement and comparisons done of spending on education by government, private agencies and households, out of their own budgets. Overall, the social indicators in Trinidad and Tobago remain acceptable and the focus should be on maintenance, enhancement and the adjustment of priorities.

The prospects for non-oil exports are not encouraging. Agriculture is in decline and there is no prospect that exports of agriculture will make any meaningful contribution to foreign exchange earnings during the forecast period. The contribution of export agriculture is in the region of 2-3% of export receipts. Considerable investment has been made in manufacturing to process raw materials, concentrating on the raw materials of the oil industry and energy-intensive production. Most of the firms established under the programme are yet to secure dependable export markets, but devaluations may have improved their competitive position.

Summary of the Prospects, 1991-95

Output is likely to be stagnant or declining in every country except the Dominican Republic, according to our exploratory forecasts. Balance of payments deficits are likely to destabilise exchange rates in all countries except Trinidad and Tobago. Inflation is not a major problem, provided the exchange rate is stabilised. Devaluations are inflationary in Barbados, and in the DR, and possibly also in Trinidad and Tobago, there is an ever present danger of an inflationary wage–price spiral. In the DR in particular the inflation rate must be reduced if the inflation projections are to be realised.

Stabilisation of the balance of payments seems to be within reach, through a contraction in the supply of money, to be achieved by lower levels of finance for government. In the DR it might be helpful to combine this with a devaluation of the official exchange rate. The implications of further fiscal contraction for the delivery of government services have to be clarified in each country.

Countries must seek to achieve growth by means of sectoral and institutional policies to promote exports. Some of the issues that arise in accelerating the export drive have been mentioned in the discussion; they vary from country to country, and one requires a sound knowledge of the recent performance in specific activities to form a clear picture of the deficiencies to be remedied. Macroeconomic policies are of little assistance in speeding up or in restoring growth.

For countries in category 4, with the most severe economic crises, the problems are especially acute, involving the need to restore credibility to policy (in the eyes of the domestic population, most critically), the repair and renewal of deteriorated infrastructure, and making up for the depreciation of the human resource. The issues must be addressed at the same time that fiscal changes are made to ensure external balance and measures for export promotion instituted, so that the country may find a way to lift living standards. These are formidable tasks, requiring many years of application. Hence the importance of developing a sense of national purpose.

The difference between countries in category 2 and those in category 3 is in the severity of the fiscal adjustment to be made. Some countries face such tight fiscal limits that selection will be necessary on the eligibility for free government services, and limited targeted provision may well have to be substituted for global access. These choices are more likely to face countries in category 3, but the difference is one of degree.

CHAPTER 9

Conclusion

The economic prospects for the Caribbean in the 1990s are not very encouraging. Only a small proportion of the region's population enjoys an enhanced standard of living. The largest countries are the least prosperous and the most crisis-prone. The prosperous smaller countries lack a diversified export base and therefore the capacity to sustain growth in the face of economic cycles and potential competition. High unemployment rates prevail in most countries. There are one or two cases of disintegration of formal markets, breakdown of essential services and alienation from the political decision making process.

Nonetheless, the Caribbean does have resources which may be turned to better advantage. Countries have generally high standards of health and education and they enjoy a relatively well-developed infrastructure. The region has a significant amount of natural resources. It is close geographically to what for countries of small size is a virtually unlimited market in North America; and countries generally enjoy a strong democratic tradition.

Caribbean economic performance may be improved upon by marrying a better mix of stabilisation policies with a deliberate export promotion strategy. The stabilisation programme should be a mix of the orthodox and the heterodox, respecting the peculiarities of small open economies, safeguarding human and physical resources needed for long-term growth and avoiding excess of government intervention. The export promotion strategy should include: tax policy; funding for export research and development; human resource development; and a national mobilisation for the export drive.

Small open economies cannot transcend the limits imposed by the external economic environment – for example, interest rates, the flows of foreign investment, fluctuating prices of tradables and slow economic growth in world markets – but they may do a great deal to improve the benefit they extract from that environment.

The Orthodox Stabilisation Package

The content of orthodox stabilisation packages – those carrying the Bank/Fund imprimatur – changed for the better in the eighties. They now reflect greater sensitivity to the development of human resources and infrastructure, factors which determine the prospects for long-term growth (Williamson, 1990). Provisions for such services still tend to be something of an "add-on". They do not

feature centrally in the design of the stabilisation programme, which still centres on global fiscal and financial balances. The orthodox design also fails to account for small country characteristics, for example in its fixation on the official exchange rate and its concern about the over-protection of import substitutes. The principal virtue of the orthodox policy is its emphasis on fiscal rectitude.

An emphasis on fiscal policy in economic adjustment packages is entirely appropriate for Caribbean countries: the quality of the fiscal programme sets bounds on all other outcomes. However, existing tools for fiscal management must be deployed together in a more explicit framework, and the operational budget needs to be conceived over longer than the usual one year. Taxation, spending and financing should be linked to specific goals for investment in exports, the development of infrastructure, improvement in human capital, changes in relative prices, the distribution of income and aggregate demand. Economists should offer decision makers a choice of alternative scenarios, quantifying the fiscal measures and their effects.

Monetary policy is little more than an alternative name for deficit finance: the size of the government financing requirement is the only discretionary monetary variable available to the authorities. This needs to be recognised explicitly, so that policy makers do not spend time on credit controls, reserve requirements and other ineffectual measures. Their task is to ensure that domestic interest rates do not stray from the trend of international rates.

The nominal exchange rate is endogenous, except when foreign exchange reserves are accumulating continuously over time. Recommendations for changes in the official rate are correct insofar as they imply movement toward the endogenous rate. The link between the real exchange rate and the nominal rate depends on factor proportions and on factor and product price reactions. There are two channels through which the reaction takes place: wage–price interactions and interactions of external demand and supply. We cannot confidently say that the link between the nominal and real rates is either strong or dependable.

An emphasis on the interest rate as an allocative mechanism is, fortunately, misplaced. The interest rate is locked into the international financial system by the mobility of capital, so policy makers would have no influence on allocation if interest rates were the key instrument. However, the solution to inadequate supply of finance, capital flight and other financial scarcity problems is an increase in the productivity of investment so that production becomes internationally competitive. That solves the problem of supply and allocation of finance at a stroke, by providing what for a small economy is an unlimited amount of foreign finance to supplement the domestic supply.

Government should provide a regulatory framework that ensures orderly transactions and offers comfort to the public about the probity and soundness of the financial system. Selective price interventions are necessary because of the pervasiveness of monopolies and oligopolies. However, relatively few items are so undifferentiated that price intervention can be made to improve resource allocation, and government must be sure to confine its attention to those. There should be guidelines for price changes as circumstances dictate.

Export Promotion

The orthodox package, with the amendments suggested, is missing an essential element – a policy for stimulating investment. This study recommends an official investment promotion strategy, strictly limited to exports, not as a substitute for adjustment, but as a complement. The strategy should focus on institutional effectiveness, organisational efficiency, enhanced skills and human resource development for exporting. Government should provide responsive leadership, itself identifying activities for priority, but supporting export successes or promising new exports. Government should be ready to re-order its priority list in the light of actual enterprise performance in the export sector.

The Understated Assumptions

The tools available to economists leave us short of a viable policy prescription for economies in deep crisis. The resolution of their problems depends on social and political changes about which economics has nothing to say (that is not facile, that is). Among the elements which contribute to their prospects are: the terms on which outstanding external obligations are settled, a question of international political economy; the nature and stability of the domestic political process, which determines whether policies will be sustained for the time needed to have beneficial investment effects; the quality of leadership, with leaders of spirit and ability opening up a wider range of possible options; and the balance of social forces and interest groups, which determine how strong and malleable are the coalitions for and against productive economic policies (Nelson and contributors, 1989).

A Summing Up

Some Caribbean countries are in such dire economic straits that as economists we have no useful recommendations for stability with growth. There are too many prior conditions which are social and political in nature. For economists, this is unsettling, but it is the only realistic conclusion. For other countries the way forward would seem to be a revised version of the orthodox strategy, with heavier emphasis on the rich possibilities for fiscal policy, and with the important addition of a strategy for accelerating investment in export activities.

The main ingredients of the strategy for stabilisation with growth are:

(a) a conservative fiscal policy in the medium term – this might require a balanced budget or borrowing to finance government's investment programme, depending on the circumstances;

(b) counter-cyclical fiscal policy in the short run – it is dangerous to persist with such policies for several years in a row;

(c) a tax and expenditure mix designed to secure acceptable levels and distribution of social services and the development and maintenance of the social structure;

(d) a strong tax incentive bias towards exports;

(e) government expenditure to develop export market niches complemented by a national export promotion programme;

(f) an official exchange rate which is kept in line with the endogenous rate determined by the credibility of fiscal and monetary policies and by the supply and demand for foreign exchange; and

(g) interest rates that are held in line with international interest rate trends.

This strategy is not assured of success; much depends on international economic circumstances and on the skill with which policies are implemented. Nonetheless, it seems the right course for success; it can cement a future of sustained growth for countries not suffering a payments crisis, even if the external environment does not improve, and it should situate others to take best advantage of any favourable circumstance that offers.

APPENDIX I

The Model

Output and Prices

$q_t = q_t(p_t, s, r)$
$q_n = q_n(a^*, p_t(1 + Mtm)/p_n, q_n(-1))$
$p_n = p_n(p_t(1 + Mtm), q_n, s, r, dNg)$
$w = w(N/L, p^*, dq/dN)$
$I_t = I_t(rr^*, z_i)$
$q_t < q_t(-1) + XCAP(-1) + I_t(-1)/ICOR$
$s = w.dq/dN$
$rr = p_t(1 - m_t - n_t.w - f_t.r)(1 - Mty')$
$q = q_t + q_n$
$p = p_t.q_t/q + p_n.q_n/q$
$p_c = (1 - c_m)p(1 + Mte) + c_m.p_t(1 + Mtm)$
$a^* = q + dMO/p$
$p_t = p_f.e$

Balance of Payments

$m = m(a^*, p_t(1 + Mtm)/p_n)$
$dR = (b.q_t - m)p_t + K$
$K = Ks(X, M, e^*) + Ig + If - DS + OCA$
$de = e(dR, R(-1)),\ e'=0, dR< -(R(-1)+cn)$
$X = b.q_t.p_t$
$M = m.p_t$

Money

$r = r_f(1 + e^*) + cft$
$dMO = dR + dCRG + dCRB$
$dCRB = CR(a^*, r)$
$dCRG = G - Rv - Ig - FBP$
$FBP = FBP(a^*, r)$

Government

$Rvy = Rvy(-1) + Aty(dp.dq - DS)$
$Rvm = Rvm(-1) + Atm.dM$
$Rve = Rve(-1) + Ate.da$
$Rv = Rvy + Rvm + Rve$
$Gw = Gw(-1)(1 + dw + dNg)$
$Gr = Gr(Kg, NDD, r, r_f)$
$G = Gw + Gr + Ig + Go$

a*	intended absorption
Ate	average rate of expenditure tax
Atm	average import tariff rate
Aty	average income tax rate
b	ratio of total sales to value added in tradables
cft	cost of international financial transactions
c_m	proportion of final imports in consumption
cn	constant (value)
da	change in absorption
dCRB	change in central bank lending to banks (value)
dCRG	change in central bank lending to government (value)
de	exchange rate change (percentage)
dM	change in the value of imports
dMO	change in high powered money (value)
dNg	change in government employment (number)
dq/qN	productivity change
dR	change in foreign reserves (value)
DS	net foreign investment income
dw	wage change (percentage)
e	exchange rate
FBP	finance to government from banks and the public
f_t	input coefficient for finance in tradables
G	government expenditure
Go	government spending residual
Gr	government interest payments
Gw	government wage bill
ICOR	incremental capital output ratio
If	private foreign investment
Ig	government investment
I_t	investment in tradables
K	the non-trade account of the balance of payments
Kg	government foreign debt
Ks	short term capital flow
L	labour force
m	imports
M	nominal imports
m_t	input coefficient for imports used in the tradable sector
Mte	marginal rate of expenditure tax
Mtm	marginal import tariff rate
Mty'	marginal income tax rate, adjusted for exemptions for tradables
N	employment
NDD	government domestic debt
n_t	input coefficient for labour in tradables
OCA	balance of payments residual
p	deflator
p*	expected price
p_c	consumer price index
p_f	foreign price index
p_n	price of non-tradables
p_t	price of tradables

q	domestic output
q_n	output of non-tradables
q_t	output of tradables
r	interest rate
R	foreign reserve level
r_f	foreign interest rate
rr	rate of return
rr*	discounted rate of return
Rv	government revenue
Rve	receipts from expenditure tax
Rvm	receipts from import tariffs
Rvy	receipts from income tax
s	unit labour cost
w	wage rate
X	nominal exports
XCAP	index of excess capacity
z_i	vector of investment determinants not influenced by the model

Notes to the Model

Output and Prices

The output of tradables is determined by the supply equation; p_t represents the output price, as well as the cost of imported inputs, and the other costs are unit labour costs and the unit cost of finance. If there are taxes on exports and imports p_t is replaced by two variables, the selling price $p_t(1 + Mte)$ and the price of imported inputs $p_t(1 + Mtm)$.

The amount of non-tradables made available is a partial response to the gap between the demand, which is a function of the intended absorption and the relative prices, and the previous year's output. The relative price includes expenditure taxes, which are levied equally on tradables (imports) and non-tradables (and therefore cancel out), and import duties, which apply only on p_t, at the marginal rate of Mtm.

Non-tradables are supplied by the private sector and by the government, whose provision of services is proportional to numbers employed in government. The supply price of non-tradables depends on the amount produced, the proportion of that amount provided by government, and the costs of private supply, which comprise the cost of imports (including the import tariff), unit labour costs and the unit cost of finance.

The wage equation is the reduced form of the labour market adjustment equations. The demand is

$$N_d = N_d(dq/dN, p^*, w)$$

and the supply is

$$N_s = N_s(p^*, w).$$

The result of bargaining between workers and employers may be represented by

$$w = w((N_d - N_s), N/L),$$

where the employment rate N/L determines workers' bargaining strength. This gives

$$w = w(p^*, dq/dN, N/L).$$

Investment in the tradable sector depends on the discounted rate of return and on other exogenous investment determinants z_i.

The output of tradables may not increase by more than the amount of excess capacity, plus the new capacity created as a result of investment. New capacity is related to investment by the incremental capital output ratio; government investment may improve the productivity of private investment in many countries. In this case we might replace the investment equation and the inequality with an equation for capacity output of the form

$$q_t max = q_t max(rr^*, Ig, XCAP, z_i)$$

with lags on the right hand variables. The limit on tradables would then be written

$$q_t < q_t max.$$

Unit labour costs are a product of the wage rate and the marginal productivity of labour.

The mobility of finance for investment drives the overall rate of return towards the rate obtainable in the tradable sector, which is the product price less the unit costs of inputs. To obtain the after tax rate we adjust for the tax rate applicable to tradables, incorporating all incentives and rebates given for investment in that sector.

The remaining equations in this section are definitions.

Balance of Payments

Imports are demand determined. This relationship holds even in the presence of quantitative restrictions on imports and foreign exchange rationing. In the open economy the restrictions do not ration the supply of imports, except in the short run while informal institutions are being set up. Instead, they divert demand to these informal markets. Demand will be driven down by the higher cost of foreign exchange purchased on the informal market. (The exchange rate in this model is the nominal rate, an average of formal and informal rates.)

Tradables are all exported, and the ratio of value added to total sales *b* gives exports.

Short term capital flows are determined by the need for trade credits. Fear of exchange rate depreciation may accelerate foreign exchange outflows. There is no interest rate arbitrage because the domestic interest rate is tied to the foreign rate. Alternatively, we might have relaxed the interest rate stipulation and allowed for capital movements in response to interest differentials at home and abroad. These movements would tend to equate the interest rates. The relationship will not hold instantaneously in either case, and the interest rates in question include informal as well as formal rates. There seems no reason to choose one representation over the other, since neither is expected to hold exactly.

Foreign private investment responds to the investment determinants given for I_t. The proportion of foreign investment in total investment depends on the knowledge of markets and technology, and on the skills and organisation of local firms, particularly those in the tradable sector. If they are able to exploit most areas of dynamic comparative advantage (looking to future factor and product prices, the evolution of technology and markets, and the sources of actual and potential competition) the amount of foreign investment may be quite small.

The debt service depends on the size of the foreign debt, its maturity structure and the international interest rate.

The exchange rate depreciates if the loss in reserves reduces the stock below the

"confidence" level *cn*, at a rate which is proportional to the reserve loss. There is no exchange rate movement if reserves increase. The exchange rate may be regarded as an average of official and unofficial rates; if the official rate is not depreciated in line with market sentiment transactions are increasingly diverted to the unofficial market, where the rate then tends to depreciate more rapidly. The weighted average rate might work out to be much the same whether or not the official rate were depreciated, except that the unofficial market is unregulated (and therefore risky) and poorly informed, so it tends to depreciate faster than underlying circumstances warrant. Timely official adjustment avoids overshooting and excessive fluctuation.

Money

Domestic interest rates may deviate from foreign interest rates only by the cost of foreign financial transactions *cft*, apart from any expectation that the currency will be devalued. If depreciation is expected, the interest rate will be driven higher by the flight of capital. The interest differential is seldom so powerful as to compensate for expected exchange losses, so other policies will be needed to restore credibility to the exchange rate.

The increase in high powered money is a reflection of the accumulation of reserves, and additional central bank accommodation for government and the banks. The banks need central bank funds if there is an excess domestic demand for credit at prevailing interest rates. Government's borrowing needs depend on the size of the deficit, the amount of prudent foreign borrowing and the amount of finance available from the banks and the public at prevailing interest rates. This latter amount depends on the excess demand for private sector credit.

Government

Government revenue is of three types, each calculated by adding to the previous year's revenue an amount equal to the average rate of tax times the increase in the tax base. As a separate exercise the effect of any tax changes (in rates, exemptions, administration or any other structural aspect) on average and marginal tax rates would have to be estimated.

Government's wage bill is the result of wage increases and changes in government employment since the previous year.

Interest payments depend on the outstanding foreign and domestic debt, the interest rates and the maturity structure of the debt.

APPENDIX II

Quantifying Taxes and Spending

Economics offers more useful insights for taxation than for government spending, and this is reflected in our suggestions here for quantifying the government budget. We are able to give much firmer guidelines for taxation than for expenditure.

Taxation

Tax policy may be set within a macroeconomic framework with the help of information on tax structures, much of which is available in most countries, or could be easily researched. The information includes average and marginal tax rates for the major categories of taxation, together with more detailed information outlined in what follows. The parameters for average and marginal taxation may be derived from information on tax receipts and the tax base for each type of tax. They are entered into the macroeconomic model in order to carry out simulations with alternative tax regimes. The tax base should be adjusted to take account of discretionary tax changes during the estimation period. (The allowance for discretionary changes must be judgemental, because a theory-based estimate would require prior knowledge of the marginal tax rate.)

For the *personal income tax* effective tax rates for individual households are a useful supplement to overall marginal and average rates. Rates may be computed for representative households at different income levels, with different family structures, with differing wealth endowment and with different sources of income. The information helps to assess the potential effect of tax changes on the supply of skills. Skilled labour is more internationally mobile than unskilled, and tax rates that are too high relative to those abroad, which do not seem to offer sufficient premium on skills in the local market, or which are excessive in light of the quality and comprehensiveness of government services, may trigger emigration of skilled workers. (By multiplying the tax rate in each category with the number of taxpayers and aggregating one may make a comparison with actual tax receipts, for a tentative estimate of tax avoidance and evasion; the estimate includes measurement and statistical errors.)

The society will insist on making qualitative judgements on the progressivity of the tax system, and data should be provided for informed opinion. The income levels at which marginal rates increase may be normalised on the average wage to provide a basis for international comparison of progressivity (see Babb, 1990). Income distributions may be computed, with taxes and without. Only qualitative inferences may be drawn.

The personal exemption available to all taxpayers is usually assessed in terms of the poverty level; that needs to be made explicit by deriving a value for that level, taking account of needs for nutrition, health, education and housing, and allowing for cultural norms such as preferences for types of food and forms of preparation, informal family income supplements, etc. The basic exemption will not usually be at the poverty level, since government provides some of the essentials free of cost.

For the *corporate income tax* average and marginal rates will be supplemented by effective tax rate calculations for firms in different sectors and activities, taking account of the combination of personal and corporate taxes and exemptions. At the minimum we are interested in the tax incentive for firms producing tradables, as compared with those in the non-tradable sector, because of the crucial importance of tradables for the country's overall growth. There is an established methodology for such calculations (for example see King and Fullerton, 1984). A more favourable rate of return for tradables should attract investment away from non-tradables if all other circumstances are equal. In the more usual case, more favourable tax treatment of tradables is needed to compensate for the greater certainty or familiarity of non-tradable activity, even though the expected returns may well be higher in tradables. Over time the shift of investment to tradables would improve the after-tax return on non-tradables sufficiently to neutralise the more favourable tax treatment. By this time vigorous growth in tradables would reduce the need for special tax treatment. In any case, one should not exaggerate the importance of tax treatment for the growth of tradables. It appears to be very much a subsidiary influence (Worrell, 1989).

In addition to the average and marginal *import tariff* the effective rates on consumer and producers' goods will be of interest. In cases where these differ, the appropriate adjustment can be made to the parameters of the macro model. The improvement in the rate of return for tradables and non-tradables as a result of more favourable tariff treatment for producers' goods may be estimated; it depends largely on the relative use of imported factors in the two sectors. The combined effect of tariffs and income taxes on investment in tradables may be assessed.

A similar exercise to distinguish between the effective rates for consumer and producers' goods, and the impact of favourable treatment of the latter on tradables, may be undertaken for *taxes on purchases and sales of goods and services*. There is a bias towards tradables only if they have relatively lower value added (and therefore higher input) per unit of output.

To simulate tax changes in this framework, one adjusts tax structures in directions which reflect any preferences the society may have for stronger incentives for tradables, relief of poverty and a 'fairer' progression of personal taxes. The implied average and marginal tax rates may be computed, substituted into the model, and a solution found, for output, investment in tradables, prices, the foreign reserves change, tax revenues and the fiscal deficit. Alternative tax structures may be simulated to find the one which offers the most acceptable compromise.

Government Expenditure

The targets for public provision of goods and services, and for the satisfaction of basic needs, will guide government expenditure decisions, but only general guidelines are available, and the links between the crude measures of performance which are all that we have and the amounts of government spending are quite tentative. It is not possible to determine a level of spending on the basis of a list of services, nor is it possible to establish rules for the services that government should provide. To be realistic government managers must start with the existing expenditure, use rule of thumb indicators to indicate where changes are desirable, and adjust spending accordingly. Performance gains will come as a result of persistent pursuit of goals over some years, rather than as a result of drastic surgery. A sharp reduction in government expenditure always means a reduction in the delivery of government services.

The *wage rate* is endogenous to the model, and government's wage bill varies with

the decision to expand or reduce services. That decision should be informed by data on maintenance of state property, indicators of public safety and the protection of rights and property, the deficit (or surplus) in the satisfaction of basic needs, and relevant international comparisons of the administration of government offices.

These indicators determine whether *government employment* should be expanded or contracted.

Interest payments are determined by the amount of outstanding debt, its maturities and the interest rates. Projections must be based on an assessment of borrowing capacity, using debt service ratios and expected foreign earnings, and the projected borrowing requirements. The accumulation of domestic debt is a problem only if its servicing results in an unacceptable redistribution of income, or if government finances debt service by money creation.

Subsidies to firms should be designed to enhance the after tax rate of return in the tradable sector. If government maintains price control on essential foods and medicines as part of its package of poverty relief, firms supplying these items must be subsidised to cover the difference between their costs and the fixed price, if we are to avoid an upsurge in unofficial market activity. The amount of subsidies will be constrained by the overall budget.

Transfers to households are an income supplement to the poor. Whether the provisions should be altered will depend on the deficit in entitlements for the poor, discussed below, the most cost efficient means of satisfying them and the budget constraint.

Government investment spending will be determined by the adequacy of infrastructure, to be judged by indicators such as the congestion of ports and airports, facility of transport and communications, and the reliable supply of public utility services. Government investment might also be influenced by a strong positive relationship between government investment and private investment.

In order to determine the targets for *social support through the budget* expenditure surveys are desirable. They should establish, at the minimum, what are the levels of dependence on free government services, the services of subsidised institutions and income transfers from government, for poor households where the head is in permanent employment and for those where the head has no permanent job. In each case the total consumption of essential services should be compared against the (culturally determined) minimum necessary, and the deficit to be made up established. The information might be arranged somewhat as follows:

Poor Households, Employed Head

	% of requirements for:			
	Nutrition	*Health*	*Education*	*Housing*
Provided from:				
Subsidised Services	u_{11}	u_{12}	u_{13}	u_{14}
Government Services	u_{21}	u_{22}	u_{23}	u_{24}
Transfers	u_{31}	u_{32}	u_{33}	u_{34}
Own Income	u_{41}	u_{42}	u_{43}	u_{44}
Deficit	U_1	U_2	U_3	U_4

The cost to the budget of making up the deficit in one of the three available ways can be estimated from the unit cost of delivering the service in each case times the amount required per household times the number of households, and the minimum cost alternative identified. The exercise should also be undertaken for households with unemployed heads. The minimum cost of making up the deficits will not be unambiguous because of the imprecision of the measures of cost of delivery. The remedial measures will have to be phased in, if the expenditure cannot be increased sufficiently (or at all) in the short run.

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