EXTERNAL INFLUENCES AND DOMESTIC POLICIES: THE ECONOMIC FORTUNES OF JAVAICA AND BARBADOS IN THE 1970'S by Delisle Worrell

Paper Presented at the Twelfth Annual Regional Ronetary Studies
Conference, Belize City, October 29-31, 1980

Woodrow Wilson School Princeton University To what extent have the economic misfortunes of less developed countries in recent years been the fault of international economic developments over which they have no control? This is the controversial question addressed in the present essay, which compares the economies of Barbados and Jamaica between 1971 and 1978. We expect the comparison to be instructive because the out-turn has been significantly different in the two countries, even though they began from rather similar positions. In 1971 both countries boasted significant expansion, though growth was narrowly based on a very few bubyant areas of activity. By 1978 Barbados had survived a period of stagnation and registered three years of modest growth, but in Jamaica production was declining for the fifth year in a row. Was it that external forces had such different effects in Barbados and Jamaica? Or were there domestic events and policies which account for the outcome?

In the first two years of our period Jamaica recorded significant growth, with the impetus coming mainly from bauxite/alumina, manufacturing and tourism. Government felt sufficiently confident of the strength of the economy to introduce in 1972 a budget which the Bank of Jamaica in its 1972 report called 'expansionary'. However, indications were that the economy was already facing problems of adjusting expenditures in line with foreign exchange receipts; the balance of payments surplus of 1971 was followed by a deficit of greater magnitude in 1972. In 1973 the economy slowed and in 1974 no real growth was recorded, as output fell in the major export sectors. The balance of payments was kept in surplus and Government expenditures were sustained in 1974 by the imposition of a new levy on bauxite and alumina. However, in the face of weak performances by firms in the private sector Government fell

to the temptation to take up the slack, sowing the seeds of fiscal imbalance in the following years. The remainder of the period records a tale of woe - declining production, uncontrolled Government deficits and a continuing balance of payments crisis. In April 1977 the Government negotiated an SDR64 million two-year stand-by agreement with the International Monetary Fund, but only J\$20 million was drawn before the agreement was terminated when Jamaica failed to achieve performance targets agreed with the Fund. A SDR200 million Extended Fund Facility agreed in May 1978 was intended for disbursement over three years, but it too was terminated prematurely at the end of 1979.

Barbados also had substantial growth rates in 1971 and 1972, with the main contributions originating in tourism, construction and manufacturing. In 1973 the growth rate slowed, largely because nervousness about the introduction of a new currency made investors hesitant. The main foreign exchange sectors were in difficulty between 1973 and 1975; tourist arrivals fell, the production of manufactured goods slowed, and output of sugar was severely depressed (though high sugar prices helped to redeem the situation). The revival of tourism served as the base for a slow recovery which began in 1976, and there was also some expansion in manufacturing, construction and sugar. Fiscal and external payments deficits have not been persistent, though there has been an underlying instability which has been a source of concern to policy makers.

It is against this background that we must evaluate the external influences and the domestic factors which affected economic activity during the period. We begin with the external influences - exchange rate instability, rising oil prices, stagflation in developed countries and international financial flows. The domestic influences to be examined include fiscal, monetary, commercial and exchange rate policies, and institutional factors.

Exchange rate instability

During the 1970's developing countries were especially worried about the breakdown of the "fixed" exchange rate regime which had prevailed since the end of World War II. The confused regime of more or less flexible rates which has succeeded the Bretton Woods scheme increased the complexity of decision making in LDCs, and there remains considerable difference of opinion as to the strategy which leaves them the widest range of choice. Flexible exchange rates are also thought to have raised the costs of foreign trade, since there is now an exchange rate risk which someone must pay to cover. In addition, flexible rates have created new problems for managers of foreign debt and foreign assets.

We have tried to establish the importance of these factors in Barbados and Jamaica between 1971 and 1978. We first of all measured the exchange rate instability of each currency, to see whether in fact flexibility abroad had de-stabilised the exchange rates of the two countries. We then compared this index of instability with indices based on two exchange rate strategies which authorities might have pursued. Alternative one was the use of a basket of trade weighted currencies to determine the value of the local currency and alternative two was the use of relative price trends as a guide to exchange rate movements. The comparison should allow us to determine whether local authorities might have insulated themselves more effectively against international currency instability. We attempted to measure - by means of proxies - the effect of exchange rate instability on costs. Three proxies were used - the volume of forward transactions, the premiums/discounts which obtained on forward markets and the extent to which domestic financial institutions kept exposed positions in foreign currencies. The data in every case was limited to commercial banks. Finally we evaluated the management of the currency composition of foreign reserves and foreign debt by the central bank in each country.

Details of the methodology and a full analysis of these tests are given in the author's "The impact of fluctuating exchange rates in Barbados and Jamaica" Central Bank of Barbados (mimeo) 1980. taken from that paper are presented in the appendix. Our tentative conclusions are that the flexible exchange rate scheme has not been clearly damaging to the Barbados and Jamaica economies. We found there were increases in the coefficients of variation of the Barbadian and Jamaican currencies after 1971, if we compare with values prior to 1971. However, the variance which could be clearly attributed to overseas influences was never more than five percent of the average value of the exchange rate in any year. The alternative strategies which we suggested for valuing domestic currency did not yield results much different from those derived from the policy which was actually followed. A trade-weighted basket gave slightly lower variances for both countries, while the relative-price rule gave higher variances for Barbados; for Jamaica it produced higher variances in earlier years and lower variances towards the end of the period. All values were of the same order of magnitude as for the actual rate. It appears that there was not a great deal in the choice of how the currencies were to be valued, at least as far as reducing instability is concerned. Under these circumstances the policy of fixing to the currency of the major trading partner is probably to be favoured, since this minimises the number of transactions subject to exchange rate uncertainty. For Barbados and Jamaica, where the US dollar accounts for well over two-thirds of all transactions, this policy seems valid.

Those effects of exchange rate instability that we have been able to measure do not seem of much consequence. The data we have refer\$ almost entirely

There are very few occasions on which the forward position (reported weekly) was more than five per cent of the total foreign position of commercial banks. Because of this sparse use of forward cover, few transactions would have incurred the increased premiums and discounts which the foreign exchange market has imposed during the flexible rate period. It is possible that the risks of foreign exchange have been incorporated into the pricing structure, and that traders' margins are now higher than they were in the sixties. We have so far not made direct observations of this. However, commercial banks have tried to balance their portfolios in foreign currencies, and this may have enabled them to offer better spot rates than they otherwise might have. The implicit costs of managing exchange rate exposure may therefore not be considerable.

The debt of Barbados and Jamaica is denominated mainly in US and Canadian dollars, with some significant amounts of sterling in the case of Jamaica. Much of the borrowing is tied to projects, reducing flexibility in managing the currency composition of the debt. The foreign exchange reserves tend to be held mainly in US dollars, following a switch from sterling reserves in 1975. Only in Barbados have occasional attempts been made to take advantage of currency movements. Had these attempts been successful, they might have helped to compensate for any increase in the burden of the debt which might have come about as a result of exchange rate changes. However, the currency switches did not pay off and we have not tried to measure the additional burden of debt resulting from currency instability. Given the small variance and the limited number of non-US dollar obligations, however, we think the effect may not be great.

_ c

The empirical measures we have used have not picked up any significant effects on the economies of Barbados and Jamaica from the replacement of the Bretton Woods system by more flexible exchange rates. However, flexible exchange rates have undoubtedly increased the complexity of foreign trade and made it more difficult to plan and sustain an export-led strategy. Admittedly flexible rates seem to have done little harm to observed payments systems, but might we not have witnessed a more successful export drive in both countries if there had been less uncertainty about future exchange rate patterns?

The fuel bill

Substantial increases in the fuel bill have put pressure on the balance of payments in both Barbados and Jamaica; the impact seems to have been much more severe in Jamaica. "owever, there is no year when oil can be seen as directly responsible for a balance of payments deficit. Where deficits have occurred some other factor - capital flows, export staples or non-oil imports - have had the deciding role. Still, rising costs of energy did make it more difficult to cope with other external payments problems.

In Barbados, the value of fuel imports rose two and a half times in 1973 (see Table I), contributing to the widening current account deficit.

However, a strong surge in non-oil imports was much more damaging, adding six times as much as oil to the foreign payments total. Together with a slight reduction in capital inflows this led to a large deficit in 1973, compared with balance in 1972 and a surplus in 1971. In 1974 oil imports were up another two and a half times, with a further 50% rise in 1975, but neither increase

was sufficient to provoke a balance of payments deficit in the face of excellent export prices for sugar and growing capital inflows. In contrast, 1976 showed a deficit despite a slight reduction in the fuel bill. Again the principal causes were a slowdown in capital inflows and a surge in non-oil imports. In the remaining three years - two of which were surplus years - there was little additional pressure from oil, with only small increases in fuel payments each year.

Nineteen seventy-three also marked the first sharp rise (of 50%) in Jamaica's fuel import bill (see Table 2). The current account deteriorated, but non-oil imports added four times as much as oil to foreign exchange costs; strong capital inflows in any case brought the deficit below the previous year's. In 1974 the fuel bill was almost three times the 1973 level but an increase in bauxite prices and levies more than compensated, leaving a large balance of payments surplus. Oil imports rose only modestly in 1975, and fell a little in 1976, yet these were years of deepening balance of payments crisis. The outcome was determined by the dramatic fall in bauxite production, difficulties in the sugar and tourism sectors and a sharp decline in net capital inflows. The smaller balance of payments deficit in 1977 reflects the economic decline and the crisis of foreign exchange.

The increasing cost of imported fuels placed a much heavier charge on foreign exchange earnings in Jamaica than in Barbados. In 1977 oil imports took 30% of receipts for exports and tourism in Jamaica compared with 11% of the same total for Barbados. (Partly the difference reflects the poor showing in activities from which Jamaica earns fore, you exchange

The oil bill created a large and growing element of import costs which could not be contained without affecting growth and economic welfare; however, the outcome in any year was always determined more importantly by factors such as capital inflows and the performances of bauxite, sugar and tourism. (I would expect this conclusion to hold even if we allowed for the effect of rising energy costs on world inflation and hence on the prices of imports into Barbados and Jamaica; this indirect effect of energy price increases is too large a subject to be treated in this paper).

North American recession and export demand

Both Barbados and Jamaica depend heavily on North America for their foreign exchange revenues. The economic fortunes of the US and Canada have had decisive effects on tourism and bauxite/alumina during the 1970's, with a less damaging - but still significant - impact on manufactured goods exports.

The recession in the US in 1974 and 1975 seems to have depressed tourism in both countries (see Chart 1). In Barbados arrivals from the US fell so drastically during these two years that it was not until 1978 that this market regained its 1973 level. In Jamaica the effect seems to have been delayed somewhat and the downturn took place in 1975.

Canadian GNP did not decline during these years, but there was a marked slowdown in the growth rate in 1974 and 1975. The effects seem to have been somewhat different in Barbados and Jamaica. In Barbados, where Canada has been the largest single market since 1974, arrivals fell in 1975 and 1976, suggesting that tourism was affected by the economic slowdown, with

a one-year lag. In Jamaica there was no noticeable effect, but Canadians account for less than 10% of Jamaica's tourists (except in the really bad years like 1976 and 1977).

Factors other than the state of North American economies have also had a decisive influence on tourism, however. Jamaica's tourism failed to recover when the US economy did because of social and political problems which created a climate of uncertainty. Arrivals in Barbados had slowed as early as 1973 - in advance of the downturn in the US - largely because Barbadian tourism was nearing the end of an expansion cycle which began in the late 1960's.

The aluminium market was among the most severely affected by the US recession and the slowdown in growth elsewhere in the industrialised world. This has been cited as a principal reason for the drastic fall in bauxite and alumina production in Jamaica after 1974. In 1975 the output of Jamaican bauxite and alumina fell by one-third, and the industry never regained the 1974 level of production. However, the question—still to be resolved is - how much of Jamaica's difficulty—was—the result of of world market conditions, how much a reaction to Governmentpressure on the industry and how much a result of industrial unrest. Jamaica's proximity to the US market and relative ease of mining operations might have helped to sustain production in a falling market, but for the domestic factors.

Exports of manufactured goods seem to have been least affected by the recession. One can detect no effect on Jamaica's manufacturing sector of the US recession, while in Barbados there was a slowdown in the rate of expansion in 1974 and 1975, with electronic components (the largest single manufacture sold in the US) slowing only in 1975. Again, factors other than market growth have been crucial. Part of the reason for the slowdown in electronics in

Barbados had to do with the obsolescence of particular production lines. In Jamaica manufacturing was seriously affected by supply shortages (largely the result of balance of payments difficulties), industrial unrest and the loss of business confidence.

Bauxite, tourism and manufacturing exhaust the list of 'dynamic' sectors in Barbados and Jamaica. Construction and government do have limited short-term potential for generating growth, but they very soon run up against the foreign exchange constraint, while sugar production has been stagnant in both countries for some time. The fact that recession affected bauxite and tourism so severely made a major contribution to the countries' economic difficulties (even though we admit the importance of domestic factors, to which we return later). It seems also that Jamaica suffered a greater shock than did Barbados; the depression in the aluminium market seems to have been more severe and more long-lasting than the decline in tourism.

The importance of foreign capital inflows

Foreign finance has always played a key role in the balance of payments and capital formation in Barbados and Jamaica. Throughout the 1970's the current account of the balance of payments remained in deficit, and overall surpluses were achieved only when capital flows were more than enough to finance that deficit. Capital inflows made up one-fifth to one-third of total foreign exchange inflows in Barbados throughout the period and one-fifth to one-quarter of receipts in Jamaica, up to 1975. The drastic fall in net capital inflows from 1976 on-ward was a principal reason why Jamaica's overall deficit rose to unprecedented levels. Capital inflows fell by three-quarters from 1975 to 1976, and the deficit went from three percent of GDP to nine percent.

Foreign finance contributed about 30% of gross domestic capital formation in Jamaica in the early 1970's, and perhaps as much as 50% in Barbados. The decline in capital inflows therefore contributed to Jamaica's production problems, which aggravated the already weak balance of payments.

Should a decline or shortage of foreign financing for the balance of payments be considered an 'external' problem? It may be if there is not enough financing available on affordable terms to exploit fully the productive capacity of the economy. The problem becomes internal when inducements and incentives offered to foreign investors are not sufficiently attractive to give access to available finance. Most people agree that the social and political climate in Jamaica has been a major disincentive to foreign capital from about 1974 onwards.

However, is the vast fund of finance controlled by multinational banks to be considered 'available finance'? Given the maturities offered and the interest rates demanded on Eurodollar loans for most of the 1970's prudent economic management would have suggested very limited recourse to the international financial market. If we therefore discount this as a source of development funding, it can be argued that the financing available to both countries was less than adequate.

Still the situation is unclear. The limit of absorptive capacity cannot be defined with any precision, and certain kinds of foreign finance may extend absorptive capacity by bringing skills, management and technology along with it. To determine the adequacy of the foreign financing which Barbados and Jamaica can tap we need to measure separately, the availability of venture capital and loan financing.

We do not attempt to resolve the issues, but confine ourselves to the following observations. The decline in foreign financing in Jamaica after 1975 was mainly the result of internal factors. Faster rates of growth and a more diversified base of expansion might have been possible in Barbados (and in Jamaica before 1975) if more appropriate foreign financing had been available in the private sector. Finally, a basic weakness of balance of payments accounting is that so much of the capital inflows cannot be traced as to source or use. This potentially volatile transfer makes for fundamental difficulties in managing the external payments position of both countries.

Fiscal policy

Domestic fiscal policies contributed to the adjustment problems of both Barbados and Jamaica during the period of our review. The Barbados Government experienced two periods of serious fiscal imbalance, but in each case the situation was soon corrected. On the other hand the Jamaica Government was unable to contain its initial fiscal problem, and the public accounts rapidly went out of control.

Jamaica's fiscal deficit (as given by International Financial Statistics) went up 85% in 1974, 23% in 1975, 100% in 1976, 2% in 1977 and 46% in 1978. By 1977 (the last year for which we have GNP data) the deficit was 15% of GNP. Runaway Government expenditure was the root of the problem. Government committed itself to an ambitious programme of social reconstruction in 1974; expenditure rose by 50% in that year alone. The new programmes

created heavy charges on fiscal resources in the years that followed.

The fiscal situation worsened as Government tried to sustain employment and activity in the face of declining output in the private sector in the last four years of our period. Governments everywhere have succumbled to the temptation to give budgetary support to important private sector activities which are in difficulty. The peculiar irony of the Jamaican case was that many of the production problems - particularly in the sugar industry - were the result of Government's own efforts to provide a more equitable distribution of the social product. As the health of the economy declined it became more and more difficult to put an effective ceiling on Government expenditure. The incomes generated by Government spending could not be matched with domestic supply and there was no foreign exchange to augment supply from abroad. Inflation and further contraction resulted.

Barbados' first fiscal crisis of the 1970's came in 1973, when the deficit tripled. However, the deficit was cut back in the next two years and by 1975 it was only half as large as it had been in 1973. The deficit trebled again in 1976, and went further into the red in 1977, but was down to half the 1976 level by 1978. (See Central Bank of Barbados, Annual Statistical Digest, 1978 Table G1).

The Barbados government was able to curb the deficit partly by slowing down expenditure. The increase was only 15% in 1974 and 10% in 1975, compared with 37% in 1973. Again in 1977 and 1978 there were increases of 12% and 10%, respectively, compared with 22% in 1976. Good fortunes in the sugar industry and the economic recovery which began in 1976 also helped. Government was able to add 14% to its revenues by a special levy on sugar in 1975, thanks to the very high export prices for sugar that year. As the

economy picked up, revenues rose 16% in 1977 and 25% in 1978, compared with 6% in 1976. Revenues were also helped by fiscal drag: with prices rising 39% in 1974 and 20% in 1975 revenues went up 27% and 24% in those two years.

Comparison of the fiscal record in Barbados and Jamaica clearly illustrates the very powerful role played by fiscal policy in the adjustment process. Extraordinary revenues from bauxite concealed Jamaica's fiscal problem in 1974, but the failure to bring the deficit under control in 1975 and subsequent years made it impossible to contain aggregate expenditure within the limits of available supply. Substantial amounts of new money were pumped into the economy via the Government, and the resulting expenditure created intolerable pressures on the balance of payments. There was no chance that the available balance of payments correctives could have withstood the expenditure increases which followed. In Barbados similar evidence of the impact of fiscal disturbances on the balance of payments is to be seen in 1973 and 1976. However, pressure from the fiscal sector was reduced in subsequent years and it was possible, with the aid of other factors, to reduce or eliminate the balance of payments deficit.

Policies for domestic adjustment

Comparison of the ways in which Barbados and Jamaica have used monetary, exchange rate and commercial policies suggests that none of these is especially powerful. In Barbados, where these instruments were used in a modest role to support fiscal policy, they seem to have been of assistance. The Jamaican authorities were much more ambitious, using a wide range of adjustment policies in attempts to compensate for fiscal imbalances and to revive economic growth. They had no success at all. Further, it has become clear that positively harmful effects can follow from attempts to extend.

policy instruments beyond acceptable limits. These limits are set by convention, past history and market pyschology. If the market has grown to accept a particular situation as 'normal', any policy which deviates drastically from it may face unsurmountable difficulty, no matter how good the economic rationale which supports it.

The Barbadian authorities took only rather limited policy initiatives mainly directed towards switching expenditure. The most effective appear to have been selective controls on consumer credit from 1977 onwards. Nineteen seventy-seven was the year when fiscal controls were tightened in an effort to reverse the external payments deficit which had emerged in the previous year. The Central Bank placed limits on consumer lending in support of this policy of restraint. Banks were left free to make loans to export sectors and construction, and it was hoped they would switch funds from consumption activities to production. Demand for Barbados' tourist services was picking up strongly at this time, reducing the extent of stringency that was necessary. In these circumstances, the credit controls seem to have facilitated the moderate expenditure switching which was needed.

Exchange controls have also been employed in Barbados to serve only limited ends. Although all foreign transactions were made subject to exchange control in 1974, in practice all trade transactions and some small current account transactions are quite free of control. Exchange control policy has concentrated on monitoring large transactions through financial institutions to ensure orderliness and discourage currency speculation. No attempts were made to impose rigid controls or to budget foreign exchange even when balance of payments deficits were anticipated. The controls have served mainly to provide some insulation for the domestic financial system against confusion in foreign financial markets.

Interest rate policy has been of little effectiveness in Barbados. In October 1973 the Central Bank revised deposit interest rates, allowing higher maxima in an attempt to encourage deposit growth, which had slowed alarmingly (The Central Bank's limits were rather lower than some commercial banks were prepared to offer). However, it appears that the slow deposit growth resulted from speculation against local currency. Financiers, nervous about the introduction of a new Barbados currency and uninhibited by exchange controls, shifted funds abroad. Once they were re-assured by the orderly introduction of the new currency at the end of 1973, local deposits built up once more. The Central Banks's intervention served mainly to avert an interest rate war among financialinstitutions.

For the remainder of the period the Central Bank was mainly concerned to maintain an acceptable cost of credit to producers. It lowered its own discount rates to banks once in 1974, three times in 1975 and twice in 1976, all without much effect. In May 1976 the Bank imposed limits on lending rates which commercial banks could charge their customers. The limits may have helped sustain the growth of mortgages, but they had no other detectable effect.

The Bank introduced a policy of selective rediscounts in 1974 in an attempt to promote lending to producers.

Commercial banks were offered special advances at preferential rates against credit to selected export and other designated activities. The scheme remained in force throughout the period, but no significant use was ever made of it.

Two other policies have had limited but significant effects in Barbados. Controls on the imports of large consumer durables- particularly motor cars - have been successfully employed to reduce foreign exchange spending by modest amounts. IN 1975, when the currency parity was switched from sterling to the US dollar, there was a small revaluation which helped to dampen pressure on domestic prices a little.

When we look at the range and intensity of adjustment policies undertaken in Jamaica the contrast with Barbados is quite striking. The Jamaican authorities have devalued the currency, raised interest rates, put very heavy liquidity requirements on commercial banks, imposed global credit ceilings, attempted to budget all foreign transactions, set import targets and announced wage guidelines. Most of these policies have had little effect because they were not consistent with fical policy; a few have had quite the opposite effect from what was intended.

The Jamaican authorities introduced measures designed to restrain expenditure, beginning with interest rate increases in June 1972 and followed by an increase in the liquid

assets ratio for commercial banks (in July), and import restrictions and a ceiling on commercial bank credit (in October). The measures appear to have had little effect. Non-oil imports were up 20% in 1973 (by which time the limits would have been in place long enough to take effect) as compared with 7% in 1972; the limit on bank credit merely stimulated the growth of non-banks and there was not the expected slowdown of domestic credit coupled with acceleration of deposits.

In January 1974 another programme was introduced, including further interest rate increases, a new import limit and a tightening of exchange controls. The programme proved short-lived, however. With the imposition of a new bauxite levy Government determined in May to expand expenditure. The import limit was removed, credit ceilings were abolished and there was the massive fiscal expansion we mentioned earlier.

Attempts to extend adjustment policies beyond the limits of their effectiveness aggravated Jamaica's economic malaise. Less ambitious credit and exchange controls and more selective (and more modes) import restrictions might have been of some benefit. However, the burden of the analysis seems to point clearly to the primacy of the fiscal instrument. There is probably no other combination of policies which will counterpart serious fiscal overspending; what is worse, the attempt to do so may force authorities into policies which contribute to the problems they are designed to solve. The domestic issue

which helps most in explaining the differing fortunes of Jamaica and Barbados remains their vastly different fiscal policies.

Institutional weaknesses

The economies of Barbados and Jamaica were subject to institutional limitations which may have played a part, along with external forces and domestic policies, in determining the outcome. The remainder of this essay will deal with some of these institutional features, beginning with supply factors.

The sugar industry provides the most glaring example of the great difficulty both countries faced in raising out-In spite of rising prices (though sugar prices put levels. slumped badly after the 1975 highs, they have generally been on the increase during the 1970's), and in spite of official policies intended to maintain production levels in sugar, output stagnated in Barbados and continued to decline in Jamaica. With average sugar prices for the years 1976, 1977 and 1978 three times as high as they were ten years earlier, Barbados could manage only 60% of the average output for 1966, 1967 and 1968. In 1975, when sugar prices reached an all-time high, Barbados' production was the second lowest since 1945. Jamaica the picture was no more encouraging; output for the 🗽 last three years of the period was 58% of what it was for the same period ten years earlier.

The difficulties of expanding manufactured goods production are not so easy to document, particularly because the sector continued to expand (in Barbados throughout the period; in Jamaica, until 1978). Our argument has to be that the sector might have grown even more rapidly but for the institutional limitations to which it was subject. This is not a proposition that we can demonstate empirically. However, there are signs that officials in both countries recognised constraints arising from inadequate management and organisational skills, the absence of expertise in export marketing and poor quality controls.

A number of institutional features which Barbados and Jamaica share with other developing countries have been represented as limitations on their policy options. They include the limited range of activities on which foreign exchange earnings depend, the narrow choice of export markets, the difficulty of transferring factors of production between export activities, the limited scope for import substitution in small countries and the poverty of internal linkages between sectors. frequently argued that these all reduce a country's room for manoeuvre in response to world market changes. The present by author is still probably among a minority in his view that these constraints have all been vastly exaggerated. (Although there is already empirical work suggesting that concentration in export commodities and markets does not limit growth or generate exessive economic flutuations). The apparent constraints may be lifted in a variety of ways. By careful quality control and product differential what appears to be a homogenous product may be distinguished from its competitors and its sales

position maintained in the face of a slump. The scope for import substitution in goods may be limited, but the same is not necessarily true of services. Aggressive marketing may create substitution possibilities where more existed before. And approriate technologies may significantly increase domestic linkages without resort to expensive research and development.

In our opinion it is the deficiencies of government administration which constitute the most serious institutional limits to policy. We would argue that, in both countries, the failure of government corporations, the weaknesses of the planning processes and the absence of mechanisms for co-ordinating long-term and short-term strategies have prejudiced governments' chances of carrying through their economic intentions.

In both Barbados and Jamaica governments have set up state corporations to perform economic functions in a wide variety of activities - finance, agriculture, tourism, manufacturing, exporting and domestic marketing. Their establishment has a compelling logic. Growth is a principal objective of official policy, but the measure available to the authorities have proved inadequate to the task of ensuring adequate rates of growth. Invariably government needs to intervene, if only to provide incentives and know-how and finance (particularly to local entrepreneurs). Some of the earliest state corporations aimed to provide these services, but governments gradually widened their scope in attempts to

pump more investment into lagging sectors and to sustain employment. Unfortunately, state corporations were not set up to run on professional lines. Managements were insufficiently trained, boards of directors failed to make distinction between policy and management, and political interference has been pervasive. As a result, many enterprises have folded and most of the survivors remain totally ineffective; while the governments of Barbados and Jamaica retain a large number of statutory corporations in all major activities, these governments are virtually powerless to influence the rate of real economic growth.

It might not help very much if the statutory bodies did function, because the governments of Barbados and Jamaica have not yet developed the capacity to plan effectively. A plan requires more than a statement of intentions and a list of projects. The available resources must be measured, and supplemented where necessary. Responsibility must be clearly assigned for each phase and activity in the plan. Finally, there must be a system of monitoring the performance of each responsible agent; the system should include provision for remedial action if actual performance deviates from plan targets. Governments do have recognisable approximations to some elements of this system. However, planning cannot be effective unless every element of the system is in place. The conspicuous absence of monitoring and performance evaluation invalidates most of what is contined in official planning documents.

However good the plan, its success hinges on how well it meshes with the Government's ongoing economic strategy. In the last three years in Jamaica foreign exchange difficulties have limited production, with scarcities of machinery and raw materials being experienced in most major activities. In such circumstances planned expansion has simply not been possible. The plan itself may be essential to the success of the shortrun strategy. Part of the resson Jamaica's adjustment programmes since 1974 were bound to fail was that the economy failed to expand. Without renewed growth there is probably no level of expenditure which can be considered as "equilibrium". The problem is that neither country has an insituttionalised means of co-ordinating long and short term strategies. plan is prepared under one kind of authority, the annual budget under another, while monetary policy resides in a third centre. There is no objection to separate preparation, but preformance evaluation must be done by an authority which can ensure compatibility of all the elements.

With governments' principal strike forces in the battle for growth in disarray, with the planning machinery incapable of putting its intentions into effect, and with no means of keepting long-term goals in hire with the limits of short-run fortunes, official policies to cope with economic change in Barbados and Jamaica have been severely limited. Barbados has been fortunate in that it has had much less riding on those policies than has Jamaica.

Conclusion

Neither domestic nor external forces alone will serve to explain fully the economic fortunes of Barbados and Jamaica. Domestic policies may have been effective (or have worked better) if the external environment had been more helpful. On the other hand, harmful external effects might have been tackled by a wiser domestic policy strategy. Much of the difference between the economic performance of Barbados and Jamaica had to do with the difference in their fiscal stances, though the larger impact of oil in Jamaica has also been a major factor.

Perhaps the important lesson to be drawn is that there is more room to manoeuvre than appears on the surface. An urgent priority in both countries must be to build the institutional capacity to exploit this potential. Small countries may not control the impact of external forces on their economies, but they should equip themselves to take advantage of all available options for coping with unexpected or unwanted developments abroad.

TABLE 1

BARBADOS - BALANCE OF PAYMENTS

| | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979* |
|--------------------------------|------------|--------|--------|--------------|--------|--------|---------|--------|-------|
| Current Account | - 69.3 | - 83.0 | -102.4 | - 98.4 | - 83.8 | -128.4 | - 92.0 | - 62.9 | -102 |
| Export | 65.7 | 72.4 | 93.9 | 138.1 | 190.8 | 152.6 | 182.4 c | 223.1 | 306 |
| Tourism | 102.7 | 120.2 | 136.9 | 156.6 | 156.1 | 166.7 | 223.0 | 277.1 | 343 |
| Oil Imports | - 1.5 | - 4.9 | - 12.8 | - 31.8 | - 46.7 | - 40.2 | - 47.5 | | ; |
| Non-oil imports | -242.3 | -265.7 | -316.0 | -387.1 | -391.0 | -436.8 | -498.1 | | |
| Other | 6.1 | 5.0 | 4.4 | 25.8 | 7.0 | 29.3 | 48.2 | | |
| Capital Account | 83.0 | 82.0 | 76.8 | 106.3 | 118.7 | 92.4 | 86.1 | 101.2 | 134 |
| Long-term | 32.4 | 37.9 | 46.6 | 21.5 | 50.7 | 44.2 | 38.9 | 24.2 | 53 |
| Short-term | 3.9 | - 3.7 | - 5.6 | 0.7 | 6.8 | 4.7 | 10.0 | 30.6 | |
| Unidentified | 46.7 | 47.8 | 35.8 | 84.1 | 61.2 | 43.5 | 37.2 | 46.4 | 81 |
| Surplus/Deficit | 13.7 | - 1.0 | - 25.6 | 7.9 | 34:. 9 | - 36.0 | - 5.9 | 38.3 | 32 |
| Official financing | g - | | - | · - | - | | 35.1 | 20.0° | |
| Reserve change (- increase) | - 13.7 | 1.0 | 25.6 | - 7.9 | - 34.9 | 36.0 | - 29.2 | - 58.3 | ~ 32 |

Sources: Economic and Financial Statistics (oil imports, Table H6), Balance of Payments

*Estimates

JAMAICA - BALANCE OF PAYMENTS

| - | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 |
|-----------------|--------|--------|--------|--------|--------|--------|--------|-------|
| Current | - 93.4 | -117.3 | -164.3 | -151.8 | -257.0 | -275.2 | - 61.9 | |
| Exports | 286.0 | 302.4 | 357.2 | 630.7 | 736.7 | 599.7 | 691.1 | |
| Tourism | - 78.8 | _ 74.5 | 90:4 | 88.6 | 69.3- | 42.6_ | 54.7_ | · |
| Non-oil imports | -351.7 | -379.0 | -453.0 | -560.2 | -686.0 | -534.6 | -382.9 | |
| Oil | - 63.1 | - 70.8 | - 93.5 | -133.5 | -181.5 | -197.9 | -201.6 | , |
| Capital Account | 129.8 | 73.7 | 136.6 | 205.9 | 183.4 | 37.1 | 47.3 | |
| Identified | 112.1 | 59.8 | 124.7 | 221.1 | 189.9 | 41.5 | 51.7 | |
| Unidentified | 17.7 | 13.9 | 11.9 | - 15.2 | - 6.5 | - 4.4 | - 4.4 | |
| Surplus/deficit | 36.4 | - 43.6 | - 27.7 | 54.1 | - 73.6 | -238.1 | - 14.6 | |

Sources: Bank of Jamaica Balance of Payments 1975 and 1977

TABLE 3

BARBADOS - EXPORT PERFORMANCE

(BDS\$ M)

| · | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 |
|-------------------------|----------|-------|-------|--------|------|-------|-------|------|------|
| Exports to US | 8.6 | 10.6 | 17.0 | 47.3 | 65.7 | 52.3 | 61.7 | 65.6 | |
| Sugar | _ | _ | | - 20.0 | 38.1 | 20.6 | 18.1 | 1.8 | 19.7 |
| Molasses | 1.3 | 0.8 | 0.6 | 5.5 | 2.8 | 2.9 | 1.8 | 1.3 | 1.4 |
| Shrimp | . | * | 1.4 | 2.8 | 3.1 | 0.3. | 2.0 | 0.1 | : |
| Manufactured • Goods | - 7.3 | - 9.8 | T15.0 | 19.0 | 21.7 | 28- 5 | 39.78 | 56.1 | |

Central Bank of Barbados - Annual Statistical Digest Sources:

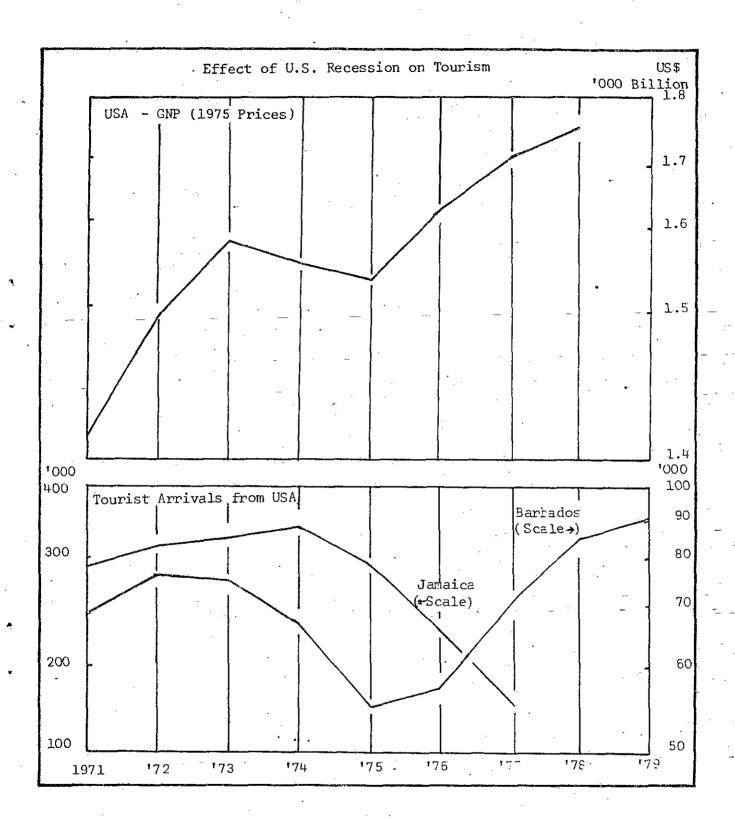
Barbados Statistical Services, Overseas Trade Reports

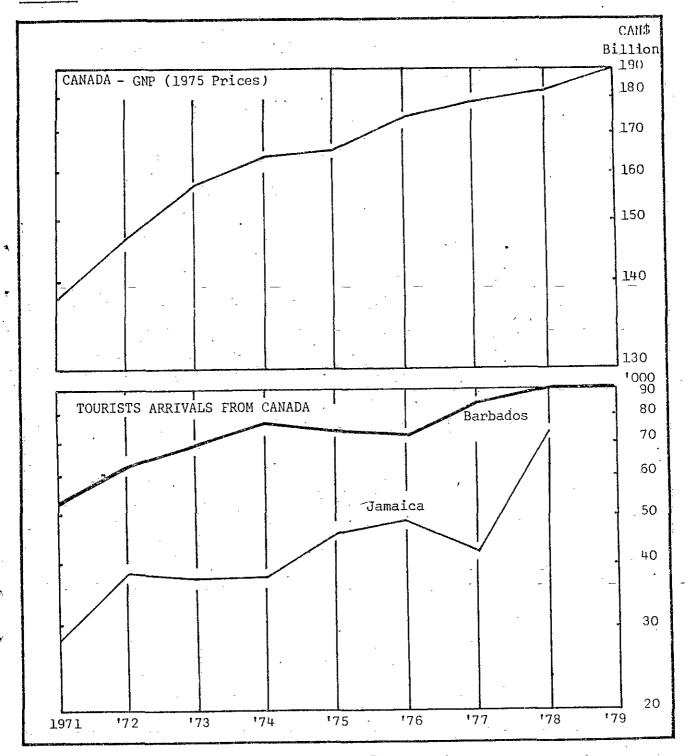
TABLE 4

JAMAICA - EXPORT PERFORMANCE

| | • | | - | | | | | | , · _i |
|-----------------------|----------|-------|-------|-------|-------|-------|--------|-------|-----------------------------|
| ٠, - | Unit 'M' | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 - | 1977 | _ 1978 - |
| Manufactured Goods | J\$ | 24.4 | 23.0 | 23.5 | 32.2* | 33.8 | 36.3 | 42.0 | |
| Bauxite | Tons | 7.6 | 7.0 | 7.3 | 7.9 | 5.4 | 6.2 | 6.3 | : |
| Alumina | Tons | 1.8 | 2.2 | 2.4 | 2.8 | 2.3 | 1.6 | 2.0 | a |
| Bauxite & Alumina | J\$ | 180.3 | 190.5 | 229.7 | 483.9 | 456.9 | 393.2 | 494.1 | |

Source: Bank of Jamaica Balance of Payments * Nine percent against US\$





APPENDIX

The tables in this appendix are taken from my 'Impact of fluctuating exchange rates in Barbados and Jamaica' Central Bank of Barbados (mimeo) May 1980. The analysis on page 3-5 is based on this data.

Tables Al and A4 show how the variances of exchange rates after 1971 compare with those recorded prior to 1971. These variances can be compared with the US/sterling rate, the principal external influence on exchange stability in Barbados and Jamaica. Tables A2 and A5 give the variances for an exchange rate whose value was determined by using a basket of currencies. The currencies were selected and weighted in proportion to 1971 trade shares. Tables A3 and A5 show how an index of exchange rates would have varied if its value were determined by the ratio of domestic prices to a foreign price index. (The foreign price is a weighted average of the price indices of principal trading partners).

Table A7 shows the forward market transactions of commercial banks in Barbados and table A8 gives the forward premiums or discounts on the major currencies of interest to traders in Barbados.

Tables A8 and A9 give the currency composition of official foreign debt in Barbados and Jamaica, while A10 shows how the Central Bank of Barbados has distributed its foreign asset portfolio.

TABLE A1 JAMAICA COEFFICIENT OF VARIATION - ACTUAL EXCHANGE RATE

| | | | | | · | Trade Weighted | |
|---------------|--------------|---------|---------|-------------|---------|----------------|---------|
| Period | £ Stg. | US\$ | Can.\$ | TT\$ | SDR | Exchange Rate | US\$/E |
| ٠ | | | • | • | • | • | |
| 1965 | - | 0.00752 | 0.00276 | - | 0.00752 | 0.00288 | 0.00752 |
| 1966 | - | 0.00160 | 0.00278 | | 0.00160 | 0.00284 | 0.00160 |
| 1967 | . | 0.05159 | 0.05101 | → , | 0.05154 | 0.02674 | 0.00516 |
| 1968 | -, | 0.00374 | 0.00859 | - | 0.00374 | 0.00180 | 0.00374 |
| 1969 | - | 0.28218 | 0.32888 | - · | 0.28218 | 0.28259 | 0.00229 |
| 1970 | | 0.19210 | 0.02642 | .=== | 0.19210 | 0.00169 | 0.00323 |
| 1971 | | 0.01846 | 0.01560 | · | 0.01683 | 0.00753 | 0.01846 |
| 1972 | . | 0.04549 | 0.04889 | · – | Ø.02522 | 0.02150 | 0.04549 |
| 1973 | 0.03315 | _ | 0.00377 | 0.03313 | • | 0.01575 | 0.03293 |
| 1974 | 0.01936 | | 0.01103 | 0.01941 | 0.01210 | 0.∞725 | 0.02015 |
| 1975 | 0.07125 | - | 0.01220 | 0.07144 | 0.03786 | 0.02696 | 0.07147 |
| 1976 | 0.07879 | - | 0.01342 | 0.02829 | 0.00728 | 0.02093 | 0.08021 |
| 19 7 7 | 0.07707 | 0.15940 | 0.14300 | 0.12504 | 0.16827 | 0.14110 | 0.03366 |
| 1978 | 0.15569 | 0.09725 | 0.09725 | 0.08069 | 0.12186 | 0.10481 - | 0.04128 |
| - | | | | | | | • |

TABLE A2 JAMAICA COEFFICIENT OF VARIATION - HYPOTHETICAL EXCHANGE RATES

| Period | £ Stg. | US\$ | Can.\$ | TT\$ | SDR | Trade wieghted Exchange Rate |
|--|--|--|--|--|--|--|
| 1971 1972 1973 1974 1975 1976 1977 | 0.28887 0.03945 0.02948 0.01744 0.04924 0.07183 0.02406 0.02836 | 0.02890 0.00621 0.00032 0.00665 0.02689 0.00800 0.00852 0.01678 | 0.28889 0.01120 0.00514 0.01133 0.02362 0.01804 0.03043 0.03911 | 0.28887 0.03998 0.02943 0.01777 0.04983 0.02822 0.01898 0.01678 | 0.01165 0.01353 0.00809 0.01065 0.02906 0.00497 0.00597 0.01429 | 0.00482 0.01872 0.01446 0.00471 0.01243 0.03996 0.01989 0.00968 |

TABLE A3 JAMAICA - COEFFICIENTS OF VARIATION - RELATIVE PRICES

| Coefficients |
|--------------|
| 0.01031 |
| 0.02127 |
| 0.04130 |
| 0.01666 |
| 0.01151 |
| 0.01338 |
| 0.02544 |
| 0.12518 |
| |

TABLE A4 BARBADOS - COEFFICIENT OF VARIATION - ACTUAL EXCHANGE RATE

| | | | | | | Trade Weighted |
|--------|---|----------------|---------|------------|---------|----------------|
| Period | £ Stg. | US\$ | Can.\$ | TT\$ | SDR | Exchange Rate |
| | | · | | | | |
| 1965 | . | 0.00767 | 0.00244 | 410 | 0.00767 | 0.00273 |
| 1966 | - | 0.00784 | 0.00280 | · - | 0.00784 | 0.00041 |
| 1967 | | 0.05681 | 0.05601 | - | 0.05681 | 0.01584 |
| 1968 | | 0.00368 | 0.00849 | - | 0.00368 | 0.00510 |
| 1969 | 40 | 0.00223 | 0.00240 | | 0.00223 | 0.00409 |
| 1970 | . · · · · · · · · · · · · · · · · · · · | 0.00316 | 0.02773 | - | 0.00316 | 0.00029 |
| 1971 | | 0.01813 | 0.01544 | · - | 0.01689 | 0.00460 |
| 1972 | · = | 0.04550 | 0.04861 | _ | 0.04848 | 0.01460 |
| 1973 | _ | 0.03313 | 0.03294 | | 0.03177 | 0.01015 |
| 1974 | MPD. | 0.01941 | 0.01462 | – | 0.02151 | 0.00813 |
| 1975 | 0.07769 | 0.02521 | 0.02235 | 0.07820 | 0.05138 | 0.04416 |
| 1976 | 0.08002 | - | 0.01317 | 0102685 | 0.00735 | 0.03494 |
| 1977 | 0.03366 | · _ | 0.02380 | <u>-</u> | 0.01450 | 0.00523 |
| 1978 | 0.04185 | | 0.02387 | - | 0.03147 | 0.00134 |
| . , | • | • | | | | · |

TABLE AS BARBADOS - COEFFICIENTS OF VARIATION - HYPOTHETICAL EXCHANGE RATES

| Period | £ Stg | US\$ | Can\$ | TT\$ | SDR | Trade Weighted Exch. Rate |
|--|--|--|--|--|--|--|
| 1971 1972 1973 1974 1975 1976 1977 | 0.00907 0.04265 0.00967 0.01471 0.03980 0.06676 0.02234 0.02388 | 0.01481 0.02816 0.00945 0.00834 0.03353 0.01395 0.01015 0.02032 | 0.01255 0.01878 0.01024 0.01019 0.02835 0.02042 0.03182 0.04166 | 0.00908 0.03383 0.02135 0.01633 0.04219 0.02910 0.01016 0.02033 | 0.00942 - 0.00956 0.00834 0.01275 0.03017 0.00965 0.01184 | 0.00519 0.01581 0.04242 0.00556 0.00906 0.02324 0.00194 0.00820 |

BARBADOS - COEFFICIENTS OF VARIATION - RELATIVE PRICES

| Period | Coefficients |
|--------|--------------|
| 1971 | 0.02032 |
| 1972 | 0.02021 |
| 1973 | 0.03874 |
| 1974 | 0.04765 |
| 1975 | 0.01439 |
| 1976 | 0.01285 |
| 1977 | 0.02224 |
| 1978 | 0.01178 |

(BDS\$ 000)

| | | | | | • |
|---------|--------------------|----------------------------|--------------------|----------|---------------|
| | | | | | Position As % |
| D | Same by 1 | · * d o b d 3 d s d s | | | oot Position |
| Period | Assets | Liabilities | NGC | Assets | Liabilities |
| 1976 | | <i>E</i> | 21.0 | 17 00 | 12.65 |
| Jun. 30 | 6,716 | 6,500 | 216 | 17.86 | 17.55 |
| Jul. 28 | 6,716 | 6,873 | (157) | | 21.45 |
| Aug. 25 | 1,671 | 1,396 | 275 | | 3.95 |
| Sept.30 | 390 | 1,986 | (1,596) | | 6.39 |
| Oct. 27 | - | 1,246 | (1,246) | - | 3.52 |
| Nov. 24 | 1,267 | 2,093 | (826) | | 5.99 |
| Dec. 29 | 2,691 | 3,956 | (1,265) | 5.91 | 9.21 |
| 1977 | | - | | | • |
| Jan. 31 | 2,664 | 3,100 | (436) | 5.75 | 7.08 |
| Feb. 23 | 1,418 | 2,046 | (628) | | 4.37 |
| Mar. 31 | 1,389 | 1,846 | (457) | | 4.35 |
| Apr. 30 | - | 982 | (982) | | 2.30 |
| May 25 | - . | (471) | (471) | | 97 |
| Jun. 30 | | 900 | (900) | _ | 1.75 |
| Jul. 29 | 724 | 1,577 | (853) | | 3.29 |
| Aug. 31 | 720 | 1,316 | (596) | 1.50 | 2.88 |
| Sept.30 | 720 | 2,474 | (1,754) | 1.48 | 5.23 |
| Oct. 26 | - 120 | 1,462 | | 1.40 | • |
| Nov. 29 | | 1,462 | (1,462) (1,047) | <u>-</u> | 3.05 |
| Dec. 30 | 2,026 | 6,672 | (4,646) | ż = c | 2.00 13.21 |
| Dec. 30 | 2,040 | 0,072 | (41040) | 3 . 20 | 13.41 |
| 1978 | - | | | | |
| Jan. 31 | 3,269 | 3,252 | 17 | 7.46 | 7.84 |
| Feb. 28 | 3,255 _: | 3,227 | 28 | 5.94 | 6.44 |
| Mar. 31 | 2,026 | 1,998 | 28 | 3.33 | 3.46 |
| Apr. 28 | 2,026 | 1,998 | 28 | 3.78 | 3.96 |
| May 31 | 2,026 | 1,998 | 28 | 4.78 | 4.88 |
| Jun. 30 | - | - | - | | |
| Jul. 26 | - | - | _ | | |
| Aug. 31 | | . | | ٠. | |
| Sept.29 | - | - ' | - | • | |
| Oct. 31 | . - | - | - | - | |
| Nov. 29 | - | - , | - | | |
| Dec. 29 | _ | _ · | - | • | |
| 1979 | | • . | | , | |
| | _ | | • | • | |
| Jan. 31 | - | - | | | |
| Feb. 28 | - - . | . - | | | • |
| Mar. 30 | - | - | - | | |
| Apr. 30 | . . | | - | | : |
| May 31 | - | - | - | | |
| Jun. 29 | - 300 | | | 1.2 | / |
| Jul. 31 | 322 | 322 | | .83 | .90 |
| Aug. 31 | 473 | 473 | | 1.20 | 1.47 |
| Sept.26 | 528 | 528 | - | 1.03 | 1.08 |
| Oct. 31 | 507 | 507 | - | 1.59 | 1.68 |
| Nov. 28 | 495 | 495 | _ | 1.17 | 1.33 |
| Dec. 31 | 187 | 187 | - | .29 | ,32 |
| 1980 | , | | | | |
| Jan. 31 | 191 | 191 | · | .35 | .36 |
| | */* | * * * | _, | | + 30 |

^{*} Last Wednesday of each month.

| | - | | | · |
|-------------------|---------------------------------------|----------------------|---|-----------|
| | Canada | Japan | Germany | Sterling' |
| 1964 | A271 | | - ,1760 | 6738 |
| | .0372 | | -1.5494 | 2676 |
| 1965 | 1674 | | | 1792 |
| 1966 | 0369 | | .0251 | 7021 |
| 1967 | .1388 | | 8752 | 7021 |
| 1968 | 3000 | | 7005 | 1.7660 |
| (i) | .3880 | | 7285 | -1.7658 |
| (ii) | .2324 | | 8761 | -1.2840 |
| (iii) | . 1957 | | 5282 | 4185 |
| (iv) | .0932 | | -1.0500 | 9982 |
| 1969 | • | | : | 2040 |
| (i) | - 1673 | | 9940 | 7058 |
| (ii) | 3608 | | -1.3990 | 7820 |
| (iii) | 1483 | | -4.1856 | 9441 |
| (iv) | .009.3 | | 3523 | 1291 |
| 1970 | · | | | |
| (i) | 0093 | | 2457 | 1288 |
| (ii) | 2901 | | .0551 | 0250 |
| (iii) | - 2257 | ·-· | 0275 | 2889 |
| (iv) | .0396 | | 2193 | 2381 |
| 1971 | • | - | | |
| (i) | 0397 | ~12.4510 | .2204 | 6537 |
| (ii) | 3127 | • | .0858 - | 2397 |
| (iii) | 1883 | | - 1808 | .4828 |
| (iv) | 1596 | • | 5508 | .1371 |
| 1972 | . 1370 | | .,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | |
| (i) | . 1906 | 7616 | 5051 | 0306 |
| | .0304 | - 17010 | - 9823 | 9002 |
| (ii) | · · · · · · · · · · · · · · · · · · · | | 7495 | 6735 |
| (iii) | 0508 | | 4372 | 8986 |
| (iv) | 1105 | | 4372 | ,0,00 |
| 1973 | (200 | 7 0571 | -2.0427 | 6740 |
| (i) | 6206 | 7.8571 | | 4648 |
| (ii) | 4006 | | 7010 | -1.1394 |
| (iii) | 3579 | • | 4132 | |
| (iv) | 0803 | | 2590 | -1.6443 |
| 1974 | | | 1100 | 2 2202 |
| (i) | 1851 | 6.6667 | .1189 | -2.3392 |
| (ii) | 4012 | 1232 | 6654 | - 6902 |
| (iii) | 1420 | .5025 | 5654 | 7846 |
| (iv) | 0605 | .9138 | 4773 | 2.0651 |
| 1975 | | • | | |
| (i) | 0689 | 1361 | 3838 | -1.4944 |
| (ii) | 1552 | 2362 | 4162 | -1.2739 |
| (iii) | .3512 | 1.4701 | 9581 | 7301 |
| (iv) | .8658 | .3441 | 5072 | -1.2602 |
| 1976 | - | | | |
| (i) | 1.1481 | 1.0344 | 5240 | -1.0283 |
| (ii) | .9911 | .3127 | 3962 | -1.9256 |
| (iii) | .8220 | .2435 | 2257 | -3.3085 |
| (iv) | 7531 | .2732 | 0212 | -2.5493 |
| 1977 | | - | | = |
| (i) | 4069 | .3784 | 1130 | 9941 |
| '(ii) | .2830 | - ,3474 | - 4705 | 7674 |
| (iii) | .1863 | 7911 | 7541 | 2577 |
| (iv). | 0548 | - 1.1792 | -1.1876 | 7870 |
| 1978 | | 2 4 m 1 Jan | | |
| (i) | 3268 | 9442 | - 9886 | .3071 |
| | | - 1.4900 | -12673 | - 7096 |
| · (ii) · (iii) | .0300 | | -1.4237 | .8164 |
| (iii) | .1268 | - 1.6653 | -1.9694 | . 1220 |
| (iv) | 2445, | - 2.4666 | - (, 7074 | . 1 |
| 1979 | | | _1 7172 | .2514 |
| (i) | .6376 | - 1.0033 | -1.3172 | .7314 |
| (ii) | .2141 | - 1.1751 | → ,7058 - t 2012 | 890a. |
| | | | | . 011947 |
| (iii) (iv) | 2843 .2055 | - 1.2987 - 1.3141 | -1,2912 -1,4150 | ,9447 |

.2