

Resolving the Supposed “Puzzle” of Low Growth Rate and High Investment Rate in the Jamaican Economy

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1.0 The Problem and a Proposed Solution

A number of authors have pointed to a supposed “paradox”, “anomaly” or “puzzle” concerning the persistence of a low growth rate of GDP in the Jamaican economy accompanied by an apparently high rate of capital investment. In the absence of an acceptable resolution of this problem, it remains an open question as to what set of economic policies might be considered appropriate and necessary to deal with the economic situation prevailing in the country today.

This paper seeks to provide an explanatory framework that helps to resolve this seeming puzzle. The broad aim is to place the discussion of this problem on a more rigorous analytical level and, at the same time, to sharpen the focus on the policy issues involved.

Accordingly, the paper presents an analysis that identifies a specific set of conditions which may account for the coexistence of slow growth and high investment as a necessary outcome of those conditions. Simply stated, the answer to the puzzle proposed here is that the *effective rate* of investment is lower than it might appear to be from observing the *measured rate* of investment, and lower than it could conceivably be under ideal conditions. It is argued that this result is not only, if at all, the possible consequence of measurement errors but also, and more importantly, the consequence of specific, identifiable, and quantifiable conditions prevailing in the economy. In particular, these conditions are: (a) the chronic state of fiscal imbalance, (b) underutilization of productive capacity, (c) economic waste of capital, and (d) concentration of capital investment in highly capital-intensive sectors and economic enclaves.

On this basis, the analysis provides some key indicators for focusing policy geared to improving growth performance of the Jamaican economy.

2.0 Capital Investment as the Driver of Economic Growth

In approaching this issue, it is necessary to start from a base of conceptual clarity grounded in a relevant theory of the growth process. In this connection, it must be noted that the basic and implicit assumption which motivates the notion of a puzzle in the record of Jamaica’s economic-growth performance is the idea that there exists a positive functional relationship between the growth rate of output and the rate of investment. Accordingly, we may write this function as

$$(1) \quad g_y = f(s), \quad f' > 0$$

where g_y = growth rate of output (Y), and s = investment share of output (I/Y). Thus, a high investment rate is necessarily associated with a high growth rate of output.

This assumption, now made explicit, can then be seen to be compatible with any theory that yields such a function as an essential element of its internal logic.

It follows that we must therefore rule out any relevance of the well known and widely applied neoclassical growth model. That model, in its canonical form, asserts that the growth rate of output, in long-run equilibrium, is uniquely related and equal to the growth rate of the labour force. In the extended model with “technical progress”, the equilibrium growth-rate equals growth rate of the labour force plus the (exogenous) rate of technical progress. The growth-rate of output is thus conceived to be strictly independent of the rate of investment in this model.

In contrast, it is possible to find such a functional relation as equation (1) in post-Keynesian models developed from early contributions of Harrod and Domar.¹ That function may be expressed as

$$(2) \quad g_y = sv + z$$

where v is the output/capital ratio (Y/K), and z is the growth-rate of labour productivity.

Adopting this specification allows us to gain an immediate initial insight into the problem at issue. In particular, as one possible explanation of the puzzle, it could be argued that perhaps the growth rate of labour productivity is negative ($z < 0$) and large enough to significantly offset the positive contribution of investment ($sv > 0$) and reduce the corresponding growth rate of output.

Some studies have reported a negative growth rate of labour productivity for the Jamaican economy. However, it is implausible to suppose that, in the presence of significant accumulation of capital (high investment rate), labour-productivity growth could be negative and large enough to make such a big difference in terms of overall output growth. This is because capital accumulation is itself typically associated with positive labour-productivity growth, for familiar reasons, well established in empirical studies, related to product and process innovation, organizational improvements in production and supply-chain management, learning effects among workers and managers, investment in education, and the like.² This association entails

¹ Such a relation is also implied but not formally stated in the acclaimed development theory of Arthur Lewis.

² This is to say that labor productivity is dependent, not just on “learning by doing”, i.e. on experience (as proposed in the theory of Kenneth Arrow, much earlier by Adam Smith, and supported by numerous empirical studies), but on active engagement with the specific instruments, training, formal education, workplace organization, and institutional setting of the labor process, which capital investment by private firms and government provides. It is this interactive effect between capital investment and labor productivity that is being emphasized here, an effect which is suppressed in the commonly used Solow-growth-accounting scheme based on the simplistic concept of an aggregate production function with independent and separable inputs of capital and labor and exogenously determined “technical progress”. Neoclassical models of “endogenous growth” adopt specifications based on this association between capital accumulation and labor productivity growth. However, they also typically assume other conditions, such as full employment of labor, full utilization of capital, and efficient markets, that are essentially

that, in equation (2), the variable z is itself functionally dependent on the rate of investment, thus making the rate of investment the “high powered variable” that determines the growth rate of output. That, in turn, would suggest that the report of negative productivity growth is itself problematic and, hence, is very much a part of the same supposed “puzzle”, not an explanation of it.

Alternatively, as another explanation of the puzzle, it could be argued that the Jamaican economy has such an abundance of capital as to be undergoing severely diminishing returns to capital (implying significant decline in v). This, on its face, would be readily recognized as a thoroughly unfounded and highly improbable idea.

So, something else must be at work here. In what follows, I focus attention on capital investment itself, regarded as the “high-powered variable” determining the growth of output. I propose that there are specific, operative factors, operating in and through the investment process, which depress the levels of saving, investment, and output below what they would otherwise be. These factors account for the persistence of slow growth even though the investment rate, however measured, may appear to be high.

3.0 The Rate of Capital Accumulation: Definition and Measurement

To proceed, it is useful to employ the standard accounting framework that identifies components of national output (Y) in terms of both income and expenditure in an open economy with a tax-and-spend public sector. Thus:

$$\begin{array}{ll}
 (3) & Y = C + G + I + X - M & \} \text{ C = private consumption} \\
 & & \} \text{ G = public expenditure} \\
 & & \} \text{ I = investment} \\
 (4) & Y = C + S + T & \} \text{ X = exports} \\
 & & \} \text{ M = imports} \\
 & & \} \text{ S = saving} \\
 & & \} \text{ T = tax revenue}
 \end{array}$$

It follows that:

$$(5) \quad s = I/Y = [S - (G - T) - (X - M)] / Y$$

Thus, investment is determined as the sum of three basic components: national private saving, S , public sector budget deficit/surplus, $(G - T)$, and foreign capital inflow/outflow (equivalent to the trade deficit/surplus), $(X - M)$.

The rate of capital accumulation is then defined as:

incompatible with the analytical framework employed in this paper, besides being highly questionable in terms of empirical relevance to the Jamaican economy.

$$(6) \quad r_a = I/K = \{[S - (G - T) - (X - M)] / Y\} \cdot (Y/K) = sv$$

Let r_a be the *measured rate of accumulation*, corresponding to the actual, empirically measured value of all the variables considered as aggregates for the whole economy (data provided, say, by STATIN). I return later to the question of possible measurement errors in the data. Meanwhile, it is readily apparent from this formula that there is lots of room for such errors to occur.

Now, introduce two additional variables, defined as follows:

Y^* = Total output produced by full utilization of resource inputs (labor, capital, and land)

K^* = Total capital evaluated at “efficiency prices” (equal to “real cost” of production plus profit at the normal rate) and taking account of depreciation at the normal rate.

Extending equation (6) by inclusion of these variables and factoring yields a new expression:

$$(7) \quad r_e = s \cdot v^* \cdot u \cdot k$$

where

$v^* = (Y^*/K^*)$ = output/capital coefficient at full utilization of productive capacity;

$u = (Y/Y^*)$ = rate of utilization of productive capacity, $0 \leq u \leq 1$;

$k = (K^*/K)$ = rate of efficiency in use of capital, $0 < k \leq 1$.

Call r_e the *effective rate of accumulation*. Here, the variables v^* , u , and k are to be interpreted as “modifiers” which, depending on their actual value, drive a wedge between r_a and r_e .

Finally, define the *ideal rate of accumulation*, represented by the following equalities:

$$(8) \quad r^* = s^* \cdot v^* \cdot u^* \cdot k^*$$

where

$s = s^* \rightarrow G - T = 0$ (fiscal balance prevails);

$u^* = (Y/Y^*) = 1$ (full employment of productive inputs prevails);

$k^* = (K^*/K) = 1$ (“economic waste” of capital is eliminated).

Using this set of relations, I can now state rigorously the following proposition:

$$(9) \quad r_e < r_a < r^*$$

Evidently, this proposition holds under the following specific inequality conditions:

$$G - T > 0; u < 1; k < 1.$$

This is the basic proposition derived from this analysis. It points the way to a solution of the growth puzzle and, in addition, provides a useful guide to deal with the question of a growth policy for Jamaica.

4.0 Resolving the Puzzle

The preceding analysis points clearly to a set of conditions which could explain the apparent coexistence of slow growth and high investment in the Jamaican economy and thereby resolve the supposed puzzle.

The proposed resolution is as follows. For explanatory purposes, the key determining factor in the growth of output is the *effective rate of accumulation*, r_e . As shown in the previous section, this number is less than the *measured rate of accumulation*, r_a , and lower still than the *ideal rate of accumulation*, r^* . What accounts for this difference is precisely the set of conditions identified here that are assumed to be operating in the economy. It follows that, by correctly identifying and specifying the relevant variables that define the effective rate of accumulation, as in equation (7), this should yield a corresponding growth rate of output that is consistent with prior presumptions about the functional relation between capital investment and growth.

In the language of econometrics, what is being said here is that the “puzzle” originates from an *identification problem* in the (implicit or explicit) estimated growth equation. It is therefore resolved by correct specification of that equation. This problem is separate and distinct from any problem of “measurement errors” in the data used for estimation. It would also occur even in the absence of such errors.

However, the existence of measurement errors cannot be ruled out as an additional factor accounting for the supposed puzzle. Matching of the relevant ratios and other magnitudes defined here with empirical data would pose serious challenges for research in any context, and no less so in the context of the Jamaican economy. This leaves plenty of room for such errors to occur.

It is not my purpose here to try to take on these empirical challenges. For now, I leave it to others to pursue the task of doing a proper econometric estimation of the appropriate growth equation for Jamaica. Instead, I wish to focus on the policy implications of this analysis.

5.0 Useful Indicators for Economic Policy in Jamaica

Moving on, consider now the meaning and relevance of each of the conditions identified here in the specific context of the Jamaican economy. I propose that these conditions provide useful indicators for prioritizing and focusing a policy to promote economic growth in this context.

(a) $G - T > 0$

This condition is perhaps the most straightforward, widely recognized and discussed, with the most readily available data. It represents the chronic state of fiscal imbalance, consisting of a deficit in the financing of general government expenditure, that has been a persistent feature of the Jamaican economy over many years, notably in the period since 1996/97 (see data in Figure 7.1). Averaging 5% of GDP during that period, it has exercised a substantial influence on the investment process.³

Viewed from the standpoint of national saving, the public sector deficit constitutes a leakage from the available pool of saving. Since a large part of the deficit (50-60 percent on average) is financed by foreign borrowing, it has been a major conduit for foreign capital inflow while drawing from scarce foreign exchange earnings to service a growing foreign debt. It has served also to draw private domestic saving into financing riskless government paper and away from investment in production. Total debt service has come to dominate government expenditure, reducing sharply the room for financing public investment (see Figure 7.2). Private investment has also been negatively impacted, by being crowded out of the capital market and paying a higher cost of capital, and by deterioration in public services (infrastructure, education, security, health, etc.) that provide positive externalities to support private investment.

(b) $u = Y/Y^* < 1$

This condition represents underutilization of productive capacity. Viewed narrowly, it refers to underutilization of available capital consisting of physical plant, equipment and materials, hence is reflected in a lower output-capital ratio. Viewed more broadly, it would encompass underutilization of other productive inputs: labor and available arable land and land-based resources such as minerals, rivers, etc.

All such underutilized resources represent idle capacity which, if brought into efficient production, could increase national output. Idle capacity thus constitutes a drag on output and the growth rate of output, both directly in terms of ongoing levels of production with existing resources and indirectly by reducing the incentive of firms to invest in additional productive capacity. Casual observation suggests that this is a prominent feature of the Jamaican economy, appearing for instance in the form of idle physical plant and land in the bauxite and sugar industries, idle land generally in agriculture, single-shift operation, stoppages and reduced hours of work in manufacturing and service industries, abandoned buildings and property in urban areas.

The key problem underlying this condition, I would argue, is a matter of supply-side constraints arising from deficiencies and distortions in the existing structure of economic incentives (risks, rewards, costs, externalities) that drive entrepreneurial decision-making. It is not simply a matter

³ Further analysis of the public debt strategy pursued in the past in Jamaica is presented in my papers: "Jamaica's debt-propelled economy: a failed economic strategy and its aftermath," SALISES Working Paper Series No. 1, UWI, 2010; "Dynamics of the debt-propelled economy: the D-factors in Jamaica's poor economic performance," 2009.

of deficiency of aggregate demand, as would appear from applying a simplistic demand-oriented theory.⁴

(c) $\underline{k = K^*/K < 1}$

This is a measure of what might be properly called economic waste of capital. K^* is the “true” value of invested capital, using the most efficient technique of production, evaluated at its reproduction cost, and allowing for normal depreciation. K is the actual value of invested capital, evaluated in terms of its actual cost of construction and current operation (maintenance and repair). I maintain that, typically in Jamaica, the difference between the two quantities is such that $K^* < K$.

A variety of factors account for this difference: excessive construction costs (“cost overruns”) due to poor quality of construction work, costs of providing security on site, kickbacks of various sorts from contractors to off-site agents, excessive post-construction costs of repair and maintenance due to abnormal “wear and tear” (whether from neglect or actual use), and cost of security (“protection”) for current operation.

(d) $\underline{v^* = Y^*/K^*}$

This is a measure of the overall output/capital ratio for the economy as a whole, evaluated at full utilization with “efficiency” prices. In some simple models, it is represented as a technological relation or production coefficient. But more generally, and in the current context, it is strictly conceived as the weighted average of the output-capital ratios prevailing in the different sectors of the economy, each with its own distinct conditions of production and use of capital. As such, it is a summation of the sectoral structure of the economy.

In practice, the output/capital ratio tends to vary widely between sectors. The weights depend on the size of the different sectors in terms of output and/or invested capital and, hence, this average (as well as other measures of overall economic performance) is heavily weighted towards prevailing conditions in the larger sectors. If, as is often the case, the larger sectors have lower output/capital ratios, this pulls down the average ratio and correspondingly lowers the overall growth rate for any given investment rate. Furthermore, if and when the larger sectors in terms of capital are growing, their investments would count for more in the aggregate, thus pushing up the overall investment rate for the whole economy while, at the same time, pulling down the overall growth rate because of their lower output-capital ratio. For these reasons, one could well find consistency between a high rate of investment and a low growth rate of output.

⁴ See “Assessment of the constraints to economic growth in Jamaica,” in Chapter 8 of this report. The more general problem of the overall “system” of incentives that prevails in the Jamaican economy is discussed in my paper: “The Jamaican economy in the twenty-first century: challenges to development and requirements of a response,” in Planning Institute of Jamaica, *Jamaica, Preparing for the Twenty-First Century*, Ian Randle Publishers, Kingston, 1994, pp. 13-52.

In Jamaica, the Bauxite & Aluminium and Transport & Communications sectors are at one extreme end of the sectoral distribution of output/capital ratios, with their large size of invested capital and correspondingly low output/capital ratios relative to the rest of the economy. Since the early 1990s, growth of the overall economy has been strongly influenced by the pattern of investment in these two sectors and this is likely to have been a contributing factor to biasing downwards the overall growth rate and biasing upwards the overall investment rate.

While the output/capital ratio is a useful tool for representing aspects of the structure of the economy, it is of limited value as a mere aggregate. For a deeper analysis and understanding of the economic structure it would be necessary to deploy other and more capable tools, such as input-output analysis, which better quantify the prevailing inter-sectoral linkages and enable concrete identification of “clusters” of economic activity for designing targeted growth policy. For instance, it has long been recognized that there are significant opportunities in Jamaica for building such linkages among the cluster of economic activities in tourism, agriculture, entertainment, sports and local services, which would create a basis for efficient import substitution as well as export growth and diversification. Failure to fully realize that potential, due to concentration of investment in economic enclaves, has been a significant factor retarding growth of the economy.

6.0 A Growth-Strategy of “Closing the Gap”

Consider, finally, the question of a growth strategy appropriate to the above-described conditions.

In the context of these conditions, and taking account of the analysis presented here, it would be natural and meaningful to conceive of the overall policy objective as closing the gap between the effective rate of accumulation, r_e , and the ideal rate of accumulation, r^* (as defined above in equations (7) and (8)). The size of the gap between r_e and r^* is a measure of the distance to be covered in implementing the policy. Progress towards achieving the policy objective is measured by success in dealing with the individual conditions represented by the proposed indicators.

As to the matter of prioritization within the strategy, one essential component that immediately pops up from this analysis is fiscal consolidation aimed to deal with the prevailing chronic state of fiscal imbalance. This is evidently consistent with aspects of the current focus of economic policy in Jamaica.

However, as a direct fallout from the analysis presented here, it must be emphasized that, while this component is a necessary ingredient of a growth strategy, it is obviously not sufficient. It would also be necessary to include other components that address specifically the other conditions identified here, represented by (b) underutilization of productive capacity, (c) economic waste of capital, and (d) the unbalanced sectoral structure of the economy.

7.0 On Formulating a Growth Strategy for Jamaica

The actual situation that prevails in the Jamaican economy today is one of, let us be frank, an inherited condition of nearly 40 years of relative economic stagnation (as measured by official statistics of growth of aggregate output and employment and other qualitative indices) in the context of a dynamic world where rapid changes on a global scale, in production, technology, and economic organization, have left the country far behind even those countries which it led or equalled half a century ago.

The analysis presented here indicates that this historical underperformance of the economy can be explained as the direct consequence of specific, identifiable, and quantifiable conditions operating in the economy and through the process of capital investment. In particular, these conditions are: (a) the chronic state of fiscal imbalance, (b) underutilization of productive capacity, (c) economic waste of capital, and (d) concentration of capital investment in highly capital-intensive sectors and economic enclaves.

It is presumed that these conditions, in turn, are associated with a number of dysfunctional pathologies and systemic constraints, operating as both cause and effect in a complex mutual interaction with the investment process. These factors are enumerated in Chapter 8. The mutual interaction of these factors with the investment process constitutes a self-reinforcing dynamic that produces an ongoing state of inertia manifested in the underperformance of the economy.

This effect is compounded over time because the history of continued economic underperformance leaves behind a legacy of perception by stakeholders in the economy of limited opportunities for change and advancement and a system of incentives and disincentives, considered by many to be biased and unfair, that is conducive to allocative inefficiency, speculative risk-taking, Ponzi schemes, and illicit enterprise. This legacy acts as a kind of deadweight, imposing itself on economic activity in the country, along with whatever adverse exigencies (such as the current global recession and recurrent natural disasters) may exist at any particular moment. I call this legacy the deadweight of history. In this sense, history matters, and it matters in specific and decisive ways.

The existence of idle resources in this particular context is the reflection of long-standing failure of the Jamaican economic engine to adapt to changing conditions. The diverse resources referred to here (land, labor, capital) are only latently available and potentially productive. There is no presumption that they can be immediately and costlessly deployed from their existing state of disuse and disrepair into efficient production under modern conditions of international competition. Neither can reliance on the typical menu of subsidies, waivers, and demand stimulus be sufficient to magically produce the required transformative effect. They must be brought into efficient production by an active and creative process of mobilization driven by an entrepreneurial profit-seeking private sector in partnership with a state that proactively provides the enabling environment and political leadership.

The policy problem that this presents can only be simplistically and naively construed as one of re-allocation of pre-existing and fixed resources or, worse, one of moving the economy from unemployment to a supposedly pre-existing position of full employment of those same resources.

Rather, the problem must be construed as one of moving the economy from its initial state of chronic stagnation and inertia, through a time-phased process of transition, to a state of sustained growth.

At its core, it is a problem of transformation and modernization of the economy that must be engaged systematically and strategically, with a sharp focus on addressing the prevailing initial conditions (obstacles, constraints, opportunities) and putting in place the requirements for making the transition. Or, by useful analogy, it is a problem of cranking up an economic engine that is old, rusty, creaky and slow, and needs to be refitted and recharged with modernized moving parts to cope with the requirements of a new race running against better equipped, high-performance, modern engines.

The state has a significant and necessary role to play in this process, specifically with respect to (a) meeting its core responsibility for efficiently providing collective services (including the social safety net), (b) remedying market failures associated with the spillovers and externalities inherent in production and technological change, (c) remedying problems of coordination, risk, and uncertainty intrinsic to investment activity, and (d) capturing dynamic allocative efficiencies in education and training of the labor force and in research and development. In general, this inference about the role of the state is supported both by economic theory and by empirical evidence from the history of the advanced economies, from the more recent history of the emerging economies, and from our own history.

However, in Jamaica's case, it is also evident that the state itself, through its own actions, has contributed in many ways to the continued underperformance of the economy, in particular by creating market distortions, allocative inefficiencies, avenues for rent-seeking, and corruption. Accompanied as they are by a lack of transparency guarantees and of clearly articulated and sanctioned boundaries of the state, such actions and their outcomes tend to become an endemic and dysfunctional feature of governance. Nowhere is such failure of governance more evident than in the lack of fiscal discipline which accounts for the large accumulation of public debt that now severely restricts the options for promoting growth and development in the economy. In order to improve the outcomes of state intervention in the Jamaican economy, it is therefore deemed necessary to institute a systematic program of reform of the public sector.

The private sector also has its own well-defined role in this process. Within the space of entrepreneurial decision-making, managerial control and property rights occupied by individual firms, the private sector exercises command over the production and investment process. In this respect, it is properly conceived as the main driver of the process of economic growth and development. However, in Jamaica, the private sector's historical performance in that space over the long haul has been found wanting (as exemplified in the findings of empirical research and international surveys elsewhere reported⁵). Overall, there has been a highly uneven level of achievement among different firms and across different sectors (e.g. manufacturing compared with tourism). Among smaller firms (MSMEs), there are special obstacles and handicaps

⁵ See, for instance, M. A. Ayub, *Made in Jamaica, the Development of the Manufacturing Sector*, World Bank Staff Occasional Papers, Number 31, Baltimore, Md.: Johns Hopkins University Press, 1981, and the surveys discussed in Chapter 8.

(internal and external to those firms), uniquely related to their scale and sectors of operation, that have limited their contribution to the growth process.

As regards the relation between the public and private sector in Jamaica, the character of this relation is judged by some to have been an uneasy one in the past. It is also marked by a form of symbiosis (defined as “clientelism” by scholars who have closely studied the Jamaican experience⁶) which may have served to stymie development of a more dynamic and entrepreneurial private sector and, hence, to inhibit growth of the economy. There is a clear need to reconstitute this relation on different foundations which would allow for a more efficient, collaborative and proactive partnership geared towards promoting transformation of the economy.

Transforming the complex set of structural and behavioural conditions described here constitutes the fundamental challenge that Jamaica faces at this time. This is the challenge that must be overcome in order to set the country firmly and effectively on a path to sustainable growth with social equity. The totality and complexity of the conditions involved, as laid out here, dictate the need for a coordinated, integrated and holistic approach to designing and implementing economic policy. There is no quick fix or one-shot solution. This challenge summons up a needed effort to rethink the nature of policies and programs pursued in the past and to develop new policies and governance procedures designed to achieve better outcomes.

⁶ See Carl Stone, *Democracy and Clientelism in Jamaica*, New Brunswick, USA: Transaction Books, 1980, and Carlene Edie, *Democracy by Default, Dependency and Clientelism in Jamaica*, Boulder: Lynn Rienner, 1991.

Figure 7.1

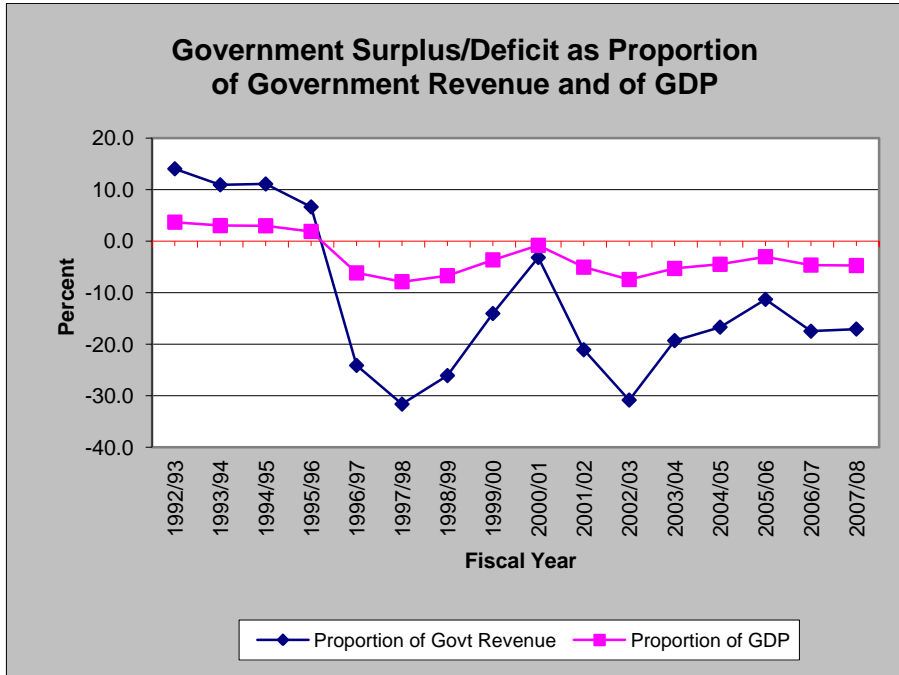
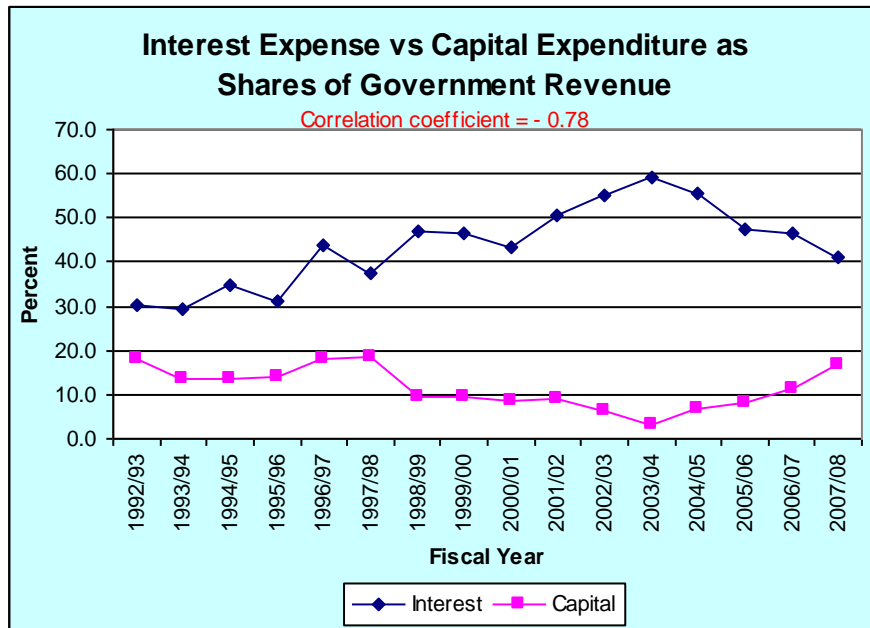


Figure 7.2



Appendix 7A

A Methodological Note

The starting point for analysis of economic policy, in the context of the economic conditions and issues discussed in this paper, is a conception of the economy as a dynamic system wherein growth and change are the result of human motivation and creativity and the process is driven by the profit-motivated production and investment activity of firms large and small in partnership with a proactive state. A proper economic analysis of this situation calls into play all the tools of modern dynamic economic analysis which deal with economic incentives, risk and uncertainty, finance, capital investment, technological innovation, education and training of the labour force, institutional adaptation to change, and the like. Using the tools of static economic analysis found in elementary economics textbooks is bound to lead to confusion and error in both analysis and prescription.

Specifically, application of the old-fashioned notion of a Production Possibility Frontier (PPF) to the issues discussed here involves a fundamental error of economic analysis and is wholly devoid of meaning and relevance from the standpoint of formulating an economic-growth strategy for Jamaica today. The analytical error involved in such an approach would be readily recognized by the student of modern economics as arising from a basic confusion between economic statics and economic dynamics.

For clarification, note that the PPF (see Figure 1) is constructed to deal with an imaginary world (of economic statics) in which resources are fixed, there is no possibility of change, and so the only room for action (in an economy assumed to be operating on the frontier) is to choose between different allocations (A or B) of the fixed resources to producing, say, guns (X1) and butter (X2) – the example that every student is taught in the first economics course. This construction says nothing about the distributional consequences of the choice, or by what conceivable mechanism, if any, the change in allocation could be effected, which in the real world of policy and action would be matters of immediate and serious concern.

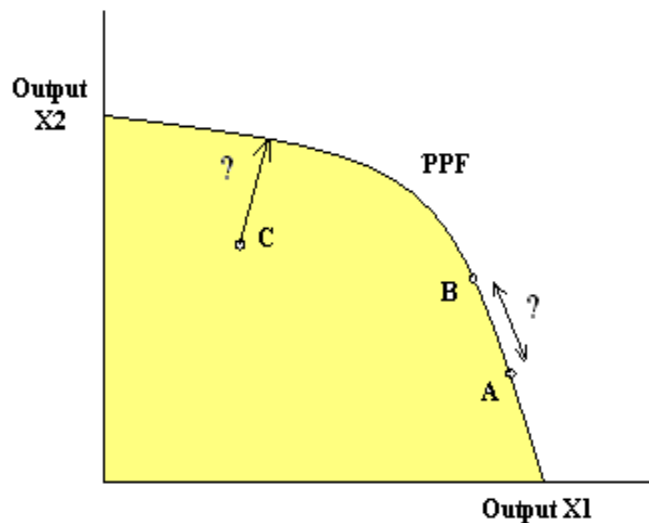


Figure 1. Production Possibility Frontier

Putting these matters aside, and with a sleight of hand, this construction can then be adapted to talk about another imaginary world in which, for some unexplained reason, the fixed resources are assumed to be unemployed (the imagined economy is supposed to be operating “inside the frontier” at C). It can then be posited that there now exists a new problem of getting the economy to full employment of its existing and fixed resources – a problem that, it should be noted, is conjoined with (not separate from) the previous problem of choice of resource allocation. No explanation is provided of why the resources remain unemployed or by what mechanism the economy is supposed to be transported from a condition of unemployment to full employment of those resources. Here again, as before, the construction is notable more for what it leaves out and fails to explain (hence its lack of any real content either of analysis or prescription) than for any practical guide that it provides to understanding any actual situation or to developing economic policy to deal with actual conditions.

