CAPITAL ACCUMULATION AND RESOURCE ALLOCATION IN AN IMPORT-CONSTRAINED ECONOMY: A FRAMEWORK FOR ANALYSIS OF RECENT EXPERIENCE AND CURRENT TRENDS IN THE JAMAICAN ECONOMY

Donald J. Harris

Professor of Economics
Department of Economics
Stanford University
Stanford, California

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1. Introduction

In recent years, at least for the past eight years or so, the economy of Jamaica has gone through a process of "structural adjustment" that has proved painful for most of the Jamaican people. By all accounts, the consequences have been disastrous for many, as measured in terms of the attendant reduction in living standards across the board. It now appears, some would claim, that the bottom has been reached and a turnaround may be occurring. Whatever the case, the time is ripe to take a longer view of the road ahead, which is the express purpose of this conference.

In looking ahead, it is necessary to develop a firm understanding of the past pattern of economic performance, if only because this performance constitutes the foundation of the present conditions that are the initial conditions for future development. At the same time, it is also necessary to understand the rapidly changing world environment in which Jamaica is situated and the specific challenges and opportunities that these changes present now and in the future. This broad-gauged analysis should enable a better grasp of the economic imperatives that now confront the policy makers, the requirements for tackling them, the capacity for meeting those requirements and, hence, the feasible range of possibilities for the future.

The project that confronts us is, therefore, a dual one, consisting of both retrospective and prospective analysis, where the former is both necessary to and reinforcing of the latter. It also has to be seen as a project which, because of the intrinsic scope and depth of the analysis it requires, calls for

the coordinated efforts of many.

In this paper I seek to contribute, within strictly limited terms of reference, to carrying forward this dual project. The analysis presented here is limited, in particular, to consideration of a subset of issues related to capital accumulation and resource allocation in the Jamaican economy. These issues are clearly of central importance in analyzing both past economic performance and future prospects of the Jamaican economy. They, therefore, have to be given due weight in the overall project.

In order to frame and identify these issues in the sharpest possible manner, I begin by examining certain broadly-defined structural properties of the Jamaican economy. These properties are considered to condition the actual character of the accumulation process in both historical and contemporary terms. On this basis, I go on to construct a simple analytical model which gives expression to the specific role of these conditions in influencing the accumulation process at the level of the economy as a whole. Analysis of this model yields significant insights concerning the economic trade-offs which govern policy choices as well as the implications and consequences of pursuing various policy options.

This analysis helps to put in perspective current policy debates. In particular, it appears that a major element of those debates really concerns which point on the various economic trade-offs one selects as the correct strategy to pursue. The analysis is also helpful for understanding recent historical performance and current trends of the Jamaican economy and for examining the prospects for future growth and development.

2. Structural Properties of the Jamaican Economy

For the purpose of both economic analysis and policy, there are certain

essential properties of the Jamaican economy that it is necessary to take into account. Of these the most commonly recognized is that it is an "open" economy, in the sense of being highly dependent on foreign trade. This idea of openness is, however not sufficiently precise and specific to be analytically useful. All national economies are today to be regarded as highly open to one degree or another. The significant, point, for present purposes, is that openness of the Jamaican economy is associated with specific underlying conditions that are derived from the particular historical pattern of evolution of production and accumulation which has taken place in Jamaica. Therefore, to give analytic content to this idea of openness, it is necessary to specify exactly what those underlying conditions are.

In this connection, what is important is the particular pattern of specialization in production that has developed historically. The fact is that the Jamaican economy is highly specialized to production of a limited range of products that are geared to demand in export markets. Consequently, it lacks the productive base for diversified production in the full range of goods necessary to support domestic consumption and production. Those goods must therefore be imported. To the extent that export demand and the international terms of trade are autonomously determined, the overall capacity to import is strictly constrained by the level of export earnings and whatever level of net capital inflow occurs, which is itself also an autonomous factor. (The empirical case for these presumptions is examined in Harris (1970)).

The feature of the productive base that is crucial, from the standpoint of understanding the dynamics of production and accumulation, is the lack of significant domestic production of intermediate goods (raw materials and fuels) necessary to sustain current production and of capital goods necessary to expand

production. This class of goods, call them production goods, must therefore be imported. Their availability thus becomes subject to the import constraint. Since they are production goods, production itself is subject to the same constraint. This particular condition has two important consequences that are worth emphasizing.

One consequence is that it limits the capacity to transform existing productive capacity into saleable output. This effect shows up, when the constraint on imports of intermediate goods is binding, in the existence of excess capacity taking the form, for instance, of idle plant and equipment in manufacturing enterprises. Of course, viewed empirically, idle capacity is not solely attributable to this factor, but this is certainly one of the important factors which would account for it.

The other consequence of this condition is that, insofar as the supply of capital goods is constrained, it limits the capacity to transform saving into productive investment. Running up against this limit, nominal saving is then drawn off into other channels, such as speculative investment in real estate, in stocks of consumer goods, and so-called "capital flight," or shows up as "excess liquidity" in both financial and non-financial enterprises. These forms of saving are, of course, intrinsically rational from the standpoint of the individual wealth-owner. The point is that they need not end up as a net increase in productive capacity of the economy as a whole. Here again, it should be noted that this argument is not to be regarded as a complete explanation of empirically observed patterns, of saving and investment in this case.

It would, however, be a serious mistake to regard these structural conditions as all-determining or fixed and immutable. The fact is that there are important behavioral and policy conditions which come into play to determine, in

any given period, the range of possible outcomes within these constraints. Furthermore, the constraints themselves are subject to change as a result of current policy decisions and behavioral factors which affect their evolution over time.

In order to give a precise expression to the relevant conditions and to examine the logic of their operation, it is useful to set up a simple model. This model has the advantage that it captures some of the key economic relationships that matter for analyzing performance of the Jamaican economy. It therefore gives structure to the analytical problem that we face and serves as a guide to conduct of the analysis. Furthermore, it allows the reader to see up front, so to speak, the strict logic and limits of the analysis. Obviously, as an abstract analytic device, it is not meant to represent in full all elements of the concrete reality of the Jamaican economy.

3. A Model of the Import-Constrained Economy

Let us begin with the familiar national income accounting identities. On the expenditure side,

$$(1) \qquad Y = C + I + X - M$$

or, net national product, Y, equals consumption plus net investment, I, plus exports, X, minus imports, M, all denominated in Jamaican dollars.

Total consumption, C, is divided into government consumption, C_g, and private consumption, C_p. Government consumption is taken as autonomous; it is a policy variable of the state (henceforth, all policy variables are indicated by an asterisk and exogenous variables by a bar above the variable). Private consumption has a floor, represented as a proportion of government consumption,

and reflecting state provisioning of a wide range of essential social services from health care and education to food stamps. On top of that floor, the private sector consumes a given proportion of after-tax income. The consumption function of the private sector is thus:

$$(2) \quad C_p = c_1^* C_g^* + c_2(1-t^*)Y, \qquad 0<c_1^*<1,\ 0<c_2<1,\ 0<t^*<1$$

where t^* is the average rate of tax levied on all incomes regardless of source. Evidently, by definition:

$$3) \quad C = C_p + (1-c_1^*)C_g^*$$

On the income side of the national accounts:

$$(4) \quad Y = C_p + S + t^*Y - c_1^* C_g^*$$

or, net national income equals private consumption, C_p, plus private saving, S, plus taxes minus subsidies.

Turn now to the production side of the economy. Production of net output, Y, takes place by combination of three types of inputs: labor, L, a flow of materials, N, and a stock of capital goods, K. Each type of input is used in fixed proportion to total output. The production function may then be represented as:

$$(5) \quad Y = \min [L/a_l,\ N/a_n,\ K/a_k], \qquad a_l>0,\ 1>a_n>0,\ 1>a_k>0$$

where the a_i, i = 1, n, k, are the respective production coefficients. It is assumed that labor is always in abundant supply and, therefore, is never the effective constraint on production. For the sake of simplicity, assume also that all materials and capital goods are imported.

Next, turn to the foreign accounts of the economy. Total imports, M, consist of the current flow of materials, N, required for production, the flow of capital goods, I, required for net investment, and consumer goods, M_c. Thus,

$$M = N + I + M_c. \tag{6}$$

The consumer-goods import function m(.) is increasing in the level of total consumption and decreasing in the price of consumer-goods imports, p_c, which is exogenously determined, times the exchange rate, e, which is a policy variable:

$$M_c = m(C, \bar{p}_c e^*),\ m_C>0,\ m_{p_c e}<0. \tag{7}$$

The level of exports, X, is wholly determined as to price, q, and volume, Q, by external circumstances in the international market:

$$X = e^*\overline{qQ}. \tag{8}$$

Finally, let F be the current inflow of foreign direct investment net of investment income on the stock of such investment and D be the current inflow of debt net of service payments on the stock of outstanding debt, all denominated in foreign currency. F is exogenous and D is a policy variable of the national government in collaboration with its creditors. Then, assuming no change in the

foreign reserves of the nation, the foreign accounts must satisfy the following balance condition:

(9) $M = X + e*(\bar{F} + D*)$

In the specific context of the Jamaican economy, it would be necessary to take into account, also, the role in the foreign balance of workers' remittances and international grants in aid. These usually amount to sizeable sums. For present purposes, they can be conveniently absorbed in F. The size of debt flows, D, would evidently depend on the specific policy for financing the deficit. In this model, given the tax policy represented by t, the size of government spending (equal to C_g plus any investment that the government undertakes), and the overall level of income, the size of the deficit comes out as a residual.

As stated so far,the model consists of nine equations and eleven unknowns, where the unknowns are: Y, C, C_p, S, I, X, M, M_c, L, N, K. In addition there are five policy variables: c_1, C_g, t, e, D, and three exogenous variables: q, Q, F.

The economic interpretation of the model is as follows. At any given moment in the development of the economy, the capital stock is given at some level, $\bar{K}$, as the result of accumulation in the past. The short-run production function is then obtained from (5) by

(5a) $Y = N/a_n$

The demand for labor is derived from

(10) $Y = L/a_1$

and the utilisation of the capital stock is such that

(11) $Y \leq \bar{K}/a_k$

This adds two independent equations, drops one variable, and adds another: the degree of excess capacity in the existing capital stock. As there is then an equal number of equations and unknowns, the model is therefore consistent with a solution.

4. Analysis of the Model

Consider the nature of the solution of the model. To avoid clutter of technical details, I forego proof of existence and uniqueness of the solution. From (8) and (9) we form the import-capacity constraint:

(12) $M = e^*(\overline{qQ} + \bar{F} + D^*) = \bar{M}^*$

From (2) and (3) we get the aggregate consumption function:

(13) $C = C_g^* + c_2(1-t^*)Y = C(C_g^*, t^*, Y)$

Substituting into (6) from (12), (13), (5a), and (7), gives:

(14) $\bar{M}^* = I + a_n Y + m(C(C_g^*, t^*, Y), \bar{p}_c e^*)$

Then, from (1), (2), (3), and (4) we get

$$(15) \qquad Y = \frac{1}{1 - c_2(1-t^*)} [I + C_g^* - e^*(\overline{F} + D^*)].$$

Equation (14) expresses the role of import capacity as a constraint on the overall level of aggregate demand and its components in terms of imported goods. Equation (15) is the familiar multiplier equation which gives the level of income determined through the multiplier by the level of investment, government consumption, and the foreign balance. Taken together, these two equations constitute a reduced-form sub-system which simultaneously determines the levels of output, Y, and investment, I, consistent with both the import capacity constraint and the package of policy parameters.

Now, compare this sub-system against the production sub-system represented by (5), (5a), (10) and (11). From this comparison, it turns out that there are two alternative possible states of the overall system. These are as follows.

Case 1.

The demand for imported materials, capital goods, and consumer goods is being met at the associated levels of output and investment, as determined by (14) and (15). But that level of output is not sufficient to ensure full utilization of domestic productive capacity in (11). Consequently, the solution is characterized in this case by existence of excess capacity in domestic production. If it were possible to push out the import-capacity constraint this would generate an all-round increase in consumption, investment, income, and production, and therefore reduce the degree of excess capacity. But at the given level of import capacity, persistence of excess capacity in domestic

production is the normal state of the system.

Case 2

The level of aggregate demand determined from (14) and (15) exceeds domestic productive capacity in (11). The system as a whole is then caught between two fundamental constraints: on the one side, the limited capacity of the domestic production system, and on the other, the limited import capacity. To achieve overall balance between production and demand, the level of income must adjust to accommodate these two constraints. Important questions arise, then, as to: what is the mechanism by which this adjustment occurs? And which sectors bear the burden of the adjustment? This poses a fundamental problem. Call this the short-run adjustment problem.

As to the solution of this adjustment problem, many scenarios are conceivable, involving some combination of changes in the government policy parameters and in behavioural parameters of the private sector as related to the propensity to save and the propensity to import consumer goods. Serious and legitimate concern may arise as to the distribution of the burden of adjustment, since that burden may be unequally distributed as between different social groups. But, whatever the solution that is found, there is no question but that some adjustment must occur, simply because the situation as posited is not sustainable.

What, then, is a sustainable situation? To answer this question it is necessary to carry the analysis a bit further.

5. The Sustainable Level of Consumption

Assume that, at a given level of import capacity and with a given stock of capital, the level of aggregate demand in the system is just sufficient to allow

for full utilisation of the available stock of capital. From the preceding analysis it should be immediately evident that this case is a knife-edge possibility. It could come about only as the result of very special circumstances. Nevertheless, it does constitute a meaningful case, considered as a benchmark or reference point, and therefore provides us with a useful analytical device with which to obtain significant economic insight. One such insight is into the nature of the economic trade-off which governs policy choices, specifically choices concerning the level of government consumption, and the economic consequences of such choices.

Under the assumptions of this case, equation (11) holds with full equality and is fully consistent with the solution for Y and I emerging from (14) and (15). We may therefore take the level of Y as fixed. We can then derive the relation between notional variations in government consumption C_g, a policy variable, and the level of investment, I, consistent with the conditions of this case. Since Y is fixed, it is a matter of indifference whether we consider variations in the <u>levels</u> of investment and government consumption or in their <u>share</u> in national income. Note also that, from (13), aggregate consumption is dependent on and positively related to government consumption. Since the tax policy variable, t, and income, Y, are fixed, by assumption, a change in C_g is equivalent to a change in the government deficit. In order to keep constant the current level of net external debt inflow, D, it must be assumed either that the current deficit is internally financed or that, if externally financed, new foreign debt does not come on stream or fall due before the end of the current period.

Under these conditions, we can derive from (14) and (15) the exact form of the relation between government consumption and the level of investment. This

relation is represented in Figure 1 as the curve GI. It is drawn for a given level of import-capacity, given stock of capital which is fully utilised, and given value of other policy parameters. It is negatively sloped and convex to the origin. We infer that, under the stated conditions, there is a necessary inverse relation between government consumption and the level of investment.

This result is a highly significant one. It is also of some interest in the context of currently popular notions of a "crowding out effect" of government expenditure on private investment. It is therefore worth considering further what is the precise meaning and significance of this result and from whence it comes. It will then become clear that this result is quite different from existing ideas of "crowding out".

Note, first, that this result pertains to total investment. Therefore, it is a matter of indifference what is the division of that total between private and public investment. The same result would hold even if all investment were done by the government. Note, also, that the analysis as it stand ignores the role of financial markets and the method and consequences of government deficit financing. This result is therefore independent of any specific hypothesis about the effects of government spending on private investment through the mediation of financial variables.

The source of this particular result is tied up with two essential factors. One factor is the necessary link between consumption and imports, on the one side, and between investment and imports, on the other side, both derived form the highly specialised character and limited productive capacity of the domestic production base and, on the consumption side, from the propensity to import consumer-goods. The other factor is the binding constraint of import-capacity derived from the character of export markets and of access to foreign capital in

the form of investment and/or loans. Together, these two factors are sufficient to account for the following effects. An increase in government consumption drives up imports of consumer goods, both directly and indirectly via private consumption. Given the amount of material and fuels needed to sustain domestic production, this necessarily squeezes imports of capital goods up against the import-capacity constraint and, consequently, total investment falls. Hence, it arises that there exists an inverse relation between government consumption and investment.

The preceding argument holds, and holds rigorously, in a situation in which both domestic productive capacity and import capacity are fixed. Call this situation a "short period" and the corresponding GI-curve a Short-Period Consumption-Investment Trade-Off (SPCITO). The SPCITO is a fundamental characteristic of the economy in the short period under the stated conditions.

We could go further, in analytical terms, and conceive of the SPCITO as shifting out over time as the economy as a whole grows. For this to occur, there are two requirements. One is that the import-capacity constraint shifts out. The other is that the capital stock expands through investment to keep pace with the output needed to support the associated level of aggregate demand. Assume that the rate at which import capacity grows is a given constant, g. Then, for output to grow at that rate, the capital stock must grow at the same rate. We can read off from equation (11), when full equality holds, the required condition. It is:

$$(16) \qquad g = \frac{\Delta Y}{Y} = \frac{1}{a_k} \frac{I}{Y}$$

This condition dictates that, in every period, the economy is operating at a specific point on the corresponding SPCITO, namely the point at which the level (share) of investment satisfies that required by (16). Evidently, this point also entails a specific level (share) of government consumption. The locus of such points on successive curves defines a path of investment and government consumption levels, along with an associated level of aggregate consumption. Call this the path of sustainable consumption.

In figure 2 the ray OZ represents the sequence of investment-government consumption levels corresponding to the path of sustainable consumption consistent with a given growth rate of import capacity in a steadily growing economy.

Now, suppose that, in a particular period, after proceeding some distance along this path, the government increases government consumption above the required level. Aggregate consumption would, in that period, increase. But this must occur necessarily at the expense of total investment. Consequently, in the next period, the available capital stock must be below the level required for supporting the prevailing demand at the new level of import capacity. The economy must then fall into a situation equivalent to that of case 2 discussed above, which poses the fundamental problem of short-term adjustment. This situation itself must now be seen to be a consequence of the policy of high consumption pursued in the previous period.

The specific trajectory that the economy follows from this point on depends on the specific policy choices adopted, the ensuing pattern of adjustments, and their consequences for the evolution of both import capacity and domestic productive capacity. The dynamics of the adjustment process deserve explicit analytical treatment. It would be a very complex problem and so I forego that

treatment here. Nevertheless, the following result is worth stating.

If the policy of high government consumption is continued, it will turn out that the level of aggregate consumption is higher in the first pew periods than it would have been on the sustainable path. But, in some future period it must fall below that path.

This result, like the previous one represented by the SPCITO, is of considerable significance. It necessarily follows from the fact that, in this model (and, plausibly, in the real world as well), every dollar taken from investment and spent on imports of consumer goods yields just one dollar of present consumption but reduces future income by $\$1/a_k > \$1$ and correspondingly reduces future consumption.

This effect is compounded over time, insofar as the policy of high government consumption is financed by external borrowing. This is because the buildup of foreign debt increases future liabilities for debt service which, when they fall due, constitute a drain on foreign receipts, hence on import capacity. It would, of course, be an entirely different matter if the debt were used for productive investment instead of consumption. In the former case, the debt would add to productive capacity and therefore increase potential consumption in future periods. A crucial distinction must therefore be made between a policy of <u>debt-financed consumption</u> and one of <u>debt-financed investment</u>.

Thus, this analysis indicates that there exists, also, <u>a fundamental intertemporal trade-off in the relation between present and future consumption</u>. Specifically, the consumption binge of today imposes a necessity to cut back consumption tomorrow as a cost on tomorrow's consumers. Since the cost cumulates over time, it may turn out to be quite high. Furthermore, getting the economy

back on track, in the sense of moving to a path of sustainable consumption, either the previously existing or a new one, may also impose a heavy burden of adjustment.

For logical completeness, it is of course necessary to recognize that there are many other reasons why the economy could be thrown off track. Within the terms of the present model and, hence, consistent with this model, the following are other conceivable possibilities:

(1) a sharp increase in the price of imported inputs (for example, the so-called "oil shock" of 1974);

(2) a collapse of exports (for example, the sharp decline in Jamaican exports of bauxite-alumina occurring first in 1976 and again in 1982);

(3) a decline in net inflow of foreign investment;

(4) a jump in foreign indebtedness.

The essential question is whether these developments are to be viewed as fully exogenous or, alternatively, induced by internal processes taking place within the economy. This question would have to be carefully examined in each case.

Now, call the problem of getting the economy back on track, after the occurrence of any such event, and of finding a particular track to get back to, the long-term adjustment problem. It turns out that this problem has its own unique features. It should therefore be sharply distinguished from the short-term adjustment problem. To examine the specific features of the long-term problem, it is helpful to extend the preceding analysis in certain appropriate directions.

6. Endogenizing the Structure of the Economy

In order to extend the preceding analysis, one may go on to introduce some further modifications in the specification of the model. In particular, it

seems necessary and useful to recognize explicitly that there are factors which systematically affect the export capability of the economy that are related not only to the exogenous character of export markets but also to the behaviour of domestic producers and the government. To the extent that exports are conditioned by the latter set of factors, this has some significant implications. Specifically, it brings within the orbit of domestic decision-making and control an essential component of the import-capacity constraint. It thereby serves to endogenize a crucial element of the economic structure and opens up a whole new range of options for economic policy.

Assume, as before, that exports consist of an exogenous component, qQ, that is wholly determined as to price and volume by external circumstances in the international market. In the Jamaican context, this specification would most closely correspond to the bauxite and alumina sector of the economy. Accordingly, one could interpret the previous model as representing the case of a "mineral dependent economy" discussed by Hughes (1984).

Now, assume there exists, in addition, an endogenous component of exports which is a decreasing function x(.) of the ratio of the domestic price, q_d, relative to the international price, evaluated at the gong exchange rate. Thus:

(8a) $$X = e^*\bar{q}[\bar{Q} + x(q_d/\bar{q}e^*)]$$

Define

$$1 - q_d/\bar{q}e^* = \text{index of international competitiveness.}$$

Then, demand for exports is an increasing function of the level of international

competitiveness in this sense.

This extension, by itself, adds generality to the model. For even greater generality one could conceive of the specification in (8a) in terms of a vector, the components of which represent the set of export products produced in the economy. The dimensionality of this vector would then become subject to decision-making and control, in the long-term context, through a strategy of export diversification into new product lines.

The domestic price of exports is an increasing function q(.) of production costs, as related to prices of imported inputs in Jamaican dollars, the money wage rage of domestic labor in Jamaican dollars, w (an institutional parameter), the interest rate on bank credit, r (a policy variable), and the production coefficients. Thus,

$$(17) \qquad q_d = q(e^*\bar{p}_n,\ e^*\bar{p}_k,\ \bar{w},\ r^*,\ a_n,\ a_k,\ a_l)$$

Implicit in the function q(.) is the pricing strategy of domestic firms operating in export markets, their marketing and sales capability, and their level of cost-efficiency in production. Naturally, (17) must satisfy $q_d \leq \bar{q}e^*$ in order for exports to survive in the international market. On the production side, the profitability of export production is a matter of the level of the international price of exports in relation to domestic costs. For the export market to clear, it must be assumed that this relation satisfies the minimum necessary to sustain export production up to the level of available demand.

In this connection, an interesting case to examine is that of the export market for some items of traditional exports from Jamaica, such as sugar, bananas, and citrus, where production has chronically fallen short of established

quotas. Evidently, as these examples reveal, it is not necessarily the case that all export markets clear. The reason why some markets do not clear, so that there exists unfilled quotas, is suggested by this analysis. It is that profits of the producers of such products get squeezed between the international price (which is subject to competitive pressure from other producing countries producing the same products) and their high level of costs reflecting their own cost inefficiency. Under such conditions, some producers cannot break even and reach the shut down point. Total supply is thereby restricted and falls short of available quotas.

Consider, now, what becomes of the import-capacity constraint under the conditions of this extended model. This can be seen by examining equations (8a), (9), and (17). This block of equations, taken together, now constitutes a complex set of factors governing the level of import capacity. To sharply identify and distinguish these factors, note that they relate specifically to the following:

(i) the exogenous international variables:

$\bar{q}$, $\bar{Q}$, $\bar{p}_n$, $\bar{p}_k$, $\bar{F}$;

(ii) the government policy variables:

e*, r*, D*;

(iii) the domestic labor-market variable:

$\bar{w}$;

(iv) the index of international price-competitiveness:

$1-q_d/\bar{q}e^*$;

(v) the productivity conditions:

a_n, a_k, a_l.

This list brings into full view a number of additional features of economic structure and behaviour that must be considered to affect performance of the economy. For analytical purposes it is useful to examine them in terms of two distinct sets of considerations. One concerns the requirements for short term stabilization - the short run adjustment problem. The other concerns the requirements for long term expansion and development of the economy - the long run adjustment problem. These issues are examined in the next section.

7. Stabilization versus Growth

One may conceive of the productivity conditions, as well as the extent of export diversification, to be fixed in the short term. But in the long term they would become a variable dependent on the pattern of investment and technological change pursued by domestic producers and/or the government and on the structure of relevant incentives governing such activities.

The international variables are, by assumption, independent of local decision-making and therefore exogenous in both short-term and long-term contexts.

The wage-rate in money terms is an institutional parameter, depending on the bargaining position of the trade unions. But the real wage-rate is a variable. Because of the high proportion of imported goods in Jamaican workers' consumption, it would be meaningful to conceive of the real wage-rate as strictly

related to the price of imports in Jamaican dollars. It would therefore depend on the level of the exchange rate.

So far as the index of international competitiveness is concerned, this factor is a matter of some complexity requiring detailed discussion. For present purposes, the following argument should suffice.

Since the domestic price of exports is increasing in all costs, an increase (reduction) in any item of costs reduces (increases) international competitiveness. In turn, an increase in the exchange rate (equivalent here to a devaluation of the Jamaican dollar), or in the interest rate, increases domestic costs and therefore reduces international competitiveness. Call this the cost effect. But an increase in the exchange rate (devaluation) has an opposite effect the other way round: it reduces the ratio of the domestic price to the international price evaluated in foreign currency and, to that extent, improves international competitiveness. Call this the price effect.

Because of this two-sided effect of devaluation, the overall effect on exports of an exchange rate cum interest rate policy is, in general, ambiguous. The price effect is instantaneous, direct, and proportional to the size of the devaluation. The cost effect is both direct and indirect, and may take some time to work itself out. The transmission mechanism works through the complex structure of costs as represented by the actual input-output structure of the economy and in accordance with the reaction of trade unions to the reduction in real wages.

However, in the concrete context of the Jamaican economy it is reasonable to suppose that the cost effect is likely to be more than proportional to the size of the devaluation and, hence, to outweigh the price effect, allowance being made for the relevant adjustment lags. This is for two reasons. First, the

production structure of the Jamaican economy is highly intensive in the use of imported inputs, so that input costs tend to rise sharply after a devaluation. Secondly, since imported consumer goods constitute a high proportion of workers' living standards and trade unions are well organized with a strong political voice, there is likely to be a significant response in terms of upward pressure on the money wage-rate.

The implication of these considerations is that a policy of devaluation cum high interest rate may, under certain conditions, have the perverse effect of reducing international competitiveness. On the side of demand for exports, this will tend to decrease demand. On the side of production for export, this will tend to pull some producers out of the export market by driving them to the shut-down point and, in the longer term, reduce investment in export expansion and diversification.

Of course, on the side of imports, a devaluation may serve to reduce imports of consumer goods. But the actual amount of the reduction may not be very large. Available evidence indicates that the price elasticity of demand for imports is fairly low (see, for instance, the estimate of this elasticity in the accompanying appendix of this paper). The reason for this is quite straightforward and is related to the income distributional consequences of devaluation. Specifically, while devaluation reduces real wages it also increases the share of non-wage income. Since recipients of non-wage income have a high income elasticity of demand for imported luxury goods, imports of such goods increase while import demand of wage earners falls. It is conceivable that under some circumstances, the former could more than offset the latter so that total demand for imported consumer-goods rises.

An issue that arises in this connection is whether a high interest rate

policy, accompanying a devaluation, will provide a sufficiently dampening effect to reduce aggregate demand and, thereby, demand for consumer-goods imports. It is necessary to see that the interest rate is both a price, the price for lending money, and an income category, the income of lenders. Therefore, a change in the interest rate has both an income and price effect which move in opposite directions. Once these two opposing effects are taken into account it leads one to doubt whether the overall effect will be very large, if at all positive. Certainly, the outcome of numerous empirical studies of saving (consumption) behaviour is to cast doubt on the existence of a significant positive (negative) elasticity of saving (consumption) to the average level of interest rates. Of course, for well known reasons, it is likely that the overall level of investment may decline in response to higher interest rates. We here run upon a conflict between the policy of short run adjustment through dampening demand and the policy of long-run adjustment through expansion of productive capacity.

There is one final consideration that is of relevance to this analysis. It concerns the likely effect of a lower real wage rate, arising from a devaluation, upon the inflow of foreign investment. A popular idea, implicit or explicit in current policy debates, is that this effect is likely to be positive. Here, again, it is a matter of how large in practice that effect is, if it is at all positive. From the standpoint of the model presented here, it would have a place by making endogenous the foreign investment variable, F. The endogeneity and degree of responsiveness of this variable would also have to be seen as a factor of long term significance, hence not being of much significance for short-term stabilization.

What then is the upshot of this analysis? One important result is: it

appears that there are inherent conflicts between the requirements for short term stabilization and the requirements for long run growth and development of the economy. These conflicts are such as to constitute a fundamental trade-off between the selected strategy of short-term stabilization and the possibilities for long-term growth. The choice of strategy, hence of a point on that trade-off, is therefore a crucial factor in determining the long-run prospects of the economy.

These conflicts show up especially at the point of considering what is required to push out the import capacity constraint over time. In particular, the policy for achieving balance between production and demand in the short term within the context of a given import capacity, assuming that policy is effective, may have perverse consequences for some of the very factors that account for expansion of import capacity.

Furthermore, one cannot discount a priori the possibility that the policy may not be effective. If it is not, the economy may then end up in the worst of both worlds, neither achieving short term adjustment nor getting back on a track of long term growth.

The effectiveness of a particular strategy is essentially a matter of:

(a) what instruments the government has at its disposal relative to the targets to be achieved;

(b) the sensitivity of the various behaviour functions to changes in the policy variables;

(c) the competence and reliability of the administrative apparatus in implementing a particular strategy;

(d) the reactions that the strategy meets among the different social groups affected by it.

These are, in part, empirical questions, requiring more detailed study and analysis. They are also, intrinsically, political questions that can only be resolved in the political realm.

8. Investment as the Driving Force?

A major question that has been left open in the preceding analysis is: How to get investment going? And what agents are to do it?

In the model as presented, investment is a wholly passive factor, endogenously determined so as to be consistent with the twin constraints of import capacity and domestic productive capacity.

This formulation is consistent with a view of the economy as being run by merchants who make a living from mark-ups on the sale of products and adapt their level of stocks to accommodate the flow of sales made possible by the autonomous factors of foreign investment, exports, and government consumption. Except for its welfare support system and its ability to tax and borrow at the taxpayers' expense, the government is not otherwise an active agent in the economic process. The only active agent of investment is the foreign investor.

This is the very opposite of the world that Keynes had in mind, at least so far as the picture of investment is concerned. In this respect, it is therefore far from being a "Keynesian model." In Keynes' world, productive investment is an active feature of the process and the 'animal spirits' of the national industrial-capitalists are its driving force.

From a purely formal point of view, it would be possible to accommodate this Keynesian idea in the model by making the level of investment an autonomous factor. For this purpose, it is important to see that the construction of a SPCITO is indifferent as to which of the two variables is taken as the

independent variable. But with both investment and government consumption as autonomous factors, the model would then become over-determined and something else must give in order to obtain a general solution that is not a knife-edge. Even so, this still leaves open the questions posed above.

In a sense, the real question, then, is: how to effect a transition from an economy run by merchants to one run by a new breed of industrial capitalists? This takes us into larger questions of the history, social process, and politics of Jamaican society, and the difference between societies that have been successfully able to make the transition and those that remain stuck in the mould of an economy of merchants.

9. Further Complications

The preceding analysis could be advanced by adding further complications. Among the relevant complications worth considering are the following:

(1) The role of income distribution between profits and wages. This has two sides: (a) the effect on demand for consumer goods, for imports, and for investment; (b) the incentive effect of real wages on productivity of labor and of profitability on private investment. Explicit introduction of these relations would allow us to investigate the idea of a trade-off between income distribution and growth, or between poverty and profits.

(2) The role of money and finance. There is an obvious link between government deficit spending and the foreign debt. The peculiar dynamics of the debt-propelled economy needs to be studied. There is the problem of managing the exchange rate in an import-constrained economy. There is the problem of the

level of interest rates and the contradictory implications of a high interest-rate regime for demand management versus getting production, investment, and exports going.

(3) The problem of excess capacity. There are two analytically distinct problems:

(i) arising from deficient aggregate demand - the Keynesian problem;

(ii) arising from deficiencies in supply or in international competitiveness, for example, unfilled quotas in international markets for traditional agricultural products.

There are gains from increased utilisation of capacity in both cases. But, in the case of type (ii) problem, the ability to take advantage of those gains typically requires increased imports to provide necessary inputs of materials, fuel, and capital goods to sustain increased production. Hence, this runs up against the import capacity constraint.

(4) Technology and productivity. Increased productivity, in terms of both cost and quality changes, is necessary to improve international competitiveness to allow expansion of exports and to reduce imports through domestically produced substitutes. But productivity effects may depend, to significant extent, on imported inputs of technology, capital goods, and skilled labour. To that extent, solution of the productivity problem also runs up against the constraint of import capacity.

(5) The problem of skilled labor. This may be a binding constraint in certain sectors of production and occupational categories. It has become a

serious problem in Jamaica because of net emigration of skilled labor and lack of replacement by the educational and training system. It may be a serious handicap in pursuing a strategy of shifting over to new technologies and new product lines. Tackling the problem calls for major government expenditure for educational infrastructure. This runs up against limits of the government budget in a context of sharp cutbacks in expenditure.

(6) Productive consumption. There is a link between government consumption and production insofar as government expenditure creates, directly or indirectly, social infrastructure necessary to production. Such infrastructural activities would consist, for instance, of education and training of the labor force as well as maintenance and improvement of health standards of the population. These activities have a well-recognized and clear link to productivity, even though their quantitative significance may not be exactly known.

Similarly, the consumption level of the labor force may contribute to its productivity. This link is not widely recognized, but it is undoubtedly a significant matter deserving closer attention. It goes by way of three main routes:

(a) One is that nutritional intake governs the level of physical and mental effort. This route is now gaining recognition, even becoming a sort of fetish among some economists, but it is the least economically interesting and important of the three.

(b) The second is that the standard of living has an incentive effect on willingness to exert effort, hence on performance standards and quality of work, at any level of the nutrition-productivity trade-off.

(c) The third is that at a lowered average standard of living, individuals

spend more time simultaneously pursuing many different activities, paid and unpaid, in order to maintain a target level of consumption. This "spread effect" creates inefficiency in the allocation of effort and time.

These relationships offer a possibly significant explanation of observed differences in productivity and performance standards of workers in the public sector vis-a-vis the private sector. As is well known, wage rates tend to be much lower in the public sector. Of course, to make the comparison meaningful, one would have to hold constant the level of supervision and efficiency of management as well as relevant characteristics of the work environment in both contexts.

(7) Role of the "informal sector." By all accounts, this sector has mushroomed in the period under review and is still growing. There exists a symbiosis between "formal" and "informal" sectors of the Jamaican economy. On the one side, the informal sector constitutes a drain on foreign exchange, hence on import capacity, via imported commodities and "capital flight." But it may be a net earner of foreign exchange in the degree to which "illegal industry" is thriving. Some of the commodities imported into or produced in this sector may enter the formal sector as production goods. Excess demand from the formal sector may spill over into this sector, allowing it to thrive and grow, while enabling the formal sector to relieve some of the pressure on its productive capacity. The informal sector provides an effective floor to income and consumption, acting thereby as a buffer to fluctuations in the formal sector of the economy.

10. The Historical Record

Finally, and in conclusion, it is necessary and useful to examine the actual historical record of performance of the Jamaican economy in order to correct where necessary the abstract view presented in the previous analysis or to give it a firm empirical support. The results of my preliminary examination of the data are presented in the Appendix. They serve to demonstrate the relevance of the analysis presented here. A more detailed and systematic statistical analysis would, of course, be required to establish the validity and significance of any particular explanation of the historical record.

The analysis of the data distinguishes two periods: 1950-1965 and 1969-1989. For the earlier period reference is made to the study reported in Harris (1970). For the later period, a wholly new analysis is made with data obtained form the following sources: National Income and Product, 1988, 1989, Department of Statistics, Jamaica; World Tables, 1989-1990, World Bank, Washington, D. C.; National Accounts, 1960-1987, Department of Economics and Statistics, OECD.

The following are the main findings:

(a) The period of 1950 to the early 1970's was a kind of "golden age of growth in the Jamaican economy, as measured by all of the relevant indices of economic performance. A summary measure of this performance is represented by an average annual growth rate of GDP equal to 6.5 percent for the whole period.

(b) In the subsequent period up to 1989, there has been a dramatic change in economic performance. One might date the transition or turning point from, say, 1973. A sharp reversal of trend evidently occurred during 1974-1980. There was virtual stagnation during 1981-1985. The economy picked up again during 1986-89. The entire period of 1969-1989 is marked by an absolute decline in GDP at an average annual rate of 0.24 percent and in all the major components of GDP

on the expenditure side except for government consumption, exports, and imports. This period could fairly be described as a period of major "structural crisis" in the Jamaican economy, the character and dimensions of which appear to be unique in the history of the country and deserve much closer study than is done here.

(c) The period 1969-89 has a number of striking features, some of which may be regarded as indicating significant change in the underlying structure of the economy. For comparative purposes, it is useful to take as a reference point the corresponding data for the 1950-65 period.

(d) The most obvious and commonly noted feature of the 1969-89 period is the sharp increase in the role of foreign indebtedness. This change has converted the economy into what one might properly call a "debt-propelled economy."

(e) Along with the increase in foreign indebtedness has come a significant decrease in the role of net direct investment from abroad.

(f) But what is equally, if not more striking, is that these changes have been accompanied by a transformation in the relations of consumption, saving, and investment as well as the role of exports in the Jamaican economy.

(g) Net saving has declined from an average of nearly 11 percent of national income in the earlier period to 7 percent. The saving ratio actually turned negative in 1976-77, 1981-82 and in 1985. Most of the dissaving occurred in the government and household sectors.

(h) Gross fixed capital formation as a proportion of GDP was on average higher in the later period but the level of gross investment declined at an annual average rate of 1.45 percent.

(i) The share of private consumption in GDP fell from 75 percent to 65

percent. The share of government consumption rose from 10 to 17 percent.

(j) There is a definite inverse relation between government consumption and gross investment in the later period.

(k) Both exports and imports have risen as a share of GDP, indicating that the economy has become more "open" in this sense. Estimated income and price elasticities of export demand are both low, respectively 0.52 and -0.34. Import demand has high income elasticity of 1.11 and low price elasticity of -0.29. These elasticity estimates cast doubt on the stability of the balance of payments adjustment mechanism.

(l) In the earlier period export growth was highly and positively correlated with growth of GDP (correlation coefficient of 0.96). In the later period, the correlation of exports and GDP is low and negative at -0.26.

(m) The wage share rose markedly for a brief period during 1969-77 and has been declining ever since.

All of these changes and trends, individually, are quite remarkable and dramatic. Taken together, they constitute a central feature of the problematic requiring to be analyzed in order to understand the recent history of the Jamaican economy and the prospects for the future.

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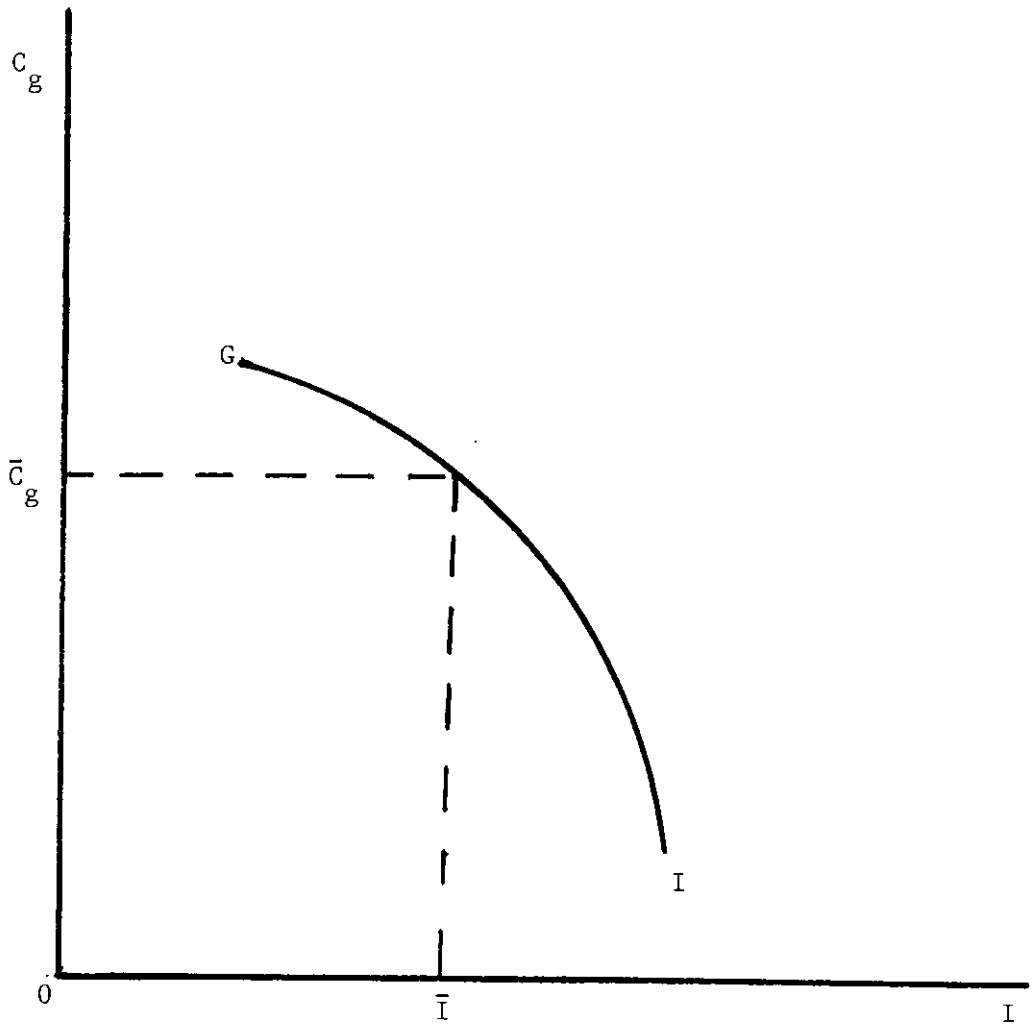


FIGURE 1. The Short-Period Consumption-Investment Trade-Off in an Import-Constrained Economy.

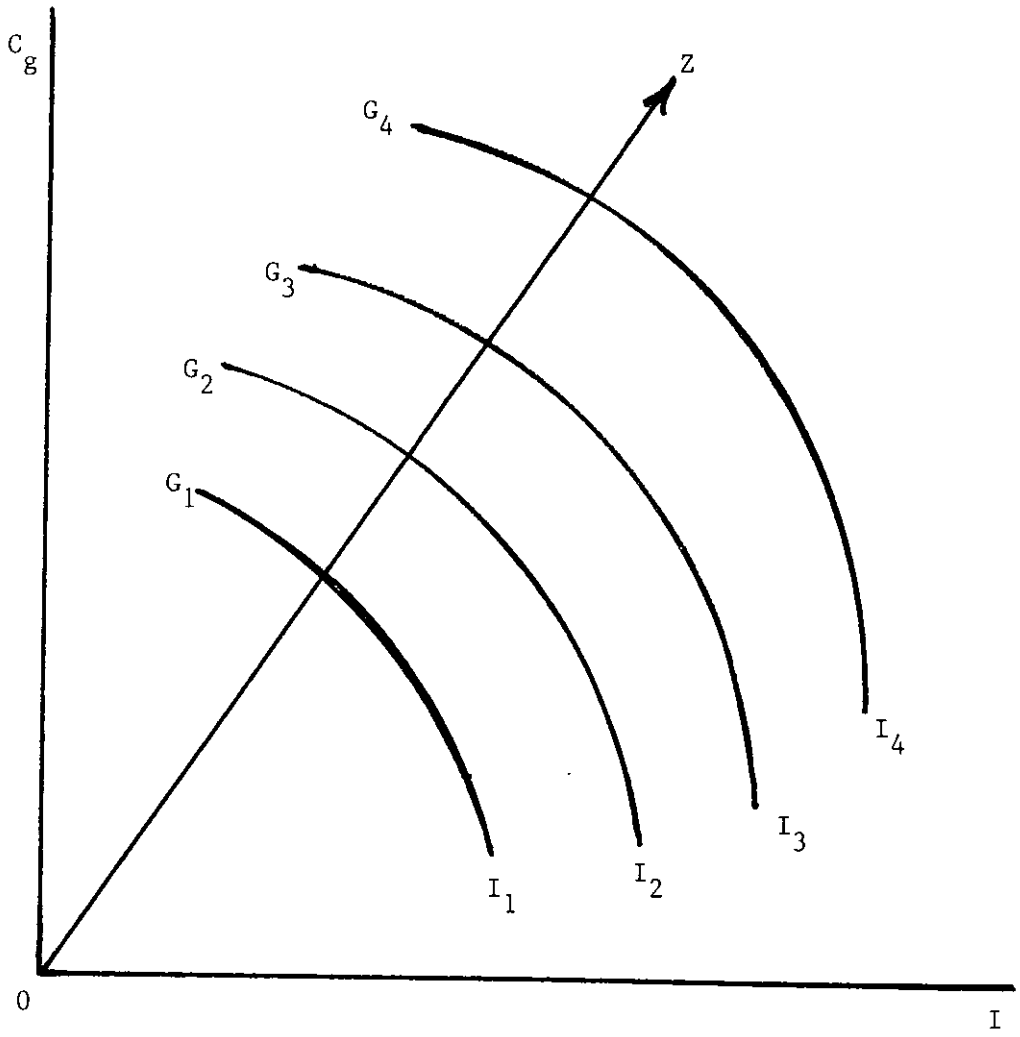


FIGURE 2. The Consumption-Investment Trade-Off in an Import-Constrained Economy, with Growth.

STATISTICAL APPENDIX

Table 1

Shares and Growth Rates of GDP Components
1950-65, 1969-89

GDP SECTORS	1950 - 1965		1969 - 1989	
	SHARES (mean)	GROWTH RATES %	SHARES (mean)	GROWTH RATES %
Final Consumption	85	5.5	82.3	-0.04
Government	10	5.4	17.0	0.32
Private	75	5.4	65.3	-0.22
Total Capital Formation	20	7.4	23.7	-1.45
Gross Fixed Capital	19	7.3	21.3	-1.16
Increase in Stocks	1		1.8	-4.85
Exports of Goods & Services	22*	9.3*	41.8	2.33
Imports of Goods & Services	30*	6.3*	47.9	1.69
GDP	100.0	6.5	100.0	-0.26

* Excludes Services

Table 2 SAVING PROPENSITIES

SAVING SECTORS	1950-65 AVERAGE PROPENSITY	1969-1988 AVERAGE PROPENSITY	1969-1988 MARGINAL PROPENSITY
National	10.7	0.07	0.34
Non-Financial Enterprises		0.35	0.98
Financial Institutions		0.09	-0.06
Households & Unincorporated Business		-0.04	0.51
Government		-0.10	-0.28

Table 3

Percentage Composition of Gross Saving
1950-65, 1969-89

SAVING COMPONENTS	1950-65	1969 - 1989		
	MEAN	MEAN	MAXIMUM	MINIMUM
Net Saving	46.2	23.6	52.0	-13.0
Consumption of Fixed Capital	35.7	41.2	78.6	26.7
Net Capital Transfers from Abroad		2.3	12.6	-1.6
Net Borrowing from Abroad	18.1	32.9	61.7	2.7

Table 4 Shares, Elasticities and Growth Rates of GDP sectors
1950 - 1965 & 1969 - 1989

GDP SECTORS	1950 - 1965			1969 - 1989		
	SHARE OF GDP (f.c.)	ELASTICITIES on GDP (f.c)	GROWTH RATES	SHARE OF GDP	ELASTICITIES on GDP	GROWTH RATES
Agricultural Sector		0.06	0.5	7.9	0.15	0.49
Agriculture					0.36	0.24
Sugar				1.0	1.48	-3.70
Livestock					-0.59	
Forestry & Fishing					0.74	
Industrial Sector					1.91	-1.81
Mining & Quarrying		2.33	14.7	0.9	1.79	-1.76
Manufacture		1.13	5.3	16.9	1.51	-0.98
Construction		1.23	5.8	8.1	3.32	-4.21
Electricity & Water		2.04	11.2	1.2	0.21	3.32
Service Sector					0.63	0.53
Distribution		0.81	4.1	18.4	0.43	-1.42
Transportation		1.21	6.6	6.3	0.54	1.83
Finance & Insurance		1.36	6.4	5.4	-0.07	2.22
Imputed Bank Charges				3.7	-0.68	5.53
Real Estate & Business		0.36	2.3	11.1	0.02	1.48
Government		1.19	6.5	15.1	-0.83	3.43
Household & Non-Profit				1.3	3.09	-2.44
Miscellaneous				5.4	1.29	0.04
GDP			5.3			-0.24

Table 5

Growth Rates of GDP and Sectors by Sub-Periods
1969 - 1989

GDP SECTORS	1969-73	1974-80	1981-85	1986-89	1969-89
Agricultural Sector	3.42	0.50	2.59	-1.30	0.49
Agriculture	5.76	0.07	2.37	-4.53	0.24
Sugar	-1.90	-4.80		3.74	-3.70
Livestock					
Forestry & Fishing					
Industrial Sector	5.21	-5.88	-1.72	7.53	-1.31
Mining & Quarrying	11.64	-1.32	-10.33	3.16	-1.76
Manufacture	5.35	-5.47	0.82	4.35	-0.98
Construction	0.61	-12.04	0.36	14.69	-4.21
Electricity & Water	10.35	3.70	3.75	4.30	3.32
Service Sector	6.92	-1.05	0.01	2.47	0.53
Distribution	5.77	-5.60	-1.21	-0.75	-1.42
Transportation	5.91	-2.01	2.97	3.70	1.83
Finance & Insurance	10.30	1.00	2.12	1.98	2.22
Imputed Bank Charges	4.30	4.32	-4.16	14.97	5.53
Real Estate & Business	3.99	0.65	0.45	3.64	1.48
Government	11.60	6.20	-1.86	0.42	3.13
Household & Non-Profit	12.33	-11.90	2.79	1.15	-2.44
Miscellaneous	7.58	-3.94	3.08	2.60	0.34
GDP	6.03	-2.59	0.25	3.71	-0.24

Table 6

Growth Rate of Sub-sectors of GDP
By sub-periods, 1970 - 1989

	1970-73	1974-80	1981-85	1986-89
Export Agriculture	-3.90	-4.09	-0.69	0.90
Sugar cane	-2.28	-3.33	-3.76	1.50
Other exports	-5.37	-2.72	4.34	1.30
Domestic Agriculture	12.24	2.48	2.90	-5.50
TOTAL AGRICULTURE	2.95	0.73	1.64	-1.65
Food (excl. Sugar)	3.40	-4.04	3.59	4.50
Sugar, Molasses & Rum	-3.37	-3.87	0.06	-0.25
Alcoholic Beverages	11.05	2.50	-2.92	
Non-Alcoholic Beverages	4.43	-2.40	-2.01	
Tobacco & Tobacco Products	6.50	1.49	0.48	-0.60
Textiles & Wearing Apparel	3.58	-9.30	5.48	13.55
Leather & Leather Products	-17.15	26.00	14.86	
Footwear	-2.34	-9.03	0.98	
Wood, Wood & Cork	2.23	1.74	1.12	
Furniture & Fixtures	15.25	-15.30	7.23	
Paper & Printing	11.35	-4.08	0.18	
Petroleum Refining	3.48	-5.47	5.14	1.70
Rubber & Plastic Products	13.01	-6.09	4.22	
Non-Metallic Products	1.40	-11.24	11.27	
Machinery & Equipment	5.11	-10.16	2.64	
Other Manufacturing Industries	-0.30	-6.36	7.40	
TOTAL MANUFACTURE	5.23	-4.84	1.30	4.43
Hotels, Restaurants, Clubs	5.18	-3.50	5.76	4.95
TOTAL MISCELLANEOUS SERVICES	7.75	-4.57	3.12	3.83
TOTAL GDP	5.33	-2.87	0.10	3.50

SMPL 1969 - 1988
20 Observations
LS // Dependent Variable is MI1

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-4.8888789	2.0004259	-2.4439190	0.026
GDP1	1.1086663	0.2571740	4.3109574	0.000
PM1	-0.2949853	0.0304944	-9.6734256	0.000

R-squared	0.906052	Mean of dependent var	2.316703
Adjusted R-squared	0.895000	S.D. of dependent var	0.208775
S.E. of regression	0.067651	Sum of squared resid	0.077803
Durbin-Watson stat	1.930374	F-statistic	81.97585
Log likelihood	27.11429		

MI1 = Log(Imports of Goods & Services)

GDP1 = Log(GDP)

PM1 = Log(Price Index of Imports)

SMPL 1970 - 1988
19 Observations
LS // Dependent Variable is REX1

VARIABLE	COEFFICIENT	STD. ERROR	T-STAT.	2-TAIL SIG.
C	-0.6754367	1.5114211	-0.4468885	0.661
OECD1	0.5169932	0.2012527	2.5688758	0.021
PX1	-0.3388527	0.0742294	-4.5649394	0.000

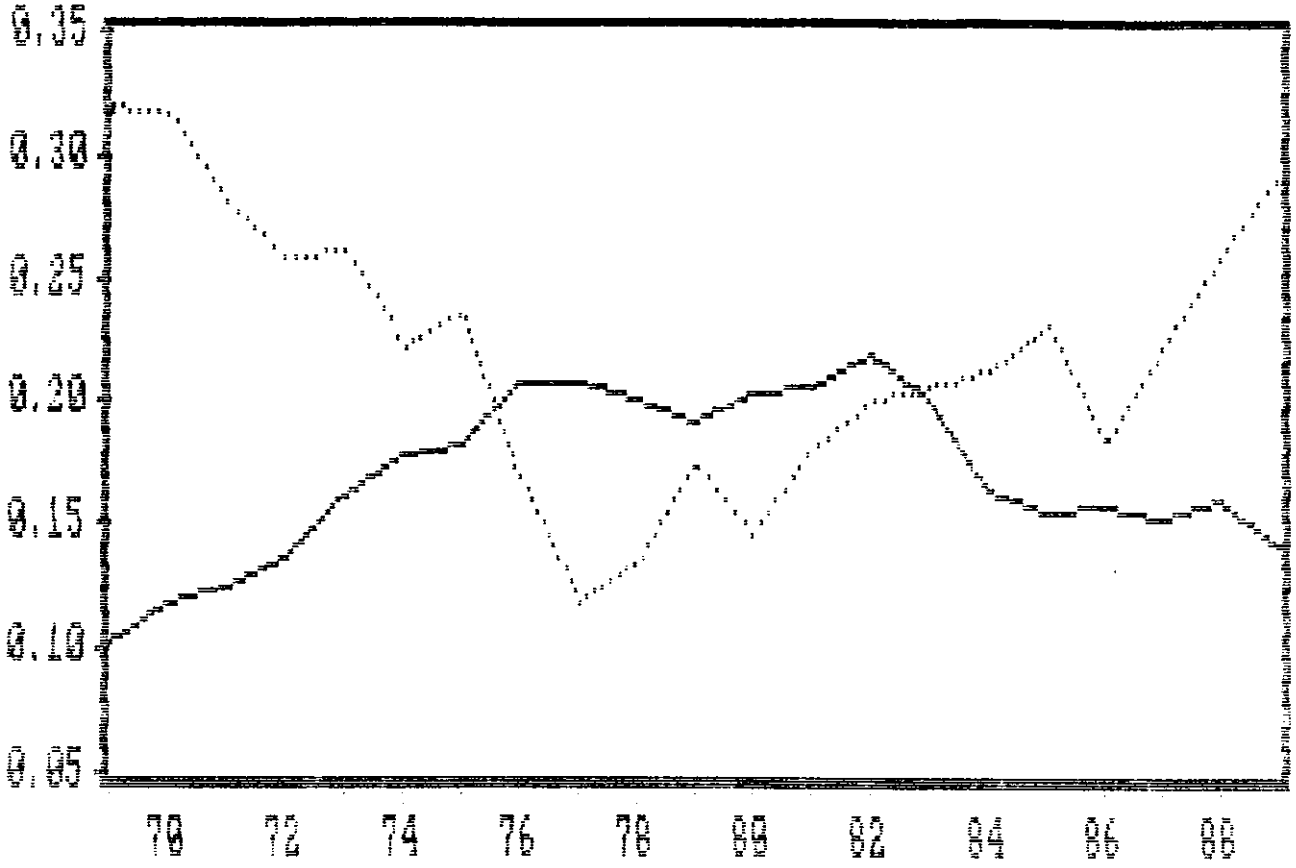
R-squared	0.631350	Mean of dependent var	2.365566
Adjusted R-squared	0.585269	S.D. of dependent var	0.108200
S.E. of regression	0.069680	Sum of squared resid	0.077685
Durbin-Watson stat	1.854345	F-statistic	13.70079
Log likelihood	25.28571		

REX1 = Log(Exports of Goods & Services)

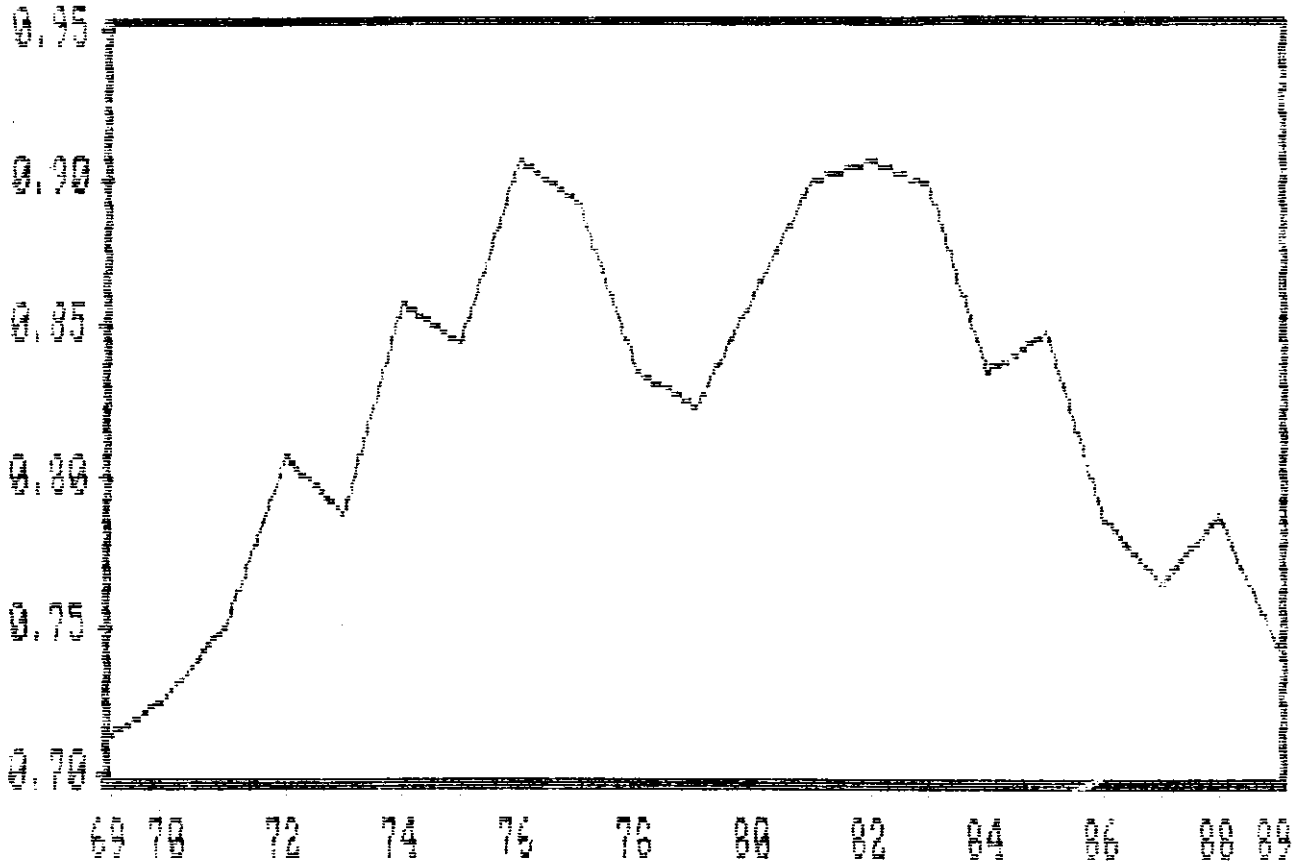
OECD1 = Log(GDP of OECD Countries)

PX1 = Log(Price Index of Exports)

RATIO : GOVERNMENT CONSUMPTION TO GDP VS GROSS FIXED CAPITAL FORMATION (1969 - 1989)

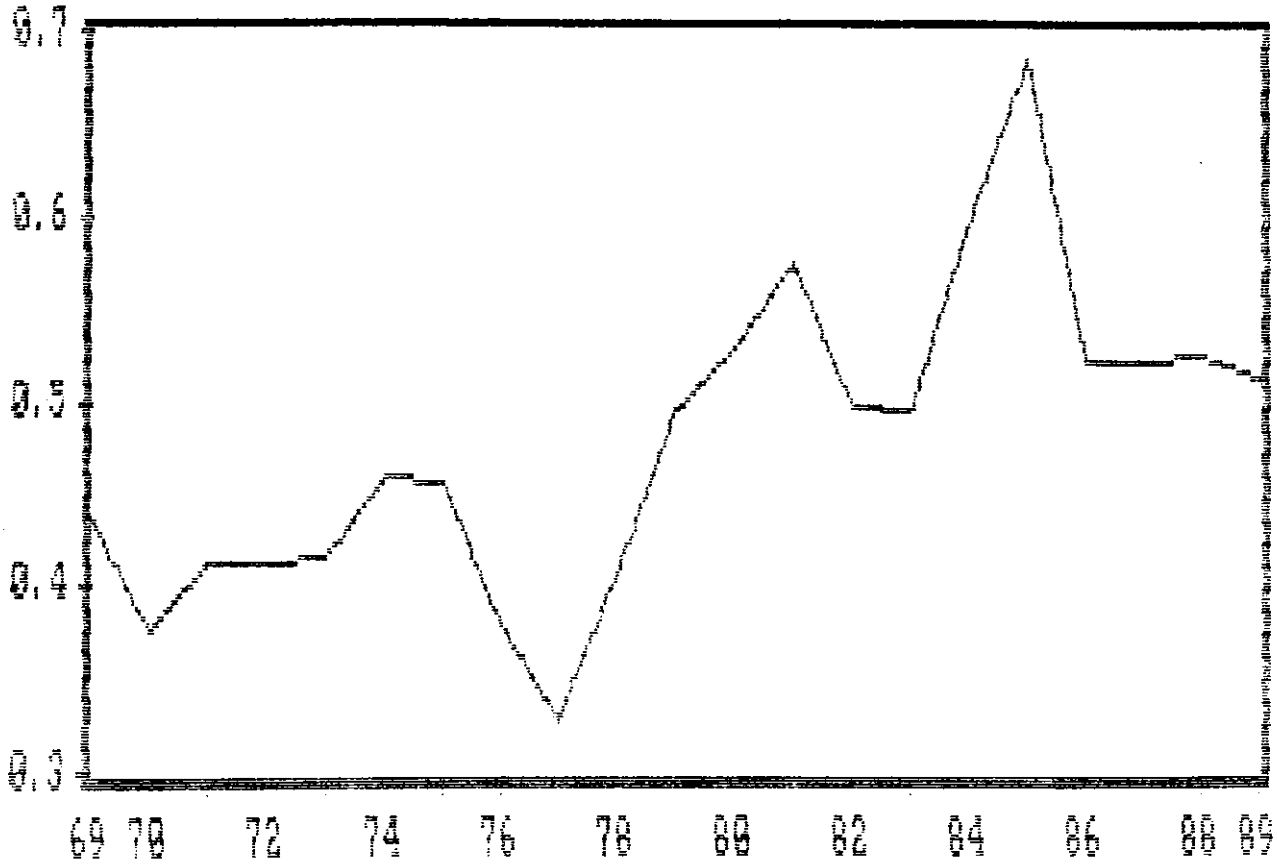


RATIO : FINAL CONSUMPTION TO GDP

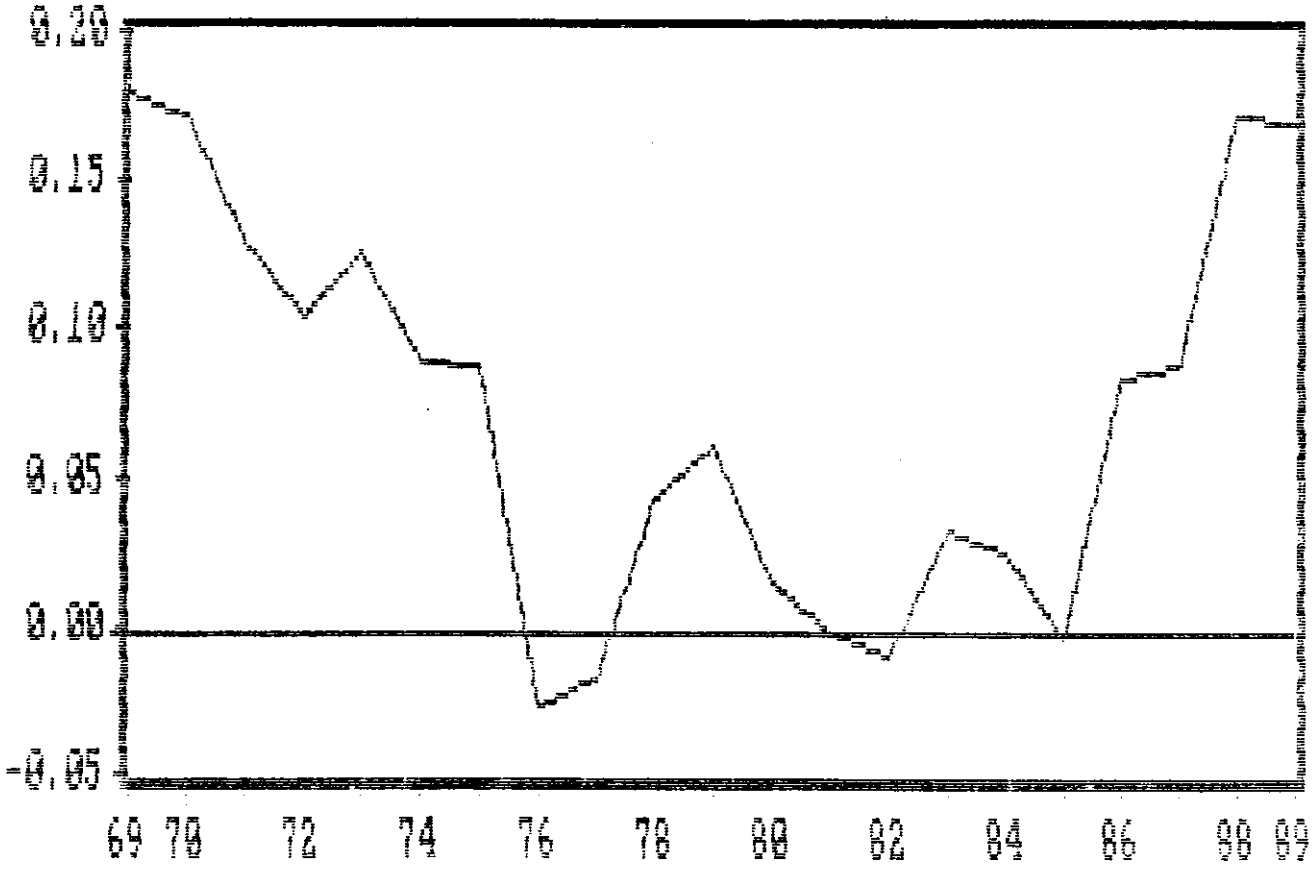


RATIO : EXPORTS OF GOODS AND SERVICES TO GPD
(1969 - 1989)

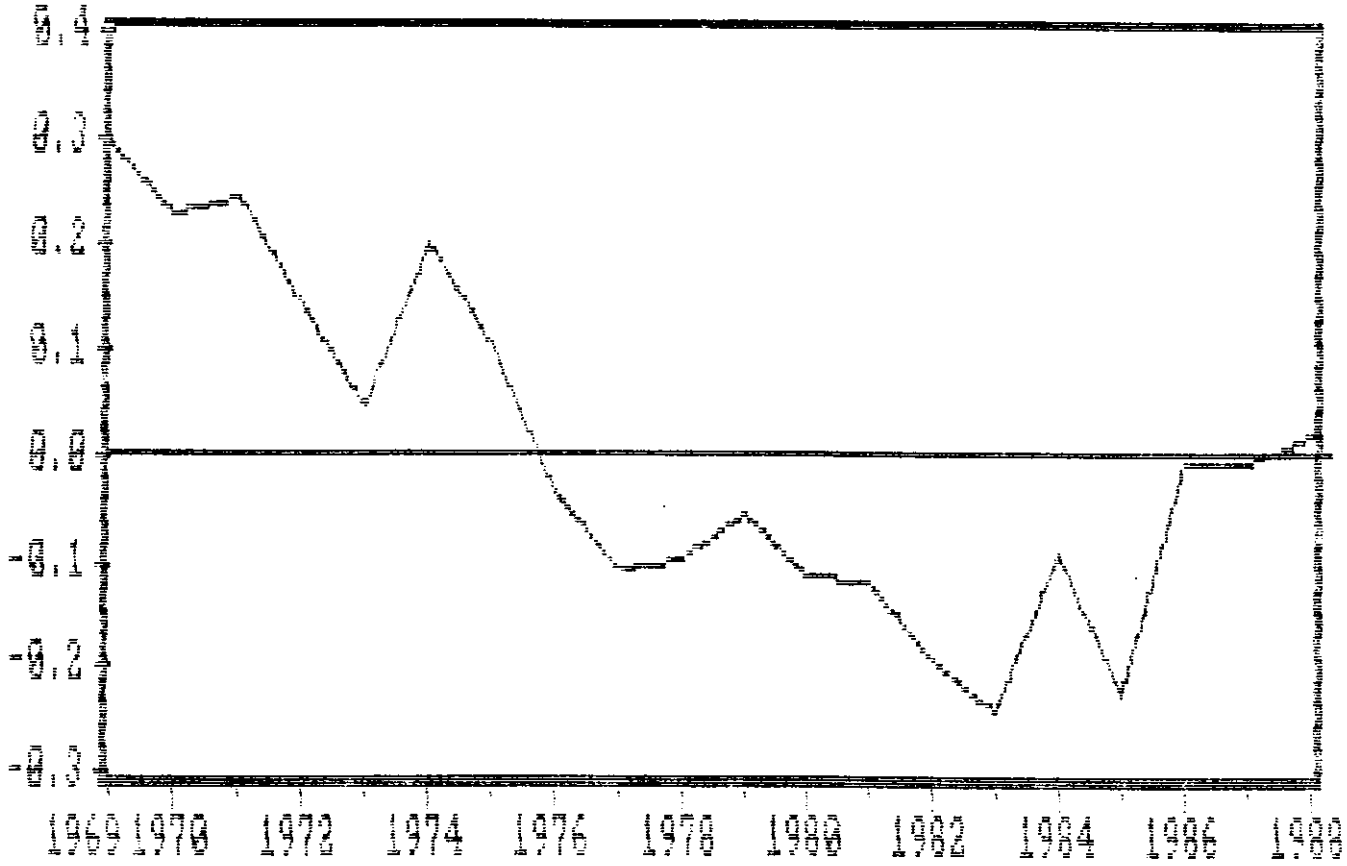
RATIO : IMPORTS OF GOODS AND SERVICES
(1969 - 1989)



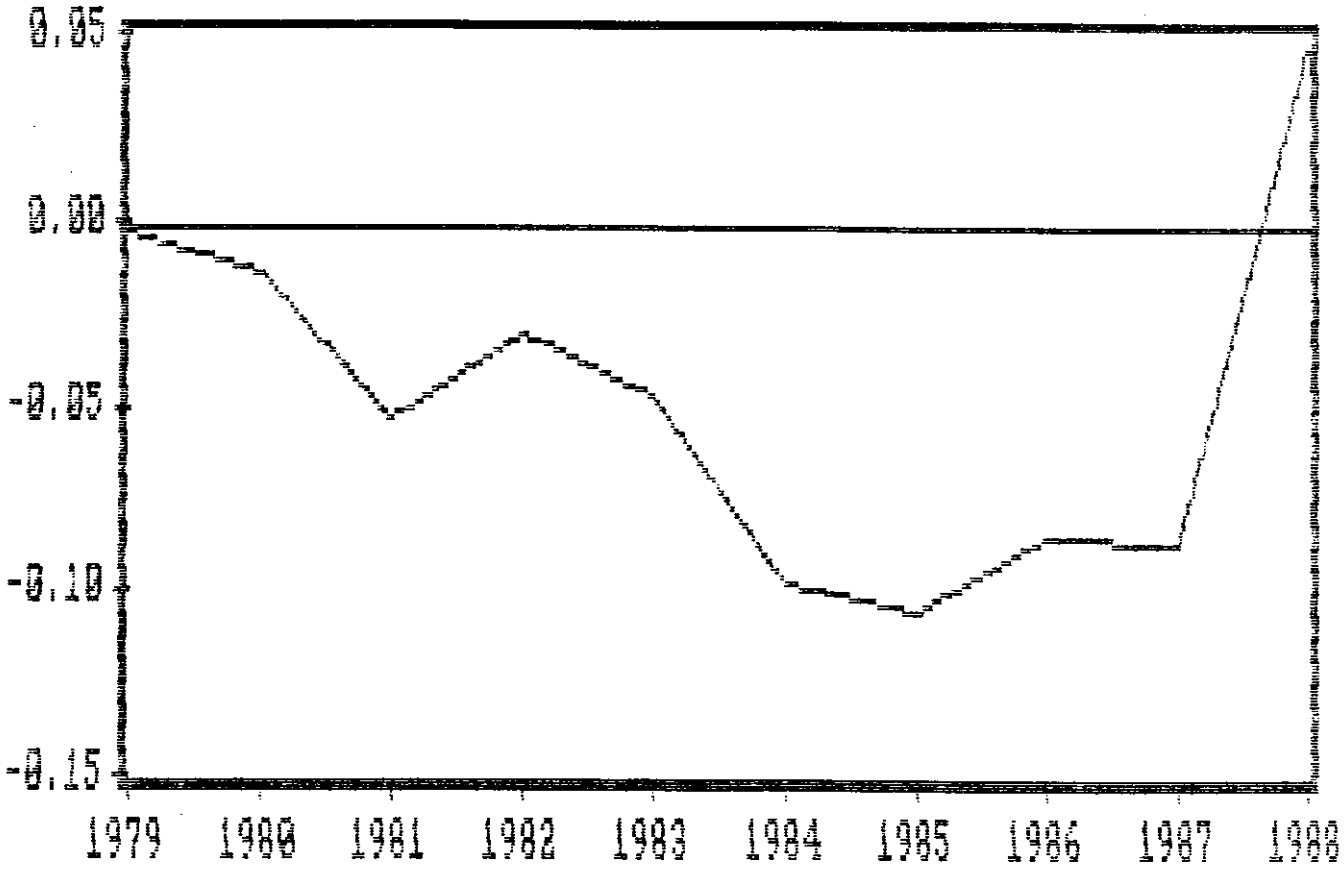
RATIO : NET SAVING TO NATIONAL DISPOSABLE INCOME
(1969 - 1989)



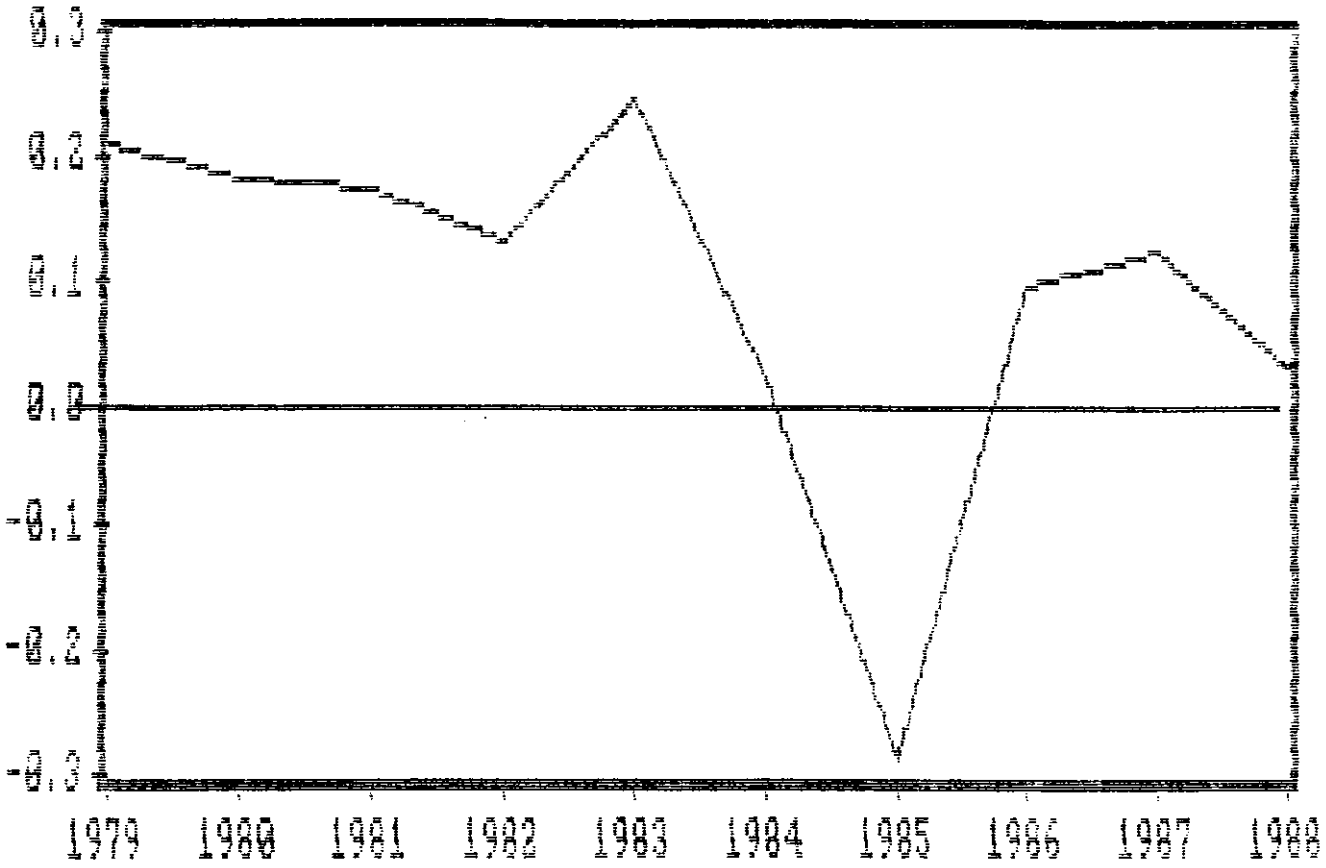
RATIO : SAVING OF GOVERNMENT TO CURRENT RECEIPTS OF GOVERNMENT (1969 - 1988)



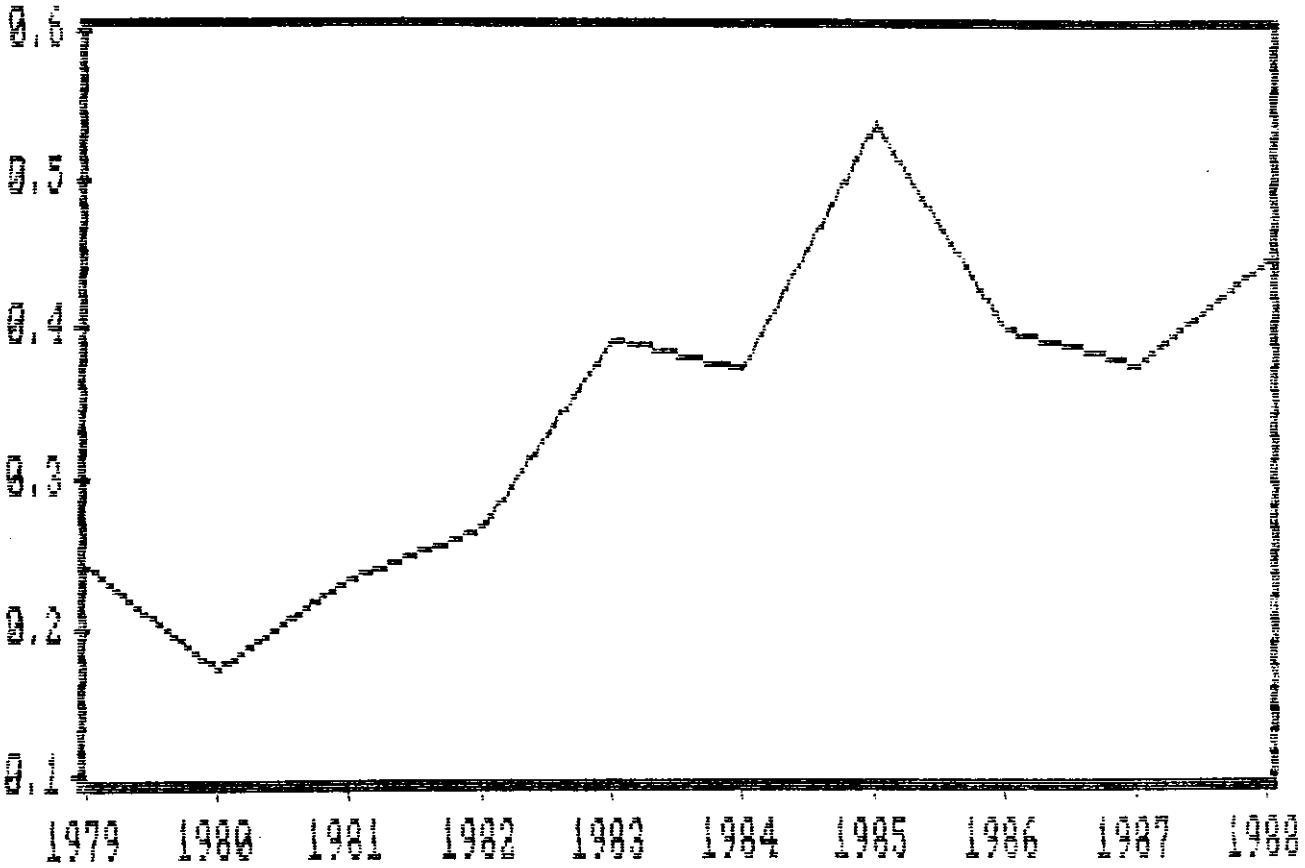
RATIO : SAVING HOUSEHOLDS AND UNINCORPORATED BUSINESS TO RECEIPTS (1979 - 1988)



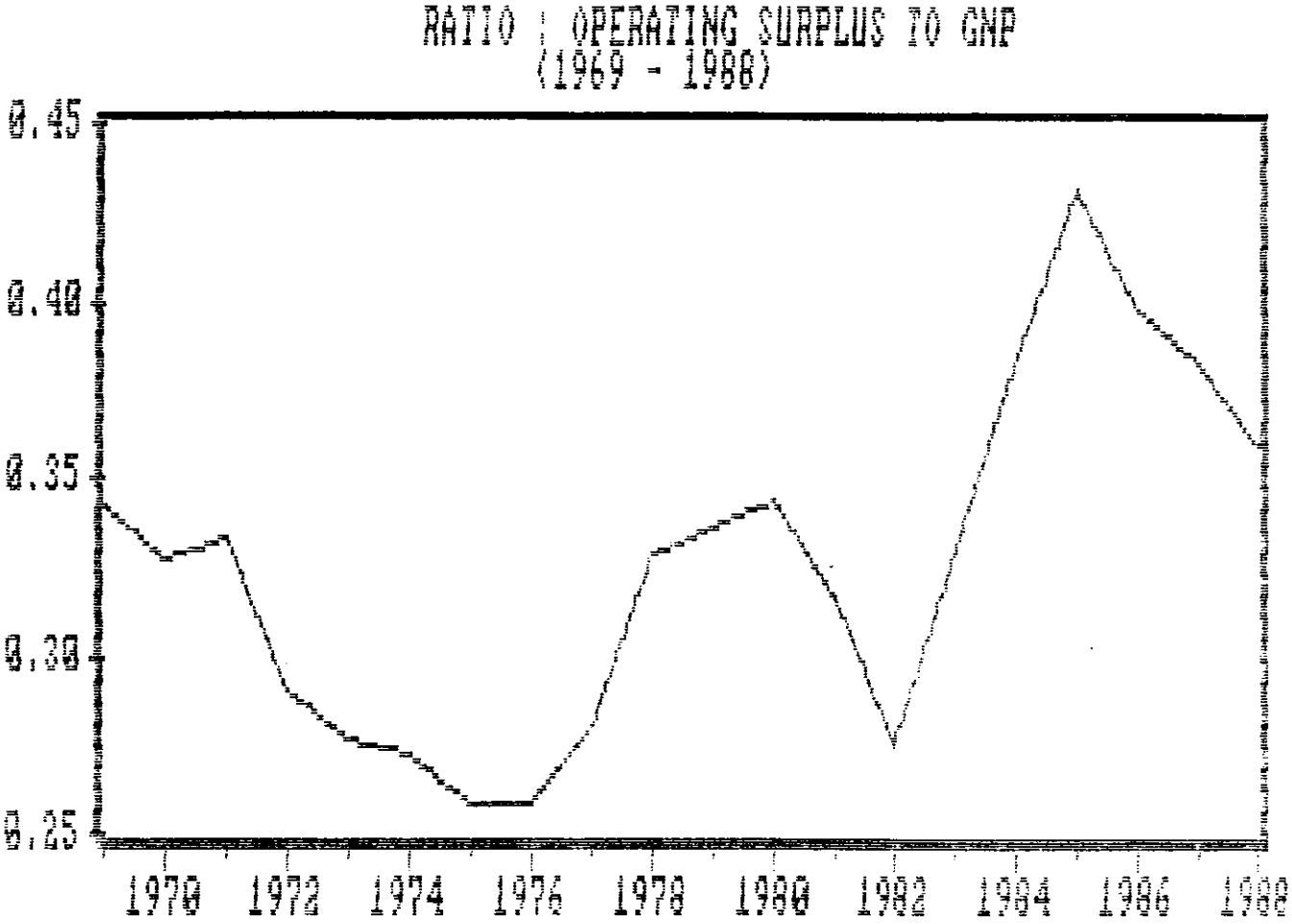
RATIO : SAVING FINANCIAL INSTITUTIONS TO RECEIPTS
(1979 - 1988)



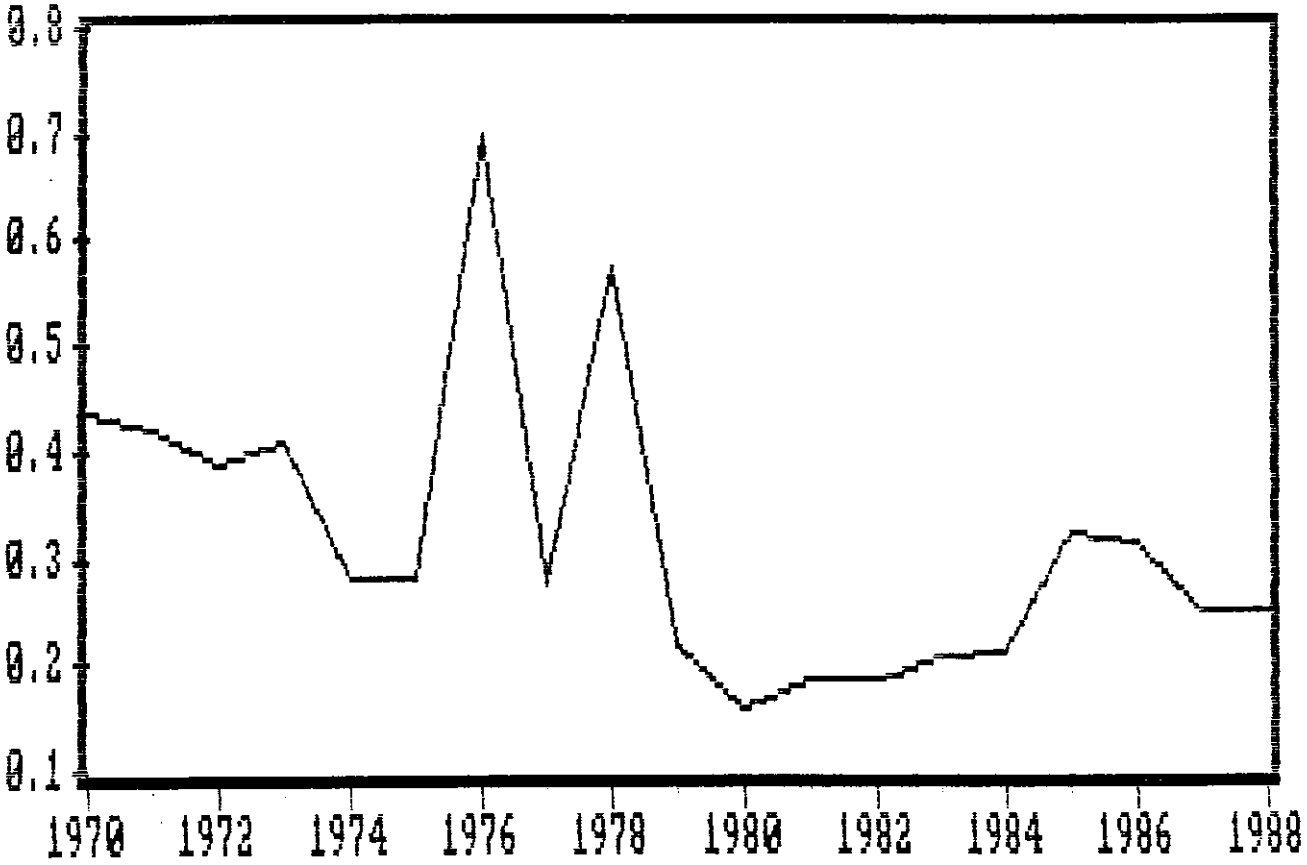
RATIO : SAVING NON-FINANCIAL ENTERPRISES TO RECEIPTS
(1979 - 1988)




RATIO : COMPENSATION OF EMPLOYEES TO GNP
(1969 - 1988)
0.600
0.575
0.550
0.525
0.500
0.475
0.450
1969 1970 1972 1974 1976 1978 1980 1982 1984 1986 1988


RATIO : OPERATING SURPLUS TO GNP
(1969 - 1988)
0.45
0.40
0.35
0.30
0.25
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988

RATIO : DEBT SERVICE PAYMENTS TO EXPORTS OF GOODS AND SERVICES (US$), 1970 - 1988



RATIO : TOTAL EXTERNAL DEBT TO GDP
(1970 - 1988)