AN IMPORT ELASTICITY MEASUREMENT OF GOODS FOR BARBADOS

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INTRODUCTION

One of the important features of the Barbadian economy has been its heavy reliance on imports because of the lack of self sufficiency of the country. It is now a generally accepted fact that imports are significantly related to movements in domestic aggregate economic activity(Evans 1975). They are expected to rise rapidly during booms since a country's productive sectors will earn more than adequate levels of foreign exchange and this will allow for increased importation of goods. During a recession, the opposite is expected to hold.

The nation's spending power[1], in addition to money borrowed from abroad and held on deposit with banks in Barbados, plus money lent to Government by the Central Bank of Barbados determines the demand for consumer imports. The price of imported goods relative to domestic goods is also an important determinant of consumer imports since, when inflation for imports exceeds inflation for local goods, consumers may decide to delay import purchases whereas they may be tempted to acquire more imports when local goods seem to be becoming more expensive. Capital and intermediate goods are imported to meet the needs of the producers and the demand for these goods will depend on the level of output. According to Worrell(1988), since there are no local goods that may be used as a substitute for these items, local prices do not matter in this case.

The immense value of estimated import elasticities should be recognised. One should note that if the estimated coefficient indicates that a specific commodity is price inelastic, then the Government can increase its revenue by the introduction of higher import duties without any significant decline in the volume of imports. On the other hand, if the demand for a particular commodity is price elastic, then the Government can precipitate a drastic reduction in imports simply by raising import duties.

Some importance can also be attached to income elasticity measurements. According to Peterson and Lewis(1990), the income elasticity for a firm's product is an important determinant of the firm's success at different stages of the business cycle. During periods of expansion, incomes are rising and firms selling luxury items will find that the demand for their products will increase at a rate faster than the rate of economic growth. This implies a positive income elasticity coefficient in excess of unity. However during a recession, demand may decrease rapidly. Conversely, sellers of necessities will not benefit as much during periods of economic prosperity, but will also find that their markets are somewhat recession-proof. Necessities are associated with income elasticities between zero and unity. When income elasticities are negative, the implications are that as real incomes rise, consumers and/or producers abandon particular products and switch to other types of items. Goods with negative income elasticities are inferior goods.

Previous studies by Cox and Worrell(1978), Joefield-Napier(1982) and Gafar(1988) on import demand for Barbados and Trinidad and Tobago showed the use of log-linear functions to estimate the elasticities of several types of goods. However an alternative approach of measuring import elasticity is the method of calculating the ratio of changes in retained imports to changes in gross domestic product(GDP) at factor cost.

The purpose of this paper is to use the latter approach to measure and comment on the import elasticity of goods from 1974 until 1992, during which both growth and recessionary periods occurred. It will allow an examination of the movement in the various import elasticities at various stages during the growth cycle. This issue will be tackled in the following sections, the first of which will address the movement of imports during the periods of recession and the second which will examine the movement of imports during periods of growth. A summary and conclusion then follow.

SECTION 1

THE RECESSIONARY PERIODS

During the years 1974 to 1992, Barbados was affected by three recessions, namely those of 1974/75, 1981/82, and 1990/92. The 1974/75 recession was one in which persistent inflation, a tenuous balance of payments situation, and mounting unemployment were some of the concerns expressed by the Central Bank(hereinafter known as the Bank). In addition, the fixing of the Barbados dollar at US $0.50 ended the country's parity with sterling and represented a 9.7% revaluation against all other currencies. This implied that exports would become more expensive and imports cheaper. The Bank set out, among other things, to restrict the expansion of credit especially to the consuming sector. It succeeded in having its control extended into the area of consumer instalment credit when Government passed the Hire-Purchase, Credit Sale and Hire Control Bill 1975-34.

During this period, however, the trend towards an increasing deficit in the country's external payments was reversed. After experiencing balance of payments deficits in the first three years of the 1970's, surpluses were now being recorded(See table 5), the result of increases in private capital inflows, sugar and tourism.

The performance of both the traded and non-traded sectors(up on average by 68 % and 22% respectively) led to an average 29.9% increase in nominal growth of the economy(Table 6 and Chart 1). This was accompanied by an average rise of 13.6% in retained imports which was mainly attributed to capital goods(18.3%), intermediate goods(16.5%) and consumer goods(9.6%). In this period the overall average import elasticity was 0.45(Table 7). The import elasticity of demand for capital goods was highest at 0.62(See chart 2), chiefly due to an increase in machinery and equipment brought about by the expansion programme carried out by the Barbados Light and Power Company. Intermediate goods had an import elasticity coefficient of 0.55. The main factor was imports of fuels which were growing one and a half times as fast as GDP, as indicated by its import elasticity coefficient of 1.5. This was a reflection of the jump in the price of crude oil imports which quadrupled as a result the Middle East War. However a negative import elasticity of -0.5 was attributed to construction materials, the demand for which were affected by the low level of building activity. Textiles were down by 0.5%.

Sharp increases in the price[2] of imported food and beverages were responsible for the rise in consumer goods which recorded an import elasticity value of 0.32. In spite of this, however, the dollar value of consumer durable imports actually declined, due to the Bank's policy of curbing consumer credit. The result of this was a fall in motor car imports and other durables. Both of these components had negative elasticities of

-- 0.62 and -0.09 respectively. This decrease in the face of rapid price increases (See table 3) reflected the general weakening in consumer demand for non-food items during this period.

The recession of 1981 and 1982 was one in which the country was faced with persistent balance of payments problems. In addition the Central Bank's external position was severely threatened by the slowdown in foreign exchange earnings which coincided with the build-up of assets under Caricom Multilateral Clearing Facilty. Under these circumstances, the Bank supported the the Government in approaching the International Monetary Fund to request balance of payments assistance under a Stand-by Arrangement and Compensatory Financing Facility.

The period under consideration witnessed an even lower value of 0.29 as the import elasticity for the entire economy, comprising an increase of 7.8% in nominal GDP, some 22.1 percentage points lower than the previous recession. On this occasion, the traded sectors were down on average by 2.0 whereas the non traded sectors rose by 11.8 7(See tables 1, 2 and Chart 1). Imports for domestic use grew on average by only 2.3%, 11 percentage points less than during the 1974/75 period, and actually declined by 8.9% in 1982, the first fall in more than two decades. As was the case in the previous recession, capital imports were the principal components of this increase. However unlike in 1974/75, its import elasticity of 1.4 suggested that the demand for these imports were growing in a higher proportion than the growth of nominal GDP. The performance of capital goods was linked both to the expansion of the Barbados Light and Power Company and the construction of the Arawak Cement Plant.

Despite an increase in the demand for electronic components(84%) which were brought into the country for assembly purposes, the import elasticity of demand for intermediate goods stood at a mere 0.1. This small coefficient can be linked to the contraction of various imports during 1982. For example, the demand for fuels and chemicals, and construction materials were 7.5% and 1.9% lower respectively in response to any 1% increase in GDP. The decline in fuels and chemicals was due to softening energy prices and rising crude oil production(See table 4). However the reduction in construction materials was the result of the unavailability of mortgage and bridging loans in addition to the fact that several significant Government projects were completed that year. Textiles were also down by approximately 20%.

Consumer imports experienced its first decline on record, yielding a negative import elasticity coefficient of -0.43. Like intermediate goods, this situation occurred during

1982. Controls on credit depressed purchases of consumer durables to the extent that the increase in nominal GDP was more than offset by an 11% decline in motor car imports. The contraction in disposable income was mainly responsible for the contraction in food and beverages whose import elasticity value now stood at -0.02.

The first two years of the 1990/1992 recession were characterised by weak external positions and significant foreign exchange losses. During 1990, the decline in tourism earnings, coupled with sizeable increases in debt service payments resulted in a large loss in reserves even though the inflows from Government borrowings totalled $65 million that year(See Annual Report, 1990).

One year later, Barbados' foreign exchange problems became severe as output in the export sectors remained depressed relative to activity in construction, distribution and Government services. The net international of the Bank totalled $39 million, the equivalent of two weeks of imports by end-1991. In an effort to correct this deficiency, the Government implemented an eighteen-month stabilization programme with the help of the International Monetary Fund during the fourth quarter. The programme sought to reduce on imports in the short term through reductions in the fiscal deficit and private sector credit.The fiscal measures included a decrease in the wages bill of all public sector entities, lower transfers to statutory corporations and increased taxation. To complement the fiscal measures, monetary policy was strengthened.The Central Bank's discount rate was raised and commercial banks were required to hold a higher proportion of deposits in Government securities. Additionally, global credit limits were on commercial banks and the ceiling on the average lending rate was removed.

From a value of 0.05 in 1990, the import elasticity of demand for the economy moved to 0.12 in the following year. Nominal GDP was down by 2.4%, and this was reflected especially in the traded sector which declined by 5.3%, a fall insufficient to offset the marginal increase(1.6%) in the non-traded sector.Retained imports on the other hand contracted by only 0.3%. Early in 1991, as the country's economic problems became more apparent, importers sought to increase their stocks as a defence against possible exchange rate changes. Consequently during the first quarter, purchases of capital goods, consumer items, and intermediate goods rose by 41%, 19.1% and 12.9% respectively. However as the year progressed, it became more difficult to obtain credit and growth in imports moderated, falling by nearly 10% during the last quarter of 1991.

A negative unitary elasticity coefficient was recorded for both capital and consumer goods. The former item was up 2.4% due to the purchase of more heating and plumbing materials, while the latter rose on account of an increase in food and beverages. However intermediate goods were down 4.8%. This was due to substantial reductions in the imports of construction materials, fuels, and electonic components, in line with the economic recession. The import elasticity of intermediate goods was 2.04, a clear indication that this component had fallen by twice as much as nominal GDP.

In 1992, nominal GDP declined by 6.9%, 4.5 percentage points more than in 1991,on account of the stabilization measures on domestically traded activities and a weaker than anticipated performance in the foreign exchange earning sectors. Contractions of the magnitude of 4.8 and 7.4 respectively were experienced by both the traded and non-traded sectors. The demand for imports fell by three times more than the rate at which the economy contracted, as indicated by the import elasticity value of 3.4. Retained imports were down by 23.5%, a reduction which was most pronounced in the first half of the year when a contraction of 30% was experienced. Lower disposable income and more cautious spending reduced consumer imports by nearly 14%. This was especially so in the case of motor cars imports whose decline was nine times greater than nominal GDP. However, imports of food and beverages were also down by 11.7% but the elasticity coefficient(1.7) associated with this item would suggest a less steep decline when compared to motor cars. Lower activity levels in construction and manufacturing sharply reduced the need for construction materials and textiles, while capital goods fell by just over 30%.

SECTION II

The Periods Of Growth

During the periods of economic growth, identified as the years 1976 to 1980 and 1983 to 1989, showed that real GDP increased on average per annum by 5.1 and 2.9% respectively.

In the 1976/80 period, the import elasticity of demand for the economy stood at 1.1, thereby indicating that growth of imports for domestic use surpassed that of nominal GDP, a pattern reflected in the years 1977 and 1979. However an average elasticity of 0.84 was recorded for the economy for the remaining years under consideration.

In 1976 a balance of payments deficit of $39.2 million was recorded, one of the reasons being a resurgence of consumer demand due to increases in the imports of finished and intermediate goods. Nominal GDP rose by 12.4% as a result of wholesale and retail, manufacturing and transport sectors along with Government services. The import elasticity of demand for retained imports reached 0.84, which meant a 10% rise of this category. This was due to increases in intermediate and consumer goods, both of which grew at a rate in excess of that of nominal GDP. The upward movement in consumer goods was due to the phenomenal growth of motor car imports(143.1%). Although the components of intermediate goods, namely fuel, construction, materials, chemicals and textiles all grew at a more rapid rate[3] than nominal GDP, none of the import elasticity values for these items surpassed motor cars(11.5). On the contrary, the elasticity of capital goods(-8.9) would suggest that the decline in these products was almost nine times lower relative to a 1% rise in GDP.

One year later, the import elasticity of demand for the economy(1.1) implied that growth in nominal GDP(12.9) was less steep than the increase in retained imports(14.5%). Nevertheless, in April of the same year, Government took steps to curb the imports of consumer goods after it appeared that the high rate of growth(10.4%) experienced toward the end of 1976 was likely to continue in 1977. The issue of licences for the import of motor cars was suspended and a number of items was placed on licence or embargoed. These measures were designed to affect the availability of goods, while the Bank took steps to control the demand for imports by imposing constraints on consumer instalment credit. The elasticity of demand for consumer items still remained high(0.9) since food and beverages had risen but the negative elasticity coefficient(-0.28) for motor cars compared with the previous year was a clear indication of the impact of the above policy on this item. Intermediate and capital goods still registered import elasticities in excess of unity, namely 1.1 and 2.0

respectively, having risen by 13.8% and 26.1% respectively. The performance of intermediate goods was due to fuels(17.9%), a reflection of the increase in domestic demand for petroleum products, particulary for electricity generation. In the case of capital goods, these were indicative of a recovery in construction activity from 1975 and the installation of machinery and equipment at the harbour and airport as well as new enterprises in the manufacturing sector.

By 1979, continued increases in the traded and non-traded activities led to a 21.5% rise in nominal GDP. This was accompanied by a 40% rise in retained imports, leading to an import elasticity of 1.9. Consumer, intermediate and capital goods respectively all rose more quickly than nominal GDP. Consumer goods were up by 22.7% mainly due to a 54% rise in motor car imports, following the easing of some credit restrictions and an addition of $2 million to the quota for this item. Food and beverages remained inelastic with a value of 0.5. The growth of intermediate goods(74%) came about as a result of a $50 million increase in fuel imports whose growth was 14% higher than nominal GDP. Imports of textiles which were for the clothing industry increased by 40% while a 35% increase for chemicals was a reflection of higher imports of fertilizers purchased in advance of expected price increases. The import elasticities of these two goods were 1.8 and1.7 respectively.The boom in construction activity led to a faster growth in construction materials(whose import elasticity was 1.8), while imported machinery, much of which was for the construction industry, carried an import elasticity of 1.3.

At the end of 1980, the import elasticity of the economy stood at 0.68. Nominal GDP was up by 28.4%, chiefly because of the 34.3% increase in the traded sector and a 26% rise in the non-traded sector. However the growth of retained imports slowed when compared to 1979, increasing on this occasion by 19.4%. With the exception of motor car imports, construction materials and electronics, the components of all other categories under consideration were import inelastic.

Unlike the 1976/80 growth period, the 1983/89 years yielded an average import elasticity of 0.56 for the economy. This was due to the fact that in five of these years, the import elasticity coefficients exceeded unity and the signs were quite varied, in addition to the fact that in the remaining two years, the elasticity coefficients were low. Nominal GDP increases varied over the entire period between 5.1% and 9.0% while import growth exceeded that of GDP in 1983, 1988 and 1989 and contracted at a more rapid rate than the rise in GDP in 1985 and 1987. In 1984 retained imports were inversely related to nominal GDP but the fall in imports was so small relative to the rise in GDP, that an extremely low negative elasticity number was recorded. However two years later, increases in nominal GDP were accompanied by a less than proportionate rate of growth in retained imports which gave rise to an elasticity value of just over 0.6.

Let us now examine the years in which retained imports moved at a faster rate than nominal GDP. In 1983, nominal GDP increased by 6.4% and retained imports by 16.5%, thereby resulting in an import elasticity value of 2.5. Manufacturing and Government services were the key contributors to GDP growth. In the case of retained imports, the rise of intermediate goods quadrupled that of GDP, mainly the result of electronic components which were again brought into the country for assembly. Chemicals and textiles also grew at a rate in excess of unity. The decline in construction materials, however, more than doubled the rise in GDP. This occurred because of (a) the reduction in Government's capital works programme and (b) the scarcity of mortgage finance which stagnated private construction. In response to a 1% increase in nominal GDP, fuels fell by as much as 5%, due to lower import prices and higher local production. Consumer goods grew at about one and a half times as rapidly as GDP, mainly because of motor car imports(up by 106.0%). Purchases of food and beverages fell by 3.2%. The decline in machinery and equipment(3.5%), and hence of capital goods implied this reduction was less steep than the rise in GDP.

Five years later, the pattern which existed between retained imports and nominal GDP was continued. The import elasticity of 1.9 was the result of a 6.7% rise in GDP, especially due to traded sector activities, and a 12.9% increase in retained imports. Consumer goods, up by 7.3%, exhibited almost the same trend as in 1983 with respect to motor cars although the growth rate of this item(2.7%) was considerably lower. However rising demand for food and beverages increased this commodity by 8.6%. The growth of intermediate goods(17.4%) was almost three times more than that of nominal GDP. Chemicals and textiles continued the growth patterns of 1983 but electronic components declined somewhat(13.1%) due to, among other things, the closure of Intel. Construction materials were now up because of increased building activity and its growth followed a path similar to chemicals and textiles. The same could be said for capital imports. In 1989, not only was the import elasticity of the economy greater than unity, but with the exception of textiles, all components of the consumer, intermediate and capital goods categories exceeded the growth rate of nominal GDP(9.0%).

The 1985 and 1987 periods were ones in which the contraction in retained imports more than offset the rise in nominal GDP. The import elasticities for the economy during these two years stood at -1.9 and -1.2 respectively. In 1985, whereas the non-traded sector was responsible for the 5.1% rise in nominal GDP, retained imports declined by 10%, on account of the contraction in intermediate and capital goods, 18.7% and 1.8% respectively. In the case of intermediate goods, imported fuel was down by 22.1% because of softening energy prices and higher production of crude. Textiles fell by 8.9% because of the effect of the licensing policy of Trinidad and Tobago on its demand for manufactured goods from Barbados. This impacted negatively on raw material imports. Chemicals, electronic components, and construction materials also fell by a greater margin than the increase in nominal GDP. Capital goods fell by 8.1% as low level of investment brought about a reduction in machinery. Consumer durables were up slightly(0.8%) on the strength of higher car imports(17.0%) but food and beverages declined.

In the year 1987, the combination of traded and non-traded activities increased nominal GDP by 8.7% but retained imports declined by almost the same amount as had happened in 1985. Consumer goods grew by 6.2% but this increase was now attributed to purchases of food items(10.8%) which exceeded nominal GDP growth by 1.2%. Motor cars on the other hand were down by 9.0% Intermediate goods were primarily responsible for the decline in retained imports, contracting by 26.5%, three times more than the GDP increase. Electronic components were the main reason for this occurrence. Textiles and chemicals followed a pattern similar to 1985 but the import elasticity of construction materials yielded a value of 2.8 due to buoyant construction activity. The import decline in capital goods(-5.0) was a reflection of the near completion of major road projects by the Government.

The final two years of the growth period under examination are 1984 and 1986 respectively. In 1984, the 9.2% in nominal GDP was accompanied by a very minute reduction in retained imports(-0.1%), thereby yielding a low elasticity value of -0.01. Only intermediate goods(0.5%) managed to record any increase, mainly due to imported fuels(14.8%) and to a lesser extent electronic components(7.1%). Textiles, chemicals and construction materials all declined at a rate that surpassed GDP growth. Consumer goods fell by 2.3% because of a 25% drop in motor car imports while, like consumer imports, the decline in capital goods(1.8%) was less steep than the increase in GDP.

Retained imports responded positively to changes in nominal GDP during the year 1986. Whereas nominal GDP increased by 5.3%, some 3.9 percentage points lower than the rise in 1984, retained imports grew by 4.0%. The pattern of consumer imports was now reversed with an import elasticity of 0.96. Higher disposable incomes were reflected in a 21.5% rise in motor cars and a 3% increase in food and beverages. The same can be said for capital goods which had now risen by 5.2%. Textiles, chemicals and construction materials were on the increase, and their growth surpassed that of the economy. However in spite of this, intermediate goods were up by only 2.6% due to a significant decline in imported fuels(51%).

SUMMARY AND CONCLUSION

This paper has attempted to examine the import elasticity of goods for Barbados during the period 1974 to 1992, during which there were three recessionary periods and two periods of growth.

The 1974/75 and 1981/82 recessions were similar from the point of view that retained imports increased at a slower rate than nominal GDP and therefore led to a low average import elasticity. However in the recession of 1990/92, the contraction in imports surpassed that of nominal GDP, thereby resulting in a coefficient which showed that imports were elastic.

The 1976/80 growth was one in which retained imports grew at a faster than nominal GDP. On the other hand, in the 1983/89 growth period, the opposite occurred.

In the recession of 1974/75, consumer and intermediate goods were import inelastic, while capital goods grew at a faster rate than nominal GDP. In the 1981/82 recession, capital imports did not increase as quickly as nominal GDP but its import elasticity was close to unity. On the other hand, consumer and intermediate goods became commodities of an import elastic nature but their relationships with GDP went in opposite directions. The 1990/92 recession suggested that intermediate and capital goods exhibited elasticities in excess of unity whereas the import elasticity coefficient for consumer goods was very low.

In the growth period of 1976/80, consumer goods recorded an average import elasticity of unity whereas intermediate and capital goods are both growing at a rate in excess of nominal GDP. In the 1983/89 growth period, consumer, capital and intermediate goods were all import inelastic.

According to economic theory, goods which are income elastic are those commodities which are consumed at a faster rate than economic growth. Thus when examining the characteristics of income elasticity of demand, a Government which is desirous of raising revenue would target those goods which are luxury items. This paper has illustrated that during periods of recession and growth respectively, there have been fluctuations in the import elasticity coefficients of commodities. While prices have to some extent been responsible for this behaviour, one cannot overlook the role of the Bank in this scenario. For example, during 1976, the start of the first growth period under consideration, the import elasticity for motor cars would classify this item as a luxury. However by the following year, this commodity would qualify as an inferior good not because of changes in demand or tastes, but because of the Bank's policy of curbing consumer credit in an effort to protect the balance of payments. Similar policies were also adopted by the Bank during the 1983/89 growth period in addition to the recessionary periods.

The measurement of gross domestic product must also be taken into consideration when analysing the import elasticity results. For example, the measurement of the agricultural sector is based on acreage planted and not acreage reaped as should be the case. Transport Services are also problematic since these are heavily dependent on the Transport Board whose role in providing a public service has to some extent been minimized. Finally General Services is a very difficult item to measure since problems are still being experienced in capturing the activities of several self-employed persons. Thus based on the above-mentioned arguments, any policy on imports which relies solely on import elasticities is unsafe and subject to question.

NOTES

1. This comprises income received from all goods produced in Barbados and sold at home and abroad.

2. The retail price index (October 1965 = 100) showed that food and beverages moved from an index of 189.7 in 1973 to 273.8 in the following year, and then to 335.0 in 1975. See Annual Statistical Digest 1993, page 193.

3. Fuels, construction materials, chemicals and textiles grew by 13.7% , 44.3%, 23.6%, and 28.2% respectively.

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Table 1

Values of Nominal GDP, Traded and Non Traded Sector
($ Million)

Period	Nominal GDP	Traded Sector	Non-Traded Sector
1973	418.6	78.9	339.7
1974	640.4	173.4	467.0
1975	700.6	203.5	497.1
1976	788.0	198.2	589.8
1977	890.0	244.9	645.1
1978	984.2	273.5	710.9
1979	1196.1	344.2	851.9
1980	1535.8	462.3	1073.5
1981	1720.4	480.0	1240.4
1982	1784.2	442.8	1341.4
1983	1898.9	482.2	1416.7
1984	2074.9	529.9	1544.7
1985	2180.6	515.4	1665.2
1986	2297.3	525.0	1772.3
1987	2498.9	562.3	1936.6
1988	2667.6	622.4	2045.2
1989	2909.5	631.9	2277.6
1990	2965.3	634.6	2330.7
1991	2892.6	600.8	2291.8
1992(P)	2691.9	571.6	2120.3

P = Provisional

Source: Annual Statistical Digest
Central Bank of Barbados

Table 2

Percentage Changes in Nominal GDP (Factor Cost), Traded and Non-Traded Sectors

Period	Nom. GDP Factor Cost	Traded Sector	Non-Traded Sector
1974	50.4	119.7	37.4
1975	9.4	17.3	6.4
1976	12.4	-2.6	18.6
1977	12.9	23.5	9.3
1978	10.6	11.6	10.1
1979	21.5	25.8	19.8
1980	28.4	34.3	26.0
1981	12.0	3.8	15.5
1982	3.7	-7.9	8.1
1983	6.4	8.8	5.6
1984	9.2	9.8	9.0
1985	5.1	-2.7	7.8
1986	5.3	1.8	6.4
1987	8.7	7.1	9.2
1988	6.7	10.6	5.6
1989	9.0	1.5	11.3
1990	1.9	0.4	2.3
1991	-2.4	-5.3	-1.6
1992(P)	-6.9	-4.8	-7.4

P = Provisional

Source: Annual Statistical Digest
Central Bank of Barbados

Table 3

Consumer Price Index - Averages For Period
1985 = 100

Period	Barbados
1973	25.64
1974	35.62
1975	42.85
1976	44.99
1977	48.74
1978	53.36
1979	60.39
1980	69.11
1981	79.18
1982	87.36
1983	91.92
1984	96.23
1985	100.00
1986	101.33
1987	104.69
1988	109.77
1989	116.57
1990	120.15
1991	127.68
1992	135.40

Source: Annual Statistical Digest
Central Bank of Barbados

Table 4

Output of Crude Oil
Barrels

Period	Total
1973	13,398
1974	58,988
1975	122,815
1976	143,375
1977	124,241
1978	271,647
1979	283,472
1980	305,454
1981	211,375
1982	258,484
1983	379,563
1984	634,881
1985	679,193
1986	559,152
1987	496,764
1988	427,086
1989	389,289
1990	454,424
1991	454,514
1992	478,804

Source: Annual Statistical Digest
Central Bank of Barbados

Table 5

Balance of Payments of Monetary Authority
($ Million)

Period	Net International Reserves (IMF Basis*)	Balance for Official Financing (Overall Balance)
1973	73.1	(25.5)
1974	61.2	7.9
1975	79.6	31.2
1976	54.2	(36.0)
1977	57.7	(6.0)
1978	100.9	58.3
1979	115.7	22.1
1980	155.9	40.1
1981	144.0	(78.7)
1982	140.6	14.4
1983	153.8	13.3
1984	121.2	2.1
1985	165.1	88.6
1986	206.0	6.2
1987	208.4	40.5
1988	281.6	71.7
1989	196.5	(71.5)
1990	119.2	(93.3)
1991	39.0	(118.5)
1992	97.6	57.2

Source: Balance of Payments
Central Bank of Barbados

* Total Monetary Authority Less Use of Fund Credit

Table 6

Percentage Changes in Nominal GDP (Factor Cost), Retained Imports, Consumer Imports, Intermediate Imports and Capital Imports

Period	Nominal GDP (Factor Cost)	Retained Imports	Consumer Imports	Intermediate Imports	Capital Imports
1973	19.3	23.9	12.5	34.3	34.5
1974	50.4	19.5	16.5	30.3	-1.2
1975	9.4	7.7	2.9	2.6	38.2
1976	12.4	10.4	13.3	16.0	-8.9
1977	12.9	14.5	12.1	13.8	26.1
1978	10.6	10.0	11.6	0.2	31.3
1979	21.5	40.7	22.7	74.8	28.1
1980	28.4	19.4	22.3	20.0	21.7
1981	12.0	13.5	8.9	12.5	22.4
1982	3.7	-8.9	-12.3	-10.7	-0.3
1983	6.4	16.5	9.9	30.1	-2.9
1984	9.2	-0.1	-2.3	0.5	-1.8
1985	5.1	-10.0	0.8	-18.8	-7.2
1986	5.3	4.0	5.1	2.6	5.2
1987	8.7	-10.7	6.2	-26.5	-5.0
1988	6.7	12.9	7.3	17.4	12.2
1989	9.0	16.2	10.5	17.4	29.1
1990	1.9	0.1	-1.2	-0.5	6.2
1991	-2.4	-0.3	2.4	-4.9	2.4
1992(P)	-6.9	-23.5	-13.9	-24.8	-30.2

P = Provisional

Source: Annual Statistical Digest
Central Bank of Barbados

Table 7

Import Elasticities

Period	Retained Imports	Consumer Imports	Intermediate Imports	Capital Imports
1973	1.23	0.65	1.78	1.79
1974	0.38	0.32	0.60	-0.02
1975	0.81	0.30	0.28	4.06
1976	0.83	1.07	1.29	0.72
1977	1.12	0.94	1.07	2.02
1978	0.94	1.09	0.02	2.95
1979	1.89	1.06	3.48	1.30
1980	0.68	0.79	0.70	0.76
1981	1.13	0.74	1.04	1.86
1982	-2.41	-3.32	2.89	0.08
1983	2.58	1.54	4.70	-0.45
1984	-0.01	-0.25	0.05	-0.19
1985	-1.96	0.15	-3.68	-1.41
1986	0.75	0.96	0.49	0.98
1987	-1.22	0.71	-3.04	-0.57
1988	1.92	1.08	2.59	1.82
1989	1.80	1.16	1.93	3.23
1990	0.05	-0.63	-0.26	3.26
1991	0.12	-1.00	2.04	-1.00
1992(p)	3.40	2.01	3.59	4.37

P = Provisional

Source: Annual Statistical Digest
Central Bank of Barbados