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TRENDS IN IMPORT, EXPORT AND RETAIL PRICES

BARBADOS, 1968 - 1973

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Introduction

Persistent price increases have been a global phenomenon since the mid-1960's and have accelerated considerably during the early 1970's. It is now generally accepted that this development is largely the result of a unique and unforeseen combination of factors during that period - considerable industrial expansion in some of the developed countries, with labour unrest and extremely high wage increases in others, together with a general steep rise in world commodity prices resulting from the impact of parity changes which occurred towards the end of 1967.

Developing countries are prone to experience serious repercussions from such international developments because of their almost total dependence on imports to satisfy consumption needs. Any increase in the c.i.f. values of capital and consumption goods would mean a heavier import bill for such countries and consequently a greater out-flow of foreign reserves. The problem is rendered more acute where developing economies virtually subsist on a mono-export-crop for which prices are negotiated and fixed for a specified duration. Barbados, one such developing economy, has been registering average cost of living increases of over eight percent per annum since 1968.

This paper attempts to examine the trends and factors influencing the increases in import, export and retail prices during 1968 to 1973.

This period has been chosen for several reasons - 1968 was the first full year of international financial transactions after the realignment of the world's major currencies in late 1967; the Caribbean Free Trade Agreement came into being during that year, and 1973 witnessed the oil embargo by the OPEC countries and the subsequent energy crisis which further distorted world commodity prices.

The analysis makes use of three sets of indices - import prices, domestic export prices and retail prices. The raw material for these indices are the import and export data published in the Annual Overseas Trade Reports of the Barbados Statistical Service.

Methodology

A sample of 630 import items is chosen from Sections 0 to 8 using the year 1968 as the base year. In the case of exports, the sample contains 80 items chosen from sections 0, 1, 2, 3, 5, 6, 7 and 8. Items are selected on the basis of a cut-off point of $20,000 for imports and $10,000 for exports. Weights are assigned to each section according to the relative importance of the section to the value of total imports/exports for the year. In other words the value of imports/exports in each section is calculated as a percentage of the value of total imports/exports; then all percentages are adjusted to aggregate to 1,000 units. The divisions within each section are then weighted on a similar basis, that is, the value of each division is computed as a percentage of the value of the section. The weight assigned that section is divided proportionately between the divisions on the basis of the aggregated value of the items chosen in each division.

The unit value of each item is obtained by dividing its total import/export value by the quantity imported/exported. These unit values are aggregated by divisions to get what can be described as the "price" paid for one each of the items selected from the division.

The index for each section is then computed according to the formula:

$$I_p = \left[\frac{\sum_d \left(\frac{y^c}{y^o} \cdot w \right)}{W} \right] .100$$

Where I_p = Price Index; ^oy = unit price in base year;
y^c = unit price in current year;
w = division weight; W = section weight.

The retail price index in the study refers to the index computed and published by the Barbados Statistical Service. For greater comparability, the RPI for 1968 is equated to 100 and the indices for subsequent years adjusted accordingly.

Growth rates are based on a re-arrangement of the compound interest equation. Growth at the rate of r per period is compounded each period. Where A is the final amount to which an initial quantity of 100 would have grown to in t periods, the growth rate r satisFies the eauation $A = 100 \left(1 + \frac{r}{100}\right)^t$.

Section I

Import Prices

The movements reflected in the "all items" column of the index of import prices (Table I) show an annual growth rate of 6.0% during the years 1968 to 1973. The movements displayed by the specific sections vary somewhat, but all trends show positive rates for the period.

The import price of a commodity is here defined as the f.o.b. (free on board) cost of the commodity at source, plus the insurance and freight charges imposed on the importer. Thus, import prices reflect changes in these three components, which can be termed exogenous variables and are outside the influence of the domestic economy.

An analysis of the factors underlying the rapid increase in first costs (in the producing country) of the commodities imported, is outside the scope of this paper. However certain factors are generally recognised as contributing to the recent phenomenon - increases in the cost of raw materials due to scarcity; increases in the cost of labour because of trade union activity; improved technology which might at times equate with costlier and more sophisticated plant and other capital equipment; monetary and fiscal policies; industrial expansion;

demand and supply conditions. These factors all influence the cost of the product, and it is a matter of historical record that most of these have been experienced in the major producing countries of the world.

For the period under review, there was an annual upward swing in freight rates both within the Caricom region and from ports of destination in the U.S.A., Canada and London. Regional freight rates registered an increase of 55% between 1968 and 1973, while the data for trans-atlantic shipping suggest a rise of 23% for the same period. Although specific information regarding insurance rates is not readily available, it can be assumed that such rates have been moving in the same direction with freight rates, since marine insurance is based on the cost and freight value of any one shipment of a commodity. However, insurance rates vary according to the element of risk involved. For instance, higher rates are charged on goods transported in ships above a certain age, and on goods consigned to agencies with a significant loss ratio. This differential has too low an incidence, however, to cause significant distortions in the rates as a whole.

Another significant influence on import prices is the expansion of intra-regional trade and the consequent increase in the quantity and value of imports into Barbados from other Caricom countries. Added to this is the fact that quite a few commodities which were originally manufactured outside the area are now produced by subsidiaries operating within Caricom. What must be remembered is that this does not mean that production costs of these commodities would be lower than costs in the country of the parent company. Contrary to popular belief is the fact that the region is no longer an area of cheap labour. Many of these industries call for a significant proportion of skilled manpower, a scarce resource, while trade union activity supports a minimum wage-rate level for unskilled labour. Commodities produced in Caricom countries, therefore, tend to carry comparable costs to and in some cases, higher costs than those of third countries, even though freight and insurance rates may be slightly lower than those obtaining outside the region.

Section II

Retail Prices

Since the present index of retail prices for Barbados was compiled, it has recorded a relentless upward movement of monthly consumer prices, with a marked absence of any fluctuations between months, nor for that matter, any seasonal pattern within individual years, This phenomenon is somewhat unique among the more developed economies of CARICOM, and is in part due to the country's great dependence on imports, especially of food, and the increases which have been taking place from time to time in the cost, insurance and freight rates of these imported commodities. A crucial factor, however, is the inability of local food production to satisfy demand in the short run, when traditional sources of supply report shortages of particular commodities. Such a situation has the effect of forcing up prices of these commodities and their near substitutes to abnormal heights. Moreover, prices tend to remain at these new heights since the level of domestic production is too low to make an impact on prices in the long run.

Retail prices are influenced by changes in both the exogenous and endogenous variables which affect prices of goods and services. If we take the exogenous factors as given, for example changes in production costs and insurance and freight rates of imports, the endogenous factors could be isolated and examined. These would include import tariffs consumption and sales taxes, labour costs, distributors' margins, price control measures and the money supply.

In Barbados, average retail prices have been increasing at the rate of 8.2% per annum during the period 1968 to 1973. The actual increase between years, however, grew from five percent between 1968 and 1969 to 16.9% between 1972 and 1973. The main endogenous factors influencing these increases during the period reviewed are somewhat interrelated and are more or less the local reactions to changes in external variables.

The first major change came about in late 1967 when sterling was devalued, leading to parity changes among the world's major currencies. The East Caribbean dollar, the then unit of legal tender in Barbados, is linked to sterling, and also suffered a similar debasement. This had two first round effects on the Barbados economy - it increased the cost of foreign goods and services and therefore the cost of development programmes which Government was pursuing at the time, and it sent soaring the interest rates on the world's capital markets, making the cost of raising external loans for financing these programmes practically prohibitive. Domestic sources of funds then had to be tapped. This took the form of a two-pronged policy measure - additional taxation and borrowing from the banking system.

Taxation

Import duties, excise taxes and other indirect taxes account for roughty 45 - 50% of Government current revenue. It is also one of the most easily manipulated tools of fiscal policy. Thus between 1968 and 1973, the yearly budgetary proposals contained measures for increasing government revenue from these sources. Import duties were raised on a broad range of items in 1968 and consumption taxes were levied on others. Postal rates were raised in 1969 and a levy on the transfer of land, interest in land and shares (transfer tax) and licence fees on certain institutional groups imposed. August, 1973 saw the implementation of the Common External Tariff (CET) which brought additional tariffs on some 376 items. These across the board increases had an immediate first-round effect on the retail prices of all categories of consumer goods, as importers and distributors passed the burden on to consumers.

The second-round effect raised the price of services. As the price of commodities increased, the value of the consumer dollar declined and collective bargaining for wage adjustments were in most cases successfully concluded. During the period reviewed the wages of certain categories[8] of workers were increased by 30% on average, thereby increasing costs to producers and distributors. This called for abother adjustment in retail prices in an effort to maintain profit margins. Prices of other services followed suit. Wages to mechanics and general workers increased by 63% and 54% respectively during 1970, and again by 40% in both cases in 1973. Tailoring charges rose 58% while the prices of hair-dressing and hair-cuts more than doubled between 1968 and 1973. Doctors' and dentists' fees rose by 33% in

[8] Quarrying, manufacturing, electricity and gas, and construction. Wages in the last categoyy alone rose by 72% during the period.

each case, and bus and taxi fares showed significant increases during the last two years of the period reviewed. But other factors were equally responsible for the increase in retail prices. World money market prices had also risen considerably and Government had perforce to turn to the domestic banking system for deficit financing, and an increasing deficit at that since the cost of development programmes have been accelerating over time. The immediate effect of this increased Government spending was to push up interest rates since Government was now competing with private enterprise for the available loanable funds in the system. This made the cost of operations for the private sector higher and this increased cost was inevitably passed on to the final consumer.

In addition to the factors discussed above, retail prices are to some extent influenced by the structure of the distribution sector in the local economy. In Barbados, a small number of large firms tend to control or at least to dominate the sector, thus having an appreciable amount of influence in the matter of retail prices. This apparently oligopolistic nature of the sector would mean that the level of prices reflects firms'decisions with regard to profit margins and mark-ups, and need not be the result of the economic mechanism operating in a cmmpetitive market.

Moreover, the economy is so structured that prices do not reflect the true level of productivity, nor does domestic production have the capacity for influencing prices in the long run, because of the severely limited resource base. More specifically, this limitation stems from:

(a) the relatively undeveloped state of the sub-sector 'other agriculture' to the point where it could account for a significant proportion of the total food bill;

(b) the reliance on imported inputs for the manufacturing sector which is of necessity largely oriented towards 'light' manufacture;

(c) the construction sector's great dependence on the vagaries of the tourist industry; and

(d) the shortage of skilled workers throughout a broad spectrum of occupations, which puts a premium on certain categories of labour without affecting the fundamental employment problem.

Section III

Movements in Import and Retail Prices

Import price indices by sections of the Standard International Trade classification list (SITC), (Table I), display growth rates varying from 2.9% to 12.7% per year. The 'all sections' column however, show indices with an average rate of 6.0%.

In almost all sections, highest yearly increases began to occur between the years 1970 and 1971, reflecting the movements in world export prices in general (Table II) and in the export prices of our main trading partners in particular (Table III).

With regard to individual sections, highest increases were recorded for 'minerals' and for 'machinery and transport equipment' which show rates of 12.7% and 12.6% respectively. Beverages and tobacco, together with 'crude materials' display slowest rates of growth. In the case of the former section, prices fell from base year levels between 1969 and 1971 before rising to 119.1 points in 1973 bringing the growth rate for the six-year period to a low 2.9%.

The other sections showing significant rates are 'food' (7.7%) and 'chemicals' (8.9%), with miscellaneous manufactures increasing by 7.0%.

However, a more useful grouping of imported commodities is by category of good (Table IV). These categories tend to reflect as closely as is possible, the groupings in the retail price index (Table V), and makes for some degree of comparison with regard to movements in import and retail prices.

Growth rates for import prices by categories range from 1.0% per annum in the case of medicines and cosmetics, to 12.7% for transport equipment. Comparison with retail price indices for the groups 'medical and personal care' and 'transportaiton' raise some interesting questions, with growth rates at 7.2% and 7.1% respectively.

In both these groupings, a large proportion of the items of which they are composed is in the form of services for which wages are paid. In the case of medical and personal care, fees for professional services (already discussed) have contributed significantly to the price increase, as well as taxes and distributors' mark-ups. On the other hand increases in the retail price of 'transportation' has been tempered by more or less stable rates for public transport (bus fares).

The last two years of the period reviewed however, saw appreciable increases in gasolene prices and in bus and taxi fares, but the effect of this again was dampened by the controlling of the prices of other items in the group.

The food and beverages group displays a rate of 8.8% for retail prices while import prices increased at 5.8%. Here again the differnence is wholly due to the effect of endogenous factors - import duties and other value added such as haulage and mark-up margins. Prices of locally produced food also play an important part in the overall growth rate since they tend to increase sharply in times of scarcity.

Surprisingly, import prices of 'consumer durables' and 'construction materials' display relatively reasonable rates of 4.5% and 4.9% respectively, The retail price tend for 'household operations and furnishings', therefore, showing a rate of increase of 5.8% is within expectations after accounting for local value added. Housing, however, again contains the service factor - wages to masons, carpenters and other workers. These tend to influence strongly the movements in the retail prices of this group.

The last comparable group is 'clothing' which compares with 'clothing and footwear' in the import price index. The difference in the rates of growth - 7.4% compared with 6.6% - is not large, and most likely reflects the competitiveness of the clothing industry on the one hand, and on the other, the fact that the majority of clothing imports originate within the region, with prices comparable to local prices.

Finally, the group machinery. This displays a surprisingly low growth rate of 2.8%, with 1969 and 1970 prices below base year levels.

The increases beginning during 1971 are probably accounted for by periods of heavy capital formation which would necessitate the importation of high priced plant and equipment. Moreover, major swings in prices are fairly uncommon for this commodity group, since importers tend to adhere to traditional sources of supply.

Section IV

Domestic Export Prices

Domestic export price indices for all commodities during the period 1968 to 1973, display a growth rate of 3.7% per year. Prices fell slightly in 1971 by approximately 2.7% below 1970 levels, but the following year showed a record increase 26.8% above base year prices - the result of a 25.0% jump in the export price of food and beverages. A slight fall in the prices received for commodities included in these two sections during 1973, lowered the index by 2.2 points.

As with the index for import prices, the total index for export prices is highly influenced by movements in the sections relating to food and beverage exports, although for different reasons. The point here is that an export price index which relates to an economy which relies heavily on export agriculture would necessarily be weighted with this sort of bias. In the case of Barbados where sugar, molasses and rum exports account for well over 50% of total domestic exports by value, the weights assigned to Sections 0 and 1 would reflect this influence. Trends shown in Section 0, under which the export commodities sugar and molasses are classified, reflect the negotiated price quota (npq) for sugar under the Commonwealth sugar agreement signed every three years. Thus the indices for the years 1969 to 1971 remain fairly stable, then show a significant increase in 1972, when new prices were negotiated for the following three years. The slight downward three-year trend seems to be a result of variations in the prices obtained for other commodities included in this category. For instance, prices quoted for live poultry would vary according to the type of bird exported, for example turkeys, as opposed to chickens.

Beverages and tobacco also showed vibrant growth - 6.0% per year for the period covered. Again highest prices were obtained in 1972 when an increase of 24.4% was recorded over the previous year. This came about because of a 50% increase in the export price of cigarettes and 28.9% in that of aerated beverages.

Sections two to seven all display a marked degree of fluctuation. This phenomenon is partly the result of demand and supply conditions in each time period, and partly a reflection of the 'price-taker' position in which a developing country is placed with regard to international trade.

The highest rate of increase in export prices is recorded for section eight which almost totally represents exports of furniture and clothing. In 1972 price indices in this section rose to 211.5 points or about 48.4% above 1971 levels, and was entirely attributable to a doubling in the export prices obtained for furniture manufactures. Export prices of other light manufactures remain fairly stable during that period. Prices obtained for clothing, however, showed a more stable trend because of the very competitive nature of the industry within the region.

This unfavourable picture is not surprising since the Barbados economy is very narrowly based. The chief export commodity, sugar, which is sheltered by export quotas and preferential trade arrangements and prices, has been too low in volume terms, while other domestic exports have been also too low in both volume and value terms to close the foreign exchange gap between imports and exports. In fact, a deterioration in the terms of trade actually implies a decrease in foreign exchange earnings for the same level of exports.

One of the main factors contributing to this unfavourable position is the low level of production which persists in the agricultural sector, both in terms of export agriculture and domestic agriculture. Poor yields because of drought, fires and a contraction of cultivable acreages, have plagued the sugar industry during the period reviewed. Growth in other agriculture also has been retarded by low investment, poor rainfall, pests and diseases and inefficient marketing arrangements, while prices tend to fluctuate quite severely. Moreover, the industrial sector, geared towards 'light' manufacture, caters mainly to the regional market and has yet to capture a meaningful part of the international market. Some degree of structural transformation therefore in the domestic agricultural sector, and in other areas of the economy also, is necessary before a significant improvement in the terms of trade could come about.

The trend displayed by one other section seems worthy of comment. Prices for section 3 which includes mineral fuels and lubricants, dropped spectacularly in 1969 about 53.0% below base year levels, than almost trebled the following year. The last three years, however, stabilised somewhat around fifteen to eighteen percent above base year prices. Examination of the trade data disclosed surprisingly wide swings in the price obtained for bituminous mixtures[9] exported to the less developed countries (LDC's) in the region during those first three years.

Trends in the Terms of Trade

The index of import prices (all sections) displays a growth rate of 6.0% during the years 1968 to 1973, (1968=100), while export price indices for the same period register a rate of 3.8%. This disparity at once implies a deterioration in the commodity terms of trade for Barbados. Specific indices however, based on the equation $T=P_x/P_m$ (where T = commodity terms of trade, P_x = export price and P_m = import price), show the actual movements during the period covered. (See Table VII).

The year 1969 was the most favourable for the terms of trade with an index of 101.58½ Thereafter the terms of trade worsened, falling as low as 74.51 in 1971.

9 Commodities included in this category can vary widely it seems in terms of composition and quality.

Summary

Price trends during the period 1968 to 1973 seem to substantiate the claim that a large proportion of the current price spiral was directly 'imported'.

However, structural rigidities within the economy is such that retail prices accelerated at the unprecedented pace of 8.2% per year for the period reviewed. In Barbados prices are inherently sticky downwards. On the other hand, export prices in general failed to move at the same pace despite the sheltered position of export agriculture.

In addition, public sector commitments for the planning period 1968-72 compelled policy measures which resulted in higher interest rates and higher tax structures, and subsequently, a higher price level.

The divergent trends in import and export prices disclose an unfavourable net barter terms-of-trade position for the economy, a position which would persist if, among other things, patterns of production and of trade do not change appreciably over time.