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The Role of the Public Sector in the Provision of Economic Infrastructure

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Introduction

The role of the public sector in the provision of economic infrastructure in the post-independence Commonwealth Caribbean has been rooted both in tradition inherited from the pre-independence colonial practice, and in the political effort in the period just before and after independence to evolve and implement a philosophy for social and economic progress. This essay reviews some aspects of the paths pursued by governments of the Region since independence, and analyses the main issues of public sector performance on the roles assumed, thereby drawing attention to possible lessons from the Region’s experience on economic infrastructure. The approach taken herein is to provide as far as possible, a positive analysis (what was, what is, and what will be) rather than normative (what ought to be), in keeping with the allocation of preparatory work for the 1996 meeting of the Caribbean Group for Cooperation in Economic Development (CGCED).

Pre-independence tradition in the public sector generally conformed to the established norms and practices of the British colonial authorities. This led to mixed economies in the Commonwealth Caribbean in which the essential basis was a pragmatic approach so that services were generally provided by the local administration if and when such services did not attract private investment in the specific colony. Typically and traditionally, public sector economic infrastructure have been roads, water (including sewerage, irrigation and drainage), seaports (in part), airports and public sanitation. These have remained in public ownership, operation and control throughout the post-independence period. Pre-independence tradition in the Commonwealth Caribbean saw electric power and telecommunications utilities by and large, in the private foreign direct investment domain. Some deviations did arise but they were more the exception than the rule in a situation that has had even public passenger transport as direct foreign investment.

The most common exception to this pattern was the provision of the early telecommunications services via the government post office service, also following the British tradition. Some public sector provision of electricity also occurred in the later colonial period e.g., Antigua and Barbuda, Belize and St. Kitts and Nevis, and an isolated system in Western Jamaica during the run up to its independence. (This last was due to Jamaica’s growing internal political autonomy and to utility licenses which did not grant exclusive rights island-wide.) In the Organization of Eastern Caribbean States (OECS), most pre-independence electric utilities were majority owned and operated by a British Crown Corporation, which operates like the private foreign investor in investment banking.

The general features of the evolution of a philosophy and practice for public sector involvement in the provision of infrastructure in the Commonwealth Caribbean can broadly be illustrated by the case of Jamaica which provides a broad cross-section of the issues involved in this process. Each country would have a somewhat different type of post-independence history on this, but those deviations will not be enough to invalidate insights on the broad approach especially for the larger countries in the group, nor the effects that can generally be understood from a brief look at aspects for Jamaica supported by episodic references to other countries in the group, including the
smaller ones. This method will be utilized herein with a bit more than episodes from Barbados which, in some respects, shows a contrast with Jamaica.

**Historical Legacy**

The long-standing economic and social plight in the Commonwealth Caribbean, which led to the wide-spread and historically critical riots of the late 1930s, has quite often conditioned the political approach to these problems even today. Like the 1930s, the immediate pre-independence and post-independence era has seen unemployment as the Region's most intractable problem, with persistent unemployment over 20% being quite pervasive. Associated with this are the issues of poverty, inequality of income and opportunities, and the perceived domination by foreign-owned enterprises of what came to be known as "the commanding heights of the economy." These features were accentuated by the fact that the economic growth of the 1950s and 1960s had little favorable impact on the problems but even showed them up more starkly. That period of growth did, however, put significant stress on infrastructure which was already aged and inadequate. A construction boom, pressed especially hard upon the road system, electric services, telephone and water utilities in the Kingston area. Heavy capital inflows for tourism and bauxite development put similar infrastructure stress on other areas of the Island, and often the expected benefits did not "trickle down" to the poor. To a greater or lesser degree, similar pressures developed in other Commonwealth Caribbean countries, e.g., Guyana and Trinidad and Tobago.

Political independence was seen to have meaning only if public policies addressed the problems indicated above in ways that redressed the situation. From the 1950s, most of the countries considered that the solution to the critical unemployment problem lay in industrialization and/or tourism, while not ignoring the traditional agriculture. They also considered that growth in industry and tourism would not be induced unless the infrastructure was adequate; but it was not nearly adequate. Both pre-independence and post-independence governments thus thought that the government had to take a more activist role in the provision of infrastructure, complementing the efforts at industrial and tourism promotion which had grown in popularity and vigor in the 1960s and 1970s. The good intentions of the policy-makers were justified in this regard by a significant school of thought and the evidence of an apparently successful alternative to the dominant private enterprise system. This activism was further reinforced by the blatant effects of unemployment and poverty, which clearly needed correction, and did not then have the benefit of the hindsight that exists today. Indeed, the whole world now seems wiser on these issues of public sector activism than it was two to three decades ago.

With water and sewerage, roads, seaports, airports and the railway already generally in government ownership and control, attention was increasingly focused on electric power, telephone and urban transport utilities, which were largely foreign direct investment activities. In Jamaica as elsewhere in the Region, there was deep discontent that these utilities were not proactive towards the needs of the country and there was also a feeling that supply of their services was inadequate; their commercial intent was seen as responsible. The literature shows some apparent justification for the view that some utilities did not always act in strict accord with some conditions of their licenses or with generally accepted accounting principles. This included the cost of large transactions for management fees with associated companies without evidence of service rendered and the charging of depreciation expenses against amounts brought into the assets account of the rate base by way of revaluation (see footnote 68). Further, there was long-standing resistance to any significant expansion of the services requested by the government. Broad regulatory mechanisms were legislated by the mid-1960s in some countries and more in the early 1970s. In Jamaica, the regulatory relations between the Government and the utilities were generally turbulent. Investment could not be induced in that kind of environment. The overall relationships fanned the flames of the growing spirit of post-independence nationalism. The populist governments, desperately wanting growing job opportunities, began to participate in the ownership of the utilities to directly influence their direction rather than depend solely on regulatory mechanisms.

The Government of Jamaica (GOJ) bought over 19% of the power utility's shares in 1971 which gave it control in technical terms. GOJ
also started acquiring shares in the telephone utility. Following losses in 1971 and 1972, that company, in 1973, gave the Government J$2.25 million of ordinary stock, "as consideration for the conclusion of arrangements favorable to the company." This was the beginning of a process that would lead to the virtual nationalization of the telephone utility by 1975 - a situation that had occurred earlier in Trinidad and Tobago which had "renationalized" its telephone utility in pre-independence 1960 under pressure from the Communications Workers Union. By the mid-1970s the Jamaican power utility, the urban transport utilities in Kingston and Montego Bay and the telephone utility were in government control, with 100% or close to 100% ownership of the shares. GOJ thus had all the economic infrastructure (except seaports) under its control and the intent to use its control and finance to satisfy the social and economic change for which it desired to use them as tools.

The post-independence efforts to use these infrastructure tools in this way may be illustrated by an analysis of public expenditures in Jamaica on the items of economic infrastructure named earlier. Data impurities exist in the construction of consolidated public sector accounts, particularly to identify economic infrastructure in mixed programs and to reconcile some aspects of the accounts of public entities with those of central government expenditure. However, these are not large enough to invalidate the general trends in the period reviewed. The data and other information are sufficient to indicate some important outcomes and thus set the stage to analyze issues in subsequent sections hereof and draw attention to parallels in the rest of the Commonwealth Caribbean. The trends are illustrated by data points at five year intervals save for the last one which is less than five years (see chart below).

In 1970/71, the public sector spent an estimated 2.5% of 1970 Gross Domestic Product (GDP) on economic infrastructure of which 1.4% was for roads and 1.6% for the transport sector as a whole. Water, irrigation and drainage absorbed 0.8% of GDP, while the outlays on telecommunications and power were insignificant. At that time there was very little public enterprise activity in infrastructure and the local government outlays have been generally funded by grants from the central government.

By 1975/76, the public sector spent 8.9% of GDP on the economic infrastructure listed. Roads went up to 2.6% while the transportation sector moved to 5.7% of GDP. The water sub-sector rose to 1.2%. Much of the increase for roads arose from large increases in outlays for special employment and special development programs which were mostly spent on minor maintenance and cleaning of roads and road-related drainage projects. The early emphasis on these programs was on creating employment, rather than on efficient and effective works. Shipping, airline and railway expenditures rose to prominence at 1.7% of GDP. Electric power (1.5% of GDP) and telecommunications (0.6% of GDP) also gave clear indications of the policy emphasis pursuant to government having taken control of these utilities.

This rapid growth of economic infrastructure outlays relative to GDP was not sustainable because it was not matched by parallel growth in revenues despite the big increase in bauxite revenues in the mid 1970s; nor was it matched by export growth and external reserves growth. To make it sustainable, there was need to reorder priorities between sectors. Any adjustments along these lines were inadequate. In fact, other sectors of central government outlays grew rapidly at the same time while the fiscal budget rapidly increased its proportion of domestic output. In 1970/71 the central government budget outlays were 22% of GDP but rose to 37% in 1975/76 and to 50% in 1980/81. Crudely, in real terms (using the GDP deflator) the budget rose by 86% between 1970/71 and 1975/76 and by 111% from 1970/71 to 1980/81. By 1980/81, the economic infrastructure outlays were clearly seen as unsustainable alongside the other commitments. They began to edge down to 7.8% of 1980 GDP, which is still very high by any standard. It was only roads (3.3%) and the water subsector (1.6%) that increased their share of GDP. All else fell. By this time too, the debt burden had become very oppressive, and macroeconomic adjustment which was badly needed, ([IMF or not], was never implemented on a sustained basis with policies consistent with the severity of the needs. Capital outlays are usually on the early list of expenditure cuts in such cases and the story has been true to form. By 1985/86 the economic infrastructure outlays fell to 6.1% of 1985 GDP with roads at 1.2% and transportation as a whole at 1.5% or one-third of the fraction of GDP in 1975/76; only power (2.2%) and telecommunications (1.1%) increased their shares of GDP. The
decline was interrupted in 1990/91 (despite the privatization of telecommunications in 1987) with total economic infrastructure outlays at 7.3% of GDP. This reversal was due to large capital outlays by Air Jamaica, accompanied by large losses on its operations (2.1% of GDP together), and by large capital outlays on airport improvements (1.5% of GDP). Data for 1994/95, while not quite as complete as prior years, suggest that public sector outlays on the listed economic infrastructure were between 4% and 5% of GDP.

It would be inappropriate to conclude that the burst of infrastructure spending had corrected most of the deficiencies and that the declines were thus expectable; for the infrastructure was poorer in many respects at the later stages than it was in 1970. Yet, in other respects, it was better, e.g., paved roads, piped water, electricity and telephones now exist in locations where they were not dreamt possible by the residents even in 1970. This was a planned effort by GOJ to reduce imbalances between urban and rural living conditions, thereby helping to dampen the rural-urban drift. The problem is that wider coverage is still unmatched by improved quality of service in far too much of the infrastructure and coverage is still very inadequate, save for roads. During the down-sizing from 1980/81 on, road maintenance became increasingly projectized with eight multilateral and bilateral financiers in the road sector, each pursuing its own preferences and objectives. The works became donor driven and quite uncoordinated, with significant disadvantages to the borrower. It was not far different with the water sector, hosting six donors and not showing the expected improvements. This “donor crowding” may not be so obvious in other countries of the Region but the smaller the country, the more burdensome are uncoordinated programs by even less organizations.

Public sector outlays on the indicated economic infrastructure in Barbados followed a different path from Jamaica’s during the past 25 years. There was far greater caution in the breadth of activities and the intensity of public sector participation. Roads and piped water were always public. Mass passenger transportation became public in 1955, much earlier than urban transportation in Jamaica. The operations in both water supplies and road transportation were often subsidized and sometimes quite heavily. Power and telecommunications attracted some public sector shareholdings but not controlling interests. Both of these utilities operated profitably in a less uncertain regulatory framework than in Jamaica. The Barbados public sector engagement in a national airline has also avoided losses in recent years, unlike Air Jamaica, by a different mode of operations without ownership or long-term leases of aircraft.

Using the same years as for Jamaica (except 1993/94 instead of 1994/95) to examine the Barbados public sector outlays on economic infrastructure defined herein, there was a general pattern of rise and then a decline, but with much less steep changes of the ratios to GDP. In 1970/71, the ratio was 2.4% (2.5% for Jamaica). When Jamaica’s ratio approached 9% in 1975/76 after only five years, that of Barbados moved to only 3.5% despite the sugar boom of the early 1970s. In none of the years did it reach 5% in Barbados, although it exceeded 4% in 1980/81 and 1985/86. For 1993/94 (unlike Jamaica for 1994/95), it fell just short of 2%. In this last year, there was a continuing strong fiscal restraint, started in 1991. Clearly, Barbados avoided the high volatility of relative outlays on economic infrastructure experienced by Jamaica because of the narrower intervention in ownership and a more cautious fiscal policy (see chart below). It is also clear that, while Jamaica pulled back at the central government level, the public enterprises in infrastructure had developed some dynamic of their own and dampened the fall of the ratio. When the wider interventions of Jamaica are omitted, the ratios for Barbados and Jamaica become much closer during the period with Jamaica’s adjusted ratio falling below that of Barbados only in 1985/86. For example, the 8.9% of GDP for 1975/76 would fall to 5.1% versus the Barbados level of 3.5%, and 1980/81 would show 5.3% versus Barbados’ 4.7%. Interestingly, Jamaica’s adjusted level in 1994/95 is approximately where it started out in 1970/71 - not much above that of Barbados in 1993/94. The much higher levels for Jamaica then, were essentially due to that government’s assumptions of activities that Barbados left to the private sector which had previously performed those activities in Jamaica. In this regard, it may be worth noting that the unit costs of economic infrastructure should be relatively lower in Barbados than in Jamaica because of the more difficult geography and geology of Jamaica. Piped water, electricity,
telecommunications, road construction and maintenance, and public transportation are all affected by these natural resource features, especially in a compact high density population distribution versus a more scattered one.

Figure 1 Public Sector Expenditure on Economic Infrastructure (% of GDP)

Emerging Policy Stances on Public Sector Involvement

The role of the public sector in the recent past - based on the philosophy of public ownership, control and operation of the commanding heights of the economy - is no longer feasible in our Region. There is no scope to continue nurturing a populist approach to the provision of services by government or for the regulation of public utilities for populist goals. The foreign investment required will have a lot of other places to go without facing the risks attendant on such policies and practices. We have to become increasingly investor friendly in both sector and macroeconomic policies.

There is now a growing recognition of this situation. The economic distress of the long economic adjustment period of the post-independence Commonwealth Caribbean and the heavy to severe debt burdens of countries like Trinidad and Tobago, Jamaica and Guyana have taught us some hard lessons. Clearly, the micro-and macroeconomic policies of the recent past cannot achieve the prime objectives of job creation and of poverty reduction which we have to do while conserving the environment for future generations.

Reality has been staring us in the face in other aspects also. The disappearance or discredit of the philosophical and practical groundings of socialism have been swift and sweeping. The main lesson is that the world economic system is determinedly market oriented and the sudden collapse of the socialist alternative that lasted 70 years leaves little or no room for doubt. Any economic support that flowed from that quarter has also disappeared. A world that is less altruistic and deals harshly with the inefficient means that we must look hard and coldly at our major deficiencies and rectify them.
The fiscal distress caused by our effort to sustain populism must itself become an incentive to change directions, if it has not yet done so. Such populism cannot be afforded in the future. Any change must include actions that relieve the public sector of some of the infrastructure activities that helped, alongside poor macroeconomic policies, to put the fiscal outlook and, with it, the balance of payments and debt situations into protracted and severe distress in far too many of the Commonwealth Caribbean countries.

**Guidedpost Examples**

**NEGATIVE CASES.** The financial position of two public sector infrastructure enterprises in Jamaica require that they be used here as examples for the Region to avoid. The National Water Commission of Jamaica has been incurring persistent losses on its operations, and compounded this with heavy foreign exchange losses on borrowings. Its draft financial statements for year ending March 1994 indicate a cumulative deficit of J$1.86 billion or 1.4% of 1994 GDP. There are indications that the Government will assume responsibility for J$4 billion of its liabilities or 3.1% of 1994 GDP. All the classic inefficiencies appear in this case - poor maintenance, massive unaccounted-for water, inadequate supply, pervasive management laxities, deficient billing and collecting and inadequate record keeping. In the face of serious financial and management problems, the Board and senior management resigned in May 1995. It is fortunate that the telecommunications and power utilities were not allowed to go the same route because they have the size to create problems of similar magnitude. Very important in this for the power utility was the ability to pass on foreign exchange losses in tariffs. This might encourage some inefficiency but it eventually saves the exchequer and signals a scarcity value to consumers. In this regard, it is worth noting that after years of losses by the power utility in the late 1970s and early 1980s and again in 1989, both the power and telecommunications utilities were significant payers of income tax - the electricity utility (still government owned) having had current tax liability of the equivalent of US$15 million on average for 1993 and 1994 with profits adjusted for tax purposes and at a tax rate of 33%. While there was a loss in 1995, it is interesting, that the power utility severed 269 workers in mid-1995 while maintaining industrial peace, due to a good settlement, which suggests significant strength and a disciplined learning process in this public sector undertaking.

Air Jamaica, the national airline, privatized in 1995, had accumulated deficits of J$1.63 billion at March 1994, (1.3% of 1994 GDP). Over half of this deficit was incurred in 1993/94 alone. Again, foreign exchange losses were important in the level of deficit and this cannot be divorced from the Government’s inadequate equity in the airline; efforts to rectify this were too little and too late. The implications of these two loss-making cases for public finance are quite serious. They signal the need for vigilance in the management of public enterprises and caution about public ownership, especially when the fiscal situation is weak and public enterprises are in high risk areas, whether the risks be commercial or political. In the case of Air Jamaica, some argue that its losses cannot be isolated from the fortunes of the tourist industry for which it was an instrument of active development. In response, we suggest that there would have been greater control of financial outcomes had direct budgetary appropriations been targeted on the desired tourism development, with the commercial risk left to private carriers.

It should be pointed out that both BWIA (Trinidad and Tobago) and LIAT (Regional Governments) have also suffered heavy losses over the years. LIAT, first formed in Montserrat as a privately owned carrier in 1956, was later 75% owned by BWIA which sold it to Court Line (a UK group) in 1971. It had a long history of losses and when the receiver for Court Line was about to sell its assets in 1974, the Regional Governments took it over as a clearly essential infrastructure. The difficult commuter operations, the inadequacy of the ratio of equity to debt, the effects of government - influenced over-staffing, weak management, and the control of schedules and tariffs by the member governments have played undeniable roles in the misfortunes of LIAT whose losses are no longer affordable. BWIA, established in 1940, was originally private and profitable. Its role as a regional carrier was a critical aspect of early air tourism development for much of the Region, especially in conjunction with LIAT. Its losses have been large, and have been sustained solely by the Trinidad and Tobago Government after
British Airways sold out. Deregulation of air services world-wide has created a growing competition which puts small airlines at a serious disadvantage and heavy strain on governments as owners. Like Air Jamaica, BWIA was privatized in 1995 and has shown a US$2 million profit in its first quarter thereafter, which admittedly is in the high traffic season. Efforts to privatize LIAT are on-going. The problem is that privatization in these situations is difficult. The private sector wants to buy cheap in order to reduce the risk while governments want to sell at prices that reduce ultimate losses. But it is better to accept known losses in the present than to postpone privatization for too long only to face a worse discounted cash flow position later. In passing, it seems appropriate to mention here that the West Indies Shipping Corporation (WISCO), initially set up during the days of the West Indies Federation as an inter-governmental corporation, had a similar persistent loss position, and it eventually ceased to operate in 1993 without an effort to privatize it.

POSITIVE CASES. It has always been difficult for governments to let the prices of essential consumer services rise. The consequences for public utilities have, more often than not, been debilitated and inefficient entities, incapable of fulfilling their objectives, and frustrating consumer demand. This is an area where the multilateral development banks (MDBs) have come to the rescue of Governments caught in their own trap, and of the consumers who cannot get what service they are willing to pay for. MDB lending with tariff and other conditionality can bring the two sides together as has happened for some utilities of the Region with the assistance of the World Bank, the Inter-American Development Bank and CDB.

Some power utilities in the OECS countries provide what could be celebrated examples of MDB intervention in the role of Governments in the provision of infrastructure. These utilities were essentially joint ventures between the respective governments and the Commonwealth Development Corporation (CDC) which held majority shares and had operating control in five such utilities. The utilities commissions would not allow tariff increases without improved service. Given the record of regulatory practices, CDC would not invest in upgrading and expansion under those conditions and decided to pull out.

CDB, which was looking at the possibility of lending to the utilities, tried to persuade the Chairman of CDC, to retain control where CDC held it and to co-finance the projects with CDB. He refused and CDB asked him to at least retain the management and operating positions that CDC had. He was not convinced that CDB could obtain viable tariff levels because of the attitudes of the authorities. So CDC withdrew, virtually abandoning its long-held interest in the utilities. CDB proceeded to prepare and appraise the power projects. The Governments balked especially at the tariff conditions in the draft loan agreements, but eventually they signed. Strong project supervision and technical assistance along with the financing won out. The utilities became viable and able to finance much of their expansion plans and replacement needs within a decade in some cases. The success was so outstanding that CDC has returned to the utilities with investment even to the point of making competitive bids for shares, while demand for CDB financing by those utilities has virtually disappeared. That experience has helped to bring CDC into other co-financing arrangements with CDB.

The experience with these power utilities has, to a lesser degree, been also realized with water utilities in the Eastern Caribbean. They are government-owned and controlled and were in very poor condition. When CDB considered lending for their rehabilitation and expansion, they were either Government departments or actually operated like government departments, often with massive billing arrears owed by the governments. They suffered from the same regulatory constraints described for the power utilities. Two main tasks were necessary for successful lending. They had to be commercialized in the sense that they are allowed to operate with diminished political and civil service directives, and they had to be allowed to implement timely and adequate user charges. Again, there was much resistance from the authorities. But eventually the good sense of the politicians prevailed over their initial instinctive rejection of any price increase. Even then, however, the Utility Commissions were resistant. They insisted on dampened or no tariff increases even when the loan conditions were clearly going to be seriously violated. In some cases the governments had to virtually over-ride their commissions in the better interest of the improved services expected from follow-up CDB.
loans. This was not much different from the situation in Jamaica where the utility commissions were put in abeyance when the Government took control of the telephone and power utilities in the mid-1970s.

The experience with water utilities has a parallel with some seaports and airports in the OECs which were previously run as government departments and have now been transformed under CDB loan conditions into commercially run public utilities. In one such case, seaports and airports have been placed in a single authority for economies in management, and there are indications that this approach is likely to be adopted elsewhere.

Current Situation

Overview of Needs and Financing Capacity

The experiences outlined above, the need to become internationally competitive, and the present knowledge tell us that the Commonwealth Caribbean will need a tremendous amount of capital if the unemployment and underemployment problems are to be significantly mitigated by the turn of the century. Using some assumptions and data from Professor Compton Bourne's landmark study, "Caribbean Development to the Year 2000 - Challenges, Prospects and Policies" (1988), I have elsewhere made crude estimates of investment needs for the 12 independent Commonwealth Caribbean Countries at 44% of GDP. That assumed the median incremental capital output ratio (ICOR) of Professor Bourne's lowest set of ICOR arrays based on his analysis of the Region's situation. The ICOR is 5.5 and a GDP growth rate of 8% per annum was assumed as against Professor Bourne's average rate of 7.7%, which is not being attained but which would now have to increase significantly (to meet Professor Bourne's condition for the decade) to solve the unemployment problem by the year 2000. The investment requirements would be around US$59 billion for 1995-2000 starting with the 1992 GDP of $15.8 billion for the 12 countries. I considered it hardly likely that the Region would get close to those US$10 billion a year resource needs by its own savings, given that gross investments were running at around US$3.5 billion a year.

Further, the assumed 8% growth rate (which is high by any standard), would not solve the unemployment problem by year 2000; it would only improve it. In any case, the changes in international trade that face the Region indicate that new investment emphases will arise especially in services and decentralized manufacturing, demanding a new mix of infrastructure with a higher technological bias. That should give the opportunity to induce direct foreign investment and the attendant management and market arrangements. The changing mix of investment will shift the recent ratio of infrastructure to total investment; so we do not attempt a ratio here. However, infrastructure will have to be made more appropriate to these circumstances. And there is doubt that the capital inflows will be adequate. The author's view is that the Region has to improve the efficiency of its investment (existing and incremental) and reduce the ICOR which, at the low median used, is around twice the level of the ICOR of the East Asia NICs. All our investments will have to become more complementary to increase productivity. Infrastructure will have to be made increasingly relevant to complementary productive investments, and more responsive to the efficiency needs of producers. We have seen that government investments in infrastructure have not been as efficiently managed as they need to be. Therefore, this is one area of scope for the needed reduction of the ICOR that is further accentuated by the situations that are evolving around us and which will force changes on the Region's economies.

There has been an increasing problem of aid fatigue in the traditional aid giving countries. One prominent aid donor to the Caribbean put this starkly in its September 1993 statement at the IBRD/IMF Annual Meetings saying, "For many donor governments, growing pressure on aid budgets has become a fact of life ... International Institutions have been relatively slow to recognize this fact." External assistance to the Commonwealth Caribbean has declined in recent years, accelerating downwards with the world recession and slow, uncertain recovery. Then there arose new and aggravated problem areas perceived to be of greater need e.g., the Sub-Saharan region and the economies of Eastern Europe that were rapidly switched from socialism to a state of transition to capitalism. These areas thus demand and attract more assistance. This suggests that the declining flows to our Region really have no hope of recovery...
especially with the policy of donors to emphasize per capita income as the prime aid needs criterion. Even donor representation in the Region has been undergoing a winding down process. One may add that it is not only bilateral aid that has declined but that the MDBs have been running negative net transfers to the Region in recent years. The Commonwealth Caribbean is thus forced to depend more on its own resources.

This situation is compounded by the severe pressure that has been put on preferential trading arrangements that have protected the export life-line of several of the countries. There can only be hope of a marginal breathing space but no reversal of this trend. The new world trading arrangements under the World Trade Organization (WTO) and doctrine of trade liberalization have seen to that. Trade liberalization and fierce competition for markets and for foreign investment are already facts of life in the short space of time since the system was agreed; they started in anticipation of the new system. The events that have followed even during and after the December 1994 Summit of the Americas, especially on the issue of European Community preference to Caribbean bananas, show that there will be no quarter from friend nor foe. Commonwealth Caribbean production will have to make significant gains in competitiveness. Much will be required of infrastructure to achieve this and these requirements will be increasingly exacting. In this regard, it should be noted that the 1994 World Development Report of the World Bank indicates that surveys of prospective foreign investors over a wide range of countries show that the quality of infrastructure is an important factor in ranking potential sites for location of direct investment" (1994 WDR, 18). That means that our Region's infrastructure must become much better than it is now in order to provide a competitive chance to our countries.

There will be little if any scope for gaining competitiveness by being lax on social legislation and labor practices or environmental protection, as some important trading partners to our Region obviously feel that developing countries will be tempted to do, and as the NAFTA debate in the USA very strongly underlined. Within the WTO System (and closer to home, the NAFTA to which our Region hopes to dock), social legislation and social practice standards especially as regards the protection of the environment and the conditions of labor, are for the first time introduced as conditions of international trade rules. It is true that the Commonwealth Caribbean has had fairly advanced labor practices (even beyond what our social conditions and unemployment levels can afford to support) and that they are protected by law; but there is yet uncertainty as to how the international practice will apply. We know, however, that the objective is not to make it easier for our Region to export, and more so, not to enable us to do so by means of lowering even what can be judged as possibly excessive protection of labor which has elicited comments by external research writing on competitiveness for at least one of our countries.

This situation is equally the case with matters affecting the environment and trade although the Region is conscious of its environmental needs. In this latter case, the Commonwealth Caribbean will have to face new investment requirements even just for environmental sustainability - some of which we have already been working on. Add to these the requirements for poverty reduction and human resource development (HRD) investments, and we see that the road ahead is daunting. Although these HRD investments will provide significant bases for future productivity gains, the gestation could be fairly long and the output to service the investment needs thus distant from those needs. We should also recall that the Commonwealth Caribbean has been undergoing rapid urbanization with growth in slums. This will call for heavy investments to provide roads, water and sanitation and waste disposal. The pent-up needs which grew rapidly during the long adjustment period will require strenuous efforts on both new outlays and efficiency improvements. This suggests that the proportion of GDP that goes to infrastructure investments in the Region, as well as efficiency at both the investment and operating stages, will need to rise. The more infrastructure government provides therefore, the higher public savings will need to be in order to finance infrastructure. But even with lower public sector infrastructure, the public savings will be needed in the overall financing effort.

Some of us may have thought that after two decades of adjustment we would be seeing the light at the end of the tunnel on that. Not so at all. It begins to look as if the tunnel turned organic and grew longer. Surely, the traffic slowed down in the tunnel and there will be less
in aid flows to help push it through. So the Region has to take a hard look at its evolving position and work with mature vision towards the changing horizons. Since the need for capital in this situation cannot be met locally, aid flows won’t meet it and trade largesse won’t stimulate it, foreign investment will be crucial. The investment environment must be created to induce those flows in competition with countries that have now narrowed or closed the trade preference margins which we had and with that, the attraction of capital inflows. The size of government relative to GDP, in the new investor philosophy on small government, and the efficiency and regulatory stance of governments will be crucial to the inducement of such flows. And the macroeconomic policies will be preemptive of all else that the Region does. Fiscal control to attain stable prices and balance of payments positions will not only determine the quantum and quality of infrastructure but also the inclination to win foreign investments over competitors - including investments in the said infrastructure systems. Private investment in infrastructure will reduce the investment risk to governments, and could improve management and accountability situations which are needed in the Region. The fiscal and balance of payments relief which it could bring, would have enormous macro-economic benefits. It is thus not only needed but also desirable, especially because the heavy load of infrastructure investment has made infrastructure the first candidate for expenditure cuts during the prolonged fiscal adjustment.

Critical Limits to the Public Sector

The investment needs discussed above, with the fiscal and balance of payments constraints that face the Region, make it clear that very competent and decisive management as well as rigorous maintenance will be critical to the provision of economic infrastructure in the Region if costly investments are to attain their objectives and not constitute an economic drag instead. The past record has been disappointing in these respects and must be rectified. That will be absolutely necessary to build the Region’s competitiveness in a relentless world system.

MANAGEMENT AND RELATED POLICIES.
The management of public sector infrastructure facilities has generally been substandard in the region. Required skills (managerial, technical and financial) are scarce, and public sector salaries are generally unattractive and the conditions of service do not compensate for the pay differentials in the private sector or in the advanced countries. Systems and procedures are often cumbersome and severely in need of modernization to meet the demands of a much more informed, discriminating and demonstrative public than at the time of independence. Macroeconomic malaise has been almost the norm in the post-independence period for many of the countries and it has deflected fiscal resources from maintenance and the capital outlays on infrastructure to debt service, and to the provision of much needed safety nets for the poor. These conditions cause investments to be delayed, plans to become dislocated/ abandoned, coordination to fall apart and the best staff to be disenchanted and quit or lose enthusiasm. Maintenance scheduling is upset for both routine and periodic work. Maintenance equipment is inadequately maintained and/or often not available. Manpower and finance are allocated to work from one emergency to another. When the conditions of infrastructure deteriorate seriously because of these matters, they combine with the poor macroeconomic situation that tends to encourage crime to make the best skilled people find living conditions unacceptable and emigrate, causing the problems to be aggravated. To worsen the situation, the persistent poverty and unemployment result in the strong temptation to create low level jobs in public sector infrastructure operations that would not arise in private sector activities and the consequent growing financial strain weakens the facilities even more.

There are very few places in the Commonwealth Caribbean where public sector utility undertakings have not employed too many people and suffered delays of necessary price increases. The high levels of unemployment, persistent poverty and political patronage are perfect playmates. When competitive political trade unionism is added to the playground as it is in many parts of the Region, the problems are compounded. Civil unrest has arisen and has always got to be considered in policies to reduce staffing or even to cut out “institutionalized overtime payments” which have come to be considered as permanent income by the workers. The critical things for governments in this matter are to recognize that they are not dealing with
temporary unemployment but structural unemployment and that the fiscal implications of cushioning jobs do not correct themselves without specific action. They end up in the most sensitive area; the external reserves fall and this cannot be long sustained.

These pricing and over-staffing situations not only cause serious cash flow problems that hamper management, but they also make it very difficult for governments to formulate and implement enterprise, sector and macro-economic policies because they will be seen as hurting the people. Price increases in an establishment or sector, (regardless of how necessary they are), get postponed and the financial effects of such delay can be far worse than the overstaffing, but overstaffing adds unnecessary costs to the pricing problem. The longer a price or tariff increase is postponed, the greater the increase has to be in order to set the activity on the route to independence from the exchequer. But the greater the required price increase, the higher the chances of postponement. Clearly, *timeliness is key to maintaining modest tariff increases*, but it has been seriously lacking in the Region. That has been a bitter experience for the Region because fiscal resources are limited and the larger the size of the public sector involvement in the economy, the greater the consequent risk that a rash of demands for subsidies and investment in infrastructure services will hit the exchequer. Shielding the poor while making user charges adequate for public utilities can instead be better attained by a more pervasive and progressive use of block tariffs that do not over-load small consumers. Cross-subsidization among consumers can thereby meet the welfare and profit objectives, but managerial efficiency and cost control are critical to prevent unnecessary burdens on consumers or the exchequer where competition cannot be readily incorporated as an efficiency regulator.

The need to finance health, education and other vital social services places further demands on fiscal resources. Thus, while economic infrastructure is not the only cause of pressure on the budget, its inefficiency and capital needs have been important causes of prolonged fiscal imbalances in the Commonwealth Caribbean. The worldwide quest to privatize much of the infrastructure does not therefore appear to be misplaced, but rather relevant, appropriate and necessary. If it is not pursued by the Common-wealth Caribbean, and efficiency is not made the central criterion for operating infrastructure facilities, then poor service will be further prolonged or have a chance of recurring later, and investment will be retarded because governments cannot afford it and no lender will support it on bearable financial terms and conditions. Inefficiency will grow and the eventual effect of having to relieve the strain on the budget will be to force consumers to pay more than they should be required to pay for the service. It is true that the state of infrastructure in the Region has improved recently. General crisis conditions of infrastructure which existed in several of the countries have been significantly rectified in some countries like Belize, Dominica and Grenada but persist in Guyana. More limited but still distressful situations continue in others like Jamaica. In spite of the comparably better situations in countries such as the Bahamas, Barbados and the Cayman Islands, they all require urgent action in several areas of infrastructure to bring them into a position where they can win in the fierce international competition ahead because infrastructure quality helps efficiency in tradable goods and services. Moreover, recent studies reveal that infrastructure investment is highly correlated with economic growth. Whether the causal relationship is clear one way or the other does not seem important so long as we recognize that there is an obvious complementarity between infrastructure and output growth, and therefore work to strengthen this link through efforts to improve infrastructure efficiency.

A major challenge would be to improve the public sector institutional and management systems for infrastructure, which are quite deficient. Efforts will have to be directed to

a. reversing the poor macroeconomic performance over a long period which has affected the value and timeliness of resources to extend, improve, rehabilitate and maintain the systems;

b. adjusting the uncompetitive terms and conditions of public sector employment for qualified and experienced personnel (partly related to [a] above) which make the public service no longer attractive even for its tenure and pension rights which have been virtually removed by the macroeconomic malaise of the 1970s and 1980s in some of the countries;
c. lessening the excessive dependence on a roll-call list of donors in some cases, working on shopping lists of related projects that end up being implemented to the peculiarities of each agency and uncoordinated in a planned and integrated system of works; and

d. correcting the lack, with few if any exceptions, of organized and integrated systems and procedures for planning, training and implementing programs for construction and maintenance.

MAINTENANCE. Another major deficiency in the performance of the public sector in the provision of infrastructure has been in the maintenance of the infrastructure assets. Poor maintenance and inadequate general condition of government assets around the Region have become an expectation; the contrary is cause for special comment.

Water and sewerage infrastructure, have had poor maintenance in the Region. This leads to high losses of potable water produced, treated, transmitted and distributed. Unaccounted for water is quite high exceeding 30% in some cases where it has been measured. The 1994 World Development Indicators (WDI) shows 31% for Jamaica (the only Commonwealth Caribbean country reported) versus 8% for Singapore and 5% for Morocco. The Jamaica National Plan 1990-95 proposed to reduce it to 25% in that period. Admittedly, few developing countries listed by WDI have water losses below 20%. Leaks in transmission and distribution are the bane of the systems - obvious even where they are not measured. It has been common to apply for loans from development-finance institutions to develop new water supply sources when appropriate reduction of water losses could fulfill much of the urgent water needs. Through the efforts of the MDBs in particular on this matter, countries of the Region now favor reduction of water unaccounted for as the cheapest means of increased delivery of water to the consumer. However, there is the added problem of very limited metering of water systems and attaching of user charges to property values instead. This encourages waste and increases demand beyond the supply capacity. This practice has to be quickly eliminated especially in those countries where there are grave pressures on the potential water resources such as Antigua and Barbuda and Barbados. But it cannot be ignored for the sake of efficiency in the rest especially as water production and transmission are quite expensive because of the topography and the location of population centers versus natural water sources appropriate to serve the needs. Perhaps it could become the practice for consumers to purchase the meters in order to save on utility outlays as has been recently recommended by a task force reviewing the National Water Commission in Jamaica. In any case, the demand for expansion of water supplies to those not yet supplied and to cater for growth in demand with economic and population growth, will be very difficult to meet. If existing systems are made to function more efficiently and to pay for themselves and generate surpluses, there will be more resources to spread the systems to new areas.

Power and telephone utilities have also had poor maintenance under public ownership and, because of the regulatory practices, where they have been in private ownership and control. Fault levels for telephones have been frequent and prolonged in much of the Region and congestion heavy. The Jamaica Five-year Development Plan (1990-95) states that over 60% of all calls fail to reach their destination. The case of power is described in more detail elsewhere herein, but the point needs to be made here that inadequate inspection of power lines has been known to encourage illegal connections to the system. High non-technical loss ratios exist in Antigua and Barbuda and Jamaica (approximately 8% each of net generation of power in 1993), adding unnecessarily to the technical losses which are both inevitable and partly unavoidable with proper maintenance. Total losses for fourteen electric utilities in the Region showed a weighted average of 16.5% of net generation in 1993, or 1.7 times the loss ratio of the Electricité de France operations in Martinique. The losses ranged from 6.8% to 20% with seven of 15 Commonwealth Caribbean country electric utilities reporting losses at 10% or above. Guyana’s power system (not in the 15 above), has been in a very weak condition with a loss ratio indicated at 33% in 1993 and 24% in 1994. It has operated at times in recent years on account of heroic make-do maintenance. That was largely due to the macroeconomic situation, and its condition should be a lesson to the rest of the Region, especially in that Jamaica has also had some very testing times for similar reasons. As indicated above for water systems, better
maintenance and appropriate pricing will enable resources to be devoted to the greatly needed expansion of power and telephone systems.

Roads provide a signal example of maintenance problems. Finance, policy and systems and procedures had really been deficient from before independence and the infrastructure inherited at independence was quite unsuited to the needs for any early development thrust. Aid donors were needed for finance and just as much for appropriate policy development and technical assistance. Required levels of budgetary outlays on routine and periodic road maintenance, systems and procedures for maintenance, support for road maintenance equipment, institutional upgrading, skills training, and measures to reduce over-loading of pavements such as axle load regulations, have accompanied finance for road projects by lenders such as the MDBs to Caribbean governments. The recent achievements on road upgrading and maintenance have thus been partly due to these efforts of the MDBs. However, although these loan conditions have been agreed for over 20 years in the case of Jamaica, for instance, compliance has been checkered especially on conditions that provide for management and institutional efficiency and appropriate and timely policies and regulations. As a result of these, along with fiscal hardship, road maintenance and general conditions have still been deficient. Parallels exist to a lesser or greater degree in some other countries. One wonders what the situation would have been like without such loan conditions, given that the borrowers know that they will need subsequent borrowings from the same sources and yet fail to comply with some important conditions for long periods.

In spite of the foregoing, the message that road maintenance has tremendous economic benefits is eventually getting into the fiscal budgets. There is a clear trend to place more of those expenditures into capital accounts of the budgets - transferring them from the recurrent. This might be conditioned in part by the fiscal pressures and the adjustment programs to which some of the countries have been subjected for essentially two decades. In such circumstances, fiscal savings become somewhat of a premium in the "good house-keeping" package. But fiscal performance analyses, being more focused on the overall balance, edged budgetary practice to pursue available MDB and bilateral funding for "capitalized" road maintenance. Thus, what would previously have been considered window-dressing in the fiscal accounts, becomes respectable and also desirable because it has a high economic rate of return, especially when compared with road rehabilitation/reconstruction. This is very important for the countries of the Commonwealth Caribbean because of their topography which, with minor exceptions like Barbados and Cayman Islands, is very mountainous with heavy tropical rainshowers causing water run-offs that are demanding of construction costs per mile. Two countries, Belize and Guyana suffer from the serious opposite problem of low-lying lands that get water-logged. Caribbean geography is not as amenable to unpaved roads as some other regions are, and our roads require strict periodic and routine maintenance along with speedy emergency action after heavy rains to preserve the value of the very high per capita costs of road infrastructure of these small countries with small populations.

ROAD FUNDS. Special mention needs to be made of an on-going debate about expenditure on roads versus the revenues earned by Government by way of taxes on road users. With few exceptions, including Barbados, roads in the Commonwealth Caribbean are under-funded for their needs. Yet road user tax receipts are seen as very high in relation thereto. The condition of the roads in Jamaica is bad. The 1994 World Development Indicators (of the World Bank) indicates that in 1988 only 10% of Jamaica's paved roads were in good condition (no obvious improvement in 1995) versus 72% for Trinidad and Tobago. There are repeated proposals for earmarking of revenues to a dedicated road fund to rectify the situation.

There is no doubt that apart from the constitutional position of the Consolidated Fund (common to the Region), revenue earmarking is not good public finance management. It removes flexibility, and in small economies that are highly vulnerable to macroeconomic stress, there is special need for central control of the public financial resources to gain flexibility, especially to protect the balance of payments. And one single case of earmarking will result in a clamor for others only to further inflexibility. Indeed, much of the problems in underfunding of roads in Jamaica arise from the loss of flexibility because of macro-economic stress and massive
debt service requirements. Any decision must also consider that road user taxes are also needed for the social programs that have very long gestation periods. One discussant put the income distribution and the macroeconomic management effects across sharply by asking "what is the difference between taxes on a motor car and a VCR?" In other words, taxes on road users are not only intended as user charges but also as contributions to general revenues unrelated to the purposes of providing roads. Remove that component, and taxes will need to be raised elsewhere, probably much less efficiently. Road user charges should also implicitly charge for the pollution caused by road use — applying the polluter pays principle. In any case, it is scarcely likely that taxes on road user items would be much reduced in the Region if the roads were run by private providers. All taxes might be slightly reduced instead.

It is a basic principle of economics that investment projects should be prioritized by their economic rates of return. This suggests that revenue earmarking could be acceptable if it were assigned to the projects with the highest rates of return. There is evidence of very high rates of return to road maintenance projects. But that is not unique, and earmarked funds will not be sacred in times of fiscal and balance of payments stress or of pervasive natural disasters to which our Region is very prone. It would, in our view, be better to have a specially phased priority program to upgrade roads within the framework of appropriate fiscal management than to start an avalanche of revenue earmarking that endangers necessary safeguards of the binding constraints of the fiscal and payments positions in the development process of small, vulnerable economies. In this regard, stricter prioritization of projects/programs is evidently needed to help avoid spreading investment funds too thinly among projects. The larger the country the more difficult this will be on account of "regional" needs. But the example of Barbados is rewarding. There, major projects were quite well put in sequence and that dampened fiscal and payments stress while helping to keep unemployment less volatile.

The tabular illustration in the annex hereto (even where debatable) should warn us not to be too presumptive on road revenues versus road expenditures. It does not deny the need for much better roads nor the existence of under-funding. It points to roads run as a business and not as now prevails in the Region. It suggests that road user tax payers are not necessarily subsidizing others to the extent presumed. Crude as they are, these kinds of analyses force us to think more on the infrastructure issues that have faced the Region and how we have responded, as well as how we ought to respond.

**Possible Role for the Private Sector in Infrastructure**

The earlier discussions make it clear that new approaches need to be found in the provision of infrastructure. Within the gamut of the policy armory, there is some potential for relief of the macroeconomic distress and sustenance of progress in the privatization of several aspects of economic infrastructure where this has not already occurred. And where this is not feasible in the short run, we need to put the operations on a commercialized basis, making them self-financing and self-sustaining. One workable solution may be private sector management and operation with the assumption of the attendant risks under long-term leases from the public sector owner with appropriate long-term licenses and accompanying private finance for future investments. Where none of these may be possible, then the objective must be for rapid progress to efficient public sector management of its infrastructure activities.

**Opportunities**

Telecommunications, electric power, public transport (autobus, railway, airline services) and seaports have had a long history of private ownership and operation in the Region. They are quite amenable to be divested. Some of this is already occurring; the process needs to be accelerated for the fiscal reasons outlined above. The privatization of Air Jamaica which had accumulated losses of J$1,628 million (US$49 million) at March 1994 is a good example of the need and the recent reaction to it. Privatization of BWIA and LIAT should have similar effects on the relief to the exchequer. Privatization of the urban transport of Kingston, Jamaica and partial privatization of road transportation in Barbados add to the new policy stance and relief of the exchequer even though there is much to be desired in these systems, especially in Kingston. In this regard, it is interesting to note that Air Jamaica prior to 1968 had made profits by
assigning its routes to BOAC and BWIA - the latter having reported making significant losses on the assignment. A similar system arises with Caribbean Airways, a Barbados Government majority owned airline which made losses when it flew its routes itself. Now that it is assigning its flight routes to others and concentrating on aircraft handling and airport shops, it is profitable. The liquidation of WISCO which had initially served a useful integration role, is further evidence of the growing pragmatism.

Airports and water and sewerage operations, which have traditionally been public sector enterprises, have similar scope for privatization. At the very least, they should be made commercially self-sufficient without even government guarantees for any borrowings. There is some precedent for private activity in these two types of infrastructure also. (The Montego Bay Airport in Jamaica was originally started by Pan American World Airways and Piarco in Trinidad was started by a French airline, Aeropostale). Just as seaports have been private for most of Jamaica's history except for some public sector additions in the past 20 years alongside the private ports, airports can be made private readily. Current understandings are that the Montego Bay Airport and the Grantley Adams Airport (Barbados) are intended for some form of privatization and there are suggestions of very large investment outlays at least for one of these. The Piarco Airport is also being considered for private financing of expansion and of management.

Private ownership of parts of the public water supply systems exist in Belize, Cayman Islands, and the Turks and Caicos Islands where private water purveyors produce water for part of the public distribution systems. In the Belize and Cayman cases, CDB has lent to the public sector for the storage and distribution systems that are supplied by the purveyors who produce desalinated water. The experience in the United Kingdom with privatized water could also give some guidance despite the controversy about the compensation of executives and their effects on future tariffs. The debate in the United Kingdom on alternative policies for the water utility licenses should also be instructive for our Region. Piped water supplies are critical to health and there is some hesitation in some minds in the Region as to the desirability of making them private. My view is that as long as the health authorities have reasonable competence and are vigilant in the quality testing and quality control inspection of the systems, there should be no problem privatizing the water utilities. There may even be a case for watershed protection to be in the responsibility of private water purveyors who would have a direct interest in the protection and enhancement of their water sources for continuing viability. This would, however, only be possible with long-term licenses to create the necessary degree of enlightened self-interest.

Major road construction is already a private contract affair in the Region. However, road systems present a problem for the privatization model even if governments still own the roads and privatize aspects of their maintenance and operations. The countries in our Region are mostly very small with short lengths of roads. The private operator will need a means to get paid for road use. The toll system is inappropriate to short road trips but it is the essential basis for private capture of road benefits. So private interest will dissipate. There is scope for maintenance of roads to be privatized. That has occurred significantly by the tendering system for larger maintenance projects, especially periodic maintenance. Some work is still done by force account of the Public Works Departments. More can be packaged into contracts such as the petty contracts that operate in Jamaica for small jobs.

There is however, a point of significant importance in the battle against poverty and unemployment. Road work can be a big employer if it is done by efficient labor-intensive methods. The Caribbean private sector has been hesitant on such methods because of labor / management problems. There is a celebrated case in Jamaica of labor frustration of a large road contract arising out of post-election events and related to competitive political trade unionism. That cost the government a lot of time and money including expensive litigation up to the final court of appeal - the Lords of the Judicial Committee of the British Privy Council. These are causes for caution and may justify the retention of labor-intensive road construction and maintenance within the traditional force account. Poverty alleviation is worth the risk of even some residual inefficiencies that this could cause. And the inefficiencies could perhaps be reduced by having such projects go to tender with the public works department tendering like a private contractor. CDB has used this technique for public works projects in a few
cases. This could bring in a spirit of competition and reduce costs without affecting standards. Experience in Jamaica in the 1990s with a World Bank and CDB financed road maintenance project gives cause for caution though. In that case, there were contracts for paving and surface dressing of the roads. The Ministry of Construction (MOC) did the preparatory works, making the roads ready for the contractors. However, the fiscal difficulties and the adjustment programs caused the MOC to be denied timely release of funds to do the preparatory works. The project was severely delayed, costs rose and the final mileage attained was greatly reduced. This is not an isolated case of delayed release of funds in the Region. We cannot necessarily conclude, however, that this, prima facie, makes a case for lower government involvement, because the private contractor could also have been delayed by severe economic conditions which have been known to cause delayed payment to contractors.

Private interest in owning roads will be affected not only by the toll problem referred to earlier, but also by the fact that the regional private sector has a traditional trading orientation. It has been severely risk averse, even for manufacturing - seeking to have protected markets and large concessions from Government. Road costs are high and investments lumpy. There is no large or strong stock nor bond market to help. The experience of a stock market in the Region showing top-of-the-world performance in one year only to have the bottom fall out within months, is no comfort in this regard. Once the investor gets into the venture, he has extremely limited opportunities to get out if he needs to. There is thus little incentive to the Caribbean investor on this score. It is also doubtful that the foreign investor would find the small Commonwealth Caribbean road systems of interest even though experience elsewhere is suggesting that they should prefer smaller projects first. The 1994 World Development Report mentions project sizes that could seem to run from a low of around $300 million for our middle income countries as those that could attract foreign investors (pg. 66). The trouble is that road projects of that size - which are small elsewhere - are not small enough to fit into most of our countries, and even if they fit, the scope to expand later will be quite limited and the resultant transactions costs per country could be serious disincentives to private investors. There would be similar disincentives for the private sector operating road systems owned by the governments. It therefore looks like the public sector will be left to own and operate the road systems. That can be made more efficient and it must be tried.

It should be possible to employ private entrepreneurial approaches in all of these by infusions of contract personnel with counterparts, consultancy assignments, training and outright allocation of given tasks subject to competitive selection of service providers. Most important will be the development of maintenance systems and procedures and scheduling which are adhered to strictly. Macroeconomic stability with growth will be key to future performance in economic infrastructure owned and operated by the public sector. But instability with need for adjustment will always be a potential outcome. Therefore, the size of the public sector may be beneficially brought into inverse relationship to the Region's high vulnerability to macroeconomic stress. If the approach to keep roads as public sector infrastructure while most else is privatized is followed, then the size of the public sector would not, however, seem to be a potential problem provided efficiency is the basic policy criterion.

Regulation

Regulatory systems and procedures will be critical under any form of future ownership, and privatization will not be induced unless efficiency criteria rule. The challenge for all the public utilities to be privatized will be to provide long-term licenses that indicate the willingness to see public utilities make adequate profits and give regulatory protection to owners/operators in the judicial system while ensuring reasonable charges to consumers. A model exists for this - the re-privatization of the Jamaica Telecommunications utility done in 1987. The 25-year license has reverted to the type that existed up to the early 1960s and provides for return on equity at 17.5% to 20%. Changes to the license are subject to the consent of the utility and enforceable in the judicial system. Those conditions have stimulated heavy investment in the utility to upgrade and extend its service adding over 160,000 lines to the prior 89,000. A similar procedure has since been utilized for the Anguilla electricity utility and St. Lucia has enacted a 1994 law with similar provisions for.
the electricity utility. Both of these are being privatized by staged share issues. The techniques for utilizing competition as a regulatory device such as unbundling of subsections of utility systems and making those subject to competition for building and operating them, will also need to be examined in order to improve competition and utilize it as a regulator of price and service quality and to reduce the need for undue government regulation. A word of caution on technological innovations seems in order. For telecommunications licenses in particular, competition will increase even under international trade rules. Licenses should avoid situations where exclusive rights could prevent entry of competitors with the more flexible technology. If this is not done, it could stimulate the evolution of monolithic private utilities with characteristics that mimic the worst aspects of public sector ownership and control. That would only tempt the return to undesirable types of regulation. For power utilities with unbundled build, own, operate sections such as generating plants, efficiency criteria will need to be established to prevent unnecessary cost increases given their assured insertion into the system.

Regulation in the Region, of the public utilities - telecommunications, electric power, passenger transportation and water and sewerage - has failed, essentially because governments did not clearly distinguish between their objectives of efficiency in the operations of the utilities and welfare considerations affected by the utilities. Price increases were always anathema to the political authorities. That attitude has been at its worst where competitive political trade unionism dominates the elective process - a widespread condition in the Commonwealth Caribbean. The growth of populist/socialist politics in the Region especially with public declarations to that effect in Guyana, Jamaica, Trinidad and Tobago and Grenada only compounded the tendency and aggravated the confusion of goals in public utility regulation.

In these situations, short-term welfare considerations generally prevailed over those of efficiency whether the utilities were owned by the public sector or the private sector. For privately controlled utilities, the profit motive was seen as the enemy of the people's welfare. A zeal developed for regulation. The Public Utility Commissions established in several of the countries were endowed with power to have public hearings on tariff increase applications with objectors, in the pattern of the systems in the United States. There was no apparent consideration of differences in the economic situation, maturity and scale of the utilities, regulatory capabilities (including a keen sense of balance between consumer protection and the inducement to invest) of the government and its commission, nor the norms and traditions of culture in the United States versus the Caribbean country. A vital point that was apparently missed is that investors feel safer in the familiar environment of their home country and do expect a risk premium for investing in developing countries, in particular.

Tariff hearings have been generally protracted with long recesses. By the time they are completed in some cases, the utility was getting ready for the next application. Some have been acrimonious with much argument on technical aspects of the utility and its accounting practices. The calculation of the rate base, the treatment of depreciation in the accounts, the retirement of assets or their holding for future use, the revaluation of assets, the rate of return on the rate base, the quality of service, the cost of service and the fulfillment of investment plans are argued back and forth. The objector system with highly publicized hearings clearly complicates the process.

The best lawyers, accountants and expert witnesses are hired. Massive staff time is consumed on both sides and tomes of evidence and records prepared. The stakes are usually high politically for the government and financially for the utility. Some utility commission rulings have ended up in the courts. One ruling by the commission in Barbados in 1994 has been taken to court by an objector. In this regard, Barbados, which commenced generalized utility regulation early (1953 law), has had a better regulatory performance and more efficient utilities than many others in the Region, but in recent years the process has thrown up significant threats to this outcome. In one Jamaican case, the utility hired a former Attorney-General of the United Kingdom to lead its appeal in the Jamaican courts. The utility won the appeal despite the fact that there were technical flaws in the assets accounting that the utility admitted.

As high as the stakes are in these hearings and cases, so are the costs. The real question is how much overall cost increase is saved by these types of tariff hearings and what is the long term
welfare benefit to the consumers they are assumed to protect? While the details are beyond the scope of this essay, there are some general points that are clearly indicated.

As long as tariff hearings are aimed at reducing costs to the consumer, they are seen by owners as profit depressants. Whenever profits are depressed or come under threat of being depressed, investors become shy and take steps to protect themselves, even making excessive tariff increase applications that could backfire. Investment will dry up. The utility will not expand nor modernize its plant and equipment. Maintenance will tend to decline. Accounting and financial policies and practices will be devised to give shareholders a stronger case for tariff increases and simultaneously, to strengthen shareholder claims on the utility in anticipation of the worst case scenario of a nationalization event. Such methods tend to increase loan financing versus equity, which automatically propels costs and tariff claims. Indeed, the system could well induce an in-built bias for higher tariff increase applications in anticipation of cuts by the regulators, and thus make itself unduly confrontational.

These kinds of induced reactions by the utility eventually work against the longer run interest of the consumer. Service will not expand and existing service will deteriorate. A tariff saving today could thus become the bane of service tomorrow and thus a Pyrrhic Victory for the regulators and objectors. These features have been having extended runs in the Commonwealth Caribbean. Power brown-outs, and power cuts (scheduled and unscheduled) have been the common experience of much of the Region. The cost of damaged equipment and the cost of private power systems to hospitals, businesses and residences, increase the cost of doing business and of living. For those who cannot afford private power, the loss to business and refrigerated household items plus damaged equipment could well more than compensate for the reductions in tariff claims taking both on a discounted cash flow basis. Add the disincentive to general business expansion and we see a loss of potential output and employment opportunities. In this scenario, the poor are likely to be even more disadvantaged, although the original intention was to shield the poor from price increases. The situation for poor telephone service and limited coverage is different from power utility situations in some detail, but the end result is the same on output, employment and the cost of doing business. Water has its parallel also with the added feature that water lockoffs, leaking mains, low pressure and dry taps especially at elevated points, back suction and poor water quality, add to health and sanitation risks, especially among the poor in peri-urban slums, but with feed-back effects to the general population for many diseases. The inability to extend water and sewerage to such areas for want of finance is widespread in the Region because of insufficient fiscal resources and inadequate build up of internally generated funds. The inconvenience and health risks of this situation are particularly outstanding in Kingston, Jamaica.

Given that these situations exist, it is hard to understand why the logic of the consequences of the regulatory approach has taken so long to influence policy. One problem may be that the utility is always cast as a villain to be arraigned and reformed. But this appears most contradictory of all when the “villainous” utility is owned by the Government (as is common with water throughout nearly all the Region) and the Government’s Public Utilities Commission prosecutes, with zeal, its tariff hearings. Often, there are rigid Government and Commission policies of “no improved service, no tariff increase.” There is seemingly no recognition of possible connections between poor service and poor financial out-turns, or that the poor service often stems from inadequate tariffs in the first place. The ability of the government in the capacity of owner to rectify management faults is not reckoned. And no connection is made between persistently poor financial out-turns and lack of investor interest including investors who could lend to the utility and even to the Government involved, but refrain for fear of policy-induced fiscal, balance of payments and debt service difficulties. These messages we signal to investors don’t stop just with the utility; they permeate the entire spectrum of investor opinions and decisions.

Conclusions

At various points above, we have referred to the effects of macroeconomic conditions on infrastructure. It is impossible to deal with infrastructure without that arising, and therefore, it is considered important enough to be briefly discussed here in spite of a more
definitive treatment of it elsewhere in the overall CGCED work. High macroeconomic vulnerability, especially to the external sector, demands high policy and resource flexibility to deal with it. First of all, this means that there should be flexibility to deal with the fiscal out-turn in such a way that economic activity is not subjected to severe compression by fiscal action to raise revenues or to borrow, and that domestic prices are held in check without burdensome controls and/or subsidies. Secondly, and quite related, it also means that external reserves should be adequate to cushion the effects of external current and capital account transactions when potential volatility arises in the external sector. Thirdly, it means that external and domestic public indebtedness does not make it very difficult to get timely borrowings on good credit terms and conditions. Finally, it means that domestic and foreign investors have reason to be confident in the current policies of the government and in the will of the government to do, and sustain doing, what is necessary to abate and correct imbalances in the economy, as well as to give them a fair return on their investments, (including infrastructure investments), commensurate with risk.

In this kind of framework, economic efficiency should evolve. Then, ownership, control and operation of economic infrastructure should be indifferent as to divisions between the private and public sectors. In other words, if infrastructure is efficient, it should be irrelevant who owns, controls or operates it. The question then boils down to which side is likely to have the greater risk of inefficiency creeping in, because inefficiency feeds vulnerability. Most people argue that governments have an inherent predilection to inefficiency essentially because of their decision-making structure and process, of their inclination to political expediency, and of their conflict of objectives referred to earlier herein. These arguments are not easy to refute on the evidence of past experience in the Commonwealth Caribbean, as elsewhere. Nor are the arguments that the profit motive forces efficiency on the private sector, save for market imperfections. Infrastructure is broadly of the nature of natural monopolies. In that case, competitive forces are essentially limited and care has to be taken that private economic infrastructure facilities do not cover up inefficiencies and pass them on in tariffs that provide guaranteed returns. Systems and procedures have been evolved to help avoid this and our Region must learn to apply them in private infrastructure arrangements.

The size of government is also a moot question that was raised briefly in the previous section. Experience shows countries with large government developing quite successfully. It also shows the reverse, even with small government having a very poor development record. Size of government could thus be less relevant than it is sometimes made out to be. However, the pace at which the size of government grows could be a strong element of macroeconomic instability because it causes excessively heightened business uncertainty that leads even to capital flight, and it rapidly absorbs resources that cause crowding out while fiscal deficits grow quickly and are not soon reversed to correct imbalances.

These kinds of conditions have arisen in the Region and while not all of the macroeconomic problems arose from involvement in infrastructure, they are highly relevant to infrastructure efficiency. Their most significant effect is that macroeconomic management is made more difficult and the difficulty could well arise disproportionate to the growth in size of government because macroeconomic management of the large public sector holdings fetters policy and resource flexibility. But this arises when the skills to deal with the rapid increase are not matching the needs. Therefore, vulnerability to domestic and external shocks is most likely to be increased rather than decreased during a rapid growth of the public sector in relation to the economy. But if the size of the public sector stabilizes at a higher proportion of the economy, does it necessarily reduce vulnerability?

The answer to that question depends on whether government takes a business-like commercial attitude to the operation of its commercial-type holdings or not. The response to political pressure especially under conditions of poverty and high structural unemployment as persist in the Region, will determine the outcome. The mandate and promises of governments to solve these problems, indeed constitute serious political inducement to lean towards the less commercial attitudes in our Region where political mandates are fairly short and very vulnerable to performance on political promises. Short-term welfare gains thus complicate the management of the public holdings and the larger these holdings, the larger and the more
intricate the complications. Therefore, it could be concluded that the size of the public sector, and thus of public economic infrastructure, could be of significant consequence.

Containment of public sector ownership and control of economic infrastructure is therefore likely to reduce economic vulnerability. But that alone will not be enough. We have seen that public utilities can be regulated in ways that impede efficiency of their services and of expansion to meet effective demand. Therefore, the type of intervention of the public sector as regulator of public utilities could undo the potential benefits of smaller government that does not own the utilities. Regulation must therefore be balanced - protecting the consumer from excess charges, as well as providing the investor with an adequate return on investment commensurate with risk, and consistent with reliable service. Regulation should be made as semi-automatic as possible. That should incorporate competition as a regulatory mechanism; and approvals required of the regulators should be fair, timely and inexpensive. "No objection" clauses in operating licenses should become more prevalent than automatic public hearings for utility pricing decisions. Perhaps professional review panels could replace the public hearing system and the panels given powers to have audience with interested parties. That could remove the appearance of a public trial of the utility that is presumed guilty and needs to prove its innocence.

The Commonwealth Caribbean's vision of the future should be conditioned by conclusions of this nature. The temptation to gain short-term welfare benefits at the potential disadvantage of future welfare should be resisted. Measures to reduce that temptation need to be adopted now and allowed time to show their effectiveness in attaining economic efficiency. The divestment of public holdings must be part of this process. But we need to develop a lower mental discount rate for future welfare against today's welfare. This should take into account the utilization of the proceeds of divestment. Their monetization should be made very limited if at all. Top priority should be given to the reduction of the fiscal deficit which is the central cause of macroeconomic difficulties with inflation and balance of payments instability and burdensome public debt service. That would relieve the stress to maintain and expand infrastructure (e.g. roads) retained by the public sector. In addition, it will release resources for the new thrusts in poverty reduction, human resource development and the environment as well as for the reform of the public sector's institutional capability, making it more compatible with the evolving needs of our rapidly changing and competitive world economy. This approach could thus be a major part of the Region's vision, without which, the people perish.
NOTES


69. Notes to the financial statements, Jamaica Telephone Co. Ltd., indicated it as goodwill being written off over the remaining life of the operating license.

70. Carl Parris, “Joint Venture 1: the Trinidad and Tobago Telephone Co. 1968-1972,” ISER, Trinidad, UWI.


73. Some existed from the 1930s. The Jamaican railway tariffs were "kept at a very low level from 1938 to 1974," ("Railway Working Paper," to Ministry of Public Utilities and Transport, by Delcanda Consultants, August 1981, 5). Alvaro Casserly, first Secretary of the Public Utilities Commission and former Director of Finance and Treasurer of the power utility points out that in the 1950s a law was passed to prevent the Jamaica power utility from increasing tariffs to raise development capital. ("Address on Public Utility Regulation: Electricity Service, Jamaica," September 1990, 14). Moreover, electricity licenses were for limited areas and of only one year duration prior to the 1966 All-island Electricity License.

74. Sources: Items (a) (i) to (a) (iv) from the Revenue Board; item (a) (v) from Internal Revenue Department; item (a)(vi) is import duty and GCT at customs point only, tabulated from STATIN’s run of Programme: Revenue 21, and thus lacks that portion of GCT at distributor sales points. Items (e) and (l) supplied in foreign exchange by Ministry of Finance and translated in J$.

75. TOJ - Telecommunications of Jamaica Ltd.
Appendix

Jamaica Road user taxes in illustrative private road provision*(J$\text{m})*

The difference between road user taxes and expenditure on roads is large but the debate needs to recognize that this "surplus" would be much reduced if roads were private enterprise activities. The following items are illustrative of the effect without any pretense at being an accounting model or even a fixed definition of what is a charge solely for road use:

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<tbody>
<tr>
<td>a.</td>
<td>(i)</td>
<td>1994 import duty on motor vehicles</td>
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<td></td>
<td>(ii)</td>
<td>1994 GCT on motor vehicles</td>
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<tr>
<td></td>
<td>(iii)</td>
<td>1994 GCT on first sale of motor vehicles by dealers</td>
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<td></td>
<td>(iv)</td>
<td>1994 Special Consumption tax on petrol</td>
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<td></td>
<td>(v)</td>
<td>1994/95 licenses and fees on motor vehicles and operators</td>
</tr>
<tr>
<td></td>
<td>(vi)</td>
<td>1994 Import duty and consumption tax on motor vehicle tires, spare parts, accessories and lubricant</td>
</tr>
<tr>
<td>b.</td>
<td>Deduct 1/3 as minimum general tax if roads were privatized</td>
<td>1594</td>
</tr>
<tr>
<td>c.</td>
<td>Balance ascribed as road user charges per se</td>
<td>3189</td>
</tr>
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| d. | (i) | 1994/95 recurrent expenses on roads by Ministry of Construction and Local Government (MCLG), Ministry of Construction and Ministry of Water and Transport | 95 |
|   | (ii) | 70% of executive direction and administration of Public Works at $43.6 million, roads being 72% of total revised MCLG capital budget | 30 |
| e. | Interest on multilateral/bilateral roads loans approximated | 152 |
| f. | Interest on general loans used on road financing is not identifiable but should at least equal two-thirds item (e) for counterpart funds (35% of projects) and for road works funded by GOJ only (9% of total) i.e., 44%,0.65 = 67.7%. | 103 |
| g. | Private road providers would apply depreciation charges. |  |

This is difficult to estimate without values of road assets. But assume that the roads, having been constructed long ago, would have the original costs fully depreciated. Thus, current depreciation would be on the capital outlays for rehabilitation, overlay, surface dressing etc. over say, a ten-year life. The 1984/85 to 1993/94 values would give depreciation at about 12% of $3,189 million revenue versus 19% for TOJ. **75** A seven-year life would give $500 million or 16% of revenues.

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85
<table>
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<th>Illustrative current costs before profits (d+e+f+g)</th>
<th>762</th>
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<td></td>
<td>Illustrative balance after current expenses (c - h)</td>
<td>2427</td>
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<td>j.</td>
<td>A desired rate of return for dividends and reserves (including self insurance and contribution to future road projects) is hard to determine. But TOJ’s 7-year record gives a clue with after tax earnings at weighted average 22% of revenues with a low of 16.7%. Current income tax rate is 1/3. So pre-tax profit should average 33%. So assume 15% for roads as a low level (0.15 x 3189).</td>
<td>478</td>
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<tr>
<td></td>
<td>Balance after profits (i-j)</td>
<td>1949</td>
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<tr>
<td>l.</td>
<td>Road loans amortization - multilateral and bilateral</td>
<td>269</td>
</tr>
<tr>
<td>m.</td>
<td>Assume amortization of other loans for roads at two-thirds item (l) which could be a low estimate [see item (f)].</td>
<td>179</td>
</tr>
<tr>
<td>n.</td>
<td>Balance for other GOJ spending (including roads) and compensation to society for road user pollution (k-l-m).</td>
<td>1501</td>
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</table>

Against these factors, Government’s capital spending on roads for 1994/95 (revised budget) was put at $1.6 billion. Before profits, the current balance is $2,427 million which is not the “vast multiples” of $1.6 billion that is generally assumed. Adding back depreciation but not profits (1501+382) would provide $1883 million, which is likely to be the level that a prudent road entrepreneur would plow back into road capital programs in these circumstances.

This is approximately 17% more than was put into capital spending on roads in 1994/95. The state of the roads in Jamaica needs more than that and the Government has taken a strong step towards rectifying this situation in the 1995/96 budget.