

**Exchange Rate Management in a Balance
of Payments Crisis. The Guyana and Jamaica Experience**

By

**Karl M. Bennett
University of Waterloo**

**Presented at the XXIII Annual Conference Regional
Programme of Monetary Studies, Belize City, Belize
November 1991.**

Exchange Rate Management in a Balance of Payments Crisis The Guyana and Jamaica Experience

Introduction

Both Guyana and Jamaica have, since the mid seventies, experienced a continual balance of payments crisis. They have been obliged on a number of occasions to seek financial support from the International Monetary Fund. Officials of that agency have argued that the crisis could be linked to the dislocations in the respective economies caused by excessive government intervention in economic activity. Consequently, they have placed emphasis on the need for economic liberalization. In so far as exchange rate management was concerned, they pointed to the obstacles to improvements in the payments positions of the countries arising from overvalued exchange rates. They placed importance on the need to move towards a system where market forces would play the primary role in the pricing and allocation of foreign exchange. In this way appropriate incentives would be provided for a reallocation of resources towards foreign exchange earning and saving activity as opposed to foreign exchange using activity. The magnitude of the excess demand for foreign exchange was in this context deemed indicative of the degree of currency devaluation required to establish the appropriate production incentives. Both countries were forced to devalue their currencies on a number of occasions. In addition, Jamaica, since 1983 and Guyana since 1987, have experimented with floating rate regimes encouraged by the notion that this would be the best way of sustaining an appropriate level for the exchange rate.

It will be argued, in this paper, that the unique characteristics of the payments crisis experienced by both countries gives rise to a situation where the magnitude of the excess demand for foreign exchange at the prevailing exchange rate is an inappropriate guide to the extent of the devaluation required to correct currency overvaluation.

The paper is organized in the following way. In the first section we will outline the unique characteristics of the payments crisis faced by both countries. It will then be demonstrated why the traditional indicators of the degree of currency overvaluation is inappropriate. In the second section of the paper it will be argued that the appropriate guide to the proper level for the exchange rate should be that of maintaining relative purchasing power parity. The final section of the paper will present the case for both countries to adopt a fixed exchange rate standard:

The Market Clearing Rate in a Balance of Payments Crisis

In this section attention will be directed to an evaluation of exchange rate policy in both countries during the payments crisis of the eighties. Although the origins of the crisis can be traced back to the mid seventies and Jamaica had been obliged to carry out a series of devaluation between 1977 and 1979, it was during the eighties that there was a growth in momentum for carrying out major devaluations. This reflected, in part, a growth in the conviction that a solution to the payment crisis rested in the adoption of an outward looking development strategy.

The period-witnessed a dramatic decline in earnings from traditional exports. Between 1980 and 1983 earnings from exports declined by 50 percent in Guyana (Thomas 1989) and in Jamaica by one third (Bennett 1989). At the same time the growth in external indebtedness meant that meeting debt service obligations became increasingly difficult. In Guyana the debt service ratio rose from 22 percent in 1980 to 53 percent in 1983. By 1983 arrears exceeded the actual amount paid (Danns 1988). In Jamaica over the same period more than on half of the cash inflow from exports of goods and services was used for meeting debt service obligations (Bank of Jamaica, Report and Statement of Accounts Annual) In addition, the payments situation was further complicated by the fact that in both countries a growing share of foreign exchange earnings was diverted to the black market. A resolution to the payments crisis would seem to

call for the development of non traditional exports to offset the decline in earnings from traditional exports. In addition, there was also the need to reduce the leakage of foreign exchange to the black market, so that there would be a greater assurance that available foreign exchange would be used to support productive activity. The conventional thinking (See, for example, Kreuger 1983) and which was reflected in the policy initiatives, was that a currency devaluation by raising the price of tradeables relative to non tradeables would stimulate new export activity. The higher official price of foreign exchange would also reduce the incentive for selling currency on the black market.

Although a currency devaluation for countries in this situation would be advocated, there would be the issue of the amount by which the currency should be devalued. Given the uncertainties surrounding the required adjustment, this heightened the attraction for resorting to a market mechanism for determining the extent of the adjustment. Jamaica adopted this approach in 1983. Guyana relied on discretionary adjustments until 1990, although in 1987 a dual rate system was introduced in which one rate was market determined.

The approach to exchange rate management outlined in the previous section would be appropriate in the context of a flow disequilibrium. An increase in the price of foreign currency, a devaluation, would increase foreign currency inflows into the market, while at the same time reducing quantity demanded. However, it will be demonstrated below that the payments problems of both countries was indicative of an underlying stock disequilibrium. By a stock disequilibrium is meant that there exists at a point in time an imbalance between a predetermined demand for foreign exchange, which is independent of the level of the exchange rate, and the supply of foreign exchange. An exchange rate devaluation cannot correct this imbalance in the short term. Under a fixed exchange rate regime this would seem to justify further devaluations. If the country had decided to adopt a market based system, as was the case in Jamaica in 1983, the inevitable result would be a major depreciation in the rate (see Bennett, 1986, for a discussion of the bias towards currency depreciation under the Jamaican auction system). Furthermore,

given the direct, as well as indirect cost raising impact of such exchange rate movements on production, these changes will in the short run have a negative as opposed to positive impact on the supply of foreign exchange.

Let us now turn to a consideration of the special circumstances in both countries in the early eighties which would cause the quantity of foreign exchange demanded to be independent of the exchange rate. A major part of the overall demand for foreign exchange in both countries was related to government debt service obligations. By 1983, as indicated earlier, debt service payment obligations amounted to more than one half of the value of exports of goods and services. The weight of the debt service burden could be linked to the fact that while the growth in external indebtedness in the seventies automatically raised the level of payments required, there was at the same time a major decline in earnings from traditional exports.

The major portion of a limited supply of foreign exchange had to be diverted to the public sector to satisfy contractual payments obligations. The supply limitations made it increasingly difficult to satisfy, at the time, required public and private sector payment obligations. As a result there was a buildup in payment arrears. A devaluation of the exchange rate could then have no impact on an existing demand for foreign exchange which was related to outstanding contractual obligations.

To this point emphasis has been placed on explaining why exchange rate devaluation will not influence the quantity of foreign exchange demanded in the short run. The case for devaluation either through discretionary adjustments or a market mechanism is also often linked to the contribution it will make to increasing the quantity of foreign exchange supplied. The increase in supply is expected to arise from the incentive which it provides for producers to engage in export activity. In addition, in the short term, it is also expected to make a positive contribution to the supply of foreign exchange by redirecting funds from the black market to the official market.

The leakage of funds to the black market can only be deemed to be an important

contributor to a foreign exchange shortage when such funds are used mainly to support capital flight. Although some black market currency trading undoubtedly supported such activity, there is strong evidence that, in both countries, the black market was used to bypass exchange controls and secure foreign financing for restricted or prohibited imports. Trading in such items was a major factor in the growth of the informal sector in both countries (Thomas 1989, 1990, Bennett 1991). Consequently, the redirection of funds from the black market to the official market would not have a major impact on this overall shortage of foreign exchange in the short run.

In the conventional analysis a devaluation will contribute towards a reallocation of resources towards exports and thus enhance the supply of foreign exchange in the long run to the extent that success is achieved in sustaining a real devaluation in the rate. In the case of small open economies such as those of Guyana and Jamaica, it is recognized that the cost raising effect of a devaluation could quickly offset the initial impact of the devaluation on relative prices of the devaluing country with that of its trading partners. Consequently, emphasis is placed on the need for governments to maintain strict discipline in the conduct of monetary and fiscal policy (Edwards, 1989, Aghveli, Khan and Monteil, 1991). This would involve for countries, such as Guyana and Jamaica strict limits in the size of the fiscal deficit, as well as on the level of central bank financing of government activity.

The economies of both Guyana and Jamaica had by the early eighties experienced almost a decade of annual reductions in real output. It would then be extremely difficult for a government to adhere to monetary and fiscal restraint for a protracted period against such a background of long term economic decline.

Evidence of the inability of governments of both countries to effect a lasting real exchange rate devaluation is revealed in movements of real exchange rate indexes for both countries over the period. In Tables 1 and 2 we have set out bilateral real exchange rate indexes for Guyana and Jamaica with respect to the currencies of a selection of countries which are their major trading partners for the period 1976 through 1989.

Table 1
Guyana Bilateral Real Exchange Rate Indexes*
1985=100

| Year | U.S.\$ | Cdn.\$ | Br.£ | DM. | J.Yen |
|------|--------|--------|-------|-------|-------|
| 1976 | 145.8 | 172.3 | 150.8 | 200.8 | 158.6 |
| 1977 | 143.0 | 159.3 | 159.2 | 207.0 | 164.7 |
| 1978 | 133.8 | 140.8 | 167.0 | 210.2 | 177.8 |
| 1979 | 127.9 | 133.3 | 173.6 | 205.0 | 155.4 |
| 1980 | 127.8 | 132.5 | 190.1 | 194.4 | 154.6 |
| 1981 | 123.1 | 125.9 | 159.7 | 149.2 | 143.7 |
| 1982 | 111.6 | 115.3 | 132.5 | 130.5 | 114.0 |
| 1983 | 99.8 | 105.5 | 108.7 | 111.3 | 103.0 |
| 1984 | 104.2 | 106.5 | 101.3 | 104.6 | 105.2 |
| 1985 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1986 | 90.4 | 92.2 | 110.9 | 123.1 | 120.2 |
| 1987 | 164.7 | 176.1 | 220.3 | 257.3 | 238.6 |
| 1988 | 125.5 | 144.4 | 188.6 | 195.3 | 195.2 |
| 1989 | 188.7 | 220.7 | 201.3 | 269.6 | 266.6 |

* $BRER = E \cdot \frac{PT}{Ph}$ where E is the nominal bilateral exchange rate index, PT the price index

for the respective trading partners, US producer prices, Canada and Germany industry selling prices, UK manufacturers price and Japan, wholesale prices. Ph, the Guyana Consumer Price Index. The use of these indexes are best thought to capture the relationship between movements in prices for tradeables and non tradeables (see Edwards, 1989)

Table 2
Jamaica Bilateral Real Exchange Rate Indexes*
1985=100

| Year | U.S.\$ | Cdn.\$ | Br.£ | DM. | J.Yen |
|------|--------|--------|-------|-------|-------|
| 1976 | 51.7 | 60.8 | 53.6 | 71.0 | 58.8 |
| 1977 | 49.1 | 54.6 | 67.6 | 70.9 | 56.7 |
| 1978 | 60.9 | 64.0 | 81.5 | 95.8 | 81.0 |
| 1979 | 66.3 | 69.2 | 90.5 | 106.5 | 81.3 |
| 1980 | 60.1 | 62.4 | 89.9 | 91.6 | 73.4 |
| 1981 | 58.0 | 59.4 | 75.9 | 70.3 | 67.7 |
| 1982 | 55.6 | 57.6 | 66.3 | 65.2 | 57.4 |
| 1983 | 54.8 | 57.8 | 58.5 | 61.1 | 56.6 |
| 1984 | 89.5 | 91.5 | 85.6 | 90.0 | 90.4 |
| 1985 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1986 | 83.1 | 84.8 | 101.5 | 113.2 | 110.2 |
| 1987 | 80.1 | 85.6 | 110.5 | 125.2 | 115.9 |
| 1988 | 77.0 | 92.8 | 116.4 | 119.9 | 119.7 |
| 1989 | 73.9 | 86.6 | 100.9 | 105.7 | 104.3 |

* $BRER = E \cdot \frac{PT}{Ph}$

See explanatory notes for Table 1 for E and PT.
Ph is the Jamaica Consumer Price Index.

The Guyana dollar was devalued for the first time in this period in 1981. However, as the indexes in Table 1 reveal, the currency continued to appreciate against the Canadian and United States dollar up to 1983. In the case of the pound, mark and yen there had been a major depreciation in the late seventies, which was largely a reflection of the depreciation of the United States dollar with respect to those currencies at a time when the Guyana dollar was pegged to the United States dollar. The devaluation of 1981, and subsequent devaluations in the 1984/85 period, did nothing to prevent a steady appreciation of the Guyana dollar against these currencies up to 1985. It was not until 1987, when there was a major devaluation, exceeding 100 percent, that there was an initial significant real depreciation. However, an acceleration of the inflation rate in 1988 contributed to a major appreciation in real rates with respect to the currencies listed in the Table, in that year. The dramatic devaluation of 270 percent in 1989 with respect to the United States dollar helped to bring about another initial significant real devaluation.

Movements in the bilateral exchange rate indexes for Jamaica, reported in Table 2, also underscore the limited ability of the government to bring about a lasting real exchange rate devaluation. In spite of the major devaluations over the 1977/79 period, which resulted in a lowering of the value of the currency with respect to the United States dollar by approximately one half, the real bilateral exchange rate indexes with all currencies, except the pound was lower in 1980 than in 1978. The depreciation against the pound reflected the depreciation of the United States dollar against the pound. There was a rapid appreciation of the currency between 1981 and 1983, which, by 1983 left the bilateral indexes with respect to the yen, mark and Canadian dollar below that of 1976.

The introduction of the exchange auction, towards the end of 1983 was followed by a major real depreciation in the currency over the 1984/85 period. However, the effective stabilization of the nominal rate with respect to the United States dollar over the next three years was associated with an appreciation of real exchange rates with all the currencies of the country's major trading partners. By 1989 as the indexes in the Table indicate, the effects of the 1984/85 depreciation

had been virtually completely reversed.

Exchange Rate Policy and Exchange Rate Misalignment

A misaligned exchange rate contributes to a country's balance of payments problem by directing resources away from the production of tradeables towards non tradeables. A consideration of the adjustment required to correct the misalignment immediately raises the question as to what would be an appropriate yardstick on which to base estimates of the required change in the exchange rate. This, in turn, requires an acceptance of the notion that there must have existed in some past period an exchange rate level at which the balance of payments was in equilibrium. The real exchange rate prevailing at that time could then be used as the benchmark for assessing required adjustments in current rates. There are various concepts of equilibrium which are used in analyzing the balance of payments situation for developing countries. The concept most frequently used is that where the deficit on current account can be sustained by long term capital inflows. The degree of misalignment could then be measured by the extent to which the current level of the exchange rate failed to reflect differences between domestic and foreign rates of inflation since the equilibrium. In essence, exchange rates ought to be adjusted with a view to maintaining relative purchasing power parity.

In this section we estimate exchange rate levels for both countries based on the relative purchasing power parity principle. It was decided to use as the benchmark year for our estimates the year in which the respective countries severed their ties with sterling and pegged their currencies to the United States dollar. The departure from sterling forced both countries to address directly the question of the appropriate international value for their currencies. Both countries, at the time of this move, devalued their currencies. The rates of devaluation were, approximately, 8 and 18 percent for Guyana and Jamaica, respectively. The relative purchasing power parity rates reported in Tables 3 and 4 are designed to show exchange rate levels which incorporate differences in rates of inflation between the respective countries and the United States

since 1973 for Jamaica and 1976 for Guyana. In addition, we have set out in an appendix to the paper estimates of the percentage premiums and discounts of the relative purchasing power parity rates with respect to the official rates for a selection of currencies of countries which are important trading partners of the respective countries.

In Table 3 is set out the official exchange rates, estimates of the exchange rate based on relative purchasing power parity and the black market rates for Guyana since 1980. The black market rates were included because they were available for this period and will also provide a means of assessing the extent to which the assertion that black market rates are an inappropriate guide to the equilibrium rate can be substantiated. The official rate was devalued in 1981, on six occasions in 1984, on four occasions in 1985, twice in 1986, once in 1987, 1989 and 1990. In 1990 the Cambio system for determining the exchange rate was introduced. The Cambio system of market determination of the exchange rate, by the end of 1990 governed all foreign exchange transactions, effectively, eliminating the government role in establishing the exchange rate.

Table 3
Guyana Official Exchange Rates Relative Purchasing Power Parity Rates
and Black Market Rates
G\$/U.S.\$

| Year | Official Rate | Relative PPP Rate ² | Black Market Rate | Premium (+) Discount (-) on Official Rate % Relative PPP | % Black Market |
|------|---------------|--------------------------------|-------------------|---|----------------|
| 1980 | 2.55 | 2.91 | N.A. | 14.1 | N.A. |
| 1981 | 2.81 | 3.33 | 6.50 | 18.5 | 131.3 |
| 1982 | 3.00 | 3.92 | 8.00 | 30.7 | 166.7 |
| 1983 | 3.00 | 4.38 | 12.50 | 46.0 | 316.7 |
| 1984 | 3.83 | 5.36 | 14.00 | 39.9 | 265.5 |
| 1985 | 4.25 | 6.20 | 16.50 | 45.9 | 288.2 |
| 1986 | 4.27 | 6.89 | 20.00 | 61.4 | 368.4 |
| 1987 | 9.76 | 8.63 | 28.00 | -11.6 | 186.9 |
| 1988 | 10.00 | 11.62 | 37.50 | 16.2 | 275.0 |
| 1989 | 27.16 | 20.98 | 50.00 | -22.8 | 84.1 |
| 1990 | 37.88 | N.A. | 64.73 | N.A. | 70.9 |

¹ Annual Averages

² PPP rate = $R_0 \left(\frac{P_G / P_G^*}{P_{US} / P_{US}^*} \right)$ where R_0 is the official rate in the base period, 1976; P_G^* Guyana consumer price index

in the base period, P_{US}^* US producer price index in the base period

SOURCE: Black market rates derived from Thomas (1990) Exchange Rates and Price Indexes from International Monetary Fund International Financial Statistics 1990

As mentioned above, the first adjustment in the rate occurred in 1981. At that time the currency was pegged to a basket of currencies although the United States dollar continued to be used as the intervention currency. At that time the maintenance of relative purchasing power parities called for a devaluation of approximately 31 percent, as compared with the actual devaluation of the official rate of approximately 18 percent. The black market premium over the official rate at that time was in excess of 150 percent. The series of devaluations over the 1984/86 period resulted in a further devaluation of 47 percent. However, the maintenance of relative purchasing power parities would have required a devaluation of 107 percent from the 1981 value. At the same time the black market premium in 1986 was approaching 370 percent. It was not until the latter part of the decade, with devaluations well in excess of 100 percent, that the official rate moved to a premium above the purchasing power parity rate. These massive devaluations, not surprisingly, led to a reduction of the black market premium, although it remained substantial, declining below 100 percent only in 1989 and 1990.

The inflationary impact of the 1987 devaluation resulted in the relative purchasing power parity rate rising above the official rate in 1988. The supply of money, M_1 , increased by 54 percent in 1988 and there was a 60 percent increase in advances from the banking system to the public sector (Thomas 1990, p. 11). The impact of the devaluation on import prices along with the monetary developments noted above contributed to a 40 percent rise in the consumer prices index in that year. The large devaluation of the official rate in 1989 once again had the initial impact of leaving it at a premium of 29 percent above the relative purchasing power parity rate. However, in that year there was a further dramatic growth in M_1 of 180 percent and the consumer price index rose by almost 100 percent. These developments would certainly have resulted in a substantial erosion, if not complete elimination of the premium. However, the further major devaluations of the currency in 1990 culminating with the introduction of the Cambio system would help maintain the rate up to the end of 1990 at a premium over the relative purchasing power parity rate.

The massive devaluations of the Guyana dollar in the post 1986 period could be justified

to the extent that one might consider the black market rate as being an appropriate guide to the required adjustment in the rate. However, to the extent that one accepts the notion that relative purchasing power parity is an appropriate guide as to the level of the exchange rate which will help assure price competitiveness, the black market rate exaggerates the degree of misalignment and is an inappropriate guide. Furthermore, the growth in the money supply and credit advanced to the government from the banking sector is indicative of the financial strain imposed on government, particularly for a country like Guyana when the government sector dominates economic activity, from major currency devaluations.

In Table 4 we have set out actual exchange rates and estimates of exchange rates based on the relative purchasing power parity principle for Jamaica from 1974 through 1990. During this period there were the major devaluations over the 1978/79 period associated with the IMF stabilization programs. In 1983, the government abandoned the fixed exchange rate regime and introduced the exchange auction. The information in the Table indicates that prior to the series of devaluations over 1978/79, estimates of the rates based on the relative purchasing power parity principle remained above the fixed official rate and there was a steady increase in the purchasing power parity premium. However, the devaluations of that period brought the official rate in line with the relative purchasing power estimates. Indeed, in 1979, the relative purchasing power parity rate was at a 10 percent discount relative to the official rate. However, between 1979 and 1982 there was a 53 percent increase in the Jamaican consumer price index and a 27 percent increase in U.S. producer prices. Consequently, by 1982, the relative purchasing power parity rate had moved to an 11 percent premium over the official rate. The introduction of the exchange auction towards the end of 1983 was followed by a massive depreciation of the rate over the 1984/85 period. By the end of 1985, at which time the government took action to stabilize the rate, there had been a depreciation of almost 200 percent. As a result, the discount on the relative purchasing power rate relative to the official rate was 38 percent. The official rate remained virtually unchanged over the next three years. During this period there was a 33 percent increase in the consumer price index while U.S. producer prices remained virtually

the demand management policies.

An alternative approach which would appear to be more appropriate to the circumstances faced by both countries would be to combine strict demand management policies with a fixed exchange rate regime. The level of the exchange rate could be determined on the basis of the relative purchasing power parity principle. In light of the excessive recent devaluations of the currencies of both countries, such an approach could likely justify some revaluation of existing rates and, certainly at the very least, a freezing of rates at existing levels. Since the inflationary pressures arising from a depreciating exchange rate would be avoided, there would now be a stronger likelihood that governments would be able to adhere to the demand management policies necessary to stabilize the economy. Success in controlling inflation and achieving a lasting real devaluation in the exchange rate would provide the stability necessary to bring about the reallocation of resources which would help relieve the foreign exchange shortage in the long term.

APPENDIX

Table 1

**Guyana Premium (+) or Discount (-) of Relative
Purchasing Power Parity Rate on Official Rates
Selected Currencies
Percent**

| | Cdn \$ | Br £ | D.M. | J. Yen |
|------|--------|-------|-------|--------|
| 1980 | 30.3 | -20.6 | 2.9 | 2.7 |
| 1981 | 36.6 | -5.6 | 34.7 | 10.2 |
| 1982 | 40.3 | 14.1 | 53.2 | 39.2 |
| 1983 | 63.8 | 38.7 | 81.8 | 53.2 |
| 1874 | 61.8 | 88.1 | 91.1 | 50.9 |
| 1985 | 72.7 | 33.2 | 100.7 | 58.4 |
| 1986 | 87.0 | 34.8 | 62.4 | 31.9 |
| 1987 | -2.0 | -31.5 | -22.0 | -33.5 |
| 1988 | 19.4 | -20.0 | 2.6 | -18.7 |
| 1989 | -21.9 | -25.0 | -25.7 | -40.5 |

Table 2

**Jamaica: Premium (+) or Discount (-) of Relative
Purchasing Power Parity Rate on Official Rates
Selected Currencies
Percent**

| | Cdn \$ | Br. £ | D.M. | J. Yen |
|------|--------|-------|-------|--------|
| 1974 | 4.3 | 7.5 | 8.6 | 3.2 |
| 1875 | 15.7 | 10.8 | 13.5 | 16.1 |
| 1976 | 16.3 | 25.6 | 25.0 | 22.6 |
| 1977 | 30.6 | -0.5 | 25.6 | 23.5 |
| 1978 | 10.5 | -17.6 | -7.1 | -13.4 |
| 1979 | 2.0 | -25.7 | -16.7 | -14.8 |
| 1980 | 13.8 | -25.1 | -3.1 | -5.1 |
| 1981 | 18.8 | -11.4 | 26.6 | 2.5 |
| 1982 | 23.6 | 1.3 | 37.0 | 20.8 |
| 1983 | 22.3 | 15.1 | 44.7 | 22.2 |
| 1984 | -22.7 | -21.2 | -1.4 | -23.5 |
| 1985 | -31.2 | -32.6 | -11.1 | -30.5 |
| 1986 | -16.5 | -33.6 | -21.4 | -36.9 |
| 1987 | -17.4 | -39.2 | -28.9 | -40.1 |
| 1988 | -20.2 | -42.1 | -25.9 | -42.1 |
| 1989 | -18.2 | -33.3 | -16.0 | -33.4 |

References

- Aghveli, B.B., M.S. Khan and P.J. Monteil (1991) "Exchange Rate Policy in Developing Countries: Some Analytical Issues" Occasional Paper 78 Washington International Monetary Fund.
- Bank of Jamaica Report and Statement of Accounts Annual.
- Bennett, K.M. (1991) Economic Decline and the Growth of the Informal Sector The Guyana and Jamaica Experience. Paper presented at the Annual Conference Canadian Association for the Study of International Development, Kingston, Ontario.
- Bennett, K.M. (1989) "Financing Economic Growth with Special Reference to Jamaica" Social and Economic Studies Vol. 38, no. 4.
- Bennett, K.M. (1981) "An Analysis of the Jamaican Foreign Exchange Auction" Social and Economic Studies Vol. 35, no. 4.
- Danns, Donna, E. (1988) "Guyana's Debt Problem" Social and Economic Studies Vol. 37, no. 4.
- Edwards, Sebastian (1989) Real Exchange Rates, Devaluation and Adjustment Cambridge Massachusetts, The MIT Press.
- Gajadar, Burton (1990) The Behaviour of the Official Exchange Rate in Guyana 1962-88 Paper presented at the Annual Conference Regional Program of Monetary Studies, Georgetown, Guyana.
- Kreuger, A. (1983) Exchange Rate Determination Cambridge, Cambridge University Press.
- Thomas, C.Y. (1990) The Cambio System on Independent Exchange Rate Float: The Case of Guyana Paper presented at the Annual Conference Regional Program of Monetary Studies, Georgetown, Guyana.
- Thomas, C.Y. (1989) "Foreign Currency Black Markets, Lessons From Guyana" Social and Economic Studies Vol. 38, no. 2.