# EXCHANGE RATE STRATEGIES IN THE CARICOM REGION

by

DeLisle Worrell
CENTRAL BANK OF BARBADOS
P.O. BOX 1016
BRIDGETOWN
BARBADOS

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It seems a great pity that in the English-speaking Caribbean we now have so many currencies servicing such a small population, where not so long ago we had only two or three. Since we place so much store by regional co-operation, the currency diversification appears to be a retrograde step. No doubt there were adequate reasons for the establishment of national currencies, but it would be helpful if we could maintain arrangements as close as possible to those obtaining within a single currency area, thereby removing exchange rate uncertainty in regional transactions.

The problems created by exchange rate variation within the Caricom region have become acute during the 1980s. Even though Caricom currencies began to drift apart as early as 1971, traders within the region seem to have accommodated to the fluctuations of the 1970s without having to surrender large chunks of their regional markets. The currency variations of the 1980s have proved far more troublesome and regional trade has contracted sharply in recent years. Admittedly, many other factors contributed to the decline in trade: a fall in regional purchasing power, the collapse of the regional financial mechanism and the erection of trade barriers. However, the re-establishment of predictability in regional exchange rate values is seen as an important step in restoring trade.

Though the desire is shared by all the feasibility of a common exchange rate strategy remains in doubt. Intuitively it is difficult to imagine how Guyana or Jamaica might have matched the exchange rate strategy of Barbados or Trinidad and Tobago over the last five years. A fixed exchange rate between Caricom members requires that they pursue compatible policies and attain comparable levels of overall economic performance.

The present essay discusses why it has not been possible to harmonise regional exchange rate movements, what were the consequences of currency fluctuations, what prospects there are for co-ordination and how we might better cope with diverse exchange rates. The paper is divided into four sections, each dealing with one of these topics.

## Economic Performance and the Exchange Rate

In no country can the competent authority set the exchange rate arbitrarily, if that rate is to be much used in trading. (Not all official exchange rates are.) The central bank depends on a supply of foreign exchange to make the official rate a meaningful one. If the bank announces an exchange rate of three local dollars per US dollar, let us say, it must have a stock of US dollars sufficient to sell to all legitimate buyers who present three dollars of local money. The exchange rate must therefore be set at a value which attracts sufficient foreign currency to the central bank.

Admittedly, the market for foreign exchange is not entirely open. The central bank has access to some foreign exchange whatever the exchange rate set. For the most part these receipts are the proceeds of export sales of primary products such as sugar, oil, bauxite, bananas and rice. However, foreign exchange receipts from these sources are not nearly enough to meet normal needs, for any country. To some extent, government may curtail legitimate demand by exchange controls, foreign exchange budgets and rationing. But these measures all tend to diminish the supply of foreign exchange to the central bank as well. No-one wants to release foreign exchange earnings to the central bank; if he wants to purchase foreign goods or services at a later date the central bank may deny him permission. And if he doesn't need the foreign exchange himself he can obtain a premium price by selling to someone who has been turned down by the central bank. There are limits to the extent to which the central bank may direct the foreign exchange markets; beyond them, it must be guided by supply and demand, which in turn depends on the health of the economy and on government policies.

Most of the supply of foreign exchange comes from the export of goods and services. For some products such as manufactured goods the Caribbean may sell anything it can produce, provided its prices are competitive. For others such as sugar there are fixed quotas, while a third category - including tourism - appears subject to the international business cycle. When industrial economies are buoyant, tourism flowers, but it tends to contract during recessions. The ability to produce competitive products depends on management, technical and marketing skills, on wage trends and on the prices of local inputs, and on the allocation and cost of finance. Exports may also be influenced by government policies, including the tax system and schemes for financial assistance and institutional support.

Capital inflows have usually been an important source of foreign exchange, though their contribution is much smaller than for exports. The slowdown of capital inflows in the 1970s and 1980s helped to make for chronic balance of payments difficulties in some Caribbean countries. Capital movements may be affected by domestic interest rates, in relation to those abroad, by the nature of the exchange control regime and by the credibility of current exchange rate policy. The supply also depends on foreign direct investment and on the country's international credit-worthiness and willingness to incur additional public debt obligations abroad.

The demand for foreign exchange depends on real incomes, the rate of inflation and the extent of unfinanced government spending. (Financed, that is, by money newly printed by the central bank.) For any Caribbean country perhaps 30-40% of any new spending is recirculated internally, for housing, personal services, business services and government administration. The remaining 60-70% is spent on imports. The demand for imports may be influenced by

prices, tariffs and quotas; it will vary with changes in the exchange rate, particularly when such changes raise fears of further adjustment. Also, there will be a demand for foreign exchange to service external debt.

To summarise the foregoing, the supply and demand for foreign exchange depends on a combination of economic circumstances (the state of markets, the quality of management), the habits of the population (their preferences for imports, the extent of their thriftiness) and economic policies (taxes, tariffs, government expenditures, interest rates). If the exchange rate of country A is to follow the pattern of B's rate, the circumstances, habits and policies of A must fall within a range which is compatible with the circumstances, habits and policies of B. Divergent exchange rates within the Caricom region are a manifestation of the failure to achieve this compatibility among members.

The variety of economic circumstances, economic policy and economic structure among Caricom countries has dictated exchange rate strategies that were bound to diverge. The economic circumstances of English-speaking Caribbean countries were quite similar at the beginning of the 1970s, if we are to judge by output growth, inflation, the employment situation and the balance of payments. However, by the second half of the decade individual country performances were widely dissimilar, ranging from chronic payments difficulties and economic stagnation to rapid growth with inflation. (I have compared member countries' fortunes at some length in my 'Adjustment Policies in Small Open Economies', Central Bank of Barbados, January 1986.) Economic policies diverged sharply in the wake of the first oil crisis. At the risk of over-simplification, a distinction may be drawn between those countries which used windfall receipts in 1974-75 to boost national spending and those where government pursued more conservative spending policies. Those countries which failed to adjust satisfactorily to the first oil crisis were forced to adopt more vigorous - often draconian - policies as time went by.

The most glaring difference in economic structures among Caricom countries is the distinction between the oil producers, Trinidad-Tobago and Barbados, and the rest. At the other pole from the oil producers was Jamaica, whose heavy dependence on energy-intensive bauxite made for a very strong impact of oil price changes.

Jamaica and Guyana provide the best examples of the way economic policies and circumstances imposed changes in exchange rate strategy. Both countries failed to contain national spending in line with sluggish income in the 1974-76 period, and by the end of 1976 their economies were beginning to contract and their foreign exchange reserves were exhausted. Neither country wanted to change its exchange rate and they both tried to ration the foreign exchange market. Inevitably the unoffical foreign exchange market blossomed, absorbing an increasing proportion of receipts. Both countries eventually devalued, with much

reluctance, in efforts to re-assert the influence of the central bank on the foreign exchange market.

The recent Trinidad-Tobago devaluation provides an illustration of structural influences on the exchange rate. No other country in the English-speaking Caribbean depends on a single export commodity for government finance and for national expenditures to the extent that Trinidad-Tobago depends on oil revenues. Nowhere else would a change in the price of a single commodity have such severe budgetary implications. The dramatic fall in oil prices forced the Trinidad-Tobago government to confront the necessity of harsh, quick adjustment; although devaluation was by no means the only adjustment measure available, it evidently appealed to the authorities as the most surgical.

The Consequences of Divergent Exchange Rates

Exchange rate changes have had damaging effects within the Caricom community when the changes have been large and abrupt. Small gradual exchange rate movements have not been particularly troublesome, except when novel means for setting the rate made traders uneasy. We need to ask whether the exchange rate movements themselves created loss of income and jobs, or whether the harmful effects were a result of measures adopted in reaction to unpopular exchange rate changes. Moreover, the effects of the actual exchange rate change are to be contrasted with uncertainty about future exchange rate trends, which might be equally important for investment.

We would not expect small exchange rate changes to have much of an effect on output. They are often overwhelmed by the changes in relative price levels between countries which are a permaner feature in trading relationships. Any exporter expects his competitors' costs to change over time, just as he expects changes in his own costs, and seldom will they all move togeth The exporter therefore learns to cope with gradual changes in competitive position. Small exchange rate changes will move hi up or down somewhat in the competitive league, but he is used that. We assume that the pattern of changes in domestic costs for each country matches the pattern of retail prices, so that ratio of Barbados' retail prices to Jamaica's will give us an idea of the changes in competitive position between this pair countries. The ratio can be modified whenever there is a chan in either the Barbados or Jamaica exchange rate, to reflect th effect on competitiveness. A similar index of competitiveness combining relative price changes and exchange rate changes, ma be constructed for each pair of countries. We find that the index of competitiveness changes every year, whether there are exchange rate changes or no. Furthermore, where exchange rate changes are small, one cannot detect when the exchange rate to place by examining the change in competitiveness; the exchange rate effect is swamped by the differences in inflation betwee the countries (see the appendix).

Large exchange rate changes have not been accommodated with s ease. Producers in the devaluing country are suddenly given

substantial cost advantage, far beyond what their rivals elsewhere could have anticipated. There tends to be a shake-out in regionally traded products, with the devaluing country significantly improving its competitive position. However, firms in the devaluing country may not be able to retain their competitive edge, depending on how their own costs are affected by the devaluation and the associated rise in the price level. The exchange rate change may be counter-productive if, after undermining competitors in the buyers' country, the exporting firm cannot continue to supply at the lower post-devaluation price, once domestic costs have caught up.

The large exchange rate movements in the Caricom region were the depreciations of the Jamaica dollar between 1977 and 1979 (a fall of 49%) and between 1983 and 1985 (a 67% decline) and of the Guyana dollar, which fell 39% between 1980 and 1985. Jamaica was able to accelerate the growth of her exports to the region on both occasions, compared with periods when there were no exchange rate changes. On the first occasion other countries' exports to Jamaica do not appear to have suffered because of their loss of competitive advantage. Barbados and Trinidad-Tobago sustained the growth of their exports to Jamaica at rates comparable to those of the pre and post-devaluation period. Furthermore, Jamaica's competitive advantage could not be maintained as her inflation rate rose to become the highest in the region, and by the end of 1980 her exporters were no more competitive than they had been in 1977.

Jamaican exporters again benefitted when the currency was devalued a second time. On this occasion exports to Jamaica by Barbados and Trinidad-Tobago fell back, partly because of the price penalty imposed by devaluation, but also because of foreign exchange rationing imposed by Jamaica. Again the price advantage offered by the devaluation narrowed whenever the currency stabilised for any length of time, as the Jamaica inflation rate remained above those of her partners.

The Guyana experience illustrates how the opportunities afforded by an improved competitive position are squandered by impaired production capacity. A depreciated exchange rate and falling real wages meant very attractive prices for Guyanese exports, but there was hardly anything available for export to the region on open markets.

Trinidad and Tobago and Barbados suffered contraction in their manufacturing sectors in the 1980s, and the loss of Caricom markets was partly to blame. However, the Jamaican devaluations were only one among the several causes for the decline. Quantitative restrictions on imports and foreign exchange rationing had a more devastating effect on trade, while the impoverishment of the Guyanese economy effectively eliminated one market altogether. Jamaicans also suffered a severe loss of purchasing power and a diminished capacity to import.

The effects on national output of trade losses for Barbados and Trinidad-Tobago, and of trade gains for Jamaica, were hardly noticeable. Barbados may have suffered the most, and even here the loss of output could not have approached 0.5% in any year. The employment effects were rather more significant, however; manufacturing is the most labour intensive sector, and job losses in Barbados because of regional trade difficulties may have been in the region of 1 - 2% of the labour force.

Uncertainty about the timing and magnitude of future exchange rate changes may be the most unwelcome feature of the current arrangements. The uncertainty inhibits investment, both capital formation and stock holding. An exchange rate change may cause an export market to vanish overnight, leaving the exporter with the costs of financing unwanted inventory. Not surprisingly, fewer and fewer are willing to take the risk. (This is by no means the only reason for sluggish investment; market prospects throughout the Caribbean are discouraging.) Erratic exchange rate movements encourage exchange rate speculation rather than investment in production. It becomes much easier to buy and sell foreign exchange, and to take advantage of exchange rate changes, than to produce and sell export goods. The exchange regime has also invited retaliation from the devaluing country's disadvantaged neighbours; the retaliation is often worse than the devaluation.

Exchange Rate Prospects for Caricom Countries

There is every likelihood of further divergence in exchange rat trends within Caricom. Countries' economic performances are still influenced by the factors which forced rates apart in the last 10 years. While economic performance has been disappointi in every case, some countries have maintained a sustainable external balance while others still suffer chronic foreign exchange shortage. The extent of external disequilibrium is roughly indicated by changes in countries' net foreign assets position. Countries where foreign liabilities vastly outweigh foreign assets, and where there are considerable foreign paymen arrears are bound to devalue their offical rates. We will find that their currencies are already heavily depreciated on inform markets. Countries with substantial net foreign assets are und no pressure to devalue, particularly where net foreign assets have been increasing.

The effective exchange rate for the Guyana dollar is already fa below the official rate of $4.15 per US dollar, and it is almos certain to depreciate further. Guyana's foreign payments arrears at the end of 1983 were G$579 million, virtually the same as total exports for that year. The arrears have grown larger ever since, and net foreign assets at September 1985 wer negative G$2.3 billion, one-third more than the entire GDP. With such staggering external imbalance no-one knows how far th exchange rate must fall in order to bring the demand and supply

of foreign exchange within the same range. Moreover, 'excess' foreign exchange supplies must be found to eliminate the arrears. Guyana is not producing the goods and services with which to correct the external imbalance; export volume in 1985 was about 25% below that for 1980, and real GDP may have fallen by about 20% since then.

The Bank of Jamaica has stabilised the value of the Jamaican dollar since November 1985; whether that rate will persist depends on the fortunes of the export industries, the success of government's painful budget-cutting, the level at which oil prices settle and the trend in international interest rates. Export performance in 1985 was disappointing, even though there was a sufficient supply of foreign exchange to reduce payments arrears. Exports fell 14% to levels only 60% of those achieved in 1980, and tourist arrivals were down 5%. Jamaica's payments arrears in 1983 were 16% of receipts for exports and tourism, and the ratio has probably declined since then. The country's net foreign assets at November 1985 were negative J$6.2 billion (66% of GDP), some 20% worse than at the end of 1984. This evidence suggests that Jamaica's external accounts may not have been brought into balance and that further currency depreciation may be expected. However, because Jamaica's oil bill is so large the current softening of oil prices may serve to correct the external imbalance, and lower interest rates will further ease the burden.

The future of the Trinidad-Tobago exchange rate depends largely on the evolution of oil prices. Oil revenues provided 90% of the finance for imports in 1984, and royalties and taxes on oil companies account for 40% of government revenues. As oil revenues contract government is tempted to devalue the currency, to restore oil company profits and their tax payments and to dampen expenditure on imports. However, the Trinidad-Tobago government does have options other than devaluation. The precipitate fall in foreign reserves slowed in 1985; in November the central bank's foreign assets of TT$2.5 billion were at the same level as in March, though the December devaluation may have caused a deterioration. So long as foreign exchange reserves remain in this neighbourhood the government has latitude to apply fiscal correctives for the imbalance between income and spending.

No other Caricom country appears to be under pressure to devalue its exchange rate at this time. Their central banks command reasonable stocks of foreign exchange which have so far not shown any sharp downward tendency. They will benefit from the fall in oil prices. No country is so exclusively dependent on a single export that a dramatic price change or loss of revenue would provoke reaction similar to that of the Government of Trinidad and Tobago. Countries may well decide to change exchange rates if they perceive that the alternatives to exchange rate adjustment may inhibit economic expansion. However, this

probably remains a minority view; the region's experiences do not encourage optimism about the growth effects of devaluation.

The outlook does not suggest that regional exchange rates are likely to converge, even if Guyana is left out of account. Furthermore, there are no regional mechanisms which might be used to bind the rates together. For example, suppose it were decided to link the currencies at existing exchange rates, with a band of perhaps 10% on either side of current parities set as the maximum appreciation or depreciation that could be allowed without joint consultation. Members would have no choice but to agree if any central bank decided to move outside the band. They have no foreign exchange to lend to a country which cannot support the existing rate, and no control over how that foreign exchange might be employed, if they were in a position to lend. In the absence of some conditionality, with strictures on the fiscal and monetary policies borrowers might follow, a regional credit scheme would very soon go the way of the Caricom Multilateral Clearing Facility.

Coping with Exchange Rate Diversity

Since we may well see further changes in regional exchange rate parities we should anticipate their impact and devise strategies to cope with them. We dare not try to forecast the magnitude of these exchange rate movements so we have prepared benchmark estimates instead. They are based on a 20% devaluation of one Caricom currency, with all others held constant, and they are calculated for the Caricom MDCs only. We assume that all quotas, rationing and exchange controls are removed.

The impact of exchange rate changes on the relative competitiveness of firms in different countries depends on the domestic cost inflation which results from any devaluation. We believe this inflation may be in the region of 50% of the devaluation, and this is the relationship used in deriving changes in competitiveness. Competitiveness is also determined by cost differentials which are characteristic of the economies, apart from any effect of devaluation. Our calculations are based on the differentials which obtained during 1985.

Jamaica's rate of inflation has been much higher than rates elsewhere in the Caribbean. Should domestic costs rise at rates comparable to inflation rates in all countries, Jamaica's prices would go up by 16% relative to Barbados' and by 13% relative to Trinidad-Tobago's (based on 1985 inflation rates). A 20% devaluation of the Jamaican dollar would not wholly redress the price disadvantage, if the devaluation incurred a 10% rise (50% of the devaluation) in costs in Jamaica. It would mean a relative price rise of 6% against Barbados goods and a relative increase of 3% against Trinidadian products.

Trinidad-Tobago's inflation rate lies between those of Barbados and Jamaica. In the absence of a further Trinidad devaluation, that country's prices would rise 3% relative to the prices of

Barbadian products, but they would fall 15% against Jamaican products. (We continue to assume that costs follow the trend of prices.) A further 20% devaluation of the Trinidad-Tobago currency would improve the country's competitive position; relative to Barbadian products Trinidad's prices would be 7% lower, while the price advantage in Jamaica would be 28%. (Lack of up-to-date price statistics at the time of writing prevents us from undertaking a similar analysis for Guyana, whose currency is the prime candidate for devaluation.)

The change in relative prices may be of manageable proportions, once the devaluation has worked its way through to domestic costs. The short-term price advantage may be much closer to the full extent of the devaluation, because the cost implications do not appear for some time. It may be desirable to provide measures which can cushion the effects on firms in non-devaluing countries during a period of transition. This might be achieved by phasing in new exchange rates, allowing only a maximum percentage change in any time period. Alternatively, fiscal measures might be used.

In order to phase in exchange rate changes within the region it might be necessary to employ dual exchange rates on occasion, for limited periods. Caricom countries might agree to a maximum limit of say 10% over six months on changes in the currency values used for regional transactions. If a currency depreciates by more than 10% against the US dollar within six months of the date when parities were last agreed, a special Caricom rate for that currency would be established at the rate which gives a 10% depreciation. At the end of the six months the Caricom rate would be abolished and all transactions would take place at the general rate, provided that rate had not fallen more than a further 10%. If it had, there would be another six month interval, and so on. The allowable exchange rate adjustment would be as small and the time period as long as current exchange rate trends allowed, and they might be adjusted as appropriate. A properly managed system along these lines would give producers time to adjust to currency variation.

An alternative is a special tax to be imposed on sales of the devalued currency by the central banks of its partners, if the devaluation exceeds the 10% limit. For example, if the Guyana dollar were to be devalued by 15%, the Bank of Jamaica would sell Guyana dollars to importers at a rate which was depreciated only 10%. The Bank of Jamaica obtains the Guyana dollars from the Bank of Guyana at the new 15% lower rate; the difference it credits to the Jamaica government account. The proceeds might be used to help fund purchases of Guyana dollars at the 10% limit from Jamaican firms exporting to Guyana. This arrangement would be analogous to the phased exchange rate, and should also be temporary in nature. The government's task is not to protect firms against the need to adjust to new exchange rates; the measures are designed to smooth the path of adjustment, to make sure firms are not caught in mid-contract by a massive devaluation.

Other suggestions for managing exchange rate variation are not especially helpful. The idea has been mooted of a special Caricom unit of account whose value is a weighted average of the exchange rates (in terms of US dollars) of member states. Such an arrangement makes absolutely no difference to the effect of devaluation on a country's competitive position. It is true that if the Jamaica dollar is devalued by 20% and all other currencies remain the same, the Caribbean unit of account (CUA) depreciates by less than 20%, thanks to the averaging process. But if the CUA falls by only 12%, let us say, the Trinidadian exporter still loses 20%, if he tries to match his Jamaican counterpart's prices. The Jamaica dollar receipts are only 12% lower in terms of CUAs, but each CUA will be worth 8% less in Trinidad-Tobago dollars.

A permanent dual exchange rate system has also been suggested, with fixed parities for intra-Caricom trade, regardless of a currency's value in terms of US dollars. As rates for non-Caricom business moved further and further away from the Caricom rate this system would become unsustainable. Irresistible pressures would build up from speculators buying foreign exchange at the Caricom rate and selling at the rate for the rest of the world.

Quantitative restrictions are the only device which has so far been used to soften the impact of exchange rate changes. They are an inferior option because they offer no help to exporters. The shelter offered to domestic firms should be temporary, to allow time for adjustment; firms should not be protected from the need to adjust. However, protective devices tend to build up vested interests in their preservation; they are very seldom completely dismantled.

When government has done all that might be expected to ease the transition to new parities, there remains a challenge to producers and exporters. The private sector will have to introduce systems and devices to provide for greater flexibility of pricing and scheduling, so that firms may adapt more easily to changing circumstances.

## Conclusion

Changes in the values of regional currencies in themselves are not greatly disruptive of trade. Even where the exchange rate adjustment is large the gain in competitiveness is not startling, once cost adjustments have taken place. The principal causes of the regional trading difficulty are the abrupt transitions and the nature of retaliation. As a result of sharp devaluations and rationing we have had exchange losses on goods shipped or in process, temporary 'excessive' competitive advantage before costs catch up, exchange rate speculators who make money on the rate of depreciation and the virtual closure of markets by administrative measures.

A revival of Caricom trade is quite possible, provided the quotas and restrictions can be dispensed with. We must all come to terms with greater variation in regional exchange rates than we would wish to see. Governments should manage exchange rate changes so that their effects within the region are spread over some interval sufficient to allow for adjustment by producers. For their part the private sector must develop more flexible responses to changes in the pattern of relative prices.

Footnote

1. Slightly amended version of paper presented at the Caribbean Association of Industry and Commerce Workshop, Antigua, April 23, 1986.

APPENDIX

## The Effects of Devaluation on Competitiveness and Trade

The decline in intra-Caricom trade in the 1980s has been blamed on member countries' economic misfortunes and on the imposition of trade restrictions, as well as changes in each country's competitive position. This note isolates the effects of competitiveness, and, more specifically, the impact of devaluation. Have devaluations been an important source of competitive advantage, and has this competitive edge been reflected in the devaluing country's exports? In section one we deal with the effects of competitive advantage on exports; section two addresses the relationship between devaluation and competitive advantage.

### Competitive Advantage and Intra-Caricom Exports

We use two statistical methodologies to test for the relationship between competitive advantage and exports. For trade between Barbados and other Caricom MDCs (Guyana, Jamaica and Trinidad-Tobago) we have 17 years' data, which allows us to estimate a functional relationship for the determinants of exports. For trade among other countries we have fewer observations, so we are forced to use non-probabilistic inference.

We ran export equations of the form

$$\text{Ln } X_{ij} = f(\ln V_j, \ln c_{ij})$$

for Barbados' exports to each MDC, and for their exports to Barbados. $X_{ij}$ represents exports from country i to country j, $V_j$ is j's GDP and $c_{ij}$ is an index of country i's competitive position with respect to country J. (Exports and GDP are in nominal values for want of an export price deflator; we would have preferred to work with real magnitudes.) The equation is a conventional demand function; exports rise when the recipient country can afford to buy more, and when the price at which the imports are sold in the recipient country falls relative to local prices. The index of competitiveness is given by

$$c_{ij} = (P_i/P_j) \div (e_i/e_j)$$

where $P_i$ and $P_j$ are consumer price indices and $e_i$ and $e_j$ are exchange rates. If i's exchange rate (in terms of some numeraire) were the same as j's, i would be able to supply goods to j at the same price ($P_i$) it supplies to its own market. Its competitiveness would depend on how that price compares with $P_j$. If i's currency is devalued (an increase in $e_i$), goods which sell for $P_i$ in country i are now cheaper than $P_i$ in country j by the extent of the devaluation - and conversely if j devalues. The index $c_{ij}$ therefore represents the relative price at which i's goods are sold, given devaluations by i or j.

There is more than enough capacity to supply all the goods demanded in regional trade, so there is no need to take explicit account of supply factors in estimating the determinants of exports.

The results presented in table 1 suggest that exporters' fortunes depend mainly on the economic fortunes of importing countries. With respect to Barbados' trade with Jamaica and with Trinidad-Tobago, the recipient country's income is the main influence on exports, in both directions. Caricom trade is growing just as fast as the importer's national income in most cases, and twice as fast for Barbados' exports to Jamaica.

Loss of competitiveness is not an inhibiting factor. Rather, there appears to be an inverse relationship between Barbados' exports and her competitive position - when Barbados loses competitive advantage with respect to Jamaica and Trinidad -Tobago her exports seem to rise nonetheless. However, we do not wish to draw any inference from this peculiar result, beyond the implication that losses in competitive position do not appear to have been damaging.

Barbados' loss of competitive advantage with respect to Guyana has been of benefit to Guyanese exporters but it has not been a hindrance to Barbados' exporters (although much of the explanation of Barbados' exports to Guyana is missing).

Changes in competitiveness do not emerge as a factor inhibiting exports between Barbados and other Caricom MDCs, in either direction.

Economists have no way of knowing a priori whether equations should be specified in logarithmic form, though the tendency is to use logs for demand equations, as we have done. In our case the results obtained from use of actual variables rather than their logs do not alter the overall picture, though the equations do not fit the data as well as the log forms do.

For trade among all Caricom MDCs other than Barbados we use the hypothesis of constant elasticity of exports from i to j with respect to j's GDP. That is, when j's GDP rises by 10% we presume the demand for i's goods (and all others) rises by 10% as well, all else being constant. If there is a change in i's competitiveness relative to j, and this is the only factor disturbing the underlying (constant by assumption) relationship between GDP and the demand for exports, then the relationship between the index of competitiveness and the export/GDP elasticity should be a systematic one. The export/GDP elasticity changes only to the extent that it is displaced by changes in competitiveness. (This procedure is a non-probablistic analogue to the tests used for trade with Barbados.)

In table 2 we present the elasticities of exports with respect to the index of competitiveness (ELX), the elasticities of exports with respect to GDP (RXY), and the elasticities of RXY with respect to the index of competitiveness (ELR). There is no discernible pattern which might lead us to suspect a relationship between exports and competitiveness; to all intents and purposes the elasticity of the export/GDP elasticity is a random variable. (The test may be performed in reverse, by assuming the export/competitiveness elasticity constant, apart from any change in GDP and comparing that elasticity with changes in GDP; the conclusion is the same.)

Devaluation and Competitiveness

Jamaica's large devaluations between 1977 and 1979 and between 1983 and 1985 gave her a sizeable competitive advantage against all her trading partners (see table 3). Trinidad - Tobago gained a similar advantage with her December 1985 devaluation, and Guyana may have gained from her currency depreciation between 1983 and 1985. (Recent price indices are not available for Guyana, so we cannot be sure.) All other exchange rate movements have been swamped by the effects of price changes.

Relative prices are the most persistent factors underlying changes in competitiveness, over the 1970s and 1980s as a whole. Countries with the lowest rates of inflation (Guyana in the 1970s, Barbados in the 1980s) have made the most persistent gains, while Barbados was able to erode some of the advantage

gained by Jamaica between 1977 and 1979 by virtue of lower inflation in subsequent years. Changes in the competitiveness index are broken down into relative price and exchange rate elements in table 4.

Concluding Remarks

Devaluation would not appear to be a major cuase of reduction in Caricom exports. Devaluation does have the effect of making the devaluing country's exports more price competitive in the short term, but lasting competitive advantage depends on maintenance of low rates of inflation. More significantly, price competition plays no discernable role in the overall pattern of export growth.

Nonetheless, devaluation and price competition may affect specialised goods or particular market segments, and the effects may be noticeable in the short run, even if they do not persist. Disaggregated analyses would be needed to detect these effects. Moreover, the analysis does not deal with issues such as the effects of devaluation on firms' balance sheets in the short run. While these effects may be significant in particular cases and therefore deserve closer study, they evidently are not of a magnitude to affect overall export performance. The decline in Caricom trade must be blamed on other factors, unless and until we have better evidence to the contrary.