# The Political Economy of Exchange Rate Policy in the Caribbean

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CONTENTS

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### Section 1. Rationale of the Study and Outline

The Caribbean Economic Community (Caricom) is a promising laboratory for studying the determinants of exchange rate strategy because in the past 38 years member countries have experienced a variety of regimes, including currency boards, a monetary union, pegs to the US dollar and sterling, a crawling peg, exchange rate auctions and freely floating exchange rates, with and without central bank intervention. These divergent strategies all had common origins, in the currency boards set up by Great Britain in the immediate post-World-War-II years. This study searches for causes of the divergence by examining economic and political factors, using quantitative tests and case studies.

Earlier studies of the Caribbean exchange rate experience reveal that exchange rate strategy was not based on strict economic calculus, in line with similar observations for the Latin American countries included in this study. Exchange rates were not adjusted in the light of perceived competitive losses, and changes were reluctantly implemented, usually long after widespread evidence of exchange rate disequilibrium become evident. In line with other studies in this project, our intention is to provide a political economy analysis of exchange rate determination, weaving elections, political alliances and interest groups into the story.

The Caribbean offers possibilities of comparisons and contrasts with Latin America. The fact that the Caribbean is so much smaller than countries of Latin America may limit exchange rate options. There are relatively few products and services that are produced and exported by both regions. Tourism, the Caribbean's most important export, is much less important for Latin American countries, in comparison with the size of their GDP. Some Latin American countries trade extensively among themselves, Caribbean countries do not. On the whole Caribbean countries are much more open than those of Latin America, both to trade and financial flows.

The Caribbean offers political and institutional contrasts with Latin America as well. The region has robust parliamentary systems, dating form the 1940s and 1950s, except for Guyana. There has been one brief interruption of four years, in Grenada, one of Caricom's smallest members. Trade unions have had a strong voice in Caribbean affairs, while business groups, once very influential, have declined in influence in recent years. Caricom also includes a sub-set of members who constitute a monetary union among themselves, the member states of the Organisation of East Caribbean States (OECS).

This study assembles information on economic, political and institutional circumstances in an effort to identify the sources of exchange rate divergence within the Caribbean. A few Caricom countries were excluded in order to make the study manageable, but the countries were chosen so as to include every variety of exchange rate strategy with which countries have experimented. We include all countries that have flexible exchange rates (Guyana, Jamaica and Trinidad-Tobago), a country which has maintained a pegged exchange rate through a major balance of payments crisis (Barbados) and all the members of the OECS monetary union.

The next section of this paper provides the context for the analysis: a description of the economies, the goods and services they produce, their level of economic development and the openness of their economies. We describe the interest groups, parliamentary systems and the origins of the political system. There is a characterisation of economic phases in the Caribbean since 1960, a comparison of exchange rate policies within these periods and a comparison of nominal and real exchange rates.

The third section of the paper describes the evolution and workings of the Eastern Caribbean Central Bank (ECCB), the central bank of the OECS monetary union, and discusses the sources of its credible exchange rate peg.

Section 4 reports on a quantitative analysis of the factors affecting exchange rate strategy. Data on economic and political factors were pooled for all countries, and tests conducted on the significance of their impact on the level and volatility of the nominal exchange rate, the level of the real exchange rate and the choice between pegged and floating regimes.

Many of the circumstances surrounding the exchange rate decision are not readily quantified. In Section 5 we report on case studies of major changes in exchange rate strategy, as well as major balance of payments crises which involved large adjustment programmes. The case studies bring together quantitative information and descriptions of the circumstances of each situation, in a search for features that seem to be common across episodes.

The hypotheses examined in Sections 4 and 5 are firstly that there is a consensus of Caribbean intellectual opinion, popular opinion and political party support for exchange rates fixed to the US dollar; and secondly that some countries were able to maintain a fixed parity and others not because of the interaction of political factors (such as leadership, public opinion) economic factors (such as the size of the balance of payments disequilibrium), politico-economic factors (such as the existence of a monetary union); technocratic factors (such as the internal consistency of the policy package) and timing factors. Neither economic explanations (misalignment, inflation differentials ) nor political explanations ( interest group pressures, government instability, political competition) by themselves explain exchange rates.

The results confirm the interaction of economic, political, institutional and circumstantial factors in determining exchange rate outcomes. Fiscal policy was an important foundation for exchange rate strategies, and monetary policy and structural policies had to be consistent with fiscal policy and the exchange rate strategy. The public needed to be persuaded of the need for the chosen strategy, and how it would affect the balance of payments crisis which typically occasioned debate on exchange rate change. Private markets needed official guidance on the medium term outlook, with policy intervention and in the absence of intervention. The views of labour unions and employers' organisations had an effect on the outcome. There was always a catalyst to trigger the implementation of strategies to correct the balance of payments, whether or no that strategy involved a change in the exchange rate. The existence of a monetary union stabilised the exchange rates of the OECS countries. Frequent exchange rate changes prejudiced the chances of later success in Jamaica, the country where exchange rates were most frequently changed The magnitude of adjustment required determined whether maintenance of a fixed peg was feasible. These findings are summarised in Section 6

## Section 2. The Economic and Political Context and the Evolution of the Rate

### Economic Background

The English-speaking economies are all very small by international standards, though they vary in size from Montserrat and St Kitts-Nevis with populations of less than 50,000 to Jamaica with a population of about 2.5 million. They are all islands or groups of islands, with the exception of Belize on the Central American mainland and Guyana on the northern coast of South America. They share similar economic backgrounds as historical exporters of primary agriculture, with ratios of trade to GDP in the region of 100%. In 1960 all these countries except Guyana were members of the short-lived West Indies Federation, which was dissolved in 1963. Trinidad and Tobago and Jamaica were then the most prosperous, on the basis of the exploitation of oil and bauxite, respectively, supplementing their agricultural earnings. Tourism was just gathering pace, and as yet there was only a little manufacturing. Most countries mainly exported sugar and other agricultural products. GDP per capita for the English-speaking Caribbean ranged from under US$100 for the countries that now constitute the OECS to about US$650 for Trinidad and Tobago.

The 1960s saw the rapid growth of tourism, with the introduction of jet transport and the US blockade of Cuba, previously the main Caribbean magnet for North American tourists. By 1997 tourism had supplanted agriculture as the main export in most countries, with the notable exceptions of Guyana and Trinidad and Tobago, the latter having invested heavily in the manufacture of petrochemicals and mineral production. Other manufactured exports are not significant, apart from the export of garments under special arrangements, and these are in decline. Import-substituting manufacturing is a small sub-sector; it has not reduced the demand for imports, and it does not compete with exports. The ratios of trade to GDP have remained in the region of 100% throughout the 1960-97 period. Today the most prosperous Caribbean countries are the tourism economies - Antigua-Barbuda, The Bahamas, Barbados and St Lucia. Trinidad-Tobago has registered economic gains, less significant than for the tourism economies, on the basis of diversification into oil-based industry. Jamaica's economy has grown, but performance has been very unstable. Except for Belize the agriculture-based economies have stagnated, and Guyana's economy has contracted drastically.

The English Caribbean ranks high among developing countries in indices of the quality of life such as health, education, sanitation, housing, physical amenities and the limited incidence of poverty. Except for Guyana and Jamaica, significant gains were made in all countries between 1960 and 1997. There have been improvements in Jamaica, less significant than elsewhere, while Guyana has lost considerable ground.

In the early post-World War 2 period the UK regularised most of its colonial currencies with the establishment of currency boards, to manage local currencies linked to sterling. Currency boards were set up for the Bahamas, Belize, Jamaica and the Eastern Caribbean, the latter covering all territories from the Turks and Caicos (still dependencies of the UK) in the north to Guyana in the south. During the 1960s newly independent Caribbean countries replaced these currency boards with central banks. First Guyana, then Trinidad-Tobago and Barbados replaced the currency of the Eastern Caribbean Currency Authority (ECCA) with their own issue, leaving the EC dollar in circulation among the group which subsequently formed the Organisation of Eastern Caribbean States (OECS). They opted to maintain the common currency, eventually converting the currency authority into the ECCB in 1983.

The OECS and Barbados have elected to maintain a fixed currency peg throughout, and have been able to sustain it with an open current account and intervention by the monetary authority at the fixed rate. The rate was first fixed to sterling (at local $4.80 to the pound, for both currencies) and subsequently switched to the US dollar, in 1975 for Barbados (with a 5% appreciation to return the currency to a convenient BDS$2.00 per US dollar) and in 1976 for ECCA.

The currencies of Guyana, Jamaica and Trinidad and Tobago have been devalued, most drastically in the case of Guyana. The first devaluation in each case took place in circumstances of comprehensive but increasingly ineffective current account controls, the emergence of a parallel market where local currency was traded at badly depreciated rates and there was a build-up of external arrears of payment. The Guyana dollar was devalued in 1987 and 1989, but neither succeeded in eliminating the parallel

market, and the rate was fully liberalised in 1991. The Bank of Guyana no longer intervenes in the foreign exchange market. The Trinidad-Tobago dollar was devalued in 1985 and 1988; after a third devaluation in 1993, the currency was allowed to find its own level, though the central bank intervenes from time to time.

The Bank of Jamaica (BoJ) has had the longest and most varied experience of exchange rate adjustment. In 1977 it introduced multiple exchange rates, with depreciated rates for specified transactions. Subsequently the BoJ experimented with a predetermined exchange rate crawl. The rates were unified and a managed foreign exchange auction introduced in 1983. The rate depreciated under the exchange rate auction until 1985, thereafter remaining unchanged for some time, though the auction mechanism remained in place. The parallel market remained active throughout this period. The exchange rate was liberalised in 1991, and the rate immediately fell drastically. It continued to depreciate until temporarily arrested by the initiative of private banks and entrepreneurs in 1993. That attempt at stabilisation failed in 1995, and the currency depreciated once more. However the rate remained stable in 1997, with occasional intervention by the BoJ.

**Political Background**

The modes of governance and the politics of development common to Anglophone Caribbean countries, penetrate back to the historical circumstances of the 1930s and 1940s when labour movements grew increasingly resistant to the colonial order. The trade union and political party emerged out of the hot-bed of social disturbances that occurred across the Caribbean. The introduction of universal adult suffrage and ministerial-government in the 1950s both provided a basis for petit-bourgeois leaders to cultivate mass-based support, and exposure to a Westminster-Whitehall framework for constructing the politics of order. To be sure, these nominal advances had to be fought for against an unwilling or reluctant Colonial Office and British-appointed Governors. By the time of the disintegrating West Indies Federation in 1962, which coincided with an international resolve to shed imperial pretensions, Britain undertook the decision to assist Caribbean colonies through the constitutional steps to independence.

Currently politics in the Commonwealth Caribbean is based around representative democracy, featuring regular free elections, a competitive party system, and the peaceful handing over of power from one party to another. Apart from a Lower House -- elected element of the legislature -- there is a second chamber, the Senate, where one-third of its members is appointed by the Governor-General. In practice the parties do not concern themselves with mass politicisation. Instead they have become "electoral machines led and dominated by educated professionals who act as brokers and bargainers in an attempt to assemble multiple-class coalitions" (Payne, 1991).[1] In the Trinidadian and Guyanese cases, party politics is less an attempt to build coalitions than a reflection of the ethnic divisions within the countries. The nature of party politics in the Caribbean derives its true essence from the class and race dynamics that have long been a part of its history and sociology.

By the 1960s the emergent black petit-bourgeois political class, long excluded from the Caribbean corporate world of business, finance and high politics, could benefit from the transfer of state power to the region. This new political class would come to use acquired state power in ways that would guarantee their social reproduction. Generally the ruling power bloc comprised(s) state elites, merchant capitalists (mostly comprising the white traditional elite) , some manufacturers (particularly in the cases of Jamaica and Trinidad), tourism elites and members of the intelligentsia. This is not meant to exclude state alliances forged in the cases of Guyana and Trinidad along ethnic lines or with other factions in society: the trade unions, the media, the Church, the NGO community along with subaltern groups like the Rastafari and community organisations.

The trade unions, for example, have remained generalist in character with public sector employees constituting the bulk of the membership. They share a connection with labour-based political parties, witnessed by the common historical commitment to social justice concerns and the migration of union activists into electoral politics. The populist character of these institutions is derived by their labour based constituency, and the leadership is supplied by members of the (petit-)bourgeois class. In Jamaica, Trinidad and Guyana currency issues have been important in conflicts between public sector-based unions and ruling regimes. Except in the case of Guyana where the political climate did not allow for unions to operate freely, governments have been obliged, due to working class pressure, to adopt wage-protective policies in dealing with inflation. Generally the unions have expressed a preference for a fixed exchange rate in light of the white collar character of their membership and the concern all share with depreciating currency values. This preference is shaped against the backdrop of macroeconomic growth and how politically sustainable an austerity package might be in the event of economic contraction.

These pluralist factions that make up Caribbean society must be incorporated in the enquiry into the degrees of fiscal profligacy by the countries under examination. Inflationary wage increases, subsidised consumer goods, and deficit spending constitute endemic characteristics found within the political economy of Caribbean populism. Steps to bring inflation under control, and to maintain currency values often

[1] See A. Payne. (1991) 'Jamaican Society and the Testing of Democracy', in C. Clarke (ed.) Society and Politics in the Caribbean, London: St. Antony's/Macmillan.

compete with other social and political pressures for increasing social services for the working majority, higher government spending on social welfare and cost of living subsidies to ease the burdens on the poor. This causes monetary and fiscal policy to clash with the requisites of a fixed exchange rate, making the adoption of a fixed or flexible exchange rate regime a decidedly political event. This is nowhere more manifest than during those periods when individual countries experienced payments crises. In the thick of the crisis sectors articulate different policy preferences, technocrats urge the implementation of optimum macroeconomic policies, policymakers are less willing to implement policies that could lead to their removal from office, and the working majority fear the ruin to accustomed spending patterns that a currency adjustment entails.

## Evolution of the Exchange Rate Strategies

### *1960s, Fixed Exchange Rates*

In 1960 major international currencies bore relatively fixed relationships to each other, in particular sterling and the US dollar, the currencies of principal interest to the Caribbean. Caribbean currencies were issued by currency boards in Trinidad-Tobago (for the Eastern Caribbean from the Virgin Islands in the north to Guyana in the south), Jamaica (for the western Caribbean), British Honduras (now Belize) and the Bahamas. The local currencies were all pegged to sterling, except for the Bahamas. Current and capital account transactions between the Caribbean, the UK and other members of the sterling area were free of exchange controls. The currency boards were permitted limited holdings of domestic government securities, but this provision was seldom used. They were not allowed to lend to banks or other domestic entities.

Between 1960 and 1965 central banks were established first in Jamaica (1960), then in Trinidad-Tobago (1964) and Guyana (1965). For the remainder of the 1960s their policies differed little from those of the currency boards that remained, though they enjoyed full central bank powers, to offer discounts, undertake open market operations, control interest rates, control credit and set reserve requirements. The central banks all remained within the sterling area.

In 1967 sterling was devalued in terms of the US dollar; all Caribbean monetary authorities followed suit, retaining their sterling parities in spite of concerns about the effect on inflation and uncertainty about the effect on the supply of exports.

### *1971-82, Exchange Rate Strategies Diverge*

During this period exchange controls were extended to all non-domestic currencies, in Trinidad-Tobago (1970), Guyana (1971), Jamaica (1972) and Barbados (1974). Agreements which the UK government had put in place to guarantee the US dollar value of sterling balances as an incentive for the holding of sterling reserves were wound up in 1973. Caribbean currency pegs were all switched to the US dollar soon after: Jamaica at J$0.90 per US dollar in 1973, and Barbados, Guyana and ECCA in 1975, at rates of $2, $2.55 and $2.70 per US dollar, respectively. The Trinidad dollar was switched in 1976, at $2.40. The currencies of Jamaica and Guyana were devalued during the second half of the 1970s, the former officially, the latter only on the parallel market. These countries pegged the exchange rate and rationed foreign currency via exchange controls. Exchange controls were never employed in this fashion in the fixed rate countries. Barbados, ECCA and Trinidad-Tobago continued to maintain the pegged exchange rate by passive intervention, selling foreign exchange on demand at the fixed rate. Trinidad-Tobago accumulated a very large store of foreign exchange reserves as a result of the oil boom.

In 1976 a parallel market emerged in Guyana; foreign exchange was sold at the official rate only to government agencies. In 1977 Guyana tightened exchange controls, disallowing sales for a range of consumer imports.

A parallel market emerged in Jamaica in 1977; in April that year a dual exchange rate system was set up with the $0.90 rate for official transactions, and a rate of $1.25 for other transactions. The rates were unified at $1.55 in May 1978, and a crawling peg with minidevaluations of 1.5% per month was introduced. The crawling peg was suspended in June 1979. Throughout this experiment the official foreign currency market failed to clear, and the parallel market continued to expand.

Guyana and Jamaica continued attempts to manage exchange rates by rationing foreign exchange, and parallel markets expanded. Other rates remained pegged by intervention. In 1981 the official Guyana exchange rate was devalued to G$3.00 per US dollar, but the market rate was reported at G$10-12. Also in 1981 exchange controls were eased somewhat, in the context of a new administration's change in economic strategy, but the official exchange rate remained unchanged.

### *1983-91, Further Exchange Rate Divergence*

Barbados and the OECS sustained their pegs by intervention. Guyana continued futile attempts to ration foreign exchange, leading to the switch of a widening range of activity to parallel markets. Trinidad-Tobago fell into balance of payments crisis when the oil price fell; foreign exchange rationing was introduced and the exchange rate was devalued in 1985. Jamaica introduced market determined exchange rates, by way of a foreign currency auction.

In January 1983 the Jamaican government permitted commercial banks to make a market in foreign exchange, where they were at liberty to set rates which differed from

the fixed official rate, at which the Bank of Jamaica conducted its transactions. In November that year the markets were unified by a 43% devaluation of the official rate, and a foreign currency auction was set up by the Bank of Jamaica. The auctions continued until 1989, but from 1986 onward there was no change in the exchange rate. The auction was suspended in 1989, and in October that year the currency was devalued to J$6.50 per US dollar.

In January 1990 the Jamaican dollar was devalued to J$7.00 per US dollar, but the parallel market remained 10-15% lower. In November commercial banks were given full responsibility for the
foreign exchange market, managing the demand, supply and the exchange rate for all transactions. In September 1991 all exchange controls were removed, on capital as well as current transactions, and the exchange rate depreciated to J$21.53 by year-end.

The Guyana exchange rate was devalued three times in 1984, and once in 1985 and again in 1986, all by relatively small amounts, compared with the parallel market premium. In 1987 Guyana embarked on a comprehensive economic reform programme; it included a large devaluation and the relaxation of import controls in a series of measures between June and October 1988. In April 1989 the currency was devalued 70% to G$33 per US dollar in an effort to clear the foreign currency market, but by December the parallel rate was reported at GS48.The Guyana authorities licensed 36 non-bank currency traders ('cambios') in March 1990. The official exchange rate was devalued by 27% to G$45 per US dollar in June, but by December the cambios were trading at G$101. In February the official and market rates were unified at G$102; by December the rate had fallen to G$122.

The Trinidad-Tobago exchange rate was devalued by 50% to TT$3.60 per US dollar in December 1985 in an unsuccessful attempt to adjust to a one-third decline in real income as a result of the fall in oil prices. Fiscal contraction was introduced after a change of administration in 1985, but the economic disequilibrium could not be quickly resolved. The currency was again devalued, to TT$4.25, in August 1988, as part of a programme of fiscal and monetary measures supported by an IMF compensatory financing loan and a stand by arrangement.

In 1991 Barbados experienced a major balance of payments crisis; the Central Bank of Barbados' reserves fell to zero, and the Bank could no longer supply foreign currency on demand to support the fixed peg. Government took steps to restore balance of payments equilibrium by fiscal contraction, signaling its commitment by anchoring the adjustment programme on the fixed exchange rate. This strategy received popular endorsement, in the form of voluntary foreign currency rationing, until the fiscal measures took effect.

***1992 Onwards: Fixed and Flexible Regimes.***

Guyana and Trinidad-Tobago joined Jamaica in floating their exchange rates, abolishing all exchange controls, on current and capital accounts. The Bank of Jamaica and the Central Bank of Trinidad-Tobago attempted to stabilise the exchange rate via intervention, but the Bank of Guyana did not intervene in the market. The ECCB and the Central Bank of Barbados maintained their pegs through intervention, as before.

The Trinidad-Tobago exchange rate was floated and exchange controls abolished on April 13, 1993. The rate immediately fell from TT$4.25 to $5.75, with a very gradual decline thereafter. By 1995 the rate had stabilised at about TT$6.00, where it remained until the end of 1996, when there was a further loss of value.

The Guyana dollar continued to depreciate as the process of trade and exchange rate liberalisation continued. Tariffs were reduced in 1994 and 1995, and in December 1995 all exchange controls were abolished. The exchange rate stabilised in 1995 in the region of G$140 per US dollar, where it remained until end-1996.

The liberalised Jamaican exchange rate continued to depreciate, despite the Bank of Jamaica's high interest rate policy, engineered through open market sales. In 1993 a prominent businessman led an initiative to revalue and stabilise the rate. The move, which was supported by the media, the general public and the banks, succeeded in holding the rate fixed for about 18 months. However, it did not enjoy official endorsement: the Bank of Jamaica made no commitment to intervene in support of the rate, and the government did not undertake fiscal policy to contain the demand for foreign exchange so that the rate could persist. In 1995 the rate began to depreciate once more.

***Observations on the Exchange Rate Strategy***

The 1960s demonstrated that the Caribbean effectively belongs to the US currency area. The peg to sterling created no difficulty so long as the US/ sterling rate remained unchanged. However, the maintenance of a fixed peg to a devalued UK pound proved inflationary. Caribbean countries absorbed the one-off inflationary impulse of the 1967 devaluations. The problem resurfaced after the US abandoned the gold parity in 1971. At first the pound strengthened a little, but it soon began to depreciate continuously against the dollar, fueling inflation in the Caribbean. There were no apparent gains to compensate for the higher inflation, and all Caribbean currencies switched to the US dollar.

The floating rate currencies all showed a tendency to remain unchanged (in terms of their US dollar values) for extended periods, even when rates were fully liberalised with no official intervention or open market operations, as in Guyana. In the case of Jamaica, which has the longest record of market-driven exchange rates in the

Caribbean, the typical pattern sees the exchange rate settle to an unchanging value after a period of depreciation which usually lasts no more than six months. For a while the supply of foreign exchange at that rate seems adequate and the foreign currency market clears. Sooner or later, however, the supply of foreign exchange falls short of the demand. The exchange rate does not fall immediately, even in the absence of official intervention. Instead informal rationing appears in the foreign currency market: purchasers of foreign currency find they need to place large orders in advance, and requests may only be partially fulfilled. Informal rationing has persisted for periods over one year, before the rate starts to depreciate. The depreciation is then quite rapid, aggravated by pent-up demand and speculative short-term capital outflows.

Although full liberalisation of the foreign currency market came more recently in Guyana and Trinidad-Tobago, the pattern of exchange rate movements during this period is similar to that for Jamaica. This is especially remarkable for Guyana, where the central bank eschewed open market operations and intervention. Both the Bank of Jamaica and the Central Bank of Trinidad-Tobago did intervene, though intermittently, but they were usually not successful in preventing exchange rate variability. Since 1991 the Bank of Jamaica has also tried to stabilise the exchange rate through open market operations, on occasion selling government securities from its own portfolio to drive interest rates upwards, in hopes of enticing financial institutions to replace their liquidity by importing foreign exchange. The Bank of Jamaica claims success for this policy in recent months, when the exchange rate remained unchanged in spite of rumours of devaluation following the December 1997 general election.

The strategy adopted by the ECCB and the Central Bank of Barbados for managing the exchange rate - also used by the Bank of Guyana and the Bank of Jamaica prior to 1976 and by the Central Bank of Trinidad-Tobago prior to 1983 - differs radically from the strategies adopted by the floating rate currencies after the dates just mentioned. The ECCB and the Central Bank of Barbados maintained the peg through passive intervention - a commitment to supply foreign exchange on demand at the fixed rate. The demand for foreign exchange for current transactions was never rationed, and foreign investment, the repatriation of foreign capital, capital gains and profits were permitted freely. Foreign exchange markets remained in equilibrium through the management of aggregate demand, and there was never a parallel market premium on the official exchange rate. In contrast, the governments of Guyana, Jamaica and Trinidad-Tobago reacted to foreign exchange shortages by rationing, in the first instance, in an effort to avoid devaluation. The attempts at rationing failed, leading to the emergence of parallel market premiums. Under the liberalised exchange regimes the floating currency central banks have been unable to give the unconditional guarantee of intervention that the fixed currency central banks offer, even where the exchange rate seems to have stabilised.

*Real Exchange Rate Changes*

The preferred measure of real exchange rates in open economies is the ratio of nontradable to tradable prices, since economies that are as small and open as those of the Caribbean have no influence over the prices of tradable goods. Such measures have been computed for Barbados, Guyana, Jamaica and Trinidad-Tobago, from the 1970s, using GDP deflators.

Barbados' real exchange rate fluctuated around a level trend in the early 1970s. The rate appreciated in 1976 (there is a discontinuity in 1974), but the level trend was restored for the remainder of the 1970s. In 1980 the rate depreciated, and thereafter there was a persistent upward trend, interrupted temporarily in 1983, 1987 and 1988 only. The real exchange rate appreciation was halted by the imposition of the exchange rate based stabilisation programme of 1991, and the rate depreciated thereafter.

Guyana's real exchange rate also fluctuated around a constant level in the early 1970s. The rate fell swiftly with the onset of the first oil crisis, losing almost 50% of its value between 1973 and 1976. It appreciated in the following three years, but by much less, before declining again in the last years of the decade. The rate rose sharply in 1981, and fluctuated around that level for three years. With the onset of the Guyana economic reform programme in 1987 the real exchange rate fell rapidly, losing 60% of its value between 1986 and 1989. Between 1989 and 1992 (the most recent year available) the rate varied around a constant value.

Jamaica's real exchange rate fell between 1974 (the first year for which we have data) and 1980, by about one quarter. In the next two years it appreciated by almost that amount, remaining at about that level for another three years. The rate then declined between 1985 and 1988. It remained little changed for the remainder of the period, except for 1993, when it appreciated somewhat.

Trinidad-Tobago's real exchange rate depreciated slowly between 1970 and 1973, then fell sharply in 1974. Afterwards it appreciated up to 1978, which was followed by three years of wide fluctuation, ending at the lowest value to date. The upward trend resumed in 1982, and continued to 1986. Thereafter the rate cycled, downwards to a low in 1990, upwards to a high in 1992, and then down again.

## Section 3. The OECS Monetary Union

*The ECCB*

Five independent English-speaking countries of the Eastern Caribbean and two dependencies form the Organisation of Eastern Caribbean states, whose common central bank is the ECCB.
The Eastern Caribbean Central Bank evolved out of currency arrangements for the East Caribbean colonial territories, covering the Lesser Antilles and Guyana, in the early 1950s. The availability of means of payment was a long standing problem in the Caribbean, and in the 1930s and 1940s a variety of note issues appeared in attempts to alleviate the problem. By the 1950s notes issued by the Governments of British Guiana (now Guyana), Barbados and Trinidad-Tobago, and by several commercial banks were in co-circulation throughout the East Caribbean, all issued in exchange for sterling at $4.80.

The British Caribbean Currency Board (BCCB) was established in 1950 with headquarters in Trinidad to regularise the note issue. The BCCB operated as a strict currency board, issuing currency in exchange for sterling. The withdrawal of first Guyana and Trinidad-Tobago and later Barbados, to establish their own currencies, left the currency board - which changed its name to the East Caribbean Currency Authority in 1965 - with coverage of what subsequently became the Organisation of Eastern Caribbean States (OECS). ECCA continued to operate as a currency board, issuing currency and holding bankers' deposits in exchange for foreign exchange, until October 1983, when it was converted to a central bank with the addition of powers of monetary management, including reserve requirements, interest rate directives, credit controls, rediscounts and open market operations. However, the ECCB is required to maintain foreign reserves equivalent to at least 60% of its liabilities, and there are statutory limits on the availability of credit to member governments.

Major policy decisions of the ECCB, such as decisions on exchange rate strategy, repose, in the final analysis, with the Monetary Council, the highest organ of the ECCB, which comprises the Ministers of Finance of the participating countries. The Governor of the ECCB does not sit on the Monetary Council. The Governor chairs the Board of Directors, which meets more regularly and maintains close watch on economic and monetary affairs. The Board is free to make policy within the guidelines set by the Monetary Council. It would need to refer to the Council any policy which fell outside an existing guideline, such as a decision to alter the exchange rate strategy.

The Governor of the ECCB is appointed by the Monetary Council for a fixed term of five years, which is renewable. The Board comprises the Governor, the Deputy Governor (a career officer) and representatives appointed by each member country, who may be drawn from government or the private sector. They act in their individual capacity and are required to consider the interests of the currency area as a whole, rather than to represent the countries which appointed them. The directors also serve three year terms.

Although all transactions are in a single currency the financial markets of the ECCB member countries appear to be relatively independent. As with all Caribbean countries where exchange rates are pegged, interest rates follow comparable US rates over the medium term. However, in the short term conditions on the domestic financial market cause variations around this trend. The pattern of these interest rate variations is different for each member of ECCB, contrary to what might be expected of an integrated financial market for the OECS region. The segmentation of the market along national lines is also reflected in divergences of bank liquidity. This is especially surprising because branches of international banks are among the leading financial institutions in all OECS countries, and the branches of each bank report to a single headquarters. This suggests that the costs of financial transactions between countries are much higher than is commonly supposed.

The ECCB has made little use of the monetary instruments it acquired in 1983. Its only intervention in the financial system was the stipulation of a minimum interest rate on deposits, a stipulation which arose because of a tendency for deposit rates to fall below the rate of inflation. A pervasive phenomenon in developing countries is the very wide spread between deposit and loan rates, a reflection, in the opinion of the principal author of the present study, of the relatively low volume of large transactions characteristic of all but the largest countries of the developing world. The ECCB believed that banks kept deposit rates too low in order to retain an adequate spread without making loan rates uncompetitive with international rates (after allowances for information and transaction costs). The interest rate stipulation has therefore resulted in higher loan rate than might otherwise have been the case, but this has not affected the mix of foreign and local borrowing to the detriment of ECCB's foreign exchange reserves.

ECCB's lending to government has occasioned no fall in its foreign exchange reserves. The bank is not banker to any member government, and offers no credit on overdraft or other open account. Lending to governments is chiefly by way of marketable securities. Not every national government issues securities, and no government issues them on a regular periodic basis. ECCB's lending to governments has therefore been episodic, and the amounts involved were small in relation to the monetary base (about 10% at the end of 1996).

The principal source of monetary expansion by the ECCB has been the accumulation of foreign exchange reserves. Despite its central bank status the ECCB maintains foreign reserve levels typical of its predecessor, ECCA. ECCB made few advances to financial institutions, none of large magnitude.

The strategy of issuing domestic currency almost exclusively in exchange for foreign currency continued unchanged throughout all the metamorphoses of the BCCB. As a result there has never been a threat to the exchange rate peg. The BCCB operated in the era of fixed exchange rates, when exchange rate flexibility for small countries was considered academic. However, it became increasingly clear that the peg to sterling was inappropriate for countries whose international business was mainly with the US, and where, in addition, most non-US transactions were conducted in US dollars. The inflationary consequences of the 1967 sterling devaluation brought home this lesson to a wide audience. ECCA, along with other Caribbean monetary authorities, maintained the sterling parity. When sterling began to depreciate in the early 1970s a switch to a US dollar peg became increasingly attractive as an anti-inflationary measure. ECCA made the switch in October? 1975.

The fact that ECCB did not lend significantly to financial institutions or governments meant that external payments of the OECS region as a whole remained in balance. There was no means of financing external payments other than foreign currency receipts or capital inflow. Moreover, the national segmentation of financial markets resulted in external balance for each member country, as there were no intraregional transfers to facilitate offsetting surpluses and deficits. Therefore, we do not find evidence of economic disequilibria in the balance of payments, except in the case of Antigua-Barbuda, where a deficit emerged, financed by the accumulation of external arrears.

Furthermore, fiscal deficits were contained to the financing available to governments from external creditors or the domestic private sector, in the absence of ECCB advances. As a result there were no sustained large fiscal deficits, except the Antigua case just mentioned, and an episode in Grenada, when government sold assets to close the financing gap. These two episodes are identified for close scrutiny in Section 5 on case studies, precisely because they are manifestations of economic disequilibria which might, in the absence of monetary union, have threatened the stability of the exchange rate.

Because of fiscal and balance of payments financing constraints, adjustments to the real economies of member countries of BCCB, ECCA and ECCB had to be made in response to economic shocks, of whatever kind. The cost of such adjustment has been a major obstacle to monetary union in Europe and elsewhere. However, in the Caribbean such costs appear to have been small. Countries recovered from natural disasters with remarkable speed, and real income was less variable for countries of the monetary union - and for those with fixed pegs - than for countries with flexible exchange rates. Political instability was the only cause of prolonged economic decline in member countries of the ECCB, or in Barbados, Guyana and Trinidad-Tobago before they left the arrangement.

It is surprising, in retrospect, that Barbados, Guyana and Trinidad-Tobago opted out of an arrangement which seems to have offered the substantial benefit of low and stable inflation at no measurable cost in terms of output foregone or output variability. At the time that the central banks were set up there was little media discussion on economic issues, economic information was not widely disseminated and parliamentary debates are not informative on economic matters. Only in the academic literature is there evidence of possible motivation for the establishment of the central banks, apart from the content of the central bank laws themselves. Caribbean academics criticised currency boards for their 'excessive' holding of foreign reserves, in effect a loan to the rich reserve currency countries. These funds, it was argued, might be more productively used to fund domestic investment (Thomas, 1972; McClean, 1975). The Ph D thesis of the principal author of this report derived an optimal level of reserves by computing the minimum of (a) the growth sacrificed by holding reserves, via investment foregone and (b) the loss of output, compounded over time, from adjusting income fully to eliminate any adverse balance of payments shock, given the probability of such a shock (Worrell, 1975).

Political leaders evidently found these arguments persuasive. Central banks could provide funding to sustain government's social development and infrastructure programmes in the face of any sudden loss of revenue. Newly established central banks assumed a portion of the national debt almost immediately. It was never envisaged that such lending would increase to an extent that the fixed peg would be in question. Statutory limits on government borrowing and on central bank credit to government were expected to insure against the exhaustion of reserves. In the event it was the failure to observe these limits which allowed Guyana, Jamaica and Trinidad-Tobago to drift, against the wishes of their governments and populations, into a policy of depreciating exchange rates. In Barbados, too, the legal limits were breached in 1989, and the US peg was maintained only because government reversed its expenditure policies decisively at the eleventh hour.

In contrast, the ECCB always kept credit to governments well below statutory limits. The prevailing view is that this reflects the greater degree of independence of the ECCB, compared with other regional central banks. However, ECCB is not ranked significantly above the Central Bank of Barbados or the Central Bank of the Bahamas by any of the usual indices of independence, and it is surely incongruous to consider independent of government influence a bank whose supreme decision making body, the Monetary Council, is made up exclusively of ministers of finance and does not include the bank's governor as a member.

A more plausible explanation of ECCB's ability to constrain government credit is the relative economic balance among its member countries. No country is so economically dominant as to impose on others to bend the rules to its advantage, and no country accounts for such a large percentage of foreign exchange receipts that allowable limits

on credit to that member might cause doubts about the sustainability of the peg. The ECCB may also have benefitted from its relatively late establishment, in 1983. By the mid-1980s the contrast between the fortunes of the countries with unchanged parities and those with depreciated currencies suggested a less cavalier approach to money creation.

## Section 4. Empirical Results

### Literature on Exchange Rate Determinants

In this section and the next we explore the determinants of exchange rates and exchange regimes. This section reports on econometric tests for quantifiable variables where we have sufficient data. In the next section we examine a number of case studies, bringing qualitative insight to bear. The economic and political variables that might affect the exchange rate are discussed in Edwards (1989), Aghevli, Khan and Montiel (AKM, 1991), Collins (1996), Walsh (1994) and Freiden (this volume). In addition, Williamson (1994) offers insight on factors that help to determine the outcome of economic reform; since exchange regime changes were usually part of an economic reform package that research also suggests variables for consideration.

For Edwards the change in the real exchange rate is a function of the change in the equilibrium real rate, the appropriateness of macro policies and the change in the nominal rate. The change in the equilibrium rate depends on fundamentals: terms of trade movements, the level and composition of government consumption, exchange controls, trade controls, technical progress and the ratio of investment to GDP.

In addition to the variables cited by Edwards, AKM show that the equilibrium real exchange rate is affected by international interest rates, tariff reform, fiscal strategy and differential rates of technical progress, between tradables and nontradables and at home and broad. Even when the equilibrium real rate is known the optimal nominal rate is not unique. The exchange rate strategy depends on government's objectives (growth, inflation control, the accumulation of foreign exchange reserves) and the sources of economic shocks (external, real, monetary). The actual rate also depends on the monetary and fiscal stance. Collins suggests additions to the list of determinants: the current account of the balance of payments, size, openness and income per capita. The current account is a measure of the extent of misalignment; small size, openness and low per capita incomes make it difficult to manage flexible exchange rates.

The literature illuminates other factors affecting exchange rate trends and strategy: the credibility of macro policy, the compatibility of policies with those of neighboring countries, the past history of exchange rate fluctuations, the extent of currency substitution and dollarisation, the depth of the financial market, the size of cross-border financial flows, possible conflicts of policy objectives and the rate at which competitive gains are eroded over time.

The credibility of macro policy and exchange rate strategy are so intimately linked that it is impossible to say which is prior. The fixed exchange rate may be seen as a source of credibility (Obstfeld and Rogoff, 1995), but it may be that credibility must be established by domestic monetary and fiscal policy, with a fixed exchange rate as a complement (Svensson, 1994). Particularly for small countries, exchange rate stability depends on compatibility of fiscal and monetary policies with those of major partners in international trade and finance (Argy and DeGrauwe, 1995).

The evolution of the equilibrium exchange rate depends on the pattern of exchange rate adjustment over time. Exchange rate changes induce the private sector to make trade and investment decisions which are not readily reversible. The policy options which are feasible once these decisions are implemented are different from those which were indicated before they were made (Baldwin and Lyons, 1994).

A high degree of currency substitution increases the desirability of a fixed exchange rate (Calvo and Vegh, 1994). In effect, full dollarisation, the extreme of currency substitution, is the ultimate fixed exchange rate commitment (Cukierman, Kiguel and Liviatan, 1992). Countries with poorly developed financial markets and weak financial institutions find it more difficult to mange flexible exchange rates and are more likely to suffer exchange rate crises in the context of liberalised foreign exchange markets (Edwards, 1996). Where short term cross border finance is a large proportion of foreign exchange flows a fixed exchange rate cannot be sustained.

Conventional wisdom portrays a conflict between two possible objectives of exchange rate policy: competitiveness and low inflation (Kiguel, 1992). Where such conflict is prominent it is difficult to maintain an exchange rate peg. However, very open economies secure only a temporary gain in competitiveness via devaluation, because of the predominant influence of foreign prices on domestic inflation. Exchange rate policy can be directed unambiguously to controlling inflation by stabilising the exchange rate. We therefore use a measure of openness to represent the degree of conflict - or lack of conflict - between objectives.

With respect to political influences on the exchange rate Walsh (1994) suggests that decisions about the European Monetary System were affected by financial arrangements between banks and major companies (with respect to the extent of debt financing), preferences of the governing political party, the proximity of elections and the nature of political coalitions.

Exchange rate adjustment (and other policies to correct imbalances of external payments) has always taken place in the context of an overall programme of economic adjustment. Williamson (1994) reports research on the political economy of policy reform in 15 countries in Europe, Australasia, Latin America and Asia. The studies suggest some political factors affecting the implementation of economic policy reform

which are relevant to the determination of exchange rates. They indicate that even though economic crises did not initiate reform they helped to stimulate it. Crises are not readily quantifiable for the tests, but some episodes are selected for case study because of the existence of a balance of payments crisis.

Foreign intellectual input played a key role in the reform programmes which proved durable, in Williamson's sample. In some cases policy makers has direct links with intellectual centres in the US, in others the influence was exercised through the IMF or World Bank. Government needs a solid political base to sustain economic reform. In democracies, this implies a reliable majority of legislators in favour of reform, and often, a weak and divided opposition.

A social consensus is desirable for economic reform, though countries have initiated reform without such a consensus. However, experiences cited in the Williamson volume may be used to make a case for the importance of building consensus as the programme proceeds. Every case of successful reform was propelled by a strong leader with a vision and a sense of history, in the opinion of the contributors to the Williamson study. The leaders all had a sound grasp of the economy, though few of them have been led by trained economists acting in a political role. Successful programmes benefitted from the advice and support of a coherent team of economic technicians. (Some failed programmes also benefitted from good technical support.)

**Table 4.1 The Model specification** (Expected signs; Y: variable included in estimates)

| | Regime | ER | ERVOL | RER |
|---|---|---|---|---|
| TOT | + | + | - | + Y |
| TOUR | + | + Y | - | + Y |
| RW | - | - Y | + Y | - Y |
| | | | | |
| INFDIF | - Y | - Y | + Y | + Y |
| MISALIGN | -/0 | -/0/+ | +/0/- | -/+ Y |
| CRED | - Y | - Y | + Y | |
| BOPADJ | + | + | - Y | + Y |
| CRGCB | - Y | - Y | + Y | - Y |
| STKXGS | +/- | +/- | -/+ Y | +/- Y |
| RELGROW | + | + | - | + Y |
| FXR | + Y | + Y | - Y | + |
| AGR | - | - Y | + Y | |
| PETROTT | + | + | - Y | |
| SVCS | +/- | +/- Y | -/+ Y | |
| SIZE | - Y | | + Y | |
| OPEN | - Y | | + Y | |
| | | | | |
| M3 | - Y | | + Y | |
| I | +/- | +/- | -/+ | +/- Y |
| IT | + | + | - | + Y |
| | | | | |
| DUMTU | + Y | + Y | - Y | |
| DUMEMP | + Y | +/- Y | - | - Y |
| ELECT | +/- Y | | | |
| PARTY | + | + Y | - | |
| PIP | - Y | - Y | + | |
| GE | +/- Y | +/- | -/+ | |
| IMF | - | - Y | + | |

**The Model**

The very large number of candidate variables was considerably reduced, in the empirical tests, by the availability of sufficiently long series of values or proxies. We do have data for most variables, but the observation periods frequently do not match. We included as many variables as was possible without reducing the number of usable observations below a level that might have impaired the significance of the results.

The specification for the four relationships tested, for the exchange rate regime (REGIME), the exchange rate level (ER), the volatility fo the rates (ERVOL) and the real exchange rate (RER) are summarised in Table 4.1, which also indicates the expected sign of the coefficient associated with each variable, and an indication (Y) of whether that variable was included in the final specification of the equation.

***The External Context***

For convenience the explanatory variables are grouped under headings, beginning with the external context. The external factors likely to affect exchange rate policy are the

terms of trade and foreign (in the Caribbean case US) interest rates. In addition, empirical studies have shown that, contrary to the usual small country assumption, the demand for Caribbean tourism varies with business cycles in the tourists' countries of origin (Worrell et al, 1997). Available terms of trade measures do not include a price for tourism, though it is the largest export of several Caribbean countries. For these reasons we include *TOUR*, the change in world tourist arrivals, to measure external market influences on tourism performance. Increases in world tourism and improvements in the terms will facilitate the fixed exchange rate, appreciate flexible exchange rates, reduce exchange rate instability (foreign exchange reserves may be allowed to accumulate) and appreciate the real exchange rate. An increase in the world interest rate has opposite effects.

***Macroeconomic Conditions***

The control of inflation may well be an objective of exchange rate strategy, but this implies that fiscal and monetary policies are compatible with those of the US. The inflation differential between domestic and US rates - *INFDIF* - is used to measure the degree of compatibility. If domestic inflation rates are significantly above those in the US the country is unlikely to sustain a fixed exchange rate, the exchange rate is likely to depreciate, the exchange rate is less stable and the real exchange rate will appreciate if corrective action is not taken. (Alternatively, a country might choose a lower rate of inflation than the US , and seek to achieve it by an appreciation of the nominal exchange rate.)

The degree of misalignment of the real exchange rate - *MISALIGN* - is an indication of the extent of adjustment that is desirable. If the real exchange rate has appreciated more than the equilibrium real rate, and adjustment in the nominal rate is the appropriate adjustment, the fixed exchange rate will be threatened, a flexible rate will depreciate, exchange rates will become more unstable and the real rate will depreciate. However, a nominal exchange rate adjustment may not be the appropriate response, for example if the source of misalignment is money-financed fiscal expansion. In this case the nominal exchange rate may be unaffected (in case of a fixed rate) or may appreciate (in case of a flexible rate) as the credibility of the overall programme is enhanced.

The credibility of monetary policy depends on the reputation government has established, particularly with respect to the control of inflation. The cumulative rate of inflation is used as an indicator of the confidence that reposes in government policy. Low credibility - a high rate of cumulative inflation - undermines the fixed exchange rate, depreciates the floating rate and makes the nominal rate unstable. It should not affect the real exchange rate.

The sustainability of the external balance - and therefore the risk of exchange rate change - is measured by the overall balance of payments, less short term capital movements. Collins and others have used the current account as a measure of misalignment, but sustained current account deficits may well be compatible with exchange rate equilibrium, if they are financed by long term capital destined for investment, in tradables especially. Our measure includes only that element of the current account which is financed by a drawdown of foreign reserves or a short term capital inflow. Large and persistent adjusted balance of payments deficits (*BOPADJ*) depreciate nominal and real exchange rates and increase instability.

The effects of fiscal strategy depend on the extent to which the government's borrowing is a source of injections to the money supply, and are measured by the ratio of central bank credit to government to money supply (*CRGCB*). Monetary injections depreciate nominal and real exchange rates and increase instability.

A high degree of capital mobility promotes exchange rate stability provided fiscal, monetary, trade and other policies are consistent with the exchange rate, but it increases instability if policy is deemed to be inconsistent. The exchange control regime is not a good indicator of the degree of capital mobility. In small open economies capital mobility is high even in the presence of tight exchange controls, which divert capital flows to the parallel market. The extent of short term capital as a percentage of exports of goods and services - *STKXGS* - is used as a proxy for capital mobility. In view of the first sentence of this paragraph its sign is ambiguous.

The studies cited above include growth as a determinant of the exchange rate. However, the effect of faster growth on the exchange rate is ambiguous: if tradable output grows faster than nontradable the real exchange rate may appreciate and/or a fixed rate may be sustained, but if nontradable output grows more quickly the nominal and real rates may depreciate. For this reason we prefer to use the ratio of the growth of tradables to nontradables (*RELGROW*), which is more likely to have a positive effect on nominal and real rates and stability.

The choice of exchange rate strategy, the ability to sustain a fixed rate and the stability of the nominal rate are influenced by the level of foreign exchange reserves. High reserve levels are needed to defend a fixed rate, or for intervention in order to reduce exchange rate instability or prevent unwarranted depreciation. Foreign exchange reserve levels do not affect the real exchange rate.

***The Production Structure***

The output mix may proxy the influence which sectoral interest groups seek to exert on exchange rate strategy. Agricultural sectors (*AGR*) are likely to gain a cost advantage from devaluation, provided the effect of devaluation on domestic inflation is muted. Tourism - we use services (*SVCS*) because a separate breakdown for tourism is not readily available - is less likely to benefit because of its high usage of imported inputs. Petroleum (*PETRO*) reaps no significant gain because the domestic content of production is low, and they are highly capital intensive. Where the contribution of agriculture to GDP is high we might expect greater exchange rate flexibility and tendencies for depreciation of nominal and real exchange rates. Where mineral

extraction is dominant we might expect fixed exchange rates and an appreciation of real and nominal exchange rates.

*Other Economic Parameters*

Small countries are more likely to have fixed exchange rate pegs, particularly where they have large neighbours with stable currencies, and small countries may find it more difficult to manage flexible rates. *SIZE* should be inversely related to the probability of a fixed exchange rate, and directly related to the flexibility with which the rate may be managed.

Very *OPEN* economies are more likely to have pegged exchange rates, as may be inferred from the theory of optimum currency areas. The principal author of the present study has argued that Caribbean countries belong to the US currency area (Worrell, 1994). This is the reason for the observed step-wise pattern of exchange rate movement in the Caribbean. The more open the economy the greater the probability of a fixed exchange rate, the lower the volatility of the flexible rate. If periods when the exchange rate is searching for a new level are omitted, the volatility of the rate is close to zero. The real exchange rate is unaffected by the openness of the economy.

Although size and openness cannot be exclude from the estimation because of their potential importance we may not observe significant coefficients for our Caribbean sample because the range of variation in these variables is relatively small.

*Financial Structure*

The ratios of broad money to GDP (*M3*) proxies the depth of the financial market. Higher values should be associated with flexible exchange arrangements and increased volatility, but the trend and level of the real and nominal rates should not be affected.

A strong investment performance may be expected to appreciate both real and nominal exchange rates, reduce exchange rate instability and increase the probability of a fixed rate regime, though these effects may be reversed if investment is predominantly in the nontradable sector. Where data is available, therefore, we use the ratio of investment in tradables to GDP (*IT*),which unambiguously appreciates and stabilises the exchange rate.

*Interest Groups*

The working hypothesis for the empirical tests is that the influence of interest groups is proportionate to their contribution to GDP, cited earlier. Workers' representatives universally oppose exchange rate depreciation in the Caribbean because of the inflationary consequences. Where workers have a strong voice through well established trade unions they may be a force for exchange rate stability and the appreciation of real and nominal exchange rates. Our model includes a dummy variable (*DUMTU*) for the years when trade unions were vocal in discussions of exchange rate policy and balance of payments adjustment.

A dummy variable is also used to mark those countries and years when employers' organisations are judged to have exerted a powerful influence on exchange rate policy. Employers favour exchange rate stability but one cannot say *a priori* whether their preference is for an appreciation or depreciation of the nominal exchange rate. Insofar as the real rate is seen as a measure of competitiveness the employers' lobby favours a depreciation.

*Political Institutions*

The electoral system (*ELECT*) is represented in the econometric work by a binary variable which has a value of unity for all countries except Guyana (since 1964). Guyana has had a system of proportional representation since that date; all others use the first-past-the-post system.

A second binary variable is used to represent the stability of the party system (*PARTY*). Among non-OECS countries there have been defections, but the dominant parties soon re-emerged. In OECS countries there were several periods of shifting alliances. We hypothesize that a stable party structure is conducive to decisive action in response to balance of payments crises, making a fixed rate more probable, appreciating a flexible rate and reducing volatility.

Another working hypothesis is that the fewer parties that make up the government (*PIP*), the more stable the administration and the greater the decisiveness in exchange rate policy.

We expect the timing of general elections (*GE*) to have a bearing on exchange rate choices. As the date for an election draws near government becomes less inclined to depreciate the exchange rate and provoke an acceleration of inflation. At the same time pre-election fiscal expansion may create a balance of payments disequilibrium which makes devaluation inevitable. The signs on the variable *GE*, the number of years to the next general election, is ambiguous.

***Other Variables***

The intellectual climate conditions the choice of economic strategy and therefore affects exchange rate policy and trends. To reflect those periods when the view of the IFIs had a crucial impact on policy choice we include a dummy variable (*IMF*) for all years when countries had IFI-sponsored adjustment programmes.

**Estimation and Results**

***Variable Definitions***

*Dependent Variables*

REGIME a binary variable with a value of unity for a fixed peg, zero otherwise;
ER the value of a local dollar in terms of US currency; a devaluation is a decline in the value;
ERVOL the standard deviation of the exchange rate over 5 consecutive years, centred on the current year;
RER the deflator for nontradables, divided by the deflator for tradables. A relative increase in the price of nontradables causes an appreciation, represented by an increase in this value.

*External Variables*

TOT the relative price of visible exports to imports. An increase in export prices increases the index;
TOUR the volume of world tourism arrivals;
RW the US 3 month treasury bill rate;

*Macroeconomic and Structural Variables*

INFDIF the percentage change in local CPI, minus the corresponding change in US CPI. A relative acceleration of local CPI increases its value;
MISALIGN an index of actual RER minus an equilibrium RER calculated by Worrell and Harriott (1997). A positive value indicates an overvaluation;
CRED cumulative inflation since 1960, or the earliest available year;
BOPADJ Overall balance of payments, less net short term inflow. A positive net inflow is added to the overall deficit, or subjected from an overall surplus;
CRGCB net credit to government by the monetary authority as a proportion of the monetary base;
STKXGS net short term capital flows as a percentage of exports and service credits;
RELGROW ratio of output index of tradables, divided by index of nontradables;
FXR reserves divided by average monthly imports;
AGR, PETROTT, SVCS percentage share of GDP;
SIZE GDP in US dollars;
OPEN total of exports, services credit and imports, as percentage of GDP;
M3 total monetary liabilities;
I gross domestic fixed capital formation;
IT estimated proportion of I in tradables;

*Political and Institutional Variables*

DUMTU dummy variable with a value of unity when, in authors' judgement, trade unions contributed influentially to the debate about exchange rates and adjustment;
DUMEMP similar dummy to represent the influence of employers' groups;
ELECT the electoral system dummy, with a value of unity for 'first past the post' and zero for proportional representation;
PARTY value of unity when the ruling party or coalition was stable;
PIP number of parties in government;
GE number of years to next general election;
IMF value of unity when there was an IMF programme in place.

**Table 4.2 The Estimates** (T-stats in brackets; * indicates significant coeff.)

| | Regime | ER | ERVOL | RER |
|---|---|---|---|---|
| TOT | | | | -42.6* (-2.28) |
| TOUR | | -1.22e (-7) (-0.76) | | -.0001 (-0.75) |
| RW | | -0.004 (-0.8) | -0.14 (-1.83) | 0.403 (0.28) |
| INFDIF | 0.043 (0.18) | 0.002* (2.71) | -0.028* (-2.50) | 2.58* (2.89) |
| MISALIGN | | | | -15.6 (-1.15) |
| CRED | -0.181 (-0.13) | -0.006* (-3.106) | 0.259* (3.78) | |
| BOPADJ | | | 5.23E(-10) (1.14) | 2.47E(-8)* (3.16) |
| CRGCB | 0.193* (1.99) | 0.001* (5.33) | 0.004* (1.71) | -0.026 (-0.31) |
| STKXGS | | | 2.87E(-10) (0.22) | 5.2E(-8)* (2.40) |
| RELGROW | | | | 2.26 (1.34) |
| FXR | 4.49* (2.17) | -0.013* (-2.73) | 0.228* (2.97) | |
| AGR | | -0.012* (-4.60) | 0.168 (3.11) | |
| PETROTT | | | | |
| SVCS | | -0.002 (-1.31) | 0.069* (1.91) | |
| SIZE | 3.86E(-9) (1.17) | | 2.66E(-10) | |
| OPEN | 2.50* (1.67) | | 0.037 (0.83) | |
| M3 | 0.621 (1.33) | | 0.046* (2.92) | |

| | | | | |
|---|---|---|---|---|
| I | | | | |
| IT | | | | |
| DUMTU | 7.47 (0.40) | 0.163* (5.18) | 1.084* (1.94) | |
| DUMEMP | -9.23 (-0.26) | -0.212* (-4.15) | | -4.83 (-0.26) |
| ELECT | 15.99 (0.73) | | | |
| PARTY | | 0.167* (2.14) | | |
| PIP | 116.4 (1034) | 0.498* (4.68) | | |
| GE | 5.40 (0.87) | | | |
| Adj R sq | LogLikelihood: -4.27 | 0.67 | 0.49 | 0.75 |
| DW | | 1.22 | 1.46 | 2.50 |
| No. Obs. | 104 | 89 | 67 | 25 |

***Results***

The results confirm that the interaction of economic and political factors offers an improved understanding of the determination of exchange rate strategy. Although the political variables for which we have quantitative analogues are few, they appear to be as important as the economic factors in determining the level of the nominal exchange rate, and they also seem to affect volatility.

The most influential economic factors appear to be the *inflation differential* between domestic and foreign economies, and *accumulated inflation*. The inflation differential has a significant impact on real and nominal exchange rates and exchange rate volatility, though not always in the direction our priors had led us to expect. Accumulated inflation has a significant impact on the exchange rate and its volatility. *Credit to the government by the central bank* and *foreign exchange reserves* play an important role in determining the level and variability of exchange rates, as does the extent to which GDP originates in *agriculture* and *services*. The *trade union dummy variable* significantly affects the level and volatility of the exchange rate; all the other political/institutional variables make significant contributions to the determination of exchange rate levels, except for the dummy variable for *IMF programmes*. The effects of modest changes in the explanatory variables on the exchange rate level are small, but small changes cause very large changes in the volatility of the rate.

The overall explanatory power of the regression for the *exchange rate regime* was quite low, even though the reported equation has been pruned of some variables that appeared to be insignificant in earlier trials (reported in Appendix E), in order to increase the number of observations. Foreign exchange reserves appear to play a significant role: a 10% improvement in foreign exchange reserve cover increases the likelihood of a fixed exchange rate by 90%. Central bank credit to government has a significant coefficient, but with the wrong sign. A 10% increase in the ratio of such credit to the monetary base would increase the probability of a fixed rate by 7%. The inflation differential, cumulative inflation and government current expenditure have no significant effect. Openness is a significant variable: an economy that has a 10% higher ratio of external transactions to GDP is 12% more likely to have a fixed exchange rate. Size has no significant effect, nor do monetary liabilities. Included in the estimate were dummy variables for employers' and trade unions' influence and for the electoral system and the number of parties in government; none had a significant effect.

The *exchange rate* equation attains a reasonable level of explanatory power, with an adjusted coefficient of determination of 0.68, but we are unable to resolve an apparent problem of positive serial correlation. A test reported in Appendix E indicates that a simple autoregressive model is not the appropriate representation. Because of serial correlations we cannot be sure that observations are drawn from a population that has classical statistical properties, and the inferences we draw may not turn out to be robust, in future tests with a more comprehensive data set. Nevertheless the results suggest that external shocks had no significant effects on exchange rate levels. Macroeconomic variables did have significant effects, but they tended to be modest. A 10% increase in the domestic-foreign interest rate differential ( at the mean) would increase the value of the exchange rate - contrary to our priors - by 2%, at the mean of the exchange rate. Cumulative inflation is statistically significant, and accords with our priors; central bank credit to government and foreign exchange reserves are also significant, but their signs are contrary to our priors. However, in all cases the impact is small, ranging from one to three percent for a 10% change in the explanatory variable. Political and institutional variables were somewhat more influential. The number of parties in power is quantitatively the most important: a 10% increase in that number appreciates the exchange rate, contrary to our priors, by 13% at the mean values. The dummy variables for trade union influence, the influence of employers' organisations and stable ruling parties are all significant, but quantitatively less important than the number of parties in power. Dummies representing IMF leverage have no significant effect.

The test for *exchange rate volatility* suffers from serial correlation, though evidently not of the first order; the results of that test are reported in Appendix E. The overall explanatory power is rather low, with an adjusted coefficient of determination of 0.49. The only external factor tested, the foreign interest rate, had a statistically significant effect, with a 10% increase associated with a 26% fall in volatility, contrary to our priors. Accumulated inflation was the most influential variable, causing a 48% increase in volatility for a 10% increase in cumulative inflation, at the means of the variables. A 10% increase in central bank credit produces a 7% increase in volatility. The inflation differential and the level of foreign exchange reserves have significant effects that are contrary to our priors: a 10% increase in the inflations differential reduces volatility by 19%, and a 10% increase in reserves increases volatility by 12%. A country whose agricultural sector is 10% larger, in relation to GDP, is likely to experience 16% greater volatility, and a similar differential in services is associated with a 4% increase in

volatility. A 10% higher ratio of monetary liabilities to the monetary base is associated with 5% more volatility, in accordance with our hypothesis. The only political variable that had a significant influence was the dummy representing trade union influence, which indicated that where trade unions were influential the exchange rate has been more volatile.

The equation for the *real exchange rate* explains much of the variation, with a coefficient of determination of 0.75, and evidently no serial correlation. Terms of trade changes, inflation differentials, balance of payments outcomes and short term capital movements appear to be the principal causes of changes in the real exchange rate. Contrary to our hypothesis, a 10% improvement in the terms of trade causes a depreciation in the real exchange rate, that is, a fall in the relative price of nontradeables, of 4%. World tourism trends and US treasury bill rates have no significant effect. The coefficient of the inflation differential is statistically significant, its sign is as expected and the real exchange rate appreciates 11% for a 10% widening of the inflation differential, at the means. A 10% improvement in the balance of external payments produces a 2% appreciation in the real exchange rate, while a 10% increase in short term capital flows is associated with a very small 0.4% appreciation of the real exchange rate.

## Section 5. Case Studies

The case studies examined in this section are:

1. The 1967 sterling devaluation;
2. The switch to the US dollar peg, 1973-76;
3. Jamaica 1977: dual exchange rate;
4. Jamaica 1983: exchange rate auction;
5. Trinidad-Tobago 1985: first major devaluation;
6. Antigua 1986: record current account deficit, arrears;
7. Guyana 1987: economic reform programme;
8. Jamaica 1990: full exchange rate liberalisation;
9. Barbados 1991: major balance of payments crisis;
10. Grenada 1991: home-grown structural adjustment.

### The 1967 Sterling Devaluation

In retrospect, the Caribbean response to the 1967 sterling devaluation is a manifestation of the extent to which trading relationships had shifted from the UK to the US. Failure to devalue would have led to a decline in the profitability of sugar and bananas, still the main exports from all Caribbean countries except Trinidad-Tobago at that time; agricultural exports went mainly to the UK. However, countries devalued reluctantly , because most imports originated in the US, and the cost of living predictably jumped. Unlike later exchange rate changes, this one took place when there was a sustainable balance of payments.

Regional devaluations took place within weeks of the sterling devaluation, because of speculation fueled by the perception that Caribbean currencies would sooner or later follow the UK. From a strictly economic point of view this was not inevitable: Beckford et al (1968) pointed out that the cost saving (in local currency) from a shift in import sources from the US to the UK might have more than compensated for lower local currency receipts from agricultural exports. Evidently this was considered unlikely. ECCA and the Bank of Guyana devalued immediately after sterling did. The Bank of Jamaica and the Central Bank of Trinidad-Tobago took time to consider their options. In Jamaica, speculation about an imminent devaluation led to incipient capital flight; the foreign exchange market was closed and the currency devalued. In Trinidad-Tobago, where petroleum destined for the US accounted for 3/4 of exports, the case against devaluation was persuasive: the increase in the local currency receipts from oil exports would be matched or exceeded by the increase in inflation. However, by January 1968 only Trinidad-Tobago had not devalued, and the central bank decided to fall in line with the majority.

All currencies were devalued by exactly the same percentage as sterling. Quantitative analysis was not available on which to estimate the costs and benefits of a devaluation of this or any other magnitude. Furthermore, this was the strategy most likely to calm foreign exchange markets. The latter may have been the compelling reason. In later years considerable research was done on the implications of different pegging arrangements in circumstances where a country exports to more than one currency area. None of it had any effect on policy or public opinion in the Caribbean. The value of local currency continued to be determined in relation to the US dollar, both officially and in the popular mind.

Unlike later episodes there was nothing in the economic circumstances of 1967 which necessitated a change of exchange rate. All countries achieved sustainable balance of payments outcomes, there were no parallel markets in foreign currency, domestic inflation was in line with international rates, government expenditure was funded by revenues and long term borrowing and economic growth was led by the traded sectors.

It is tempting to attribute the decisions to devalue to the strength of the agricultural lobby, whose profitability was threatened. However, that cannot be the complete story.

In Jamaica's case devaluation was forced on the authorities by a market which expected the Jamaican pound to follow sterling, even though government and the Bank of Jamaica were prepared to resist the agricultural lobby. They had good cause to do so, since agriculture was only 7% of GDP, already overshadowed by bauxite-alumina and manufacturing. The market's ill-informed action forced the authorities into a devaluation which, in the event, failed to avert a downturn in agriculture in the 1970s.

There appears to be even less justification for devaluation in Trinidad-Tobago, where only 5% of GDP originated in agriculture. The Trinidad-Tobago authorities went along only after all their Caribbean trading partners had devalued. Fears of regional non-competitiveness do not justify devaluation: exports to the region amounted to much less than 5% of GDP.

Political factors appeared to have played no overt role in decisions to devalue. The period between the sterling devaluation and Caribbean devaluations was too short for effective mobilisation by trade unions and pressure groups even in the case of Trinidad-Tobago, the last to act. The organs of public discussion were at the time in a fledgling state, and economic data and analysis were not readily available or regularly discussed and analysed. There was no clear difference along party lines in any country. Except for Guyana, elections were at least 4 years in the future, so no immediate political fallout was expected. (In Guyana the flawed election of 1968 was won by the ruling PNC.)

International intellectual opinion probably affected the decisions, because in 1967 central banks and ministries of finance were all staffed or advised at policy-making levels by ex-patriates on loan from the Bank of England and the Bundesbank, career civil servants from the colonial service, and experts recruited via the IMF. Guyana was the only country with an active IMF programme. However, the intellectual community had not extensively studied multi-currency models and their implications, and there was at that time no dominant view on the strategy for countries in the circumstance of the Caribbean. The monetary authorities convened a highly successful conference, jointly with the UWI, specifically to secure for the region the benefit of Caribbean intellectual opinion. Although the conference fully explored the pros and cons in the abstract, the lead time was insufficient for quantification of the impact of possible options.

**The Switch to the US Dollar, 1973-76**

The floating of the US dollar in 1971 meant uncertainty in the prices of most Caribbean external transactions. Furthermore, the dollar tended to strengthen vis-a-vis sterling, fuelling inflation in the Caribbean. The end of the Sterling Area Agreement in 1973 released the Caribbean from and obligation to hold foreign exchange reserves in sterling, in return for a UK undertaking to defend the parity of the pound.

Jamaica was the first to switch, in 1973; that country had a greater proportion of external transactions in US dollars than did the east Caribbean (except Trinidad-Tobago). Barbados, Guyana and ECCA switched in 1975. Depreciation of sterling began with the end of the Sterling Area Agreement, and the slide accelerated in 1974 and 1975. Trinidad-Tobago was surprisingly the last to switch, despite the fact that, in terms of the proportion of US dollar denominated transactions, they had a stronger incentive than Jamaica.

Barbados' 5% revaluation was motivated solely by the convenience of the US$0.50 rate. The Jamaican authorities devalued 15% at the time of the switch, to reverse the appreciation of the Jamaica dollar between 1971 and 1973. Other monetary authorities switched at the rate obtaining on the day.

The switch was dictated by structural considerations: the proximity of the US and the durability of the Caribbean's trading links with North America, whose dominance in the region's external transactions, already well established, was becoming even more overwhelming.

The balance of payments, fiscal balances and other macroeconomic conditions played no part in motivating the switch. External balances were sustainable everywhere, credit to governments by monetary authorities was less than 50% of the monetary base except in Guyana (at 53%), inflation was about equal to foreign inflation plus local currency depreciation and growth was driven by tradable activity. There were no parallel markets and no significant capital flight.

The switches occasioned no political controversy. As the Sterling Area Agreement drew to a close an increasing volume of informed opinion was heard in favour of a US peg. But the time the decision was made a strong national consensus had formed in support. In the early 1970s the Caribbean had not yet evolved systems for the dissemination of economic data, nor was there an active and informed media forum on economic issues, as has evolved since. There was no political divide on the switch. It therefore provided no ammunition for election campaigns. In Guyana and Jamaica elections were 3 years away; in Barbados the election was one year away (it was won by the opposition BLP) while in Trinidad-Tobago the year of the switch was an election year. (The election was won by the ruling PNM.)

The decision to switch the peg does not seem to have been much influenced by international opinion, which was in the early stages of coming to terms with flexible exchange rates. The literature on the options for small countries in a world of floating rates dates from the mid-1970s. Only Guyana had an IMF programme in 1975, and the incidence of technical advisors at the region's central banks had begun to fall.

**Jamaica, 1977.**

The 1977 exchange rate change in Jamaica had its roots in fiscal policies in 1974 and subsequent years. Fiscal policies in turn reflect the objectives and strategy of the PNP administration, elected in 1972 (after a decade of JLP administration) under the

leadership of Mr Michael Manley, the most influential Caribbean leader of his generation. Both parties were nationalist and populist. The JLP had begun a systematic policy of Jamaicanisation in the 1960s, using incentives and moral suasion to encourage foreign corporations to sell shares in their Jamaican operations to locals.

Both parties, and the Jamaican public at large, were concerned about the exploitation of Jamaica's bauxite resources, at that time the main source of foreign exchange, by international companies. Economists of the University of the West Indies (UWI) produced research which showed that Jamaica's share of the value added in the bauxite-aluminium process was very low. Among the strategies suggested to improve on this share was a revision of the system of taxing bauxite and alumina, provided Jamaica could exploit its advantages over other producers.

This strategy appealed to the PNP, which took the lead in the formation of the International Bauxite Association (IBA), bringing bauxite-alumina producers together to discuss common interests, including the system of taxation. Bauxite producers were encouraged by the success of OPEC in raising the price of oil in 1973. When no swift international agreement was forthcoming about the revision of bauxite taxes, Jamaica unilaterally imposed a new levy in 1974, significantly increasing government revenues as a result. Jamaica seemed at that time to be in a strong position to lead the way in extracting more equitable distribution of returns between countries and international companies, since it was then the world's second largest exporter of bauxite-alumina, and had the advantage of low transport costs by virtue of proximity to the dominant US market.

However, the government of Jamaica did not anticipate the impact of rising energy prices and technical change on the aluminium market. Because the production of aluminium is very energy -intensive, the rising price of oil shifted demand away from aluminium towards cheaper substitutes, including strong light weight plastics recently developed. The aliminium market went into a prolonged slump. Furthermore, Jamaican producers were able to divert an increasing share of supply to expanding mining operations in West Africa and Australia. The yield from the new bauxite levy, which provided government a large windfall of revenue and foreign exchange in 1974, fell sharply in 1975 and 1976.

Administrations led by both major parties, because of populist inclinations, expanded government employment to provide jobs for unskilled and semi-skilled workers, whenever revenues permitted. In 1974 the PNP launched a programme of unprecedented magnitude, financed by the proceeds of the bauxite levy. When the yield from the levy fell in subsequent years very large fiscal and foreign exchange deficits emerged, and by 1976 the Bank of Jamaica could no longer maintain the exchange rate peg by intervention.

The PNP received electoral endorsement in an election called one year ahead of schedule in 1976. Only then did government take decisive action to address the foreign exchange shortage, tightening exchange controls on current transactions and instituting a plan to ration the usage of foreign currency. Foreign exchange was to be supplied in accordance with the requirements of an 'Emergency Production Plan', developed by a technical team put together for that purpose. It soon became clear that neither the production plan or the foreign exchange budget bore much relation to the reality of aggregate demand and supply in the economy. By April 1977 government was in discussion with the IMF on a alternative strategy involving the devaluation of the Jamaica dollar, fiscal adjustment and other elements of what was then the orthodox adjustment package.

The about-face in strategy is evidence of conflict within the administration, between the Bank of Jamaica and career officers of the ministry of finance, on the one hand, and an eclectic group of economic advisors, including economists from the university, on the other. Whether the Jamaican dollar should be devalued, and the extent of the devaluation, were at the centre of this debate. The compromise was the implementation of a dual exchange rate, with a 15% devaluation, but the old rate retained for a range of transactions. When the dual rate failed to clear the market the rates were unified and further depreciation instituted. A crawling peg was agreed upon, partly to cushion the inflationary effects of further devaluation, and partly because no agreement was forthcoming as to the extent of devaluation required.

***External Shocks***

The terms of trade loses which Jamaica experienced because of the oil price increase in 1973-74 were partly offset by the very sharp - albeit temporary - rise in the price of sugar in 1975 and 1976. World tourism grew strongly in the early 1970s despite the rising price of oil, and Caribbean tourism grew just as quickly, except for 1975. International interest rates were somewhat higher in 1971-75 than they had been in the 1960s, but the impact on Jamaica's debt service was modest, because the foreign debt was not large. Overall, external shocks had a muted impact on Jamaica's external payments balance.

***Macroeconomic Policies***

Domestic inflation in the 1971-75 period was 8 points above US inflation, indicating that the real exchange rate had appreciated. Central bank credit to government was 44% of the monetary base, a level that may well have been sustainable, depending on private sector demand for credit and foreign reserve accumulation. Accumulated inflation had not reached levels which might have brought government's credibility into question. Foreign exchange reserves averaged in excess of 3 months' import value. There was no premium on foreign currency traded on the parallel market. Apart from the inflation differential there was little in the macroeconomic data to indicate a pending balance of payments crisis.

*Structure*

Services accounted for 55% of GDP in the 1971-75 period, bauxite-alumina for about 15%, manufacturing for 17% and agriculture for 7%. Manufacturing and agricultural firms might have expected to profit from devaluation, in the short run, until wage increases caught up with inflation. The high percentage of imported inputs in services and the low domestic factor input in mining meant that these sectors made no gain from devaluation. Government owned enterprises in 1976 were mainly public utilities where there were large externalities, such as rural electrification; the Jamaicanisation programme aimed to transfer foreign ownership to the local private sector. However, in 1976 government initiated a programme to transfer ownership of sugar farms to workers' cooperatives. The scheme proved a failure, resulting in inadequate investment, deteriorating husbandry and severe contraction in output.

The structural features of Jamaica's economy suggest that political pressures would bias policy towards the fixed peg. The economy is very open, with a ratio of trade of goods and services to GDP which exceeds 100%, so there is little conflict of exchange rate objectives. The exchange rate is very effective against inflation and relatively ineffective in improving competitiveness, except in the short run.

*Finance*

Investment ratios in 1971-75 were about 25% on average, sufficient to stimulate growth rates in excess of 5%, with reasonable efficiency in the use of capital. The ratio of monetary liabilities to GDP at 34% reflects the fact that some sections of the rural population were not heavily monetised, in contrast to the Kingston metropolitan area. Devaluation would have had little impact on fiscal balances in 1977, because foreign debt was relatively low, and the gain from fiscal drag was not significant.

*Summary*

The 1977 devaluation was the unintended outcome of populist strategies which focussed too heavily on job creation in the government service, and government's competition with foreign firms to claim a greater share in the value added from the exploitation of a natural resource. These objectives were shared by both political parties. The PNP undertook more aggressive policies in this direction no doubt because of Mr Manley's leadership and growing stature, the confidence he had in the expertise of his economic advisors - confidence which proved to be misplaced - and the apparent success of OPEC, which seemed to herald similar possibilities for other natural resource rich countries.

The timing of the general election may have delayed the application of corrective measures until after the Bank of Jamaica lost control of the exchange rate. The PNP would have been unwilling to implement fiscal austerity, including the shut-down of its massive public works programme, in the period before a general election. At the same time, to have advanced the election by more than one year, which Mr Manley was at liberty to do, might have been regarded as a failure to follow through on the 1972 mandate.

Lack of cohesion at the highest policy making levels in government contributed to the ineffectiveness of the response to the crisis. Government did not convince the public that its strategy would be effective, and capital flight and the growth of the parallel market accelerated during the second half of the 1970s.

The economic circumstances prior to 1977 do not presage the balance of payments crisis, apart from the large fiscal imbalance. External shocks had a relatively mild impact, on balance, and structural measures did not seriously affect supply.

**Jamaica, 1983**

The switch from an official peg to an auction in 1983 was an outgrowth of a policy of trial and error in connection with renewed efforts to balance the external accounts by the JLP, after their overwhelming success in the 1980 election. That victory was seen on Washington as a victory of capitalism over socialism. Mr Seaga, the new prime minister, was invited to meet President Reagan at the White House, and the US actively promoted and participated in an IFI-led financial package for Jamaica, conditional on an orthodox adjustment programme. A 3 year extended fund facility for SDR478 million was agreed in April 1981.

The adjustment programme involved the relaxation of import restrictions and resulted in a surge in imports. Unfortunately, little private capital inflow accompanied the official foreign borrowing and investment expenditure remained sluggish. In effect the foreign funding financed a temporary surge in imports of consumer goods. This could not be sustained in the face of sluggish exports, and the foreign exchange deficiency worsened.

In 1982 the government made a virtue of necessity by removing legal sanctions on parallel foreign currency transactions, a recognition of dual exchange rates in practice. However, this system proved unstable: sellers claimed the market rate, while buyers sought the official rate. In November 1983 the official rate was devalued 43%, to equate to the market rate. The authorities evidently feared that this rate would not persist, so they introduced an exchange rate auction, in the hope that supply and demand would produce a stable exchange rate. A structural adjustment loan was agreed with the World Bank in June 1983, public utility tariffs were raised and the programme of progressive import liberalisation continued. The JLP took this strategy to the electorate in December 1983, in an early poll boycotted by the PNP.

*External Shocks*

External circumstances aggravated Jamaica's adjustment problem. Terms of trade were depressed by falling prices of bauxite and alumina, as world aluminium markets remained soft. High international interest rates dramatically increased debt service, especially following the borrowing of 1981-83. World tourism slumped in 1981 and 1982, but arrivals to Jamaica were depressed mainly by depreciation of the tourism plant in the late 1970s, and unfavourable press surrounding the 1980 election, which was marred by violence and loss of life.

*Macroeconomic Policies*

There were macroeconomic signals, from the inception of the adjustment programme in 1981, that the exchange rate had not been restored to equilibrium. The average misalignment of the real exchange rate between 1979 and 1982, based on calculations by Worrell and Harriott (1997), was 96%. Foreign exchange reserves remained insufficient for central bank intervention - only US$50 million on average, 1979-82 - and the monetary authority's credit to government exceeded the monetary base by a ratio of 4:1. Cumulative inflation and the prolonged nature of the external payments deficit made for lack of faith in government's ability to restore external balance, even though the domestic-foreign inflation differential was virtually eliminated in 1982. Other favourable macroeconomic signals were a small balance of payments deficit (net of short term capital movements) and very small amounts of unidentified balance of payments items, usually thought to be capital flight.

*Structural Factors and Interest Groups*

The structural shares in GDP did not change at all between 1977 and 1983; on balance the losses from inflation outweighed the potential gains from exchange rate depreciation. Moreover, while the inflationary effects of devaluation since the mid-1970s were painfully evident, export performance had improved very little in tourism and manufacturing, and had worsened in bauxite-alumina and agriculture. Trade unions maintained their opposition to devaluation, but their influence was diminished by their association with and sympathy for the failed programmes of the 1970s. The Private Sector Organisation of Jamaica, now a formally constituted body with a mandate to press the viewpoint of private firms, supported the exchange rate policy and the overall strategy of measured liberalisation.

*Finance and Investment*

The adjustment programme initiated in 1981 assumed that the large scale of the official financing package, and its endorsement by the US government and the IFIs, would have encouraged a strong inflow of private foreign investment. A high profile mission to Jamaica, sponsored by the US commerce department and including leading US financiers and industrialists, was intended to jump-start foreign direct investment. However, partly because capital formation requires a longer gestation period than the policies seem to have allowed for, foreign private investment failed to live up to early expectations. Investment ratios increased slowly from the 1976-79 low of 15% of GDP, and foreign inflows were insufficient to fill the gap left by official flows. Furthermore, the sale of government-owned hotels, the dismantling of sugar cooperatives and the rehabilitation of sugar farms took far longer than projected, and attracted domestic buyers rather than overseas firms who would have supplied foreign exchange.

Currency depreciation from 1983 onwards increased the fiscal deficit because of the increased local currency costs of servicing the recently contracted official financing, costs which far outweighed the small gain from fiscal drag.

*Political, Social and Institutional Factors*

The opposition boycott of the 1983 election did not completely undermine the JLP's mandate to persist with its economic strategy, including the exchange rate arrangements. Public opinion polls indicated a clear lead for the JLP, in advance of the poll. Although there remained considerable popular debate about the appropriateness of the adjustment policies, their prospect of success and their impact on national welfare, the public was offered no coherent alternative, and no one wanted to repeat the state-directed policies of the 1970s.

The quality of domestic technical input in the design of the 1980s programme may have been lower then in the 1970s. Economists from the university were identified with the previous administration, and none played an active role. Many of government's most experienced and talented administrators had emigrated or taken private sector appointments. The JLP administration did have the input of skillful technicians, but they were fewer than before. The design of the 1980s programmes owed much more to the ideas of the IFIs.

*Summary*

The 1983 exchange rate policy failed to restore external balance because of the inadequacies of the programme in which it was embedded. Needed private investment failed to materialise because of an unrealistic time horizon: import liberalisation inevitably results in an increase in consumer imports in the first instance. The time horizon of the programme was too short: investment could not be mobilised to the extent of foreign borrowing within the programmes time span. There was insufficient government saving; current expenditure was too high relative to current revenues, and foreign borrowing in effect financed current expenditure.

**Trinidad-Tobago, 1985**

The origin of the crisis which led to the 1985 devaluation of the Trinidad-Tobago dollar was the 1982 fall in the price of oil and the associated loss of foreign exchange and

government revenue. This required a major contraction of aggregate demand, which was not immediately forthcoming. Government at first tried to reduce imports via licensing and exchange controls, but these were negated by fiscal expansion, which prevented a fall in aggregate demand. Rapid erosion of extremely large stocks of foreign reserves was accompanied by shortages and the growth of a parallel market where the US dollar attracted a significant premium. In 1984 a one-third increase in external debt and a reduction in the fiscal deficit served to slow down the foreign reserve loss, but it did not close the deficit, and the rapid decline resumed in 1985.

With a general election due in 1986 government needed to relieve the foreign exchange shortage. However, in choosing to devalue the PNM, whose hold on government had remained unchallenged for a generation, may have underestimated the potential of the NAR, a recent coalition of opposition parties. In 1985 the exchange rate was devalued by 50%, though an unchanged rate was stipulated for foods and 'basic' items. In the absence of associated fiscal and monetary contraction devaluation failed to attract IFI support. The devaluation slowed the rate of foreign reserve loss considerably, but did not eliminate it, and shortages persisted. The PNM, in power since the mid-1950s, was reduced to just 3 of 36 seats in parliament in the 1986 election, which was won by the NAR.

*External Shocks*

The halving of the price of oil between 1981 and 1983 meant a reduction of more than one-third in real income. Decisive and persuasive leadership was needed in order to convince the population to accept the decline in general living standards which this entailed, efficient government administration was necessary to ensure equitable distribution of the burden and special measures were needed to protect vulnerable groups. The death in 1981 of Dr Eric Williams left government without a leader of the required standing. To the contrary, government at first cushioned the shock by increasing its own expenditure, accelerating the loss of foreign reserves and worsening the crisis in the external accounts.

As foreign earnings from oil fell, external debt service began to crowd out imports, a situation made more acute by the relatively high interest rates that persisted on external loans during the first half of the eighties.

*Macroeconomic Conditions*

The main indicator of the emerging balance of payments crisis was the rapid decline in foreign reserves, from US$3,347 in 1981 to US$2,104 in 1983, less than four weeks of import cover. Largely as a result of high inflation during the oil boom years the estimated degree of real exchange rate misalignment was high, 90% above equilibrium between 1979 and 1982, based on the Worrell-Harriott estimates. The balance of payments went from large surplus to large deficit, and central bank credit to government from virtually nothing to over 50% of GDP. Capital flight assumed major proportions, and a large premium emerged on the parallel market for foreign currency.

*Structural Factors and Interest Groups*

State enterprises played an important role in Trinidad-Tobago's exports. Government had invested heavily in energy-based export industry, in what turned out to be a successful effort to diversify exports from petroleum products. Government had also purchased some oil producing and refining operations in whole or in part, to forestall or delay production cut-backs planned by foreign owners. Government had purchased the Caroni sugar producing company to forestall its closure, which would have meant the demise of sugar production. Government was therefore the largest exporter in 1985, and devaluation significantly improved its revenues, in Trinidad-Tobago dollars. That contributed to the motivation for devaluation.

Agriculture accounted for only 2% of Trinidad-Tobago's GDP, and manufacturing about 8%; neither was large or influential enough to affect exchange rate policy. Foreign companies in the oil and energy sectors were largely indifferent to exchange rate policy, since most of their costs and product prices were in US currency. The services sectors, accounting for more than 50% of GDP, supplied the domestic market - Trinidad-Tobago has a very small tourism industry - and opposed devaluation because of its inflationary impact. However, to the extent that their costs had already been inflated by the need to buy foreign exchange on the parallel market because of official foreign currency rationing, the devaluation was welcomed as a recognition of the actual situation in the foreign currency market.

Trade unions opposed devaluation because of fears of accelerating devaluation. Trade unions in Trinidad-Tobago tend to be sector-specific, but there were no differences in their views on devaluation. However, by 1985 the parallel market was so large that devaluation was accepted as inevitable.

*Finance and Investment*

Government had taken a leading role in investment during the oil boom. With the collapse of the oil price ever deeper cuts were made in government capital expenditure in attempts to contain the fiscal deficit. Largely as a result the investment to GDP ratio fell below 20%, compared with levels of 25% or more in the 1970s.

Devaluation helped to reduce the government deficit. Increased TT dollar receipts from royalties, profits of export-oriented state enterprises and export tax receipts far outweighed the increase in the TT dollar cost of external debt service, notwithstanding the high prevailing international interest rates.

*Political, Social and Institutional Factors*

The PNM administration had comfortable majority in the House of Representatives and was in a position to take firm adjustment measures when the oil price fell. It did attempt to do so, but the effort was not commensurate with the magnitude of the problem. That was largely due to the leadership gap left by the death of Dr Williams.

Technicians at the central bank and the ministry of finance provided advice on policy options, but they relied too heavily on mechanisms to ration foreign exchange, rather than on policies to reduce aggregate demand. Rationing proved a failure, diverting foreign transactions to the parallel market.

Government's main objective in devaluing was to reduce the fiscal deficit. In the eyes of public opinion devaluation regularised the de facto depreciation which was already a fact of life. The root of the adjustment problem lay, not directly with the balance of payments, but with the need to reduce aggregate demand in view of reduced real income, a task for which government expenditure and taxation were the appropriate instruments.

The devaluation was not influenced by IFI orthodoxy or academic opinion. The government's programme failed to gain IMF endorsement, and government did not actively engage Caribbean economists in the design of the adjustment package.

**Antigua, 1986**

The extraordinary build-up of foreign debt in Antigua in 1986, which financed a current account deficit of 20% of GDP, imposed a debt service burden that should have destabilised both fiscal and external balances. Debt service could not have been accommodated without a cut-back in government expenditure and a reduction in imports, in the absence of further borrowing. Loans of the required magnitude were not available from the ECCB, and foreign credit worthiness should have been sufficiently impaired to have eliminated the possibility of loans from that quarter. In the event the government neglected to pay in full and allowed arrears to build. Notwithstanding this, Antigua continued to have access to the external private capital market. Antigua was able to borrow credibility from its membership of ECCB, in spite of its payments record.

Antigua's overborrowing had its genesis in the bunching of private investment projects in the tourism sector. Although they were all initiated by foreign interests government provided guarantees for the external loans with which they were funded. The bunching seems to have been accidental. World tourism grew at a moderate 4% per year between 1983, the first year of this period, and 1986. Antigua was considered a mature tourism destination, not sharing in the novelty which led to exceptional growth in Aruba, the Dominican Republic and St Lucia. There was no intensification of government incentives, elections were 3 years away and the ALP's hold on the government was not under threat.

Neither Antigua-Barbuda's external credit worthiness nor the ALP's hold on power was threatened by a series of allegations and rumours that began in the early 1980s with an investigation of arms smuggling to South Africa, then under UN embargo, with the connivance of government officials. There have been reports of improper financial arrangements, legal enquiries into alleged arms sales to Iraq and questions about the licensing of offshore activity. None of these incidents has reduced economic prospects or created political instability.

That government was not obliged to cut its spending is surprising. External creditors might have been expected to deny further loans, once payments fell into arrears. Antigua-Barbuda's eligibility to borrow from ECCB was too small to significantly expand the regional money supply, and there was therefore no diminution of ECCB's foreign reserves. Government made no attempt to secure loans from the OECS private sector; no new government securities were issued in the years following the surge in debt service.

Antigua-Barbuda's membership of ECCB enabled government to secure extended repayment terms, de facto, despite policy failures and credibility problems that might have derailed external payments and fiscal equilibria. The ECCB's reserves remained in excess of the monetary base for the entire period, and foreign exchange reserves accumulated as a result of exports and long term capital inflow. This evidently reassured creditors of government's ability to pay. Foreign lenders may also have been attracted by the stability of the ALP administration, and the fact that its policies were not likely to be overturned in an election.

In the absence of sanctions from creditors there was no pressure to eliminate payments arrears, and government's efforts to do so made little impression. Admonitions came from CDB, ECCB and the IFIs, in periodic reports. They also sponsored negotiations on rescheduling of repayments. Only in 1993 did government agree to a home-grown adjustment programme, with technical assistance from ECCB and CDB, to restore fiscal balance and eliminate arrears over time. However, the provisions of the programme were not adhered to, and it was allowed to lapse.

**Guyana, 1987**

By 1987, when the apparatus of state control in Guyana began to be dismantled, the failure of that strategy was everywhere apparent. Real output had contracted perhaps 50%, public utilities, infrastructure and social services had deteriorated badly, the emigration of capital and skill was acute, external payments arrears were extremely large, debt service obligations exceeded exports and the informal market was estimated by some to have exceeded the formal market. The abandonment of state control became feasible with the death in 1985 of Mr Forbes Burnham.

Mr Desmond Hoyte, Mr Burnham's successor, undertook the task of economic rehabilitation, reversing the strategy of state direction of the economy. It was a process

that would take several years. The 1987 devaluation was a first step, designed to return external transactions to formal markets where costs and risks were lower because of prudential regulation and information disclosure requirements to which formal financial institutions are subject. The 1987 devaluation, which allowed for a market determined rate, was accompanied by the dissolution of government's holding company for state enterprises, and was followed by fiscal, monetary and structural measures which attracted the support of IFIs and the donor community.

The economic circumstances of the 1987 devaluation were the result of a decade of economic policy failure. Direct controls led to an ever widening deficiency of foreign currency, skill shortages caused the near collapse of major export activities and fiscal attempts to reduce aggregate demand in the late 1970s were derailed by the second oil crisis.

*External Shocks*

A decline in bauxite prices was the main factor in the deterioration of Guyana's terms of trade between 1983 and 1987. However, the impact on the balance of payments and real income was insignificant in comparison with the breakdown in the supply of exports. Nationalisation of all major export activities - bauxite production, sugar production, and rice milling and marketing - in the absence of a sufficiently large cadre of local managerial and technical skills resulted in a severe loss of efficiency. The prolonged shortage of foreign exchange led to neglect of maintenance, low investment and failure to keep abreast of changes in technology and tastes. The export of each major commodity declined more than 50%, despite the availability of markets.

By 1987 Guyana's external debt was 300% of GDP; high international interest rates added to an already unsustainable burden of debt service. Actual debt service payments were 21% of government revenue, but this left a large portion of these obligations in arrears.

*Macroeconomic Conditions*

Macroeconomic indicators all suggested major disequilibrium: foreign exchange reserves were reduced to zero, there were large balance of payments deficits (averaging US$183 million), domestic inflation averaged 16 points above world inflation (1983-89), Bank of Guyana credit to government was over 300% of the monetary base and there was high rate of cumulative inflation.

*Economic Structure and Interest Groups*

Guyana had the highest ratio of agriculture to GDP of the countries in our sample, 28% on average between 1983 and 1989. Bauxite, at one time second in importance to sugar, averaged 5%. Both sectors recovered as a result of the economic reform programme, and by 1989 their respective contributions were 47% and 11%. Manufacturing contributed 14% on average, and services -exclusively for domestic consumption; Guyana attracts no tourism - 45%.

There were no organised lobbies of private sector interest groups. Government owned over 50% of all production, including most exporting firms. Substantial private sector interest remained on in rice production. The PNC under Mr Burnham's leadership did not encourage advocacy, either from sectoral interests of from trade unions.

*Finance and Investment*

Investment ratios remained high in Guyana, at an average of 27% for the 1983-89 period. Partly that reflects Guyana's need for ongoing investment in sea defenses, because most of the populated area lies below sea level. However the contrast between investment ratios and growth performance suggests very low levels of investment efficiency.

*Political, Technical and Institutional Factors*

The failure of state control of the economy was so evident that it overcame political ideology, both of the PNC and the opposition PPP, which had also advocated state control. The PPP was therefore unable to capitalise on the PNC's change of heart. Any attempt to revert to state control would have hurt their chances in the 1990 election (which was postponed until 1992, and which was won by the PPP). Because of the pervasiveness of the parallel market there was little objection to the 1987 devaluation.

Guyana's economic recovery programme benefitted from a variety of technical inputs, both regional and international. Teams were assembled to research and recommend on the programme's many facets, including overviews sponsored by the CDB, the Commonwealth Secretariat and UNDP, as well as the World Bank, IMF and IDB. There were contributions from leading Caribbean economists and other social scientists.

*Summary*

The 1987 devaluation was an essential part of a comprehensive reform programme, aimed at rehabilitating the formal economy, reversing the decline in output and relieving a chronic foreign exchange shortage. It became possible on Mr Burnham's death. The magnitude of the devaluation was determined by the parallel market premium; once the markets began to be unified it took several years of depreciation before the rate stabilised.

**Jamaica, 1990**

The 1990 devaluation of the Jamaica dollar came at the end of a decade which saw continuous policy adjustment in search of economic growth and balance of payments stability. In 1990 these policies - including fiscal reform, financial reform, privatization and reform in the financing of social services - had produced only anaemic growth, while inflation control was repeatedly derailed by currency devaluation and the Bank of Jamaica's net foreign assets remained negative. Disillusion with economic performance and 'adjustment fatigue' played a large part in the defeat of the JLP in the 1989 election. However, the incoming PNP administration continued the JLP programme in most essentials.

Shortly before the election the JLP suspended the exchange rate auction. After the introduction of the auction in 1983 the exchange rate had depreciated over the next 2 years, but between 1985 and 1988 the rate remained unchanged at the twice weekly auction, despite seasonal fluctuations in the demand and supply and the fact that the Bank of Jamaica's net foreign assets remained negative. However, in 1988 the auction rate began to depreciate once more, boosting the inflation rate in what should have been an election year. (In fact the election was postponed to 1989 because of inaccuracies in the voters' lists.) Mr Seaga's JLP administration suspended the auction and fixed the exchange rate at the depreciated value of J$6.50 per US dollar in October 1989, just ahead of the election in December 1989.

In January 1990 Mr Manley's PNP incoming administration devalued to J$7.00, followed in April by a contractionary budget, and later by accelerated divestment and financial liberalisation. However, the parallel foreign exchange rate remained 10-15% more depreciated than the official rate, and in November the Bank of Jamaica abandoned the process of exchange rate determination entirely to the commercial banks. They could negotiate buying and selling rates without reference to the Bank of Jamaica, though they were still required to surrender a portion of their foreign currency receipts to the central bank. The exchange rate immediately fell by 300%, well below any prior notions as to the equilibrium rate by government, bankers or the general public.

Jamaica's balance of payments difficulties in 1990 were compounded by a downturn in travel abroad by Americans, which depressed tourism throughout the Caribbean, and by the impact of Hurricane Gilbert in September 1989. However, a major factor in the precipitate decline in the exchange rate was the credibility of government, as a result of more than a decade of exchange rate depreciation and failure to contain inflation. The current account of the balance of payments was not large at 2% of GDP, but the central bank's credit to government remained high at 190% of the monetary base, and credit to government by the banking system was 30% of GDP. Efforts at fiscal control were stymied by an overhang of previous debt, the servicing of which absorbed a large proportion of government revenues, because of exceptionally high domestic interest rates.

With a convincing election victory and 5 years to the next election the PNP was able to take decisive measures in pursuit of stable growth. However, they brought no new ideas on economic strategy, simply modifying the JLP strategy in areas such as the exchange rate where the precious policy appeared not to be effective.

Trade unions opposed exchange rate liberalisation, but had no alternative that could stabilise the balance of payments. The PSOJ, a strong employers' lobby, supported liberalisation, but were dismayed at the extent of the subsequent devaluation. Tourism and mining interests were largely indifferent because most of their transactions are in US dollars. Manufacturers welcomed the liberalisation and the subsequent devaluation, but agricultural interests were unhappy because of the exchange rate uncertainty. Overall, the lobbies against the exchange rate strategy were weak and muted. The overall strategy was supported by an IMF standby, which came into effect in September 1990.

**Barbados, 1991**

In 1991 the government introduced a drastic stabilisation programme which cut import demand by one-third. The programme was implemented only when foreign exchange reserves of the monetary authority were completely exhausted, and government was faced with external debt service for which it had no resources. It had been evident since 1989 that import demand was far in excess of foreign earnings, and that crisis was impending. The centrepiece of the stabilisation programme was a reduction in the fiscal deficit, enough to cut aggregate demand to levels that could be supported by exports, and that allowed the central bank to reduce its credit to government significantly. The programme was anchored on the fixed US dollar exchange rate, and it satisfied its primary aim of restoring the reserves of the central bank to allow the exchange rate to be maintained by central bank intervention. The fixed rate, together with measures to increase labour productivity - which unfortunately meant loss of jobs - kept inflation rates below those in the US for several years. Growth resumed in 1994, and the economy has continued to expand since then.

The roots of the crisis are to be found in the decline in investment in the tradable sector. Overall investment ratios declined in Barbados in the 1980s, but even more critically, most investment was in the nontradable sector, especially residential and commercial real estate, with investment in tourism, manufacturing and sugar severely reduced. As a result, Barbados failed to improve quality and labour productivity to maintain export competitiveness, especially with countries whose labour costs, measured in US dollars, had declined markedly as a result of their currency devaluations. Rather than introduce policies to stimulate investment in tradables government reinforced incentives for investment in housing and expanded government employment to absorb those displaced by the contracting agricultural and manufacturing industries. This unrealistic programme was financed for many years by foreign market borrowing, postponing the onset of the balance of payments crisis.

When, from 1989 onwards, foreign loans proved insufficient, government had recourse to the central bank, and foreign reserves deteriorated rapidly.

Political considerations contributed to the evolution of the 1991 balance of payments crisis. The decline in tradable investment was evident before the 1986 election, but the then opposition DLP ran its successful 1986 campaign on the promise of a major tax cut, including stronger incentives for investment in housing. The party's crushing election victory - 24 of 27 seats in parliament - was seen largely as an endorsement of the tax cut, and the DLP felt obliged to implement the programme fully - against the advice of government technicians - in order to retain its credibility. The tax cut widened the fiscal deficit, already on the increase because of growing government employment, a policy which continued through the 1980s.

An attempt was made to rectify this fiscal imbalance with the imposition of new direct taxes in 1988, cutting the deficit in half. However, the tax package seriously eroded the DLP's popularity, and with an eye to the election due in 1991 the new taxes were removed in 1989. By 1989 the signs of impending balance of payments difficulties were already clear in the declining reserves and the growing credit to government. Nevertheless government embarked on pre-election fiscal spending in 1990, with an acceleration of government employment, expansion of capital works and exceptional salary increases for public servants. The Gulf War induced slump in tourism to the Caribbean aggravated the balance of payments crisis, being reflected in a decline in tourist arrivals in 1991.

Barbados' prices remained in line with those on international markets. The credibility of government policy was preserved in the event, though it was seriously called into question in 1991. Government had built a reputation over the previous 2 decades of taking adjustment measures when persistent excess demand for foreign exchange emerged. That reputation was questioned in 1991, because it was apparent 2 years earlier that adjustment was needed. The credibility of government policy was sustained by decisive fiscal action at the 11th hour.

The current account of the balance of payments, though less than 1% of GDP, was not sustainable because of the large amortisation of earlier market borrowings. Credit to government by the central bank amounted to 65% of the monetary base. Trade credits were reversed as companies reduced foreign liabilities to an absolute minimum, to reduce exposure in case of a devaluation, evidence of the extent to which government's credibility was questioned. However, that loss of credibility did not go so far as to stimulate a parallel market in foreign exchange. Temporary informal rationing arrangements were made by banks and the general public in the second half of 1991 when there was a delay in securing IFI loan financing, but the exchange rate never varied.

The 1991 Barbados programme exposed differences of opinion among the IFIs on the merits of the exchange rate anchor. After initial hesitation, which delayed the IMF stand by and compensating financing until January 1992, the IMF and IDB lent support to the adjustment programme, the IDB contributing a small medium term facility. The principal merit of these facilities was to restore confidence in economic management, though the main source of renewed confidence was the swift restoration of unborrowed foreign reserves at the central bank. The World Bank withdrew its initial interest in participation, once it was decided not to devalue the exchange rate.

The exchange rate anchor was supported by all influential interest groups. The fiscal measures provoked two large street demonstrations and a legal challenge to one of the provisions, but while they directed criticism at the details of the programme the protesters reaffirmed their support for the fixed exchange rate. Trade unions, the most articulate and best organised pressure group, could offer no alternative programme that cut aggregate spending and maintained the fixed exchange rate. Firms, faced with the alternative of an uncertain exchange rate, took steps to reduce labour input and shaved profit margins in order to maintain sales in the weakened domestic market. A tripartite agreement for a two year wages freeze was agreed between trade unions, employers' organisations and government, with incentives for increased labour productivity.

The programme's strong points were its technical underpinnings, government's commitment to the strategy and a deliberate effort to build consensus around a strategy which accorded with market sentiment. The technical rationale for the programme, its prognosis and targets were set down in government's strategy paper (1992) which formed the centrepiece of negotiations with the IFIs and which was subsequently published. The strategy carried conviction because it was based on empirical estimates of the relevant economic magnitudes - including estimates of changes in Barbados' external competitiveness - and included projections based on realistic assumptions embedded in an internally consistent forecast model.

Government worked actively to build a national consensus around the programme. Officials of the central bank and government explained the policies and their rationale in the media and in discussions with interest groups. Their task was made easier by the overwhelming national sentiment in favour of the exchange rate anchor. This sentiment had grown stronger in the previous decade and a half, as Barbadians witnessed the widening gap between their improving living standards and the stagnation or decline in the quality of life in neighboring countries whose currencies were devalued.

*Summary*

The crisis stemmed from a long standing failure to correct a fiscal bias towards investment in the nontradable sector; failure to improve quality and labour productivity in exports of goods and services; overexpansion by government, financed by excessive foreign borrowing and money creation; and the adverse effects of the Gulf War on Caribbean tourism.

The nominal exchange rate anchor was preserved because of its popular endorsement by individuals acutely aware of the inflationary consequences of devaluation; by government's anxiety to restore its credibility; the technical support for this strategy; and government's commitment to build understanding and consensus around it.

**Grenada, 1991**

In 1991 the government put in place a structural adjustment programme which was drawn up by a team of Caribbean technicians, provided to government by CDB, ECCB and UNDP. It was designed to redress a persistent fiscal deficit, and included taxation and expenditure measures. The timing of the package was an outcome of the election of 1990, which brought to power a new administration. The public finances of Grenada had been chronically in deficit, with government dissaving from 1987 onwards. A hasty sale of government shares in the telecommunications company had served to close the gap in 1989, but when the underlying current account deficit appeared again in 1990 the new administration decided to undertake comprehensive fiscal reform.

This episode deserves to be studied because fiscal deficits of the magnitude experienced in Grenada between 1984 and 1991 (ranging from 6% to 25% of GDP) would almost certainly have resulted in balance of payments crises and exchange rate changes. This was not possible because of Grenada's membership of ECCB. Instead government was forced, reluctantly, to increase taxes and reduce expenditure. The 1991 programme included a freeze on government wages, new levies on personal and corporate incomes, retrenchment in the public service, a cut in government capital expenditure and further divestment of state enterprises.

*External Shocks*

The terms of trade effects on Grenada between 1984 (the year of the restoration of political stability) and 1991 are uncertain. Banana prices were sustained, but nutmeg prices declined, while import prices rose at the time of the Gulf War. There was also a decline in tourism during that period. Overall the external effects may have been close to neutral.

Macroeconomic indicators fail to disclose signs of crisis. Domestic inflation was slightly below international rates, the balance of payments (net of short term flows) registered a surplus, the ratio of investment to GDP ranged from 30% to 38%, and the economy grew at rates in excess of 5% per year.

*Structural Factors*

Agriculture, which might have benefitted from greater exchange rate flexibility, accounted for about 20% of Grenada's GDP. Manufacturing accounted for about 5%, almost all for the domestic market, and therefore would not have welcomed devaluation. Tourism also accounted for 5%; firms in the industry price in US dollars and prefer the certainty of the fixed US dollar peg to the potential but often elusive gains from devaluation. Other activity was nontraded; the fixed exchange rate suited them. In these circumstances the issue of an own currency and devaluation never arose as a possible alternative to fiscal contraction.

*Political and Institutional Factors*

The fact of its recent election victory inclined government to take decisive action. There was ample time to reverse adverse effects on the ruling party's standing in time for the next poll in 5 years. The support of a high quality technical team lent credibility to the programme, and the scrutiny of the sponsors ensured internal consistency. The measures occasioned little opposition, evidently because of a general recognition of the need for adjustment and a lack of alternative programmes.

## Section 6. Findings

This study highlights the interaction of political and economic factors in the determination of the exchange rate, its volatility and management. Both empirical results and case studies confirm this interaction. While we cannot discount other variables, the empirical results indicate the influential variables in the determination of the level, volatility and choice of exchange regime are the differential between inflation at home and abroad, the history of past inflation, the extent of central bank credit to government, the level of foreign exchange reserves, the proportion of output that originates in agriculture and services, the influence of trade unions and employers' groups, the numbers of parties in the governing administration and the stability of the party in power. In some instances the results confirm our hypotheses about the effects the variables should have, but frequently they do not. Policy makers will need to pay special attention to these factors, recognising that the interaction between them is complex. Circumstances determine individual cases, and it is necessary to assess these determinants in a specific context, in order to explain each exchange rate outcome.

The political and institutional results are of special interest, because that is the area where this study and the others in the project expect to add value to the mostly economic studies that have been undertaken previously. The views of trade unions and employers' groups do seem to have a significant effect on exchange rate levels. As expected, trade unions favour appreciated exchange rates, while employers' groups favour depreciated rates. The agricultural and service sectors also favour depreciated rates, but their impact is not noticeable.

The interaction between the economic and political factors in a variety of circumstances is illustrated by the case studies. Four of them may be considered successful: the switch from sterling pegs to the US dollar by all the currencies; Guyana's programme of adjustment, including the 1987 devaluation as a early step in a multi-year programme to rehabilitate the economy; Barbados' 1991 programme which restored balance of payments equilibrium; and Grenada's 1991 programme to restore fiscal balance. The features that these episodes share are strong public opinion in favour of the chosen policy; major fiscal adjustment (except for the currency switch); a technically sound programme which was promulgated widely; and the presence of a catalyst to propel the changes that were necessary. The Grenada programme (and the Antiguan experience, which cannot be counted a success) show the benefit of one type of monetary union. The Guyanese experience (and that of Trinidad and Tobago, whose 1985 devaluation was also not successful) suggests that very large adjustment cannot be achieved without a change in the exchange rate.

*Public Opinion*
If exchange rate policy is to succeed it must be consistent with market sentiment. It is not simply that markets must be fully informed and the instruments and objectives of exchange rate policy carefully explained, though these are vital. In addition, exchange rate options must be chosen from among those that the market finds credible. Perhaps policy makers need to take the additional step of sounding markets before choosing from among the options, as well as devoting more resources to convincing markets that the chosen policy is well thought out and adequate to provide the economic correction necessary.

*Fiscal Adjustment*
Substantial fiscal consolidation was a major feature of the successful programmes, and the significance of the government credit variable in the empirical tests is further testament to the importance of fiscal policy in supporting exchange rate policy. This is a matter on which most analysts agree, whether they advocate orthodox economic approaches to exchange rate management or no.

*Technical Soundness*
The successful programmes in Guyana, Barbados and Grenada incorporated consistent expectations of output, the balance of payments, exchange rates, financial balances and the interest rate. While the details may not have been widely known, there was general sentiment that exchange rates, prices and interest rates were sustainable in the medium term, based on the expected performance of the macroeconomic aggregates.

*A Catalyst for Change*
In each of the successful episodes there was a unique circumstance which facilitated the policy, and made possible policy options which earlier might have met strong resistance or might not have been considered at all. In the case of the switch to the US dollar peg, the catalyst was the end of the Bretton Woods system of fixed international exchange rate pegs. In the Guyanese case it was the death of Mr Burnham, and in the case of Grenada a change of administration. In Barbados a vocal technocracy played a vital role.

*Monetary Union*
Fortuitously the ECCB finds itself with balanced membership, because of the defection of Trinidad and Tobago and Barbados, either of whom might have dominated the partnership. Furthermore the ECCB grew out of a currency board, with an established tradition of anchoring the domestic currency on the US dollar, a tradition from which it had never wavered. These circumstances lend the EC dollar a degree of stability; there are few situations, none very likely, in which it would be possible to change the rate. Membership of the ECCB therefore constrains members to fiscal balance or prudent borrowing. Where, as in the case of Antigua, government borrowed to excess, private markets carried over involuntary credits for several years, in expectation that these arrears would be repaid, based on the ECCB's reputation.

*The Magnitude of Disequilibria*
Although our study does not establish the threshold, it seems that disequilibria which are extremely large, of the magnitude experienced by Trinidad-Tobago, or as represented by the size of the parallel market in Guyana, will not be resolved without a devaluation of the exchange rate. However, Barbados' experience shows that imbalances as large of one-quarter of imports can be corrected by fiscal, structural and monetary measures.

There are lessons to be learned from the failures of exchange rate policy as well: the 1967 devaluation, which was inflationary and failed to arrest the secular decline in agriculture; the failure to achieve balance of payments equilibrium in Jamaica in 1977, 1983 and 1990, in Trinidad and Tobago in 1985, and in Antigua in 1986. These episodes suggest that market agents may sometimes be under misapprehensions, and may require guidance; that dissention among policy makers prejudices chances of success; and that experimentation with various exchange rate strategies reduces the probability of success of any strategy.

*Guidance for Markets*
The 1967 devaluation demonstrates that market sentiment, while difficult to resist, may sometimes be quite misguided. Incipient capital flight forced the Bank of Jamaica to devalue in 1967, when economic circumstances were such that a US dollar peg would have been more suitable. In such circumstances a concerted campaign of public engagement and persuasion may be necessary, in collaboration with economic agents who support the programme.

*Coherence in Policy Implementation*
The policy reversals in Jamaica in 1977 not only reinforce the need for policy consistency, they also point to the need for a meeting of minds among authorities, to add credibility to official policy. This is especially so when the authorities need to make

a case for policies on which strong market sentiment has not yet emerged. In cases of internal conflict, policy makers will need to achieve resolution before they begin to implement strategy, so that there will be conviction in their campaign to achieve public subscription to the strategy.

*Frequency of Exchange Rate Strategy Changes*
The Jamaican experience suggests that repeated changes of exchange rate strategy undermine the chances that the most recent effort will succeed. If a change must be made because a previous initiative failed to secure the intended objectives, it seems better to resort first to fiscal, monetary and structural policies, and secure sufficient adjustment to keep the exchange rate strategy in place.

*Other Hypotheses*
There are a number of other circumstances which the tests and studies show to be important, but about which little can be said as to whether they make exchange rates more or less stable, or more or less misaligned. Among them are the role of the leadership factor, the promptness of responses to internal and external disequilibrium, the influence of the international financial institutions and the effect of election cycles.

Strong leaders have a decisive impact on exchange rate policy, but they may not always stabilise the rate or achieve balance of payments equilibrium, as illustrated by the outcome of the 1977 programme in Jamaica. Strong but wrong-headed leadership may exacerbate disequilibria and exchange rate misalignment, as in Guyana under the Burnham administration. Several countries averted balance of payments crises because of decisive leadership, but Barbados successfully implemented a major adjustment programme under political leadership which was not highly regarded.

Prompt policy response to disequilibria is always preferable, involving less radical adjustment and a smaller likelihood of exchange rate instability. The magnitude of the Guyana programme was a direct result of the long delay in implementing policies to correct the distortions, imbalances and shortages which had been evident for several years. However, tardy response does not always necessitate exchange rate adjustment, as Barbados and Antigua illustrate.

Changes in international intellectual opinion are reflected in the variety of exchange rate strategies adopted by Jamaica. In the 1970s it was acceptable to manage the exchange rate in conjunction with controls on the current account of the balance of payments; by the 1990s that was no longer acceptable. However, the international financial institutions have supported pegged regimes, as in Barbados, and monetary union in the ECCB. Other sources of ideas such as the University of the West Indies have influenced government policy, most notably the first 1977 Jamaican programme. On occasion there has been no intellectual consensus among the international financial institutions, as in the 1991 Barbados programme.

The election cycle characterises budgets in all Caribbean countries, making it difficult to draw inferences about its influence. The time to the next general election proves not to be a statistically significant variable in the quantitative test, but the case studies reveal that the timing of exchange rate changes was influenced by electoral changes in some cases, and by upcoming elections in others. Timing matters, even if electoral turnover does not, but the effects are not entirely clear.

The variety of economic and political circumstance which attends exchange rate changes and the choice of exchange rate strategy precludes any ready characterisation of exchange rate determinants. This study, and others that accompany it, advance our understanding of the complexity of the exchange decision by taking on board political factors. But there remains a long way to go in furthering our understanding of this complex process. More exhaustive studies of the exchange rate process would appear to be warranted. The limited scope of the present project meant that the political and institutional aspects could not be fully explored, for example in more detailed examination of parliamentary debates, newspaper editorials, more extensive interviews and oral materials that might be available in media archives. There are also other episodes that might yield insight, such as the private sector initiative to stabilise the Jamaican exchange rate in 1993, and the experiences of the Bahamas (where there is co-circulation of local currency and the US dollar) and Belize.

Nevertheless, the current study, besides confirming the interrelation of politics and economics, reinforces the importance of policy consistency, and the central role of fiscal policy . It also points to the importance of credibility factors, including good public information and understanding of economic circumstances, and the need to build and exploit a national consensus on the exchange rate and economic strategy.