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INVESTMENT PATTERNS AND ECONOMIC GROWTH
IN JAMAICA: 1981-1988

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INTRODUCTION

Statement on the nature of the problem

Jamaica's economy, which experienced declining levels of output, high fiscal deficits and unsustainable balance of payments problems in the 1970s, adopted the market-oriented adjustment strategies of the IMF/World Bank in the 1980s, placing greater emphasis on the role of the private sector in its development efforts. These strategies were aimed at reversing the declining trends of the previous decade and achieving sustainable levels of growth in the medium to long term. Growth was expected to take place through the government's policies which promoted the private sector as the main engine of growth and development, with a substantial portion of development financing originating from direct investment from abroad. Though the adjustment policies incorporated most of the features which strongly promoted the role of the private sector and created an environment conducive to foreign investment capital, the country was unable to attract any significant inflows of the latter during the period under review, and in addition, according to one writer (Pantin, 1989), net annual foreign investment flows was minus US$7 million during 1981-1987. The country's capital accumulation in fixed investments also contracted severely in the mid-1980s and by 1988, investment figures were still below the levels of the early 1970s.

It has been strongly argued by many writers that the objectives of the adjustment programmes in developing countries have, in large measure, not been achieved, and in some countries, conditions actually deteriorated. More specifically, the private sector has not been living up to the expectations of adjustment strategies, as very recent studies have shown that its savings and investment behaviour is not uniform, but varies according to country-specific conditions and debt profiles, and in many cases, savings as well as investments declined for most of these countries in the 1980s (Fitzgerald and Sarmad, 1990). Another study by Sarmad (1990), showed that the public sector's contribution to economic growth has been more significant than that of the private sector during the 1980s.

Many of these developing countries undergoing stabilisation and structural adjustment programmes have been applying the principles of the free-market approach espoused by the IMF/World Bank, which consists of a combination of macroeconomic policy reforms including real competitive exchange rates and improvements in the budget deficits through the use of 'prudent' fiscal and monetary policies, together with trade liberalisation, privatisation and deregulation of markets and prices. These principles are based on two fundamental beliefs of these institutions that (i) the private sector is more efficient than the public sector and should be given every opportunity to play a more dynamic role in the countries' quest for economic development and (ii) the allocation of resources and prices should be determined by the free play of market forces. Consequently, the public sector is usually blamed for many of the problems facing these countries via expansions in fiscal deficits which, it is claimed, limits the availability of domestic and foreign funds for private sector investment, drives up the

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inflation rate, increases debt service payments and exacerbate balance of payment difficulties.

Hence the core of stabilisation and adjustment strategies insist on a reduced role for the public sector as well as the liberalisation of trade, financial systems and exchange rate markets. These strategies should generate greater public savings, release scarce resources for the use of the private sector and create a less distorted macroeconomic environment which should improve resource allocation and consequently productivity and growth. According to a recent study done by Pfefferman and Madarassy (1991), the marked movement observed in many developing countries towards a market economy has encouraged private sector investment, which they claim has generally increased in the latter half of the 1980s. Closer examination however, reveals that this increase in private sector investment was restricted to the more industrialised countries of East Asia (the NICs), whereas for most of the other LDCs very little growth or negative levels of investment took place.

Quoting from an ILO study carried out on several Latin American countries and Jamaica between 1981-1985, Pantin (1987) points out that the structural adjustment programmes in these countries resulted in the worsening of social and economic conditions through the transfer of income from labour to capital, and instead of a stimulation in additional investment in this sector, there was increased consumption accompanied with declines in investment. Investigation of the available data on Jamaica lends some support to these findings as the share of private sector investment in the country's total investments figures has been declining since it peaked at 56.6 percent in 1984. By 1988, the comparative figure was 38.7 percent, accounting for only 10 percent of GDP, having declined from 12 percent in 1984. On the other hand, public sector investment consistently accounted for levels in excess of 50 % of total investment except for 1984-1985, and for the period averaged 13.5 % of GNP compared to the private sector's 9.7 %.

Jamaica suffers from limited foreign exchange availability as over time, the balance of payments picture has been one of inadequate exports and tourism revenues competing with huge outflows of debt service, imports payments and foreign investment income. For instance, total foreign exchange payments for imports of goods and services consistently exceeded export earnings between 1981 - 1988, and this trend is typically demonstrated by the deficit of US$181.9 million recorded in this section of the BOP accounts in 1988. At the same time, the debt service payments have been very burdensome on the country's scarce foreign exchange resources, evidenced by the dramatic increase in the debt service ratio from 19.3 percent in 1980 to 40 percent in 1988.

It is not surprising therefore, that many economists are of the view that countries undergoing adjustment programmes, including Jamaica, only manage to improve their balance of payments difficulties primarily through growth in debt creating foreign capital inflows instead of through growth in exports or foreign direct investments. Hence, the meagre inflows of investment capital totalling US$132 million between 1981-1988, combined with the massive build-up in the country's external debt which increased from US2.3 billion in 1981 to US$4.3

billion in 1988, would strongly suggest that much of the country's public sector investment was being financed by external borrowing.

Major hypothesis

One of the main objectives of stabilisation and adjustment strategies in the 1980s was focused on reducing the role of the public sector to create a more favourable investment climate for private investment. However, investment from the private sector and foreign sources have not been very responsive to "favourable" adjustment conditions, while investment by the public sector, largely financed by external debt was the main stimulus to investment expansion and growth.

Consequently, the major aim of this research paper is an assessment of Jamaica's investment patterns during the period 1981 - 1988 with special emphasis on the role and the relationships between the public and the private sectors in the accumulation and growth process. More specifically, it is of great importance to determine the methods of financing, whether by external funds (debt and FDI) or through local resources; and the nature of the investments undertaken by each sector, given the argument that expanding fiscal deficits limits the availability of domestic and foreign funds to the private sector. This will throw some light on whether the investments of the public sector results in "crowding out" or complementing that of the private sector.

The analysis will be structured within the framework of the adjustment programme the country underwent in the 1980s. Most of the existing economic literature relating to the topic has been done at the aggregated level which does not reflect the relationship between the private and the public sectors in investment activities. This then is the point of departure for the focus of this study which will concentrate on :

(i)   the observed patterns and relationships in the shares of the private and public sectors in total investments.

(ii)   the methods by which investment is financed by both sectors and the role of domestic credit, external debt and FDI in the investment process.

(iii)   the types of investments undertaken by each sector and

(iv)   the impact of adjustment policies on the public sector's investment and the response of the private sector to these measures.

It is also argued that large fiscal deficits lead to inflationary pressures and higher interest rates. Based on Jamaica's attempts to liberalise its financial market, it would be worthwhile to asses the response of savings and investment to these measures. The evidence so far has shown that high interest rates contributed to rising prices and depression of investment activities. In addition, an attempt will be made to asses whether or not adjustment strategies contributed to the growth and development process in the economy, which should assist in determining the appropriateness of such policies for developing countries such as Jamaica. It is hoped that the analysis will also assist in clarifying the roles of the public

sector versus that of the private sector in addition to providing some pointers for future policy measures in the country's development strategies.

Methodology, organization of the paper and sources of data

The research paper will be developed using a combined analytical/survey approach beginning in Chapter 1 with a review of the orthodox neo-classical theories on investment and savings in developing countries, whereby investment is argued to be constrained by savings or alternatively by the lack of foreign exchange. This section establishes the framework within which the adjustment policies of the IMF/World Bank are devised, and special reference will be made to the institutional roles assigned to the public and private sectors according to the orthodox theories postulated by the Fund and the Bank. The relevance of these theories to the accumulation and growth process in developing countries will be highlighted by contrasting them to the more recent approach of the structuralists within the development economics framework. This will involve an examination of two contrasting growth models which have been developed to incorporate the major structural constraints which is believed to limit savings, investments and economic growth in developing countries. In addition, the theoretical role of the various sources of financing, in particular foreign direct investment and external private borrowing, as well as the impact of interest rate liberalisation on investment patterns in Jamaica will also be examined.

In Chapter 2, the analysis shifts to a review of the major macroeconomic developments in the Jamaican economy during two specific periods; the 1970s and the 1980s. The period of the 1970s will provide a contrasting background against which the transformation of the economy to an export-oriented market structure took place in the 1980s. This comparison is intended to highlight the increasing prominence given the private sector in the various strategies aimed at restoring macroeconomic stability in the medium term for growth in the longer term. The remainder of the chapter focuses on the general trends in GDP growth rates, savings and investments during the two periods and the impact of "interest rate liberalisation" on these variables in the 1980s.

Chapter 3 concentrates on investment patterns at the sectoral level during 1981-1988. The public and private sector breakdown of the country's investment is highlighted and while attempts are made to ascertain the types of capital expenditure in the public sector, much emphasis will also be placed on investment behaviour in the construction and manufacturing sectors as these are the two most important capital formation sectors in the economy in which both the public and private sectors feature prominently. In each case, the sources of financing will also be examined. Graphical presentation will provide support for some sections of the analysis, and empirical testing on some of the data will be done to provide verification for some of the observed trends. In Chapter 4, the policy implications arising from the findings in the paper will be discussed within the context of the impact of stabilisation and adjustment strategies on investment and growth in Jamaica, after which, the paper ends with

concluding remarks.

The major sources of data are the World Tables (1989) and the IMF's Balance of Payments Statistics for various years. These will be supplemented by the publications of the Planning Institute of Jamaica, the Statistical Institute of Jamaica and the Bank of Jamaica, which will provide additional information on the components of public and private sector investment and their major sources of financing. Other publications and literature from the World Bank, the IMF, the Economist Intelligence Unit's Country Reports as well as studies from the ISS' Working Paper Series will provide useful information for the analysis of the paper.

CHAPTER 1
THEORETICAL BACKGROUND

1.1   Investment, growth and development: an overview

Investment can be a multi-dimensional concept depending on the context in which it is applied. For the purposes of this paper, it will be defined as "additions to the physical stock of capital " ... such as ..."housing construction, building of machinery, business construction and additions to a firm's inventories of goods" (Dornbusch and Fischer, 1988:50). The acquisition of financial assets such as bonds and stocks, which represents another aspect of investment activities, is not included in this definition. However, reference to a wider meaning of the term to include investment in human capital, which is defined as "the knowledge and the ability to produce, that is embodied in the labour force, for example, education" (ibid), will be made occasionally throughout the paper.

In general, there is consensus among economists about the crucial role of investment in the growth and development process. Other terms such as "capital formation" and "accumulation" are also used in the literature to describe this process while yet a third, "capital fundamentalism" was coined by Gillis et al (1987) to express the view that the development problem was essentially "one of securing investment resources sufficient to generate some chosen target rate of national income growth". Dissenting opinions have been expressed elsewhere however. As Anderson (1987) points out, several growth studies (admittedly carried out in developed countries and based on assumptions applicable only to those countries) have concluded that investment's contribution to growth is minor, and where evidence was available, investments in developing countries was felt to be wasteful and even responsible for negative growth rates. On the other hand, the types of policies utilised in the LDCs are felt to be the most crucial determinants of growth, which is the position taken by Kalecki, when he argued strongly for the maintenance of real wage levels (FitzGerald, 1988).

Whilst opinions may differ, it is acknowledged that capital accumulation is not the sole determinant of a country's growth and development. However, it is nonetheless felt that societies can only sustain acceptable levels of long run growth by maintaining reasonable levels of investment. This is the view of Anderson (op. cit, p.5) who maintains that "investment remains a good explanatory variable for growth - whether growth is fast or slow, positive or negative", but the magnitude of the contribution, he continues, is ultimately dependent on the measure of allocative efficiency with which investment is applied.[1] This view, of course, is also the central tenet of the neo-orthodox institutions (the IMF and the World Bank) which constantly stress that growth depends on savings and the efficiency with which resources are utilised, and the latter governed by prices, markets and maximisation of inputs (World Development Report, 1983). Much of the following analysis will revolve around these issues

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[1] *This he defines as the social rate of return or the net present value of investment.*

as they are the central elements on which stabilisation and adjustment strategies are built and therefore carries implications for the economic, social and political roles for both the private and public sectors in the development efforts of the LDCs.

A distinction between the terms 'growth' and 'development' may be warranted at this point as both terms are often thought of as being synonymous with each other, when in fact they are not. Economic growth occurs when there is an increase in a country's national output, whereas economic development embodies structural and demographic changes, rising levels of per capita income and wide participation by the majority of the people in the benefits and production of the development process (Gillis et al, 1987: 7). The methods by which such growth can be accomplished has been examined in various growth models[2] and provided the foundations for the much debated controversy over the role of savings and investments in economic development. This is the focus of the next section which examines the relevant theories and the methods by which investment and development are financed.

1.2 Investment theories and sources of financing

1.2.1 Theoretical approaches

The prior savings or classical approach, postulates that domestic savings is a prerequisite for investment and that all savings is translated into investment depending on variations in the interest rate.[3] On this basis, appropriate fiscal and monetary policies including high interest rates are urged by the proponents of this school, to encourage savings and to ensure the efficient allocation of capital for growth and development.

Two of the more popular growth models which were built on the assumptions of the classical approach and which greatly influenced development thought and strategies are Lewis' labour-surplus model and the "two-gap" model constructed by Chenery and Strout (1966). The former, based mainly on assumptions of a labour-surplus economy, argues along classical lines that growth was savings constrained and could be stimulated as long as there was cheap labour to continue expansions in capitalist production, which would enable re-investment of capitalists' profits in the economy. Chenery's two-gap model, on the other hand, incorporated the "one-gap" savings constrained model in his analysis, and by adding a second constraint argued that investment and growth in developing countries is more likely to be thwarted by a lack of foreign exchange to finance the necessary imports for capital accumulation purposes. It was within this context that he argued the case for increasing aid to the developing

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[2] One of the earliest growth models is the Harrod-Domar model, sometimes referred to as the 'one-gap' model and is represented by the following equation: $g = s/k$ where g is the targeted growth rate, s is the savings rate and k is the capital-output ratio. Based on the assumption that output is determined by the amount of capital investment, the model basically states that growth targets can be achieved by predetermining either the levels of savings or investment.

[3] See A. P. Thirlwall, (1983) for more details and comparison of the various approaches concerning the relationship between savings and investment.

countries.[4]

Various criticisms have been levelled at these models, some of the main opponents contesting that the barrier to growth, rather than a shortage of savings, is rooted in the structural bottlenecks in the system that limits the availability of investment opportunities. (Thirlwall, 1983: 259). Others have argued that aid substitutes rather than supplement domestic savings, and as a consequence, does not contribute to growth (Griffin, 1970), while one of the main weaknesses of Chenery's model has been traced to its lack of substitutability between its fixed imports and exports co-efficients.[5]

Griffin's arguments, however, have been questioned on the basis of a mis-specification in his model which negates much of his argument, and in addition, he is taken to task for the inadequate attention given to the positive effects that "consumed aid" could have on income from expenditures on nutrition, health, education, etcetera (White, 1991). Notwithstanding the diversity of views, the essence of the two-gap model's analysis, that foreign exchange is the main constraint for developing countries' growth, is widely maintained by many economists, and this implicitly implies that aid, as well as other types of foreign capital, will remain one of the most crucial requirements for the financing of investment and development needs of these countries.

1.2.2 Financing of Investment

The two main sources of financing for investment purposes can be broadly classified into domestic savings and foreign savings. Thirlwall (1983) distinguishes three types of domestic savings as follows:

(i) voluntary savings generated from voluntary reductions in private consumption and to this the profits and retained earnings of private sector firms can be added

(ii) involuntary savings consisting of taxation, otherwise termed involuntary reductions in consumption

(iii) forced savings which takes place from the effect of inflation in reducing consumption.

The relevant theory relating to domestic savings, investments and the interest rate is dealt with in section 1.4 but for now we will look at the role of foreign savings as one of the major sources of investment financing. This category is further sub-divided into direct investment and external borrowing.

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[4] According to FitzGerald (1988), an alternative to the need for aid has been put forward by Kalecki, who argues that in situations where foreign exchange is a constraint on investment activities, policy measures should be aimed at maintaining or increasing real wages to effect the realisation of higher rates of savings to maximise growth.

[5] See Livingstone (1981) and Thirlwall (1983) where the latter states that such restrictions may well be valid in developing countries in the short run, when it is more difficult to convert domestic resources into foreign exchange.

Direct foreign investment

The related theory concerning the role and effects of direct foreign investment (DFI) are reflected in two opposing views; the dependency school argues that multi-national corporations (MNCs), which traditionally provide the largest source of DFI, pre-empt local capital, contributed little to new inflows, utilised inappropriate technology and stifle local entrepreneurship, while the pro-foreign investment school believes that external investment capital has a positive contributory role to play in these countries through the provision of capital, technology, management and marketing skills, access to international markets, employment and growth (Grieco, 1986).

Since the onset of the debt crisis in the early 1980's, immense interest has revived in DFI as a source of external financing in many developing countries, and in effect represents a reversal of the popular trend in the 1960's and the 1970's when strong waves of nationalism and dissatisfaction with the MNCs, resulted in a reduction of their numbers in these countries.[6] Along with inadequate foreign exchange earnings because of declines in their external terms of trade and the adverse effects of debt service obligations on their balance of payment accounts, these highly import-dependent countries actively sought to attract new inflows of DFI in the hope that they would gain some of the tangible benefits stipulated by the pro-foreign investment school.

Consequently, a wide range of incentives are offered to attract DFI which usually takes the form of generous tax incentives including tax holidays[7], monopoly rights to local markets and guarantees for the repatriation of profits and capital. Substantial efforts have been made in creating conducive environment for the MNCs including legislation to ensure low labour costs and liberalisation of policies governing their operations in the host countries. In spite of these efforts, however, it is not only argued that many of the expected benefits of DFI are not realised,[8] but more specifically DFI as a source of investment financing, has not increased to any significant extent for many developing countries.[9]

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[6] In her elaboration of this development, Page (1987: 36) points out that MNCs are traditionally viewed as providers of capital which seek to promote their own interests over those of the host country, repatriated more capital out of the country than they brought in and that the costs of their presence in the country (for example, inappropriate technology, income distribution effects) outweigh the benefits accruing to the country.

[7] Cable and Persaud (1987) states that tax incentives are more important to export-oriented activities (especially in the mining and petroleum sectors) than to import-substitution ones. He further stresses that the best tax regimes are the ones which focus on revealed profitability rather than the use of high flat rate royalties and export taxes.

[8] Various criticism over the development impact of MNC operations revolve around issues of the excessive capital-intensive nature of their production methods which result in low levels of employment rates, as well as the absence of backward linkages in other sectors of the economy, non-compliance with national economic and political objectives due to their size and power, exacerbation of social and regional inequalities, transfer pricing practices and more recently, their contributory role in the net transfer of capital from developing countries , which averaged US$2.17 billion between 1979-85. (Cable et al, 1986: 27)

[9] Cable et al (1987) revealed that DFI declined from 24 % of total external capital to LDCs in 1967-73 to 11.2 % in 1981-85.

Within this context, Page (1987) suggests that some countries may need to devise more creative incentive schemes in which they possess a special advantage other countries do not possess. However, cautions against exaggerated expectations of dramatic increases in DFI have been proffered by Cable et al (1987), as they pointedly argue that even with special incentives and declarations of support, there is no guarantee that foreign investment inflows will grow substantially as perceptions do not change overnight and the process of generating large flows of foreign investment capital is a slow and accumulative one.

External borrowing

Having examined the role of DFI in the development process, it is now necessary to do a brief analysis of the growth and role of external borrowing in LDCs, as the latter constitutes the major source of foreign financing to these countries. The oil price increases and other BOP shocks in the 1970's were two of the main external factors contributing to the massive build-up of debt stocks, which almost tripled from US$400 billion in 1979 to US$1121 billion in 1988. Debt service payments concurrently grew from US$74 billion to US$133 billion over the same period while debt service ratios burgeoned from a level of approximately 13 % in 1981 to 30 % in 1986 and then to 27 % of export earnings in 1988.

Needless to say, debt repayments for most LDCs in general, severely exacerbated their BOP problems and led to the debt crisis in the early 1980's. More recently, major concern has been expressed over the net transfer of capital (amounting to minus US$45 billion in 1988) which has been draining scarce foreign exchange resources from the LDCs to the developed countries. This phenomenon, described as the "scissors effect" diverts foreign exchange which could have been otherwise used for financing domestic investments and capital imports. (Gillis et al, 1987: 392).

In summary, the major points in the analysis paints a rather gloomy picture for the prospects of financing investment and growth in LDCs from external sources. In his articulation of the problem, Vos (1989: 149) argues that "the South cannot determine independently its own growth and investment rate, but is constrained in its foreign exchange levels by credit rationing by lenders of international bank credits and by donor stringency in the supply of official development assistance". Moreover reservation is expressed over the possible positive effects that large inflows of development assistance could have on growth as his analysis points to reduced demand for developing countries exports if inflows of foreign capital is in the form of aid raised by tax measures in the North.

The dilemma of huge external debts on the one hand, and lack of external capital on the other, forced many developing countries to undertake adjustment measures aimed at restoring debt servicing capacity in the short-run and possibly growth in the long run. It was felt that poor policies of economic management and reluctance to effect timely adjustment measures were responsible for these problems and the accompanying lack of growth. The next section will therefore look at the relevant aspects of stabilisation and

adjustment in so far as it relates to the placement of investment activities in the theory.

1.3 Patterns of investment and adjustment policies

It is the view of the International Monetary Fund (IMF) and the World Bank that the debt crisis and BOP difficulties had their roots in excessive external borrowing in the 1970's to finance huge fiscal deficits in the public sector, which in turn contributed to the imbalances in their external accounts. Stabilisation and adjustment measures are therefore geared at reducing both the fiscal and BOP deficits by utilising a range of fiscal, monetary and exchange rate policies. Emphasis, however, is usually placed on fiscal measures aimed at curtailing domestic demand through reductions in public sector expenditure whilst adjustment strategies to encourage growth are built on assumptions of "efficiency" and "market-clearing" mechanisms, and consequently define distinct roles for the public and the private sectors to effect appropriate macro-economic responses in these econmies. This of course has certain implications for the patterns of investment undertaken by the two sectors. But before this is examined, it is necessary to review the theoretical arguments underpinning the approaches of the Fund and the Bank.

The Fund's programming framework is structured on the principles of the monetary approach to the balance of payments which links the domestic assets of the country to its external assets (IMF, 1987). Based on assumptions of exogenous money demand functions and the law of one price, it is demonstrated that changes in the demand for domestic assets (i.e. the banking systems credit) over and above the stock of money, impacts directly on the balance of payments through the net international reserves. This relationship is depicted in the following identity:

$$Y - A + {}^{\wedge}F = {}^{\wedge}M - {}^{\wedge}D = {}^{\wedge}R$$

where Y = national income, A = the level of absorbtion (investment plus consumption), ${}^{\wedge}F$, ${}^{\wedge}M$, ${}^{\wedge}D$ and ${}^{\wedge}R$ represent changes in net external capital, the stock of money, domestic credit and net international reserves respectively.

The analysis can now be extended to show the relationship between monetary and fiscal activities in the economy. Based on the belief that initial imbalances in the BOP have their origins in fiscal deficits financed by domestic credit and/or foreign capital, a distinction is made between these two variables so that ${}^{\wedge}D = {}^{\wedge}D_p + {}^{\wedge}D_g$ and ${}^{\wedge}F = {}^{\wedge}F_p + {}^{\wedge}F_g$ separates the amount of credit and external capital to the private sector (${}^{\wedge}D_p$ and ${}^{\wedge}F_p$ respectively), from the shares going to the public sector (${}^{\wedge}D_g$ and ${}^{\wedge}F_g$). The budget deficit is represented by $G - T = {}^{\wedge}D_g + {}^{\wedge}F_g$ where G is government expenditure and T is government revenue, with the deficit being the central variable on which the types of fiscal policies are determined to accomplish internal as well as external stability. The belief is that the restriction of credit to the public sector, through ${}^{\wedge}D_g$, will facilitate improvements in the BOP and at the same time, allow the private sector greater access to the limited availability of resources, so that it's investment activities are not crowded out under the restrictive conditions of stabilisation

and adjustment measures.

The World Bank's approach is similar (World Development Report, 1988: 55-58). It is postulated that imbalances in the current account is channelled through the fiscal deficit which is financed by private and external savings and the printing of money.[10] Overdependence on private savings results in higher interest rates and reductions in private investment while excessive external borrowing contributes to an over-valued exchange rate, unmanageable levels of debt and instability in the external accounts. Money creation is argued to contribute to higher inflation and carries with it the undesirable effect of "seigniorage" (the governments ability to claim real resources) and an implicit inflation tax which results from the fall in the real value of money holdings. Consequently, inflation is deemed to be a fiscal phenomenon, which can only be corrected by reductions in the fiscal deficits.

Alternatively, the government may utilise tight monetary policies through higher reserve requirements or issuing of bonds to reduce the rate of growth in money supply and hence, inflationary pressures. This, however, is viewed with less favour, as it is argued to lead to low savings, capital flight and declines in investment. Therefore, other stabilisation measures involving the exchange rate is usually recommended in conjunction with prudent fiscal policies. Extensive use is consequently made of credit ceilings as a policy variable to effect improvements in the BOP. Under conditions of limited credit availability, restrictions are subsequently placed on the level of public sector borrowing on the assumption that the private sector is more efficient than the public sector; therefore it should be allowed greater access to domestic credit and external financing for working capital and investment purposes.

This is the basis on which the crowding-out argument is built, which according to Dornbusch and Fischer (1987: 156), occurs when increases in government spending results in higher levels of output and income and creates excess demand for real money balances and goods. This in turn results in higher interest rates which causes cutbacks in private sector investment.

On the basis of the preceding analysis, it is argued that there are direct and indirect effects of public spending on the BOP[11] and private investment. The direct effects are purported to contribute to deterioration in the BOP without affecting output and inflation if government expenditure finance the purchasing of tradable domestic goods (assuming fixed capacity or full utilisation of resources) while the indirect effects result in the "crowding-

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[10] *The following demonstrates the links between the fiscal deficit and its sources, based on national accounting identities equating total investment to total savings:*

$$I_g + I_p = S_g + S_p + S_f$$

i.e $I_g - S_g = (S_p - I_p) + S_f$ *where the left-hand side represents the public sector deficit and the right hand side is the private sector surplus and the current account deficit (WDR, 1988: 58)*

[11] *The analysis by Khan and Montiel (1989) concludes that increases in credit expansion is equally matched by decreases in reserves and hence deterioration in the BOP.*

out" of resources to the private sector, inflation and capital flight.[12] It follows then that very specific criteria to determine the parameters and the limits of public sector expenditure will be advanced by these institutions and this becomes very evident in the view of the World Bank on "what governments do best". Accordingly, "The general goal of public sector investment should be to complement and support – rather than compete with – market determined activities." (World Development Report 1988: 112). More specifically, public investment activities are limited to the provision and maintenance of basic infrastructure, whilst spending on productive activities, such as transportation and housing, should be left to the greater efficiency of the private sector.

Empirical evidence supporting this view[13] claim that excessive public sector borrowing limits the amount of funds to the private sector while public sector spending on infrastructure is complementary (i.e. increases the efficiency of private sector investment). Therefore, public sector borrowing should be limited to levels that allow maximum access of the private sector to bank credit and external resources to satisfy their investment needs. In addition, fiscal policy involving reductions in public expenditure should be aimed at non–infrastructural costs.[14]

Critics of the IMF/World Bank's approach have presented counter–arguments along structuralists' lines on the major issues in the preceding analysis. The stucturalist approach to economic analysis is derived from its recognition of the dynamic relations between the different institutions and sectors at various levels of the economy which profoundly impacts on and determine specific methods of resource allocation and their response to policy measures. According to Taylor's definition (1983: 3), "economic analysis is structuralist" when it takes into account the institutional behaviour of different classes and groups in the society which influence the results in a particular pattern of resource allocation. This approach, he argues, differs from that of the neo–classical school which ignores the structural features and dynamics in the economy and instead articulates the economies of LDCs on "a set of interlocking maximization problems" ... where ..."markets are almost always postulated to be price–clearing when it is patently obvious that many functioning markets are cleared by quantity adjustments and queues." Furthermore, he continues, a fixation with "getting the prices right" soon become an end in itself, as is the case with the view that tight monetary and fiscal policies (specifically credit ceilings, high interest rates and cuts in budget deficits) will increase savings that is automatically translated into higher investment and growth.

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[12] On the other hand, Pantin (1989) cites the result of an ILO study on some Latin American countries and Jamaica which revealed that capital resources released from cuts in public expenditure financed capital flight and stimulated increased consumption as well as declines in investment by the private sector.

[13] See Blejer and Khan, (1984) and Sundararajan and Thakur, (1980).

[14] Interestingly, another study done by Blejer (1988) stressed the importance of fiscal policies over monetary and exchange rate policies in small, dependent economies to prevent "crowding-out" and permit growth; while Michalopolous (1987) made the case against the restrictive use of monetary policy which can adversely affect private sector investment and limit growth under stabilisation.

On this basis, cuts in public expenditure to prevent "crowding-out" can have double contractionary effects on output as well as on private sector investment , as there is strong evidence of complementarity or "crowding-in" between public and private capital formation in the mixed economies of most developing countries (Taylor, 1988; Dell, 1982). It is also argued that the investment decisions of the larger firms, which enjoy preferential access to bank credit, are not constrained by credit restrictions, as financing is done from retained profits (maintained by mark-up pricing), while the households' investment decisions are constrained by lack of access to bank credit and their savings (FitzGerald, June 1989). Another point was brought out by Dell (op. cit) who states that targeting of monetary variables can lead to inaccuracies and hence failure in achieving such targets which is further compounded by the short time frames of the stabilisation programmes.

Although stabilisation programmes traditionally focus on short-term measures to correct BOP and fiscal imbalances, a recent attempt was made to structure stabilisation policies within a modular framework which allows for the achievement of long-term growth.[15] It is maintained that for growth to take place, policies that encourage savings, such as the liberalisation of interest and exchange rates and reduced government expenditure, are necessary to promote private sector investment and higher growth in output. The recommendations of the model, however, are tendered on strictly neo-classical assumptions of flexible prices, full employment and supply-determined growth, while other variables such as the rate of interest and investment by the public sector have been excluded on the grounds of maintaining transparency and simplicity. It's validity and applicability to LDCs is highly questionable, and, reflecting the view of the author themselves, "can lead to incorrect policy recommendations" (Khan and Montiel, 1989). Furthermore, behaviourial and institutional relationships, which are key determinants of savings and investment behaviour in LDCs are not factored into the model (Jansen, 1989); there is also little evidence to support neo-orthodox claims "that market oriented solutions will lead to more efficient resource allocation, automatic stabilisation and renewed economic growth" (FitzGerald and Vos, 1989).

An alternative stabilisation model, constructed within the structuralist framework that takes into account the institutional dynamics and other constraining factors determining macro-economic behaviour in developing countries, arrived at quite different conclusions from the ones drawn above.[16] It was demonstrated that in import dependent countries, increased public expenditure results in forced savings in the wages sector (through reductions in the real wage or reduced consumption) and in increased profits through the re-distribution of income from wage earners. Hence, policies to reduce government expenditure are not guaranteed to effect improvements in the balance of payments and as such, policy implications point to

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[15] Khan and Montiel (1989) merged the World bank's two-gap growth model with the financial programming model of the Fund and incorporated growth related variables that contribute to output such as private and public sector spending, savings, capital to output ratio and exports.

[16] See FitzGerald, (1989b)

stabilisation management utilising fiscal and interventionist measures which will maintain real wages and equitable income distribution (in the Kaleckian fashion) if growth is to be realised.

1.4   Financial liberalisation, investment and growth

Like the World Bank, many of the Fund's policies to increase growth are usually qualified on the grounds of attaining "greater efficiency" and improvement in resource allocation.[17] Their view is that such objectives can be achieved by using "measures to increase domestic savings" as "investment in developing countries is frequently constrained by the availability of savings" in both the public and the private sectors (IMF, 1987). These measures include liberalisation of interest rate controls, exchange rates, trade and prices, plus minimum government intervention in productive sectors to prevent distortions, achieve allocational efficiency and provide the right incentives to increase savings and investments (IMF, 1990). For our purposes, we will only concentrate on the theory relating to the liberalisation of interest rates as we are interested in the effects such action will have on investment and savings.

While public sector savings can be achieved by fiscal policies that increase revenue or reduce expenditure, the Fund maintains that the main policy instrument to raise the level of savings and investment in the private sector is the interest rate, as depicted below in the following figure.
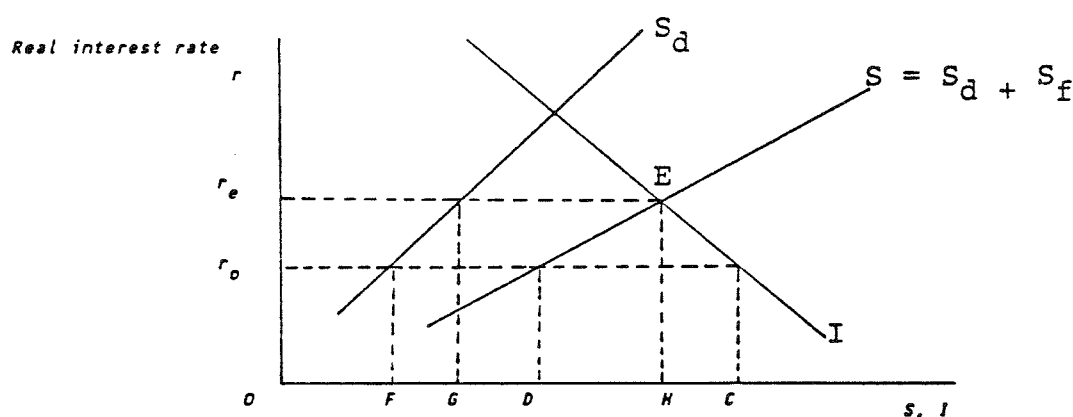
Figure 1. Effect of interest rate policy on private saving and investment (IMF, 1987)

Total savings is represented by the positively sloped line, S, which is the sum of domestic savings S_d, and the available foreign savings S_f, while total investment is represented by the negatively sloped line, I. Based on the assumptions of the Mckinnon-Shaw "repression" school,

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[17] According to the Bank (1983: 37-43), growth primarily depends on the country's savings and the efficiency with which these savings are invested. Developing countries in general, and governments in particular, are deemed to lack adequate managerial skills and therefore, as far as the accumulation process is concerned, the mobilisation of savings for investment should be done by efficient financial institutions while "smoothly operating financial markets ensures that money goes to investments yielding the highest returns.

it is argued that r_o is less than the real rate of interest (due to interest rate ceilings and high rates of inflation), and at this level, total savings, OD, is inadequate to finance the required level of investment, OC.

However, with liberalisation (the removal of controls on interest rate and credit allocations), allocational efficiency is ensured when the real rate of interest is determined by market forces of demand and supply at r_e , where total savings has increased by DH to satisfy investment which has also increased by HC (assuming that both types of savings are interest-elastic). The figure also indicates that the original current account deficit of the private sector, FD, which is the difference between total savings and domestic savings, has widened with the increase in the interest rate to GH, and this, according to the Fund, is a reflection of a higher level of private investment financed by foreign capital inflows, rather than a low rate of savings. Empirical evidence is cited to show the positive effects of financial liberalisation on savings and investments.

These claims can be challenged on several grounds. There is little evidence that domestic savings in developing countries are interest-elastic (FitzGerald, 1989a; Jansen, 1989; Taylor, 1988) and it is widely held that sustained increases in the real rate of interest generally dampens the response of investment expansion. Furthermore, empirical evidence has shown that a significant portion of the private sector's savings is used to finance capital flight rather than investment (FitzGerald and Sarmad, 1990). Hence, the suggestion that the removal of distortions in the savings market will yield higher savings, investment and growth does not coincide with the facts.

Pointing to the absence of structural analysis in the neo-orthodox models and their incorrect assumptions of a "homogeneous, competitive and profit-maximising private sector", FitzGerald and Vos (1989: 24-26) argue that in LDCs, savings is done mainly by corporations and households in the form of retained profits, while investment decisions vary among specific ownership-groups based on different criteria other than the rate of interest. In fact, he continue, private investment is a lagged function of aggregate demand, the state invests on the basis of development strategy and MNCs investment decisions are determined by global intra-firm decisions. One might also add that aside from these factors, investment decisions are in large measure a function of economic opportunity which is highly dependent on the political, social and economic stability in developing countries, conditions which are often undermined by strategies of liberalisation and stabilisation.

This view is endorsed by Jansen (1989) who is of the opinion that policies of financial liberalisation should not only increase efficiency but should first take into account the development objectives within the context of the specific sectoral and institutional framework of individual developing countries as the effects of liberalisation may not necessarily coincide with policy objectives. For example, the removal of credit controls may reduce the amount of funds banks are willing to lend to high-risk priority areas such as the agricultural sector and small scale industries. The doctrine of allocational efficiency is therefore negated

especially when the actual methods of credit allocation are determined within an environment whereby banks and other financial intermediaries are owned by local conglomerates or powerful families operating within the corporate sector.

The structural approach therefore concludes that liberalisation as a policy tool becomes ineffective in bringing about changes in the existing institutional arrangements and can also result in higher, unmanageable cost-push inflation which the large firms pass on to households and smaller firms through their price mark-up mechanisms. Within this context, institutional reform which recognises diverse credit needs of different economic groups in the private sector should be a priority and this may well require intervention to direct market forces and resource allocation efficiently and effectively, rather than total reliance on liberalisation strategies, if the objectives of developing countries are to be achieved. Instead of using policies that increase profits at the expense of wages, savings and investment policies should be designed to reduce consumption as well as encourage self-financing from profits in the corporate sector and which at the same time, allow for the re-investment of savings in the small firms and house-hold sector (FitzGerald, 1989b).

From the analysis, it is very clear that the adjustment expectations of the IMF/World Bank concerning the relationship between the private and the public sector in obtaining fiscal and external stability, reducing inflation and more importantly, obtaining higher levels of savings and investment in the private sector will be difficult to achieve based on the assumptions underlying their policy measures as outlined above. As previously mentioned, recent studies have shown that private investment in developing countries declined under adjustment during the 1980s and the contribution of the public sector's investment to economic growth was greater than that of the private sector during the same period.

Empirical evidence on the dis-aggregated macro-economic relationships between the public and private sectors, especially in the area of savings and investment, are in very short supply, and this is somewhat unexpected given the obvious preference of the Fund and the Bank in distinguishing between the two. This is one of the reasons motivating this study and the next chapter will therefore undertake an analysis of the Jamaican economy whose recent development episode in the 1980s was structured and guided by the neo-orthodox principles of efficiency and market mechanisms.

CHAPTER 2
HISTORICAL DEVELOPMENT OF THE JAMAICAN ECONOMY

2.1   Background to the 1980s

Jamaica, a small Caribbean island with a population of 2.4 million, gained its independence in 1962, and channelled the development of its economy through the 1960s on high levels of foreign capital investment in the mining sector. These strategies were largely influenced by Lewis' model of economic development financed by foreign investment and low wage labour (Davies 1986). The inflows of foreign capital provided the main stimulus for growth in the other sectors of the economy, and was largely responsible for the high growth rates of 7.1 percent and 5.6 percent were in the 1950s and 1960s respectively. James (1983) however argues that this over-dependence on the mining sector would contribute to the deep crisis that gripped the economy in the 1970s when investment in the industry virtually came to a halt. Hence the 1960s has been aptly described as the period in which "under-development with growth" took place in Jamaica as the process was one in which external capital dependence did not permit self-sustained growth nor development (Bernal, 1983: 112).

In addition, other structural and institutional rigidities such as high unemployment rates (23.5 % in 1972) and the glaring inequalities in income and wealth (with the latter controlled by a small group of family-linked corporate entrepreneurs) were affirmations of the period's growth without development.[18] This type of development is said to be disarticulated by several writers[19] for a number of reasons. Firstly, the mining sector was promoted at the expense of the other sectors, particularly the agricultural sector. Secondly, the high degree of capital import dependency in the mining and manufacturing sectors generated very few backward linkages in other sectors of the economy and as a consequence, the economy's development was basically structured around a single sector and financed mainly by FDI and to a lesser extent, the foreign exchange earnings of two primary export products; sugar and bananas. These features provided the foundations of open dependency which characterised and moulded the course of economic development in the 1970s and 1980s and would adversely affect the country's potential for future growth.

In contrast to the two previous decades, the overall performance of the 1970s recorded deteriorating levels of output evidenced by an annual average decline of 1.1 percent in real GDP for 1972-1980. A combination of internal and external factors contributed to this. The major objectives of the new government elected in 1972 were aimed at improving income distribution, increasing employment, maintaining real wages and the expansion of social services. Many of these strategies essentially increased the role of the government in the

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[18] *In 1968, 4 % of households received 30 % of total income while 60 % of households received only 19 % (Bernal, 1983 :113).*

[19] *See James (1983), Witter and Davies (1989)*

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economy and required high levels of fiscal expenditure which had to be financed by increased levels of external and domestic borrowing as well as new tax revenue in the form of a bauxite levy imposed on the mining sector in 1974. The initial increase in revenue from the levy fell substantially by the mid-1970s as a result of closures and cutbacks in production by the multi-national companies. This development contributed significantly to the high deficits recorded in the fiscal and balance of payments accounts towards the end of 1970s. Deterioration in these accounts were further exacerbated by increases in debt-servicing obligations as the country's external borrowing doubled from US$908 million to US$1.9 billion by 1980 in order to meet higher oil import bills and the shortfalls in foreign exchange earnings from the bauxite sector.

Other internal factors, including resistance by local interest groups (motivated politically and economically) to the governments "socialist" policies undermined its economic plans and resulted in drastic declines in output levels and massive capital flight. The combination of these developments with external factors such as deterioration in the terms of trade, oil price increases and rising world inflation led to marked declines in all aspects of the economy, and by 1977 the government was forced to seek assistance from the IMF. The usual diagnosis of high fiscal deficits and wage increases resulting in monetary expansions and inflation, and restrictive trade and pricing practices being the root of the economic problems was made by the Fund.

Elements of this view reflecting the theoretical stance of the Fund and the Bank as outlined in Chapter 1 is echoed by McBain (1990) who argues that the expanded role of the government into areas such as transportation, banking, utilities and manufacturing "tended to crowd-out private sector activities in related areas" and was motivated by the faulty assumption that the private sector's investment was not contributing to economic development nor increasing employment in spite of incentives to do so. The argument continues that the incorrect assumption rested in the wrong evaluation of the objectives the incentives should achieve as they would inevitably lead to increased cost of labour relative to capital, lower employment opportunities, loss of government revenue and higher budget deficits. This last factor she concluded, along with the increased size of the public sector, was responsible for the lack of growth and development in the 1970s.

The usual stabilisation measures involving tight fiscal and monetary policies to effect drastic cuts in public expenditure as well as deregulation of prices and the exchange rate and privatisation of state-owned enterprises were implemented and effectively undermined the government's development plans, since the policies were all diametrically opposed to those previously pursued by the latter. The premise on which the IMF's prescriptions were made assumed that the wage increases and expansions in government expenditure were responsible for the deficits in the balance of payments through excessive consumption, increased demand for imports and lack of competitiveness in the country's exports. This diagnosis and the accompanying policies have been argued to be incorrect in the first place as they focused on

internal factors of excess demand to be corrected by short-term stabilisation measures when in fact the balance of payment crisis stemmed from external and internal structural factors which could only be addressed by longer term structural adjustment strategies.[20] Consequently, in spite of full compliance with the requirements of the adjustment programme, the objectives of increased growth in exports, fiscal and BOP improvements, reduced inflation and inflows of new capital were unattainable in the first place and therefore ultimately unsuccessful. Not only were they unsuccessful but socio-economic conditions actually deteriorated with higher levels of unemployment and significant contractions in output.

2.2 Review of the 1980s

A new government was elected in 1980 whose views on economic reform coincided with those of the IMF and the World Bank. Consequently, with the support of a number of World Bank and IMF funding facilities, the broad objectives of the government were focused on the transformation of the country into a free-market export oriented economy based on adjustment strategies designed to promote the role of the private sector, reduce that of the public sector and improve the investment climate to attract the capital of local and foreign investors. Some of these objectives are reflected in the government's investment plans whereby:

"significant incremental investment, particularly in the private sector was identified ... as an essential factor in the strategy for reviving the economy and sustaining it on a path of strong growth and development. Such investments was expected to contribute among other things to:

(i) upgrading and expanding existing production capacity

(ii) creating new productive capacity....

.... (iv) creating a substantial number of new employment opportunities." (Planning Institute of Jamaica, Economic and Social Survey, 1981).

Other action by the government which "sought to encourage growth in investment" included "bank credit policies [which] were designed to encourage a greater flow of capital financing to the private sector and for productive activities." (ibid.)

The strategies were aimed at achieving growth through export promotion, increased domestic savings, reductions in public expenditure, and the deregulation of various markets and sectors in the economy. Over the period 1981-1988, the various policy measures were translated into currency devaluations, a tariff reform program to improve the competitiveness of exports, tighter fiscal and monetary policies including cuts in public sector borrowing, implementation of wage guidelines, removal of subsidies and price controls and a wide range of fiscal incentives to encourage and promote both domestic and foreign investment. In

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[20] See for example, James (1983) and Harris (1983)

particular, expanded production capacity should increase employment opportunities while divestment of public sector assets would provide funding for the public sector's investment programme.

It was expected by both the IMF/World Bank and the government that these strategies would basically result in growth in output led by increased exports, improvements in the balance of payments and budget deficits, reductions in inflation, greater allocational efficiency of resources and a distortion-free environment which would allow the private sector to increase it's savings and investments, and which would attract greater capital inflows including aid, flight capital and foreign investment. Some of the actual results relevant to the analysis will be highlighted below in the following sections. At this point it is sufficient to make the observation that economic activity in general stagnated within the first five years as real GDP improved on the 1980 figure of -5.7 percent by only 1 % in 1985, and averaged 1.2 % for the 1981-1988 period (refer to Table 2 in Appendix III). One of the reasons given for the contraction of the economy's output in the first four to five years of this period is that planning for long term development was effectively abandoned due to the short term concerns of the stabilisation programmes.

The optimism with which projections of output in key sectors of the economy were estimated and the sharply contrasting shortfalls of the actual results are depicted in the following table.

Table 1. Projected and actual production achievements, 1981-84

Sector	Actual production					Target[a]
	1980	1981	1982	1983	1984	
Bauxite/alumina (mn tonnes)	12.1	11.7	8.4	7.7	8.9	18
Sugar ('000 tons)	242	198	196	193	190	330
Bananas ('000 tons)	33	19	22	23	11	120
Non-trad. exports (US$mn)	111	126	144	153	137	220

Source: Davies, 1986, p.93
Notes: (a) - Targets in 1981 IMF agreement for fiscal year 1983-84

It is evident that the expansion which should have taken place through increased output in production led by the private sector did not take place and as Davies (1986) points out, actual levels for 1984 were actually below those for 1980.

It has been argued by Bennett (1988) that the strategy of giving the private sector the lead role in the economy, with the public sector's restricted to improvement and provision of infrastructure would only result in the unbalanced growth of the past as efforts to address fundamental structural problems such as high unemployment and the extreme openness of the economy, would not be corrected if left to the private sector and market forces. Hence, he strongly argues that the role of the government must extend beyond the criterion of creating the appropriate investment environment to one that closely co-ordinates with the productive sectors of the economy such that activities in key productive sectors are directly influenced by the appropriate strategies to achieve growth and development.

Part of the reason for the failures can also be found in the developments of the BOP accounts (see Figure 4 in Appendix IV and Table 1 in Appendix II). The BOP deficit deteriorated significantly from -6.1 % of GNP in 1981 to -18.2 % in 1985 due mainly to the dramatic increases of imports (to a record high of 79.2 % of GNP in 1985) upon the removal of restrictions to encourage competition and also because of the weakened demand for aluminium/bauxite exports which resulted in a fall in foreign exchange earnings from US$670 million in 1981 to US$280 million in 1985.

The devaluations of over 43 % in the real exchange rate which took place between 1982-1984 and which were intended to counter the upsurge in the black market for foreign exchange, unify the parallel rate with the official rate and increase the country's export competitiveness, appeared to have had very little impact on the balance of payments through increased competitiveness and hence growth in exports as the latter is largely determined by developments in international markets, and very often these developments are unfavourable to producers of primary exports. Earnings from non-traditional manufactures and tourism recorded growth during the period and signified diversification of the export base, but the increases were not enough to offset the decline in the country's major export commodities in addition to covering the rising volumes of imports. Consequently, external borrowing grew rapidly during the 1980s and added further pressure to the balance of payments through increased debt repayments. Figure 5 (in Appendix 1V) shows the steep climb in total external debt after 1980, which rose to US$4.3 billion by 1988, with the bulk of it originating from official sources (mainly bilateral creditors). Consequently the debt service ratio was pre-empting an alarmingly high figure of 40 percent of the country's foreign exchange earnings by 1988.

After 1985, the balance of payments improved mainly because of reductions in imports from lower oil prices, decline in international interest rates, recovery in the bauxite market and increased earnings from tourism. To some extent, these developments prove the vulnerability of the Jamaican economy to international influences and weakens the argument that budget deficits are the root causes of disequilibria in the external accounts.

2.3   Trends in savings and investment

This section gives a general overview of the developments which took place in domestic savings and investments during the period and provides a background to the sectoral analysis of investment patterns in the following chapter. Between 1970-80, the level of national savings declined from 26.1 % to 10.7 % of GNP while investment exhibited a similar trend over the same period, moving from 33 % in 1970 to 17 % by 1980. The sharpest contractions in both variables took place in 1976-77 as seen in Figure 2 below, against the background of negative real interest rates (except for those two years) and widespread business closures and capital flight. One writer has commented that because of the latter developments, most of the investment that took place in the last half of the 1970s was undertaken by the government.

This factor, as well as the negative real interest rates which prevailed throughout

Fig. 2: Trends in savings, investment

and consumption, 1970-1988

% GNP

Year

□ National savings   +   Investment   ◊ Consumption
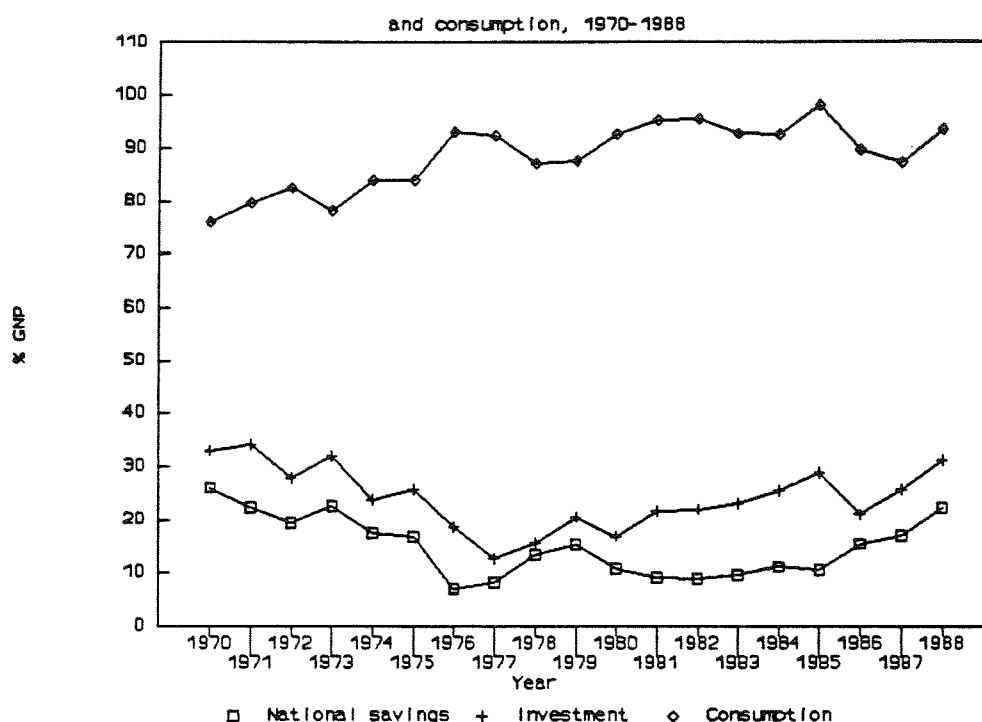
most of the 1970s evidently motivated the consequent strategies of fiscal and monetary tightening aimed at stimulating savings in the public and private sectors as well as to improve efficiency in the allocation of resources. However, the savings level declined after 1979 and remained dormant up to 1985, after which some improvement took place in the remaining years. Investment levels contracted after 1979, but displayed a slightly upward trend for most of the period except in 1986 when sharp contractions took place in reaction to sharp rises in the interest rates.

A comparative overview of the behaviour in GDP growth rates and investment in the public and private sectors is presented in Table 2 below. The periods were chosen to represent

Table 2.   Growth rates and investment in Jamaica , 1981-1988

	1975-80	1981-88	1981-85	1986-88
Real GDP growth rates	-2.7	1.2	0.1	3.1
manufacturing sector	-5.1	2.0	1.3	3.2
construction sector	-11.2	4.9	1.5	10.5
Real investment levels[a]				
Public investment	474.6	602.1	581.3	636.8
Private investment	338.4	321.3	232.3	469.6
Real invest. growth rates				
Public sector	8.3	7.5	4.1	13.3
Private sector	51.1	19.6	22.5	14.8
Share of GNP				
Public sector	9.5	13.5	12.8	14.8
Private sector	7.3	9.7	9.3	10.3

Source: compiled from data in tables 1 and 2; National Income and Product, Statistical Institute of Jamaica.

Notes: (a) - average levels over the period in J$mn at 1980 prices.

the pre-transformation years (1975-80) when active expansion in government activities took place in the economy, and the transformation years (1981-88) corresponding to the period when adjustment strategies were implemented to convert the economy to an open market type system. The latter period is divided into two sub-periods; 1981-85 during which gradual to intensive stabilisation and adjustment measures were applied to the economy, and 1986-88 when favourable international developments and relaxation of the contractionary monetary and fiscal policies in the previous period facilitated improvements in the economy.

Average growth rates in real GDP was negative for the 1975-80 period and construction activities is seen to decline at almost twice the rate in the manufacturing sector. During the transformation period, overall growth rates of 1.2 % was positive but low, almost nil in the contractionary years but improved to 3.1 % upon moderation of adjustment measures in 1986-88. The construction sector's significant contribution to growth is evidenced by its average growth rate for the period which more than doubled that of the manufacturing sector at 4.2 % against the latter's 2.0 %. Most of this growth obviously took place in 1986-88 when the sector registered 10.5 % compared to 1.5 % in 1981-85.

It is interesting to note that real investment levels in the private sector during the entire transformation period is below the level of the 1970s, and significantly so within the first five years. It is only within the 1986-88 period that the level was comparatively higher. Meanwhile, the reduction that should have taken place in public investment levels relative to that of the private sector's in the 1980s evidently did not occur as the levels are all notably higher compared to the 1970s. It should also be noted that the private sector's investment expanded at a faster rate than the public sector's in the first period of the 1980s when lower lending rates predominated in 1981-83 compared to 1986-88, and very restrictive credit policies were being enforced gradually up to 1985. The implications point to the possibility that private investment was being funded from other sources than bank credit, and apart from foreign financing, retained earnings may have played a significant role during this period.

An article by Bourne (1988) points out that investment in Jamaica is largely self-financed as corporate enterprises utilise bank credit extensively for working capital purposes. Their demand for this type of credit matches the maturity structure and preference of the commercial banks' loan portfolio where the emphasis is on short to medium term loans. He argues that deposits are not transformed substantially into credit for physical capital accumulation but more towards public and private consumption and working capital requirements for the private productive sector.

If this then is the case, the implications are that restrictive stabilisation strategies that limits credit to both the public and private sectors, but more so to the former, are both ineffective and inappropriate. Consequently, the a priori objectives of these policies, as postulated by the Fund and the Bank, which seek (i) to restrict growth in money supply and effect improvements in the BOP are not guaranteed to take place due to the private sector's apparent access to extra-banking investment financing and (ii) to prevent crowding-out of

financial resources to the private sector, are pointless. In addition, as pointed out by the Structuralists in Chapter 1, such policies can have double contractionary effects on output where the public sector's investment is complementary to that of the private sector's. Moreover, unnecessary constraints placed on the public sector's financing for investment purposes most often result in reductions in social and human infrastructure and in turn contributes to deterioration of social and economic life in the society.

The share of investment in GNP for both the public and private sectors is higher throughout the 1980s compared to the 1970s and it should be noted that the shares of public sector investment dominated that of the private sector's. In general, the data does not indicate increased buoyancy in the latter and the rest of the analysis will seek to explain why.

2.3 Sources of investment financing

It will be recalled from the theoretical section that the main sources of financing are locally and externally generated with the latter category comprising direct foreign investment (DFI) and external borrowing. The table below indicates the relatively greater emphasis placed on external resources in the first half of the period, averaging 13.3 % of GNP compared to 10.3 % in 1985-1988.

Table 3. Financing of investment from domestic and external sources 1981-1988 (% GNP)

Year	Domestic (S_d)	S_g	S_p	Net capital flows (F)	GFCF
1981	9.1	-3.3	12.6	12.4	21.5
1982	8.9	-5.8	14.7	13.1	22.0
1983	9.5	-6.8	16.3	13.4	23.0
1984	11.2	-2.9	14.1	14.2	25.4
1985	11.6	-6.7	17.3	18.2	28.8
1986	15.5	-0.2	15.7	5.5	21.0
1987	17.9	0.1	16.8	8.7	25.7
1988	22.3	0.7	21.6	8.8	31.2
Averages					
1981-1984	9.7	-4.8	14.4	13.3	22.9
1985-1988	16.8	-1.5	17.8	10.3	26.6

Source: Table 1 in Appendix II

Consequently by 1988, domestic resources which had increased from 9.1 % of GNP in 1981 1981 to 22.3 %, almost trebled that of external capital inflows. The increase in domestic resources is attributable mainly to private sector savings as this variable for the public sector was negative for most of the period except 1987-1988 when surpluses were recorded.

The failure to attract substantial inflows of DFI which the government had hoped would materialise as part of its strategy to finance growth and development, was in large measure a reflection of other factors at work militating against the massive promotional efforts of the JNIP and the wide array of incentives offered to attract the capital of overseas investors. It is possible that these factors stem from lack of investment confidence due to the highly volatile and unstable economic and political developments which preceded the general elections which placed the new government in power at the start of the 1980s. To recall the

view of Page (1988) in an earlier section, investor perceptions do not change overnight and in addition, the country's strong trade union movement which was very active during the tight adjustment period when the socio-economic conditions were deteriorating rapidly may have also had a negative impact on the growth of foreign direct investment in the economy. This is partially evidenced by the fact that more than 66 % of the new investments generated by the JNIP originated from local investors and as Table 4 below shows, net FDI, including outflows of repatriated income and capital for the period totalled minus US$387.4 million, an average of minus US$48.4 million per annum.

Table 4. Direct foreign investment and income in Jamaica, 1981-1988, (US$mn)

	1981	1982	1983	1984	1985	1986	1987	1988	Total
Net FDI[1]	-11.6	-15.8	-18.7	12.2	-9.0	-4.6	53.4	-12.0	-6.1
Net FDI income[2]	-38.8	-32.3	-41.6	-42.9	-19.0	-34.1	-93.0	-81.6	-383.3
Net flow	-50.4	-48.1	-60.3	-30.7	-28.0	-38.7	-146.4	-212.9	-389.4

Source: Table 2 in appendix
notes : (1) Net DFI includes long term investment capital and re-investment of earnings mainly in bauxite mining and tourism.
(2) Net DFI income comprise net payments of interest, dividends and profits to foreign investors.

Clearly, the objective of increasing investment directly through foreign sources failed considerably and the minimal benefits that accrued to the economy, mainly through increased employment which was shown to be comparatively minimal also, were significantly eroded by the negative impact of these huge outflows on the country's strained foreign exchange resources. Consequently, the deteriorations of -5.5 % and -8.8 % of GNP observed in the BOP in 1987-88 was largely the combined effect of these outflows of DFI and debt repayments.

It will be shown later in Chapter 3 that substantial portions of the private sector's investment in the manufacturing and construction sectors was financed mainly by the commercial banks, and the data in Table 5 below indicates that the private sector consistently accounted for levels in excess of 80 % of total commercial bank loans, except for 1986, when the share allocated to the public sector amounted to almost 22 %, the latter's largest share for the period. Whilst loans to the manufacturing sector averaged 21.7 % of total loans and construction lending another 18.8 %, there were noticeable reductions in each sectors' borrowing (percentage shares) in 1985-1987, corresponding to the high lending rates and the restrictive monetary strategies in evidence in that period. It has been noted that in spite of the credit ceilings which were utilised in 1984-1985 to restrain credit expansion, there was adequate credit in the system but much of it remained inaccessible because of the high cost of borrowing (Economic and Social Survey, 1984, 1985, 1986).

Table 5. Allocation of commercial bank credit to the public and private sectors, 1981-1988
(J$mn)

	1981	1982	1983	1984	1985	1986	1987	1988
A. Private sector	1200.3	1615.2	2065.4	2348.9	2473.7	2982.3	3938.4	5327.7
X of C	80.3	82.3	84.3	85.5	81.2	78.0	80.5	92.4
manuf. loans	317.3	396.7	520.4	681.1	726.1	822.3	978.8	1216.5
X of C	21.2	20.2	21.2	24.8	23.8	21.5	19.9	21.1
construc. loans	181.3	326.5	513.9	617.4	612.2	636.9	899.4	1319.8
X of C	12.1	16.6	20.9	22.5	20.0	16.7	18.3	22.9
B. Public sector	294.7	347.8	382.0	396.8	572.6	839.5	957.4	440.3
X of C	19.7	17.7	15.6	14.4	18.8	21.9	19.5	7.6
C. Total (A + B)	1495.1	1963.1	2447.4	2745.8	3046.3	3821.8	4895.8	5765.9
D. Govt. securities	357.7	533.7	694.4	731.9	1057.9	1237.1	1367.5	1836.4
B + D[1]	652.4	581.5	1076.4	1128.7	1630.5	2096.6	2324.9	2277.1
X of C	43.7	44.9	43.9	41.1	53 5	54.8	47.5	39.4

Source: PIOJ, Economic and Social Survey, various issues
Notes : (1) Total bank resources to the public sector including loans and government securities

One could therefore conclude at this point that direct borrowing by the public sector from the commercial banks was not the channel through which any possibility of crowding-out could have occurred as the evidence points to the high interest rates as the main constraining factor.

This conclusion is also supported when the allocation of changes in total domestic credit is examined in Table 6 below. The net flow of credit in the system is seen to contract

Table 6. Flows of net domestic credit to the public and private sectors, 1981-1988 (J$mn)

Year	Public sector	Private sector	Total
1981	700.8	407.6	1108.4
1982	518.5	616.3	1134.8
1883	1024.9	599.4	1425.5
1984	107.8	257.2	365.3
1985	-28.4	118.9	90.5
1986	1019.1	399.1	1418.2
1987	-445.5	552.4	406.9
1988	-1418.5	1271.2	-147.3

Source: PIOJ, Economic and Social Survey, various issues

significantly in 1984 and 1985 from $1.4 billion to $365.3 million an $90.5 million respectively. What is more important however, is the relatively greater reductions in public sector borrowing after 1983. Increase in net credit to the public sector in that year fell from $1024.9 to a net reduction of $28.4 million in 1985 while flows to the private sector decreased from $599.4 million to $118.9 million. By 1988, flows of credit to the private sector had increased rapidly to $1.3 billion in stark contrast to the dramatic reductions in public sector borrowing which amounted to $1.4 billion in that year. As a consequence of the decline in domestic borrowing as well as reduced inflows from external sources, the government was forced to meet its deficit financing requirements with the issue of government securities (treasury bills and local registered stock) and the issue of certificates of deposit by the central bank through open market operations. The latter mechanism was introduced as part of its

monetary strategy in 1985 to replace the use of high liquidity ratios to control the growth of money supply. The amount of funds mobilised grew rapidly from $765 million in 1985 to $2.3 billion by 1988.

Table 5 also shows the extent to which commercial bank holdings of government securities increased almost fourfold between 1981-1988 from $357.7 million to $1.8 billion and together with direct loans accounted for an average equivalent of 46.1 % per annum of the banking system's loanable funds. Although it could be argued that there was some likelihood of crowding-out occurring through the commercial banks' purchase of government securities, especially when the situation is viewed within the context of the high liquidity ratios which accompanied the government's monetary policies during the mid-1980s, it should be borne in mind that domestic credit may not be the most important source of investment financing in the private sector.

2.5 Effect of financial liberalisation on savings and investment

Up to 1985, the treasury bill discount rate was utilised as the major policy instrument to influence market-determined changes in the interest rate structure which would in turn provide the basis for the savings and lending rates. One of the major challenges that faced the government was the balancing of the interest rate mix which should be low enough to stimulate investment but at the same time act as a deterrent to excessive expansion in aggregate demand, while the savings rate should be sufficiently high to stimulate higher levels of savings, i.e. assuming that both savings and investment are interest rate-elastic as presumed by the Fund and the Bank where it is argued that high and positive real interest rates will increase savings and investment upon removal of repressive interest rate ceilings. The various strategies to effect liberalisation and reform in Jamaica's financial system will only be analyzed from the aspect that such reforms affected the interest rate structure and impacted on the savings and investment patterns observed above.

Table 7. Savings, investments and interest rates, 1981-1988

Year	Savings rate (%)		S_p	S_d	Lending rates		I_p	I_g	GFCF
	Nominal	Real	(% GNP)		Nominal	Real	(% GNP)		
1981	9.0	-3.9	12.6	9.1	16.0	3.1	4.4	14.7	19.1
1982	9.0	2.5	14.7	8.9	16.0	9.5	6.2	14.8	20.9
1983	9.0	-2.6	16.3	9.6	17.0	5.4	9.0	12.2	21.2
1984	13.0	-14.8	14.1	11.2	20.0	-7.8	13.3	10.2	23.4
1985	20.0	-5.6	17.3	10.6	29.0	13.9	13.8	12.0	25.8
1986	15.0	-0.1	15.7	15.5	25.0	9.9	7.9	12.0	19.9
1987	15.0	8.3	16.8	16.9	25.0	18.3	9.0	15.6	24.7
1988	13.0	4.8	21.6	22.4	25.0	16.8	14.0	16.7	30.7

Source: Table 1 (in Appendix); Bank of Jamaica, Statistical Digest, 1990
Notes: S_p and S_d are private and domestic savings, I_p and I_g are private and public sector investment and GFCF is gross fixed capital formation.

As seen in the above table, nominal interest rates for savings deposits climbed rapidly from an average of 9 % in 1981-1983 to peak at 20 % in 1985 and declined to 13 % by 1988. But, up to 1985, national savings remained relatively unresponsive to the increases in the

interest rates. However, since the interest increases took place against the background of spiralling inflation rates, especially in the mid-1980s, real interest rates were conspicuously negative from 1983 to 1985, and it could be argued on the assumptions of the financial repression school and the orthodox analysis discussed in chapter 1, that this net effect arising from nominally pegged interest rates and high inflation rate discouraged savings and reduce available credit for investment and growth.

In Jamaica's case, however, movements in the savings rate throughout the period were primarily at the instigation of the monetary authorities, with partial liberalisation effected through the market-determined treasury bill rates. After 1985, the reductions in the savings rate were motivated by several factors including a relaxation of tight monetary policies, reductions in the inflation rate and the introduction of open market instruments (certificates of deposits) to influence the interest rates, control liquidity and the rate of growth in the money supply. These developments appeared to have been the important factors accounting for the relatively vigorous response in both private and domestic savings towards the end of the period when the rates were lowered to 13 %, contrary to the theoretical expectations mentioned above and suggests that reasons other than purely market-determined mechanisms affected the economy's savings behaviour. At the same time it is observed that the high lending rates from 1985 onwards had a lagged negative impact on investment levels as the continuous growth trend in GFCF from 1981 was reversed in 1986 in response to the increase in the rates from 16 % in 1981 to 29 % in 1985.[21]

Support for these observations comes from Bourne (1988) who points out that there is a lack of positive relationship between real interest rates and savings in Jamaica while investments is negatively influenced by high real rates of interest. Hence, one of the authorities' main objectives in lowering the savings rate in the last half of the period, along with a softening in its tight monetary stance, was to influence reductions in the lending rates and promote allocational efficiency by making more resources available to the private sector. But although total GFCF increased in 1987-1988, the recovery was led by the public sector as private investment was slow in responding to the 5 percentage point reduction in loan rates.

The implications therefore indicate that investment in Jamaica is not savings constrained and in accordance with the Structuralist critique outlined in Chapter 1, liberalisation to remove distortions will not necessarily result in higher savings, investment and growth. In fact, the relatively high rates of interest from the mid-1980s would be one of the main factors constraining private investment decisions, while the public sector's capital outlays would play the dominant role in the country's capital accumulation process. Moreover it is clear that there is need for a certain amount of intervention in the determination of interest rates if development objectives are to be realised in key production sectors. In light of these

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[21] Support for this observation comes from a study done by Rittenberg (1991) on the effect of interest rate liberalisation on investment in Turkey, in which he found that interest rate policy under liberalisation can hinder investment and growth if they are set too high.

indications, it is therefore necessary to look behind these figures to asses the relative roles of the public and the private sectors in the capital formation process, given the strong views of the government which stressed that "investment [is] necessary to enable the economy to grow" and the private sector should take the leading role in this process as it is "a more capable and better manager than the public sector".[22]

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[22] *Statements by the Prime Minister, Edward Seaga, November 1982 and the Government of Jamaica, May 1968, respectively.*

INVESTMENT PATTERNS IN THE 1980s

3.1 Investment patterns in the public and private sectors

Two of the main objectives of the government's development strategies in the 1980s
were the improvement of the local investment climate to attract both local and foreign
investment capital and to increase the level of domestic savings, particularly in the public
sector. To facilitate these objectives, a public sector investment programme (PSIP) was
formulated and implemented in 1981 with the assistance of the World Bank, to co-ordinate
the activities of the public sector with the broad objective of reducing its role in directly
productive investments activities to give more scope to the private sector. In 1981 the Jamaica
National Investment Promotions Limited (JNIP) was created as a special government agency
with the express purpose of promoting and facilitating private investment in the country in
a wide range of activities with the potential of generating high employment and foreign
exchange earnings.

The new role of the public sector was perceived to be one of supporting investment
in the private sector through the provision of infrastructure especially in activities to
encourage exports and new investments as well as the maintenance and provision of social
infrastructure. Further incentives for the private sector involved an active divestment
programme of government owned assets in tourism, telecommunications, banking, agriculture
and transportation. The divestment proceeds from the programme were targeted for the
financing of increases in public sector investment.

In spite of the orientation of the government's strategies which were based on its
ultimate belief that the private sector and market forces should lead the country's development
process as the public sector was less efficient, Table 8 below shows that public sector
investment continued to dominate the country's capital accumulation throughout most of the
period.

Table 8. Public and private sector real investment,* 1981-88
(Shares in Gross fixed capital formation)

Year	Public sector $mn	Public sector % GFCF	Private sector $mn	Private sector % GFCF	Total
1981	674.8	77.1	200.3	22.9	875.1
1982	686.3	70.5	286.8	29.5	973.1
1983	596.5	57.7	436.8	42.3	1033.3
1984	457.6	43.4	595.9	56.6	1053.5
1985	491.2	46.5	565.6	53.5	1056.8
1986	509.7	60.3	336.1	39.7	845.8
1987	701.5	63.3	405.9	36.7	1107.4
1988	742.3	52.7	666.9	47.3	1409.2

Source: Planning Institute of Jamaica, Economic and Social Survey, (various issues)
Note: * Expressed in 1980 prices.

Except for 1984 and 1985, the public sector's share of gross fixed capital (GFCF) was in
excess of 53 % of the total figures although the levels declined from 77.1 % in 1981 to 52.7

% by 1988. The share of private sector investment in GFCF on the other hand, increased from 22.9 % to 56.6 % between 1981-1985 but it remained at unexpectedly low levels for the period, averaging just 9.8 % of GNP for 1981-88, while the public sector's average share accounted for 13.5 % (see Table 9 below).

Table 9. Average investment of the public and private sectors, 1981-1988 (X of GNP)

	Public	*Private*	*Total*
Average share in GNP	*13.5*	*9.8*	*23.3*
X of Total	*57.9*	*42.1*	*100.0*

Source: calculated from data in Table 1 in the appendix

Hence, private sector investment did not respond as vigorously as expected given the various measures implemented to encourage its growth. Some of these measures will be discussed at more length in the following sections. But first we focus on the observed dominance of the public sector's investment in the country's total capital outlays which raises issues of whether the public sectors investment "crowded-out" resources from the private sector or whether the types of investments were in basic infrastructure that complemented or increased the efficiency and productivity of private sector investment. Attempts will therefore be made to establish the specific nature of the relationship between the two sectors' investments and towards this end, Figure 3 below highlights some of these relationships.

Fig. 3 : Public and private sector

Investment in Jamaica, 1975-88

□ Public sec. Invest   + Private sec. Invest
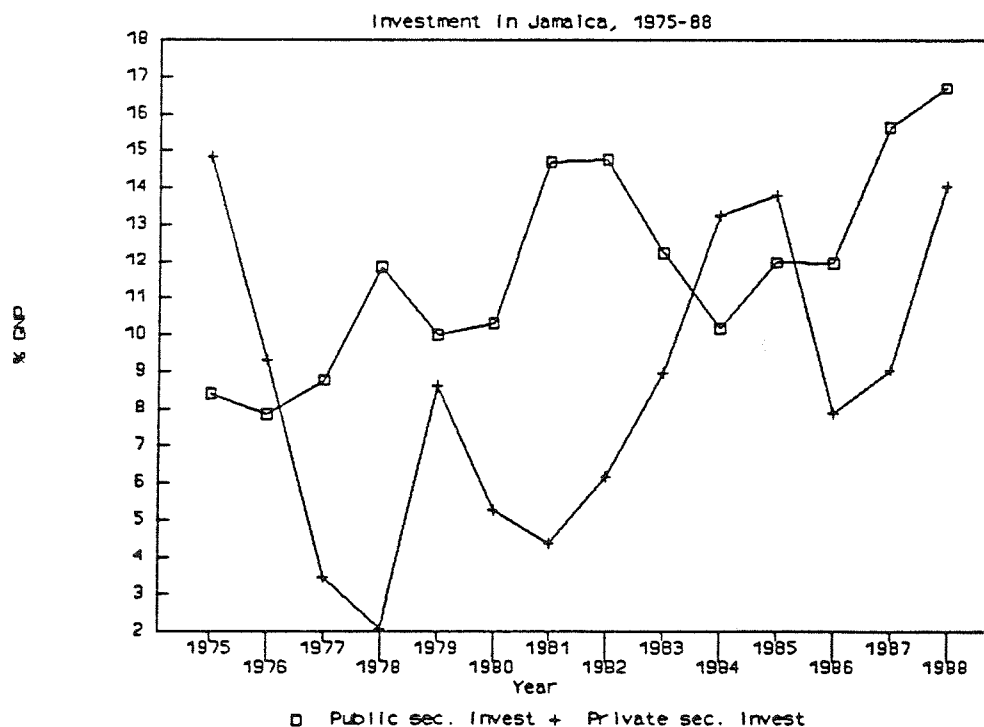
The pattern of investment in the public sector reveals an overall cyclical but generally upward trend in the 1980s compared to the 1970s, with levels above that of the private sector except for the contractions in 1984-1985. The private sector's investment on the other hand, appeared to be counter-cyclical to that of the public sector; rising in the early 1980s to it's highest levels in 1984-1985 while that of the public sector was contracting. The latter, however, picked up with the downturn in private investment in 1986 as mentioned before. This pattern changed in the last three years of the period as both moved in an upward direction with the public sector playing the leading role.

Interesting implications arise from these observed patterns as the early counter-cyclical behaviour between the two sectors from 1980 could point to the role of the public sector as either a compensatory one making up for the lack of investment in the private sector or alternately, one in which its higher levels of investment crowded out resources from the private sector. This of course leads to questions concerning the types of investments undertaken by the public sector; were they in basic infrastructure as recommended by the IMF/World Bank or was the government forced to undertake the bulk of the country's capital formation in the economy's productive sectors due to the lack of response from the private sector?

To address these issues adequately would ideally require a detailed analysis of capital formation patterns on a sectoral basis. But to attempt this scale of examination is firstly beyond the scope of this paper and secondly, there is severe limitation in the availability of the relevant data. Consequently, the following sections will attempt to clarify some of these issues by looking at (i) the capital expenditure of the central government and the major public sector entities and (ii) the investment patterns in the construction and manufacturing sectors. The latter are two of the most important capital formation sectors in the economy that involves the participation of both the public and private sectors and for which the relevant statistics is most readily available.

Table 10. Composition of gross fixed capital formation by type of capital goods, 1981-1988 (% of GNP)

Type	1981	1982	1983	1984	1985	1986	1987	1988	Aver.	% Total
Construction	9.1	10.6	11.1	11.8	11.9	10.3	11.9	15.5	12.1	50.0
Transportation equipment	2.6	3.7	3.0	2.2	5.4	2.1	2.9	4.8	3.5	14.4
Machinery & equipment (Agric., ind., other)	7.3	6.7	7.3	9.4	9.2	7.8	10.3	8.6	8.6	35.6
Total GFCF	19.0	20.9	21.3	23.4	26.5	20.3	25.1	28.9	24.2	100.0

Source: Statistical Institute of Jamaica, National Income and Product, 1988

Table 10 shows that most of the country's capital formation was expended on capital goods for construction purposes and for machinery and equipment in agriculture and industry. Together these two categories accounted for an average of 85.6 % of the share of GFCF

(expressed as percentages of GNP) for the period. Capital expenditure in the construction sector averaged 50 percent of total GFCF while agricultural and industrial equipment accounted for just over one-third, signifying the importance of these sectors and hence the justification for focusing on investment activities in the construction and manufacturing sectors.

3.2 Sectoral analysis of investment patterns

3.2.1 Central government and public entities

The central government's capital expenditure consists of three main categories as seen in Table 11 below. Whilst general services, of which the major component is debt repayments,

Table 11. Functional classification of real capital expenditure, (J$mn)

Category	1981/82	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88	1988/89
General serv.	184.5	173.8	256.9	219.6	300.7	562.5	565.8	744.3
Soc. serv.	145.3	158.8	88.8	68.5	61.7	89.8	145.0	259.6
Econ. serv.	458.1	371.1	292.1	142.4	185.6	308.7	375.3	396.3
Prod: agr. & comm.	186.6	125.0	88.3	77.0	80.1	156.7	180.7	225.8
Infrastructure	76.5	75.3	40.1	18.0	44.4	96.1	114.5	129.5
Other	195.0	170.8	164.3	47.4	61.1	55.9	80.1	41.0
Total	798.8	705.1	640.7	430.6	548.0	961.1	1086.3	1401.1

Source: McBain, 1990

increased almost fourfold over the period accounting for almost 53 % of total capital outlays in 1988/89, expenditure on social services (health and education) contracted significantly in 1985 and 1986 and by the end of the period had only increased marginally above the levels at the beginning of the period. The large magnitude of debt service requirements resulted from rapid expansion in external borrowing over the period, and significantly displaced capital investment in physical and human infrastructure. This is evidenced by the decline in social as well as economic services since the early 1980s, with the latter falling from 57.3 % of total capital outlay in 1981/82 to only 28.3 % in 1988/89. In addition, most of the expenditure in infrastructure in 1988/89 reflects restoration and replacement of damaged infrastructure in the wake of the havoc wreaked by hurricane Gilbert in 1988, rather than expansion in productive capacity. Consequently, the government's ability to increase it's potential production is severely limited by these high debt service repayments. Hence, to increase the investment portion of capital expenditure relative to that of amortization, there is need to reduce current and future debt obligations and external borrowing requirements.

Although the rate of increase for investment expenditure in infrastructure and directly productive activities was more or less the same after 1985/86, there was greater emphasis on infrastructural investment over the period, as its share in the category of economic services doubled from 16.7 % to 32.7% while production related investment increased by only 16.1 percentage points from 40.7 % in 1981/82. This trend is reflected in table 12, which combines central government's expenditure on infrastructure (on an annual basis) with the capital

expenditure of the public sector's utility companies. Although the data does not capture

Table 12. Capital expenditure on infrastructure and utility installations by central
government and public utility companies, 1981-1988, (J$mn)

	1981	1982	1983	1984	1985	1986	1987	1988	Average
Infrastructure	35.2	68.9	36.2	39.6	51.0	167.9	182.2	370.8	
Utilities	79.3	71.1	90.2	252.3	355.2	255.0	347.8	381.8	
Total	114.5	140.0	126.4	291.9	406.2	422.9	530.0	752.6	
Growth %		22.2	-9.7	130.9	89.2	-14.1	42.6	42.0	45.9
Real expenditure	105.0	116.7	90.9	155.3	172.1	153.2	171.5	218.1	
Growth %		11.1	-22.1	70.8	10.8	-18.9	27.4	27.2	15.2

Source: PIOJ, Economic and Social Survey, various issues.
Notes : (a) - expenditure on construction and maintenance of roads, bridges, drainage.
       (b) - Includes water, electricity, telecommunications and port facilities.

the investment expenditure of all the public sector enterprises, it gives a fair indication of the sector's overall capital expenditure in infrastructure as these are the companies that undertake the majority, if not all of this category of investment. The table reveals that investment increased from $114.5 million in 1981 to $752.6 million in 1988, recording an annual growth rate of 45.9 %. However, due to the high inflationary trends and increased prices in the early 1980s, real expenditure only grew by 15.2 % over the period with noticeable contractions occurring in 1985 and 1986.

Financing of public sector investment

Given the prominent role of the public sector's investment, attempts were made to determine the sources of financing as this is one of the premises on which much of the crowding-out argument is based. It is observed in the table below that external capital

Table 13. Financing of public sector investment, 1981-1988 (% of GNP)

$$S_g + F_g + Z = I_g$$

Year	S_g	Z	F_g	I_g
1981	-3.5	-3.7	21.9	14.7
1982	-5.8	9.2	11.4	14.8
1983	-6.8	17.8	1.2	12.2
1984	-2.9	0.9	12.2	10.2
1985	-6.7	7.3	11.4	12.0
1986	-0.2	17.9	-5.7	12.0
1987	0.1	19.4	-3.9	15.6
1988	0.7	18.6	-2.6	16.7
Averages				
1981-1984	-4.8	6.1	11.7	13.0
1985-1988	-1.5	15.8	-0.2	14.1

Source: Table 1 in appendix II
Notes : S_g = government savings, F_g = net foreign capital inflow to the
public sector, Z = domestic transfer of resources from the private sector
including government securities and domestic credit, I_g = public sector
investment.

comprised the major source of the public sector's investment expenditure, especially during 1981-1985. But a major shift occurred after 1985, showing increased dependence on domestic

resources, Z, when net foreign inflow fell from 21.9 % of GNP in 1981 to -5.7 % of GNP. This pattern of funds utilisation is borne out by the rapid rise in the country's external debt after 1980 (see Figure 4 in Appendix IV) from US$2.3 billion in 1981 to US$4.3 billion in 1988. Although the outstanding debt stock almost doubled over the period, an average of US$303. 4 million in net flows of public and publicly guaranteed debt in 1981-1985 declined drastically to US$35.7 million for 1986-1988. Notwithstanding the decline in net flows of debt, the cumulative growth in the country's debt-servicing requirements which grew from 24 % in 1981 to levels in excess of 40 % in the late 1980s, had serious consequences on the country's limited foreign exchange earnings as well as the fiscal and BOP deficits as already pointed out in an earlier section of the report.

The public sector's extensive dependence on external borrowing in the early years of the period followed by the switch to domestic resources in the latter part of the period prompts the direction of the analysis in the following sections to asses the level of crowding-out, if any, of domestic resources to the private sector which may have occurred in light of the relatively large figures that these transfers represented in 1986-88. As shown in a previous section, the switch to domestic resources was channelled mainly through the issue of government securities (certificates of deposits, treasury bills and local registered stock), evidenced by the growth in the commercial banks' holdings from $577.5 million in 1981 to $1.8 billion in 1988.

3.2.2   The construction sector

The level of activities in the construction sector generally act as a barometer of (i) investment growth in the economy due to the its linkages to other areas of the economy including the manufacturing sector (factory building) and tourism (hotel construction) and (ii) through the effects of government's fiscal and monetary policies via interest rate movements and credit availability which are crucial determinants of the level of investment in this particular sector. Policy initiatives for the sector which were implemented in the first half of the period were largely determined by the large role the public sector played in the provision of affordable housing, the supply of which became increasingly inadequate due to the rapid increases in the cost of construction and mortgage financing during the period. Hence, overall policies were geared at mobilising funding from local and external sources to meet the objectives of; (i) curtailing the rapid increases in housing costs to facilitate greater accessibility to low-income housing, (ii) promotion of investment and jobs to revitalize the industry and (iii) greater utilisation of indigenous materials to reduce the substantial imports of building materials and capital equipment required by the sector.

However, in spite of announced intentions to give the private sector more scope in taking the leading role in investment and growth, one of the government's earliest policy initiatives directly contradicted this objective when the National Housing Trust, (one of the major mortgage institution in the public sector) was restructured and in the process

discontinued interim financing at low concessionary rates to private developers in 1984. This was one of the major factors which would contribute to the drastic shortage of low cost housing from the mid-1980s as the private sector shifted its investment activities to concentrate on more profitable ventures in residential housing for the up-scale end of the market and non-residential construction. Both the private and the public sectors' contribution to investment in these two categories are shown in Table 14 below.

The public sector's extensive involvement in housing construction is administered through a number of agencies[23] which accounted for approximately 80 % of total housing units (including starts and completions) during the 1981-1988 period. Public sector housing is primarily targeted at the lower-middle income end of the market, and this, along with the termination of funding from the NHT, partly explains the minimal share of 20 % from the private sector. The rising cost of mortgage requirements especially in the mid-1980s, also precluded effective demand from lower income groups and consequently, private capital investment tends to be concentrated in non-residential construction of office and commercial buildings in the service sectors, especially tourism and commerce where the returns are more profitable relative to low income residential housing.

Table 14. Estimates of public and private investment in the construction sector, 1981-1988

Year	Residential units[1] Public	Private	Total	Non-residential construction[2] Public[4]		Private	
1981	6370	1261	7631	* n.a	J$12.5mn	* 156.8	J$12.0
1982	7055	2537	9592	n.a	15.5	152.6	16.9
1893	5228	3074	8302	n.a	20.7	683.0	71.2
1984	3058	3188	6264	n.a	18.2	884.9	126.6
1985	2283	283	2566	185	10.4	136.9	16.5
1986	2642	334	2976	404	58.8	175.2	27.1
1987	3416	400	3816	416	42.6	214.5	35.5
1988	5896	273	6169	671	112.3	1137.5	165.3
Total	45540	11350	56890	-	291.0	3541.4	471.1
%	80.0	20.0	100.0		38.2		61.8

Source: Economic and Social Survey, various issues
Notes: (1) Include starts and completion of residential units in the formal sector.
(2) This category includes construction of industrial, commercial, office and factory buildings
(3) Figures for the private sector residential construction may be underestimated as data is sometimes based on half yearly estimates while "informal" residential construction is not reported in these estimates
(4) Includes refurbishing and completion of industrial/manufacturing factory space.
* figures for square footage are not equivalent to estimated expenditure

As seen in Table 14, estimated capital investment of the private sector totalled 61.8. % or J$471.1 million of total non-residential construction for the period compared to the public sector's 38.2 % or J$291 million. The latter is concentrated in the refurbishing and expansion of factory space and buildings for private entrepreneurs mainly in the

[23] In 1988, the five main agencies were the Ministry of Construction (housing), the National Housing Trust, the National Housing Corporation, The Estate Development Company and the Urban Development Corporation, which together undertake a wide range of activities for the government including the provision of housing and hotel construction mortgage financing and the provision of related infrastructure.

manufacturing sector, particularly in the free zone areas.

The table also reveals that output in both categories from the public and private sectors declined significantly in 1984-1985, with the latter sector registering a massive reduction of 91.1 % in residential construction in 1985. The main reasons for the overall decline is the contractionary impact that stringent macro-economic policies pursued during the period had on construction activities, resulting from an intensification of the stabilisation and adjustment measures in the those two years. The policies entailed tight restrictions on credit availability and higher liquidity ratios in the banking system which effectively limited the amount of credit to the private sector to 12 % of outstanding stock in 1983, while lending rates, as mentioned previously, rose dramatically from 16 % in 1981 to almost 30 % by 1985.

Rapid increases in inflation, fuelled by devaluations of over 43 % in the real exchange rate between 1983-1985, and the liberalisation of price controls also contributed to the dampening effect on the sector's activities. The combined impact of these policies that reduced resources to both the private and the public sectors, along with the heightened cost of construction and financing, underscores several important points with regards to some of the criticisms levelled at the orthodox stabilisation policies. Firstly, as is shown in Jamaica's case, stabilisation measures severely contracted output in key production areas such as the construction sector evidenced by the negative growth rates of -7.1 % and -8.3 % in GDP in 1984 and 1985 respectively. Secondly, government's stated objectives of encouraging growth through the private sector are also undermined by the use of restrictive monetary policies and thirdly, public investment activities is then forced to fill the supply slack created by the reduction in private investment. This latter point is brought out in the following table;

Table 15. Average growth rates in public and private
sector residential construction (%)

Period	Public	Private
1981-1984	-18.9	15.0
1985-1988	23.1	-21.3

Source: compiled from data in table 14

which shows that capital expenditure in private sector residential construction was growing in the first half of the period, while that of the public sector declined and was in accordance with the government's objectives of giving more scope to the former. But the reverse occurred in 1985-1988 when the growth rate of 23.1 % in public outlays surpassed that of the private sector's which averaged minus 21.3 %. These developments suggest a compensatory rather than a competitive role being played by the public sector in response to the fall-off in the supply of housing from the private sector, although crowding-out of financial resources through higher interest rates and credit restrictions may have occurred throughout the period.

Financing of investment in the construction sector

So far, it has been shown that the public sector was dominant in residential construction while the private sector's investment was more vibrant in non-residential construction. It was also established that restrictive credit policies impacted negatively on the sector's capital outlays in 1985-1986. The effects of these policies are also demonstrated by the flow of resources to the sector over the period and can, to a certain extent indicate whether any crowding-out of financial resources from the private sector took place. Most of the public sector's financing for non-residential construction is from external sources (approximately 80 % mainly from multi-lateral and bi-lateral institutions as loans from the commercial banks has been declining over the period) while most of its investment in residential units is funded from domestic resources, mainly through the NHT which mobilises funds from the contributions of salaried employers and employees. As illustrated in table 16 below;

TABLE 16. Net loans and advances of selected agencies to the construction sector, 1981-1988 (J$mn)

Lending agency	1981[1]	1982	1983	1984	1985	1986[2]	1987	1988	Total	%
Building societies	30.0	119.7	122.1	118.3	86.5	80.9	166.1	219.2	942.8	35.9
Commercial banks	181.3	145.2	187.5	103.5	-5.2	24.7	260.5	422.4	1150.0	43.8
National Hsg. Tr.	37.6	113.1	106.4	98.8	51.7	27.8	45.2	53.5	534.1	20.3
(% Total)	(15.1)	(30.0)	(25.6)	(30.8)	(38.8)	(20.8)	(9.6)	(7.7)	(20.3)	_
Total	248.9	378.0	416.0	320.6	133.0	133.4	471.8	695.1	2626.9	100.0

Source: Planning Institute of Jamaica, Economic and Social survey, various issues
Notes: (1) Stock figures
(2) Data for NHT after 1985 only reflects lending to individuals through Build-on-own-land and home improvement schemes.

loans from the commercial banks was the major source of funding for the construction sector, accounting for 43.8 % of net advances for the entire period. The contraction in the sector's activities previously mentioned is very evident in 1985 by the net decline of $5.2 million in that year. The lending activities of the NHT needs to be highlighted as it provided both public and private sectors with low-cost financing up to 1985, averaging 28 % of net advances to the construction sector during that period. Table 17 shows that most of its financing was channelled to the public sector agencies.

Table 17. Net lending of the NHT to major construction projects
(Percentages of NHT figures in Table 7)

Recipients	1981	1982	1983	1984	1985
Public sect. agencies	55.3	45.2	54.5	63.8	65.0
Priv. developers, other priv. sec. const.[b]	44.7	54.8	45.5	36.2	35.0

Source: Table 16
Notes : (a) Ministry of Housing, National Housing Corporation, Sugar Industry Housing, Urban Development Corporation, Jamaica Teachers Assoc.

Thereafter, overall lending to the construction sector declined relative to the funding from the other lending agencies and loans to the private developers was discontinued. This development further exacerbated the contractionary effects of the restrictive credit and interest rate environment on private residential investment in the formal sector as the loss of access to the cheaper NHT funds reduced the supply of housing from the private sector although adequate levels of funding was available from other institutions, but these were relatively inaccessible because of higher lending costs.

The above analysis would suggest that there may have been some amount of crowding-out of financial resources from the private sector due to the tight monetary policies being pursued by the government. The question then is whether such crowding-out resulted from increased deficit financing in the public sector according to the orthodox analysis? This question will be dealt with empirically in section 3.3 but attention will now be focused on the manufacturing sector which should provide further evidence of investment patterns particularly that of the private sector.

3.2.3 The manufacturing sector

The government's objectives of achieving sustained growth through private initiative and export promotion placed a lot of emphasis on the diversification from traditional exports of bauxite, sugar and bananas. Consequently, much of the onus fell on the manufacturing sector which was targeted for transformation from an import-substitution focus to an outward-oriented export sector where the emphasis would be on the production of non-traditional manufactured exports. Export switching strategies of devaluation and elimination of import licences and other quantitative restrictions to increase competitiveness, along with an incentive scheme involving a tax rebate system, were utilised to effect the desired changes, in conjunction with a modernisation program to upgrade equipment and improve technological methods in the targeted non-traditional sub-sectors.

Along with these measures, the efforts of the Jamaica National Investment Promotions Limited (JNIP) to stimulate private sector investment from local and overseas sources resulted in the implementation of a total of 890 investment projects valuing some J$2.4 billion which represents over 13 % of total productive investment during the period and as Table 18 below shows, most of these projects were concentrated in manufacturing activities.

Table 18: Sectoral composition of investments generated through JNIP, 1981-1988

Sectors	Projects		Capital Invest		Employment	
	No.	%	J$mn	%	No.	%
Manufacturing	314	35.3	574.1	23.5	36552	52.6
Agri-Business	255	28.7	818.6	33.5	18846	27.1
Film and tourism	150	16.8	668.8	27.4	7834	11.2
Small businesses	107	12.0	26.4	1.1	1033	1.4
Info. processing	33	3.7	34.7	1.4	3600	5.2
Non-metal. minerals	12	1.3	58.5	2.4	367	0.5
Construc. & hsg.	6	0.7	196.3	8.1	997	1.4
Energy	3	0.3	50.3	2.1	55 }	0.2
Banking and finance	1	0.1	5.3	0.2	12 }	
Miscellaneous	9	1.1	7.1	0.3	135	0.2
Total	890	100	2440.0	100	69431	100

Source: JNIP annual report, 1988

Manufacturing along with agri-business were the preferred areas of private investors whose capital inputs accounted for 57 % or J$492.7 million of the total figure. The greatest number of projects (35.3 %) and more than half of total employment generated over the period were attributable to the manufacturing sector. The types of manufacturing activities are shown in the following table,

Table 19: Sub-categories of new manufacturing investments

Sub-sector	J$mn	% of total
Textiles & apparels	338.2	53.5
Chemicals	115.6	18.3
Furniture & wood prod.	40.5	6.4
Food processing	27.0	4.3
Other	110.2	17.5
Total	631.6	100.0

Source: PIOJ, Economic and Social Survey, various issues

which reveals that the concentration of investments was registered in the textiles and apparels sub-sector which accounted for 53.5 % of total investments for the period and attests to a measure of success in diversifying the export base of the economy. But the true measure of success can only be gauged against the contribution of these new investments to the country's export earnings over the period, and the data in Tables 20 and 21 gives some indication of

Table 20. Total exports of manufactured commodities, 1981-1988

	1981	1982	1983	1984	1985	1986	1987	1988-
Total manufacturing exp.	156.5	169.4	207.6	213.2	206.0	224.1	229.4	340.9
Including non-traditional	120.3	139.5	138.3	136.1	140.3	145.0	206.7	224.7
(% of total)	76.9	82.3	66.7	63.8	68.1	64.7	90.1	65.9
miscellaneous mnfs	26.2	33.5	30.9	45.7	46.2	64.3	117.9	125.9

Source: PIOJ, Economic and Social Survey, various issues

this. Non-traditional manufactures consistently accounted for most of the sector's exports averaging 72 % for the period. Included in this category is miscellaneous manufactures of which approximately 90 % consists of apparel exports. This was the major focus in the government's export drive to increase investment and foreign exchange earnings from the free zone type operations and other types of trade arrangements with overseas investors. For the period it was the fastest growing sub-sector in manufacturing and although the rates of increase were erratic over the period, the average rate of growth was a respectable 28.4 % per annum..

The manufacturing sector is traditionally a net user of foreign exchange evidenced by its net requirements of US$39 million in 1983-1984, arising from the gap of export earnings of US$377.0 million against imports of US$416 million. Thus the high import requirements for the sector is one of the main bottlenecks inhibiting its growth in terms of foreign exchange requirements, and at the same time this can contribute to deterioration in the BOP

if its exports earnings are grossly non-proportional to imported inputs.

Table 21. Share and growth of manufacturing exports in total exports
            1981-1988 (US$mn)

	1981	1982	1983	1984	1985	1986	1987	1988	Average
Total exports	974.0	768.5	685.7	702.4	568.5	591.1	709.3	843.4	730.4
Manuf. exports	156.5	169.4	207.6	213.2	206.0	224.1	229.4	340.9	218.4
X growth	50.4	8.2	22.6	2.7	-3.3	8.8	2.4	48.8	17.6
X total exp.	16.1	22.0	30.3	30.4	36.2	37.9	32.3	40.4	29.9

Source: PIOJ, Economic and Social Survey, various issues

Although the share of manufacturing exports averaged 30 % of total exports for 1981-1988, and increased from 16.1 % in 1980 to 40.4 % in the last year, absolute growth levels were less impressive averaging 17.6 % per annum for the eight years. Moreover, except for 1981 and 1988 when increases in export earnings of over 48 % were recorded, very minimal levels of growth took place, with noticeable contractions occurring in 1984 and 1985. This corresponded with the period during which the government exercised tighter demand management policies to effect improvements in the country's external accounts. The implications are therefore suggesting the inability of the sector to meet the targeted objectives of increased export growth in spite of the growth in private sector investment activities generated through JNIP, as well as deregulation and devaluation to obtain greater efficiency and increased export competitiveness. In fact, it should be noted that these combined effects in 1985 actually resulted in the only negative growth rate in exports for the period (-3.3 %), while its average growth in output recorded a modest 2 % per annum compared to 4.5 % in the construction sector.

The public sector's involvement in manufacturing is mainly through two channels; (i) the supportive role of aiding the transformation of the sector through the creation and expansion of factory space and the provision of technical training and assistance to upgrade and modernise its production methods and (ii) the development of two export free-trade zones which offers facilities, various incentives[24] and related infrastructure to encourage investment in contract manufacturing mainly in the apparel and information processing industries. At the end of 1988, gross exports from FTZ activities had grown from US$14.3 million in 1981 to US$101.4 million. Total export earnings of US$359.8 million for the period amounted to only 6.3 % of gross export earnings in the economy while the amount accruing directly to the government in foreign exchange earnings amounted to just 1.4 % of the country's exports for the period under review.

[24] Incentives include 12 year tax holidays, duty free entry of imports, unrestricted repatriation of profits and capital, manufacturing facilities and infrastructure, no import licensing requirements and freedom from fiscal and excise restrictions governing the domestic industries. In 1988, there were some 18 companies operating in the free zone mainly in garment manufacturing, food processing and information processing.

On the basis of such minimal export earnings accruing to the country, Jamaica's experience strongly conforms to the view of the dependency school as discussed in the theoretical section, which postulated the view that very minimal benefits, if any, accrue to the host country from direct overseas investment. Even in the area of employment, which is one of the strongest indicators of FTZ operations, the number of employment generated in 1987 amounting to 11,432 (having grown from 875 in 1981) amounted to just 1.4 % of the employed labour force in that year. Although many of the constraints inhibiting the development of the sector, which failed to "conform" after eight years of continuous adjustment strategies, are due to outdated technology and equipment among other operational and production constraints, the adverse effects of the very adjustment measures themselves have greatly contributed to the observed lack of vibrancy in the sector's activities.

Financing of investment in the manufacturing sector

While the public sector depends primarily on external financing for its manufacturing activities, through bilateral financing arrangements with overseas governments and lending agencies, most of the funding for new investment projects generated through the JNIP were mainly from domestic sources as 66 % of these projects were locally owned. However, because of its high import requirements of both raw material and capital goods, the sector depends on both foreign exchange and local currency financing for working capital and investment purposes. Financing is therefore provided through a number of institutions including commercial banks and specialised development agencies. Due to the presentation of the available data, it was not possible to separate investment funding from that of working capital requirements. What was established, however, is the fact that commercial banks provide the major share of local currency financing for the sector (see Table 22 below):

Table 22. Financing for the manufacturing sector

	1984	1988
Foreign exchange facilities (US$mn)	31.9	150.4
local currency facilities (J$mn)	169.2	1351.4
commercial banks (%)	160.6 (94.9)	1200.0 (88.8)
Development agencies (%)	8.6 (5.1)	151.4 (11.2)

Source: PIOJ, Economic and Social Survey, various issues

Given the public sector's supportive role in manufacturing activities, one could argue that its investment would tend to crowd-in or improve the productivity of the private sector's through the provision of factory space and its efforts to modernise the sector's production methods. However, stabilisation measures including the high interest rate regime in existence since the mid 1980s, along with the credit restrictions, high liquidity requirements and the commercial banks' substantial holdings of government securities would appear to divert resources from meeting the working capital and investment needs within the private sector. However, it should be borne in mind that much of the private sector's investment in Jamaica is argued to be largely self-financed and therefore crowding-out as such may not have actually affected

the private sector's ability to invest. An attempt to deduce which of these effects was greater can be facilitated by empirical testing of the relevant data utilising the OLS regression technique and this is done in the following section.

3.3   Empirical analysis of investment patterns

3.3.1   Specification of private investment functions

So far our analysis has established certain patterns in the investment relationships between the private and the public sectors which confirms the hypothesis that private sector investment and FDI did not respond as vigorously as expected under adjustment strategies which were intended to encourage their growth and instead the public sector's investment financed mainly by external borrowing was the main stimulus to investment expansion and hence growth. This section of the paper therefore seeks to highlight the relative importance of the factors determining private investment decisions particularly those in the construction and manufacturing sectors in order to ascertain some of the elements in our hypothesis as follows: (i) the nature of the relationship between public and private investment, i.e was public investment complementary to or competing with that of the private sector; and (ii) the response of private investment to stabilisation and adjustment measures, mainly the interest rates and credit restrictions.

In the construction sector, the private sector's investment is concentrated in the non-residential sub-sector, particularly in the building of commercial and industrial complexes while the public sector's investment has been largely oriented towards the provision of low-income housing. Although it is also involved in the building of non-residential units, these activities are confined to the creation and expansion of factory space for manufacturing and commercial purposes, especially in the free zone areas, and its financing was shown to generate mainly from external sources. Restrictive stabilisation strategies, however, involving high interest rates and credit ceilings was seen to have negative impacts on private construction activities which is dependent on investment financing from domestic resources for investment and working capital purposes. Due to the inability in separating bank credit into working capital and investment funding, total bank credit to the construction sector was used as a proxy. Given the orthodox perspective, it is of interest to determine the extent to which the combined effects of these policies may have crowded-out financial resources to the sector, due to the public sector's increased reliance on domestic resources in the latter part of the 1980s. An approximation of the function which relates the private sector's non-residential investment to its main determinants would therefore include the following variables:

$$I_{pc} = a_0 + a_1 LR + a_2 BCC + a_3 GRC^{-1} + a_4 X_i \qquad (1)$$

$$a_1 < 0, \ a_2 > 0, \ a_3 > 0, \ a_4 > 0$$

where I_{pc} is the private sector's real investment expenditure in the non-residential sub-sector, LR is the average weighted real lending rates, BCC is real bank credit to the construction sector, GRC^{-1} is real growth rate in the construction sector lagged by one year, and X_i

represents any other variable that influences private sector investment. In this case, two variables are considered: (i) GSBC which is the real value of commercial bank holdings of government securities plus net advances to the public sector, to test for the crowding-out effect of financial resources to the private sector and (ii) IGC^{-1} which is the public sector's real investment in infrastructure lagged by one year to test for crowding-in or complementarity with the private sector's investment. a_0 is the intercept coefficient and a_1, a_2, a_3 and a_4 are the estimators for the respective variables and the expected signs are as shown above.

In the manufacturing sector, data limitations restricted the estimation of private sector investment to new investment projects generated through JNIP, which essentially prevented analysis of investment behaviour in already established firms. Nonetheless, the factors which may have influenced these new investment decisions are included in the following function:

$$I_{pm} = b_0 + b_1 LR + b_2 BCM + b_3 GRM^{-1} + b_4 Y_i \qquad (2)$$
$$b_1 < 0, \ b_2 > 0, \ b^3 > 0, \ b_4 > 0$$

where I_{pm} is private investment expenditure in new manufacturing projects, LR is the real lending interest rates, BCM is real bank credit to the manufacturing sector, GRM^{-1} is the sector's real growth rate and Y_i alternately represents GSBC as specified in function (1) above, or IGM^{-1} which is the public sector's investment in factory building lagged by one year. The estimators b_1 to b_4 are shown above with their expected signs.

The period for which the estimations are done is 1981-1988, and this is one of the limitations which could give rise to imprecise estimates due to the small size of the sample. Consequently, a third function to estimate the complementarity or crowding-out effects of public sector investment spending on private investment over a relatively longer time period, 1975-1988 will be considered in the following specification:

$$I_p = c_0 + c_1 I_g^{-1} + c_2 Z ; \qquad a_1 > 0, \ a_2 < 0 \qquad (3)$$

and I_p is the share of private sector investment in GFCF, I_g^{-1} is the public sector's share of GFCF lagged by one year, and Z is the net domestic transfer of resources from the private sector (including bank credit and government securities). All three variables are expressed as percentages of GNP and a_0, a_1 and a_2 are the estimators for the intercept term, the effects of crowding-in and crowding-out respectively.

It should be noted that public investment in (1) and (2) is lagged by one year because the type of investment which took place during the period was mainly in the improvement and expansion of infrastructure (road maintenance, utility installation and factory building) which were either short-term in nature and could be completed within one or two years e.g. infrastructure expenditure, or were on-going projects e.g factory building, where different stages of completion were utilised by the private sector within the following year.

3.3.2 Estimation and interpretation of the results

Table 23 reports the regression results obtained for the above investment functions

Table 23. Results of estimation

No.	Dependent variable	Explanatory variables						R^2	DW
		Constant	LR	BCC	GRC^{-1}	GSBC	IGC^{-1}		
1 (i)	I_{pc}	46.39 (7.6)	-1.29 (-3.72)	-0.19 (-1.97)	2.8 (4.8)			0.92	2.6
(ii)		31.86 (6.73)	-1.53 (-3.6)		1.83 (4.6)			0.87	1.3
(iii)		36.03 (1.99)	-1.54 (-2.72)	-0.16 (-1.4)	2.67 (3.86)		0.08 (0.61)	0.90	2.4
(iv)		80.5 (3.78)	-0.99 (-2.79)	-0.29 (-2.72)	3.38 (5.38)	-0.04 (-1.47)		0.94	2.9
			LR	BCM	GRM^{-1}	GSBC	IGM^{-1}		
2 (i)	I_{pm}	10.21 (-0.35)	0.56 (0.62)	0.43 (0.85)	-5.55 (-2.09)		1.82 (1.9)	0.58	2.7
(ii)		44.80 (2.35)			-3.08 (-3.96)	-0.04 (-1.83)	2.04 (3.69)	0.82	2.2
			I_g^{-1}	Z					
3	I_p	-1.79 (-0.35)	0.95 (1.94)	-0.094 (0.15)				0.14	2.2

Notes: R^2 = adjusted coefficient of determination and DW = Durbin Watson statistics

For the construction sector, it is observed that the fit of the equations in general are quite good and all the signs are as expected except for the bank credit variable which displays a negative sign implying that increases in domestic credit to the sector had a negative impact on growth in private investment. Although the corresponding coefficient is statistically insignificant in this case, the negative relationship can be understood in the context of the growth that took place in private investment up to 1985 when increasingly higher levels of restrictions were being placed on credit allocations to the sector. This tends to provide support for the argument that substantial amounts of investment in the private sector is self-financed. In row 1 (ii), exclusion of bank credit from the function reduces the fit of the data implying that bank credit is nonetheless important for investment financing in private construction.

Public investment in infrastructure is seen to have a positive but weak effect on private investment suggesting that longer time lags of two to three years may be necessary to asses the true complementarity effect of this variable on private investment, but data constraints prevented verification of this possibility. More importantly however, is the observation that when the variable GSBC is introduced in the function, the evidence of crowding-out of bank credit to the private sector through the commercial bank's holdings of government securities and public sector credit allocations is poorly supported by a negative but statistically insignificant value for this coefficient. The negative impact of increases in the real interest rate as well as the strong positive relationship between investment and growth in the sector's output is evident in all the estimations and supports the observations in the

preceding section of the analysis.

Comparison of rows 2 (i) and 2 (ii) shows that new investments in the manufacturing sector is positively influenced by the public sector's investment in factory buildings. Given the poor growth rates of the sector, it is not surprising that a negative association is registered between new investments and the growth rate of output. Bank credit and interest rates are of minor significance in these investment decisions and this is partly explained by the fact that approximately 34 % of these investments were financed by DFI and in this instance, the result indicates that domestic financing may have been from sources other than the commercial banking system. The fit of the equation improves in 2 (ii) when bank credit and interest rates are removed and GSBC is included to test for crowding-out. The negative but statistically insignificant result for crowding-out of resources from the private sector through government issue, in some measure invalidates the arguments put forward by the exponents of this view.

From the results in row 3, the estimated coefficients of I_g^{-1} and Z display the expected signs according to theory. The indications are that an increase of 1 % in the share of public sector investment in GNP in a given year, will result in an increase of 0.95 % of the private sector's investment share in GNP in the following year, while an increase representing 1 % of net domestic resources in GNP to the public sector crowds out private sector investment by about 0.09 %. However, echoing the findings at the sectoral level in the manufacturing industry, there is stronger support for the hypothesised crowding-in effect of the public sector's investment in comparison to the result obtained for the crowding-out effect. The coefficient for I_g^{-1} is statistically significant at the 8 % level while the value for the Z coefficient is statistically insignificant given its low t-value of 0.15 %.

Although the results provide indications of various aspects of the interaction between the public and private sectors, they should be interpreted with caution for several reasons. Firstly, the low value of the adjusted R^2 in row 3 indicates that there are other factors influencing the behaviour of I_p which are not included in the estimation; for instance, interest rate, income, external capital flows and retained earnings are a few of these variables which may be applicable to private investment decisions in Jamaica. Secondly, there is both positive (row 3) and negative (row 4) serial correlation in the data which implies that the R^2 values may be either overestimated or underestimated respectively. Finally, the limited availability of data allowed for only small numbers of observations in the estimations and could undermine the predictive powers of the results.

However, while the general results will not be taken as conclusive, some interesting inferences and policy implications may be drawn from the findings of the analysis. In the final chapter, these will be dealt with in the context of the impact that stabilisation and adjustment measures had on investment and growth in Jamaica during the 1980s.

CHAPTER 4
POLICY IMPLICATIONS AND CONCLUSION

4.1 The impact of adjustment strategies on investment and growth

The essential aim of the research paper was to analyse the role of public and private investment in Jamaica during the 1980s; a period during which stabilisation and adjustment strategies emphasised the transformation of the country to an export-oriented market type economy and promoted the role of the private sector over that of the public sector in economic activities. The study, however, has revealed that on average, real investment levels in the private sector during the 1980s remained below the levels of the 1970s, while public sector investment in real terms and as a percentage of GNP, was higher than its comparative values in the 1970s as well as the private sector's in the 1980s. The direct reasons for this was the conflicting and negative impact that the orthodox "reform" adjustment packages had on the economy and growth in general, but more specifically on the investment behaviour of the public and private sectors.

Stabilisation objectives to restrain demand required the use of restrictive monetary polices by the government mainly in the form of credit ceilings and high interest rates in 1981-1985. Statutory reserve requirements were also used in tandem with these measures to control the amount of liquidity and the growth of money supply in the system. In 1983, liquidity ratios increased from 37 % to over 50 % in 1985. The combined effects of these policies was shown to impact negatively on investment levels in the previous sections of the analysis and effectively undermined the objectives of fiscal policy to encourage private investment and growth in output. On this basis, it is often argued that fiscal and monetary policies cannot be utilised independently with the close link in both evidenced by the dual purpose of using government securities to contain excess liquidity and at the same time, finance the budget deficit.

The public sector's leading investment role was seen to be largely concentrated in the area of infrastructure expenditure and in the construction sector, there was weak empirical evidence for the crowding-out of financial resources from the domestic banking system. But the effect was channelled through the negative impact of the stabilisation measures of high interest rates and the high inflationary environment which simultaneously squeezed the profits of private investors and dampened investment demand in the non-residential sub-sector in the mid-1980s. The implications from this are quite clear. Interest rates can be a powerful policy tool. But the determination of what constitutes the appropriate level is one of the on-going dilemmas that faces the Jamaican government as the direction of relevant policies to maintain stabilisation and adjustment are usually in contravention of those that seek to foster growth and development of the economy.

Interest rates that are too high is detrimental to investment activities but is argued by the Fund and the Bank to protect the balance of payments and if they are too low, increased

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investment demand can exert undesirable pressures on the balance of payments. In Jamaica's experience, the reverse was seen to happen (see Figure 4 in appendix IV). The BOP deteriorated to its lowest point in 1985 under a high interest rate regime and improved significantly thereafter due largely to external factors, a lowering in the high interest rate/inflationary environment and stabilisation in the exchange rate, and thus essentially negates the line of causality postulated by these institutions. Investment activities and growth also increased in response to the relaxation of the strangulatory stabilisation measures.

But although the rates were lowered, it is a known fact that for some sectors, particularly the agricultural sector, they were still unviable for investment purposes, and as already seen in the analysis, the main objective of increasing the interest rates to contain demand and increase savings is defeated by (i) the private sectors access to other sources of investment financing outside of the formal banking system and (ii) the fact that savings remained unresponsive under the tight adjustment regime pursued up to 1985. Consequently, there is need to focus attention and analytical effort in ascertaining the impact of interest rate (and devaluation) changes at the sectoral level where specific institutional arrangements and characteristics dictate a policy of a differential interest rate structure to target priority areas so that effective demand at lower rates of interest can be met to stimulate output in key areas of production in the economy.

A key component of adjustment programmes is the use of credit ceilings especially on loans to the public sector, as it is argued that expansions in its credit allocations affect the balance of payment through increases in the monetary base and through the monetary multiplier in the stock of money. These are argued to affect the current account deficit if money supply growth is excessive as this stimulates income growth and spills over into increased demand for imports. Hence growth in the money supply is restricted by limiting the growth in credit to the public sector. This was also intended to achieve a second objective of preventing the crowding-out of resources to the private sector and although it is often argued that the reductions in net domestic credit to the former after the mid-1980s, led to improvements in the BOP, this line of causality cannot be maintained as the major factors responsible for this occurrence was the direct result of favourable developments in the external sector.

Moreover, The evidence of insignificant crowding-out of private sector credit could be largely regarded as valid in Jamaica, as many of the financial institutions (mainly the merchant banks and trust companies) are usually owned by local business conglomerates and their lending activities are not usually restricted by the authorities' monetary and credit policies. As a consequence, there were recent moves by the central bank to extend its supervisory powers over these institutions. In addition, it was shown that bank credit was only significant in the funding operations of the construction sector implying that new manufacturing ventures were being financed by sources most likely from the near-bank system. Several policy implications can be drawn from these observations. The results

indicating strong complementarity of public sector investment especially in the manufacturing sector points to the need for a revision of the strategies which limits the amount of the public sector's borrowing so that there is greater access to domestic resources in order to decrease the observed reliance on external financing.

The rational for pursuing this type of strategy is supported by several factors. The first one is that debt creating liabilities have played too great a role in the financing of public sector investment. This in turn impacts on the budget deficits through higher debt service charges which has recently resulted in net capital outflows from the country. The massive outflows of DFI income also exacerbate this negative impact on the BOP and hence, the failure to bring in substantial inflows of DFI may have been a blessing in disguise. Evidently, the country is clearly not in a position to sustain the high levels of borrowing that took place during most of the 1980s. Wherever possible, attempts should be made to increase the concessional portion of new debt to minimise the strain on the budget deficit and the country's debt servicing requirements. In relation to this, strategies such as the debt-equity swap program and the recent moves by the industrialised countries to forgive portions of LDC debt should be actively pursued.

There is need for careful debt management on the one hand and on the other, moderate rather than strict monetary and credit policies are necessary in determining the amount of credit to the public sector. Credit, interest and exchange rate policies should also be carefully managed so that investment in both sectors can take place in an anti-inflationary environment conducive to growth. This requires an approach involving a certain degree of direct management by the monetary authorities so that sensitive price variables such as the interest and exchange rates are not left entirely to market forces as this can result in excessive inflation and depreciation which does not justify the erosion in basic living standards nor the degree of competitiveness required for export growth and gains in foreign exchange earnings.

The importance of adopting such strategies becomes even more crucial in light of recent developments since 1988 whereby a change of government has resulted in acceleration in the pace of reform in the economy with increased emphasis on the application of the standard monetary and fiscal measures dictated by the IMF/World Bank. The expected results have been massive declines in the local currency as a consequence of complete deregulation of the foreign exchange market with the rate falling from J$5.50 to US$1.00 in 1988 to J$17.00 to US$1.00 by the beginning of October 1991, inflation rates well in excess of 60 % over the past recent months, a burgeoning of the illegal black market transactions where the rate of exchange is close to J$20.00 to the US dollar and no visible improvements in export earnings or the BOP. Needless to say, social and economic conditions have been declining as rapidly as the slides in the Jamaican currency.

The types of fiscal policies utilised by the government in the 1980s were primarily determined by its objectives to reduce the public sector deficit in order to streamline its expenditure with its inflow of revenues and allow greater availability of credit to the private

sector for expansion in investment and output. In pursuit of this objective, very specific targets (detailed in Table 24 below) were established as part of the stabilisation programme that the country embarked on in 1981. As the table shows, the actual out-turns of the

Table 24. Fiscal targets and actual achievements* (% GNP)

Indicators	Actual out-turn				Target for FY	
	1981/82	1982/83	1983/84	1984/85	1983/84	1984/85
Total expenditure	43.5	41.9	42.7	-35.1	30.0	-28.0
current expenditure	-3.7	-1.5	-10.0	-3.7	1.0	1.0
Overall deficit	-15.6	-12.6	-18.7	-7.2	-10.3	-7.5

Source: Davies, (1986)
Notes : * Central government operations

indicators to judge the fiscal performance of the government indicated wide divergence from the targeted levels for fiscal years 1983/84. As a consequence of this development, the pace of adjustment was stepped up in 1983/84 and 1984/85 and required further cuts in public expenditure, (especially the redistributive category including social services), retrenchment, wage freezes and removal of food subsidies. These policies were accompanied by further tightening in monetary policies as well as liberalisation of imports and prices, with the latter two intended to effect improvements in the BOP. This as previously discussed, did not occur in the mid-1980s mainly because of the fallout in bauxite earnings and the increased volume of imports, while the devaluation-inflation spiral combined with real wage reductions had debilitating impacts on the socio-economic conditions of the poorer classes in the society. The required reductions in the deficits also entailed cuts in the central government's investment expenditure, and again this was mainly in the category of social and community services.

Many of the fiscal incentives (tax reform package including reductions in corporate taxes and a tax rebate scheme for exporters) were biased in favour of the owners of capital and contributed to the increasing concentration of income to the few in the upper income level. The effectiveness of fiscal incentives depend not only on the assumptions that private sector enterprises retain high shares of their profits and are willing to reinvest these profits, but also on the investment climate and the returns on these investments. But as pointed out previously, an ILO study has shown that most of these redistributed gains are spent on consumption rather than investment (Pantin, 1989). Consequently, these strategies may not achieve the desired objectives of increasing investment, employment and output in the private sector. To effect more equitable redistribution of income will require less focus on reductions in real wages and the implementation of progressive consumption taxes while subsidies targeted on areas such as low-income housing and other social amenities for the rural areas to stimulate rural development especially in neglected areas such as the agricultural sector.

Public investment activities should also concentrate on mobilising the unemployed in commercially viable labour intensive production activities with the participation of the private sector. One of the available options is increasing the development of free-zone type facilities.

For instance, the manufacturing sector's capital intensive methods of production and its high dependence on imported raw material and capital goods limits its contribution to local value added in output and employment. Strategies to address these problems will require continued updating of the sector's technology and production methods, acceleration of diversification strategies into viable non-traditional areas and increased investment in local research and development to facilitate increased usage of local raw materials. Although the contribution of foreign exchange from the free trade zones is shown to be low, it is one of the few alternatives open to the government which could provide a short term solution to the unemployment problem by maximizing its job creation possibilities.

4.2   Conclusion

The tasks of governments in developing countries such as Jamaica is to ensure economic growth and development in economies where these very factors are constrained by the structural rigidities that makes the task very difficult and often requires the transformation of the country's production structure and diversification of trade. To ensure economic development first of all requires growth and in addition improvement in the levels of per capita income, more equitable distribution of income and the general living standards especially of the marginalised groups living on the fringes of the society. These objectives often require direct involvement of the public sector in key economic activities "reserved" for the private sector which should improve output and employment in the process of promoting economic development.

Reviving growth and employment were key objectives of the government to be achieved by reducing its role in the economy. These policies pursued by the government were constrained by stabilisation efforts to effect improvements in the fiscal deficits as well as inadequate revenue resources and resulted in overdependence on foreign debt and domestic resources to finance the public sector's investment. This involved fiscal and monetary measures which negated the objectives of the former and at the same time detracted severely from increased investment in both private and public sector investment. The negative effects were more pronounced in the private sector where much of its investment capital was diverted into foreign asset acquisition (capital flight) in the mid-1980s and consequently the public sector's investment, financed by large amounts of external borrowing accounted for most of the investment that took place during the 1980s.

The emphasis of the public sector's investment was in the provision and maintenance of physical infrastructure (to the detriment of social and human capital expenditure) and in the construction sector, private investment was concentrated in the more profitable non-residential building of commercial and office complexes, while in the manufacturing sector, new private investment was concentrated in the non-traditional sub-sector, reflecting the government's objective in diversifying the economy's export base and its supportive role in providing infrastructural facilities to meet the needs of the private sector particularly those

operating in the free trade zones. Hence, there was strong support for crowding-in of the public sector's investment in the manufacturing sector. There was little evidence of crowding-out of financial resources in both private manufacturing and construction investment activities and this is understandable in the context of the argument that the private sector enjoys access to investment funds outside of the commercial banking system and that much of its investment is possibly financed from retained earnings.

The negative impact of adjustment strategies on both public and private investment was evident throughout the analysis and apart from resulting in contractions in real output and growth, it could also be argued that since the private sector's investment was not crowded-out by the public sector's investment (which was largely supportive of the former's), restrictive adjustment strategies requiring cuts in public expenditure on social and human infrastructure and the liberalisation of prices and markets crowded-out the real consumption levels of the poorer classes in the society where social and economic conditions deteriorated significantly due to the higher cost of living and their reduced purchasing power.

It has been seen that growth in the country's output was affected negatively by the harsh adjustment strategies in the early part of the 1980s. Furthermore, stabilisation and adjustment strategies were largely unsuccessful in correcting internal and external imbalances in the 1970s and most of the 1980s, and in general, resulted in higher levels of inflation, reduced standards of living and contraction in levels of output. For these reasons, it could be said that Jamaica's experience in the 1980s largely conforms to the analysis of the Structuralists school as outlined in Chapter 1. This observation is re-inforced by the upturn in the economy after 1986 which was largely due to recovery in the tourism and bauxite/alumina markets and points to the fact that the openness and high dependence of the economy on developments in the international arena have much greater impact on its internal developments than is usually acknowledged by the IMF and the World Bank in their adjustment programs

Hence their belief in the greater efficiency of the private sector and the view that bad fiscal management is the cause of all or most of the country's economic problems have resulted in too much emphasis on contractionary fiscal and monetary policies limiting public sector borrowing and expenditure, but which have not resulted in correcting the problems nor stimulating growth through increased investment by the private sector. Instead, the analysis has pointed to the continued dominance of investment outlays by the public sector, confirming the main hypothesis of the paper, while the empirical evidence provided support for the view that these expenditures were complementary to those of the private sector, particularly those in the manufacturing sector, and at the same time very little support was found for the crowding-out of resources for private investment.

Consequently, the belief that the private sector should take the lead role in the development process must be qualified in light of the findings of this report. Growth without structural change to correct fundamental economic problems of unemployment and inequalities

in wealth and income defeats the whole purpose of economic development. In other words, the focus on growth must include investment strategies which are targeted to achieve structural change in the economy. This essentially requires the active participation of the government, in conjunction with the private sector, to direct growth and development strategies in key productive areas of the economy so that the major structural problems limiting the country's performance, i.e its extreme openness and dependence on a few exports, and heavy reliance on capital imports for expanding output, can be suitably addressed to effect the required objectives.

In general, it could be concluded that the stabilisation and adjustment policies pursued have misplaced the role of investment and exports as the main determinants of the country's expansion in real output, given the negative effects that contractionary adjustment strategies have had on the country's prospects for growth. The potential for long term growth is also compromised by the huge debt service and within this context it is necessary to reiterate that policy measures require carefully managed fiscal, monetary and interest rate policies to generate stability and confidence in the macro-economic environment which are pre-requisites for investment growth in both the public and private sectors. These recommendations are made against the background of the country's debt service problems with the view of reducing the heavy reliance on external borrowing. In this regard, the government should only be allowed increased access to domestic resources and new external loans should only be sought on highly concessional terms.

In summarising, it will be stressed that the focus of the paper was limited to the examination of the investment relationship between the public and private sector and their responses to adjustment policies as well as the effect of these policies on the economy's development and performance. While the study was not exhaustive in its analysis of investment behaviour at the sectoral level as important areas such as the agricultural sector was not addressed due to limitations of data and the scope of the paper, it is nonetheless hoped that useful insights regarding what "governments do best" versus the role of the private sector will be drawn from Jamaica's stabilisation and adjustment experience in the 1980s.

Appendix I. Construction of the data base for Table 1 in Appendix II

Table 1 in appendix II, which contains the main elements of Jamaica's macro-economic balances, was derived mainly from data in the World Tables 1989-90. The statistics for current government revenue and expenditure were only available for three years; 1975-1977 in both the World Tables and the Government Finance Statistics. However, the National Income and Product accounts for Jamaica contained data for the government's current income and expenditure as well as savings, and these are the figures shown in Table 1 as current revenue, current expenditure and S_g respectively. The profits and losses of public enterprises are also included in these accounts but depreciation expenses are excluded. Consequently, government savings may be under-estimated by the latter amount, in addition to the fact that foreign grants are not included in the national accounts' figures for current revenue. It was not possible to isolate these particular items from any of the other sources, but the amounts are believed to be relatively small in comparison to total revenue figures. Private sector savings, S_p, was obtained as the difference between national savings and government savings.

Attempts to separate the gross domestic investment into the counterpart shares of private and public sector investment (I_p and I_g) proved to be more difficult as there was no single set of data available from which this breakdown could be derived for the entire period. The most recent source of data which gives a breakdown of public and private sector shares in gross fixed capital formation (GFCF) was the Economic and Social Survey annuals, but only for the years 1981 to 1986. This necessitated the separation of gross investment into GFCF and Increase in stocks, and the resulting breakdown of GFCF between the two sectors was used as proxies for I_p and I_g respectively. For 1987 and 1988, the same data source was used to derive the public sector's investment which was estimated from government's capital expenditure in the fiscal budget. The data is recorded on a fiscal year basis and was therefore adjusted by pro-rating the figures to an annual basis. There was no data available for 1970-1974, but for 1976-1980, the Government Finance Statistics contained estimates for government capital expenditure and these were included as proxies for the public sector's share of GFCF. Private sector investment was consequently estimated as the difference between GFCF and I_g. All the variables have been normalised by expressing them as percentages of gross national product (GNP) in each year.

The information in the table was constructed to show the capital accounts of the private and public sectors using the method employed by FitzGerald and Sarmad (1990). The additional information on net capital inflows, F, broken down between the public and private sectors (F_g and F_p), facilitated a more in-depth analysis of the relationship between the major macro-economic variables of the domestic economy and the external sector, as shown in the following identities:

$$(I_g + I_p) - (S_g + S_p) = M - X - R = F_g + F_p \quad [1]$$

Another variable, Z, is included in the table and represents the net domestic transfer of resources from the private sector to the public sector.

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[1] I_g, I_p, S_g and S_p are investment and savings in the public and private sectors respectively, E = exports, M = imports, R = net factor payments and current transfers. These variables were obtained from Table 1. F, F_g and F_p represents net foreign capital inflow and the breakdown between the public and private sectors respectively, while the data source was the Balance of Payments Statistics.

Appendix II

TABLE 1. MAIN ELEMENTS OF THE MACRO-ECONOMIC BALANCE OF THE JAMAICAN ECONOMY: 1970-1988 (% GNP) *

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
BALANCE OF PAYMENTS - CURRENT ACCOUNT																			
Exports	34.7	35.9	33.4	32.1	34.8	35.0	29.8	32.5	43.9	51.4	54.7	50.2	40.2	38.7	58.6	67.3	62.0	62.1	56.2
Imports	39.1	43.5	41.8	41.8	44.8	45.3	38.9	34.0	42.5	53.1	57.0	61.2	52.3	51.1	66.0	79.2	59.5	61.8	65.9
NFP + Ctr	-2.5	-4.3	0.1	0.2	3.7	1.5	-2.6	-2.9	-3.6	-3.3	-3.9	-1.5	-0.9	-1.0	-6.9	-6.3	-8.0	-9.0	0.9
Curr. A/C Bal	-6.9	-11.8	-8.3	-9.5	-6.3	-8.7	-11.6	-4.5	-2.2	-5.1	-6.1	-12.4	-13.1	-13.4	-14.2	-18.2	-5.5	-8.7	-8.8
NATIONAL SAVINGS AND INVESTMENT																			
Savings	26.1	22.2	19.5	22.5	17.5	16.8	7.0	8.2	13.4	15.4	10.7	9.1	8.9	9.6	11.2	10.6	15.5	16.9	22.4
S g **	4.5	5.4	3.0	1.0	5.4	2.7	-0.9	-3.2	-2.9	-1.7	-3.4	-3.5	-5.8	-6.8	-2.9	-6.7	-0.2	0.1	0.7
S p	21.5	16.9	16.5	21.5	12.1	14.2	8.0	11.4	16.4	17.1	14.1	12.6	14.7	16.3	14.1	17.3	15.7	16.8	21.6
Investment	33.0	34.1	27.8	32.0	23.8	25.6	18.7	12.6	15.7	20.5	16.9	21.5	22.0	23.0	25.4	28.8	21.0	25.7	31.2
GFCF	32.8	29.5	25.9	26.5	21.6	23.3	17.2	12.2	13.9	18.6	15.6	19.1	20.9	21.2	23.4	25.8	19.9	24.7	30.7
I g ***	0.0	0.0	0.0	0.0	0.0	8.4	7.8	8.8	11.8	10.0	10.3	14.7	14.8	12.2	10.2	12.0	12.0	15.6	16.7
I p	0.0	0.0	0.0	0.0	0.0	14.9	9.3	3.5	2.1	8.6	5.3	4.4	6.2	9.0	13.3	13.8	7.9	9.0	14.0
Inv - Sav	6.9	11.8	8.3	9.5	6.3	8.7	11.6	4.5	2.2	5.1	6.1	12.4	13.1	13.4	14.2	18.2	5.5	8.7	8.8
NET RESOURCE TRANSFER																			
Z= Ig-Sg-Fg	0.0	0.0	0.0	0.0	0.0	-4.7	-4.4	10.5	12.8	4.7	5.8	-3.7	9.2	17.8	0.9	7.3	17.9	19.4	18.6
GOVERNMENT REVENUE AND EXPENDITURE																			
Cur. Rev. **	19.9	22.0	21.2	21.3	26.9	25.5	26.3	29.5	30.5	30.4	30.4	30.1	29.7	27.7	31.3	29.7	37.6	38.8	40.1
Cur. Exp. **	15.4	16.6	18.2	20.3	21.5	22.9	27.3	32.7	33.4	32.1	33.8	33.6	35.5	34.5	34.2	36.4	37.8	38.7	39.4
B/Def (Sg-Ig)	0.0	0.0	0.0	0.0	0.0	-5.8	-8.8	-12.0	-14.8	-11.7	-13.7	-18.2	-20.6	-19.0	-13.1	-18.7	-12.2	-15.5	-16.0
NET FOREIGN CAPITAL INFLOW																			
F	6.9	11.8	8.3	9.5	6.3	8.7	11.6	4.5	2.2	5.1	6.1	12.4	13.1	13.4	14.2	18.2	5.5	8.7	8.8
F g	0.0	0.0	4.8	8.2	3.5	10.5	13.2	1.5	2.0	7.0	7.9	21.9	11.4	1.2	12.2	11.4	-5.7	-3.9	-2.6
F p	0.0	0.0	3.5	1.3	2.8	-1.8	-1.6	3.0	0.2	-1.9	-1.8	-9.5	1.7	12.2	2.0	6.8	11.2	12.6	11.4

Source: World Tables (World Bank, 1989); Balance of Payments Statistics (IMF, various issues); Government Finance Statistics Yearbook (IMF, various issues); Economic and Social Survey (Planning Instsitute of Jamaica, various issues)

Notes: * See Appendix I for construction of the data base for this table

NFP + Ctr = Net factor payments from abroad plus net current transfers, S g = government savings, GFCF = gross fixed capital formation, I g = public sector's share of GFCF, I p = private sector's share of GFCF, Z = net resource transfer from the private sector to the public sector, F = net foreign capital inflow disaggregated into flows to the public sector, F g and the private sector, F p.

** Government current revenue, expenditure and savings, S g, are estimated from Jamaica's National Income and Product Accounts, Statistical Institute of Jamaica

*** Estimates for I g and I p are derived from the fiscal budgets of the central government and the Public Sector Enterprises in the economic and Social Survey, PIOJ

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Appendix III

TABLE 2. TIME SERIES OF ECONOMIC INDICATORS FOR JAMAICA: 1970-1988

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Ext. TOT (1980 = 100)	121.0	123.0	119.0	121.0	122.0	116.0	118.0	128.0	117.0	110.0	100.0	94.0	94.0	95.0	95.0	95.0	109.0	100.0	97.0
Nom int rt*	6.0	5.0	6.0	7.0	9.0	8.0	11.5	11.7	10.5	8.9	10.3	11.6	9.6	13.1	14.4	21.3	19.0	17.5	17.9
Real int rt	-8.3	-0.7	0.6	-10.3	-17.9	-9.8	2.2	0.0	-24.3	-20.0	-16.8	-1.3	3.1	1.5	-13.4	-4.3	3.9	10.8	9.7
CPI (1985=100)	8.8	9.3	9.8	11.5	14.6	17.2	18.8	21.0	28.3	36.5	46.4	52.4	55.8	62.3	79.6	100.0	115.1	122.8	132.9
Infl. rt**	14.3	5.7	5.4	17.3	26.9	17.8	9.3	11.7	34.8	28.9	27.1	12.9	6.5	11.6	27.8	25.6	15.1	6.7	8.2
Aver. int rt: on Ext. debt	6.0	6.7	6.3	5.5	5.6	6.2	7.6	4.0	7.1	7.4	7.7	8.9	8.0	7.7	7.3	8.1	6.7	6.8	6.7
NER	0.83	0.83	0.77	0.91	0.91	0.91	0.91	0.91	1.69	1.78	1.78	1.78	1.78	3.28	4.93	5.48	5.48	5.50	5.48
RER	3.38	3.30	3.02	3.45	3.22	2.99	2.86	2.72	4.06	3.72	3.34	3.22	3.09	5.16	6.22	5.48	4.62	4.46	4.27
RER Index (1980=100)	101.2	98.8	90.4	103.2	96.4	89.5	85.6	81.4	121.6	111.4	100.0	96.4	92.5	154.5	186.2	164.0	138.3	133.5	127.8
GDP gro. rate	11.9	3.0	9.1	1.3	-3.9	-0.3	-6.5	-2.4	0.5	-1.8	-5.7	2.5	1.2	2.3	-0.9	-4.6	1.7	6.2	1.5

source: World Tables, (World Bank, 1989); International Finance Statistics, (IMF, various issues); World Debt Tables, (World Bank, various issues); National Income & Product Accounts, (Statistical Institute of Jamaica, 1988).

Notes: * Nominal interest rate on deposits. The Bank Rate from IFS used as proxy for deposit rates in 1970-1975
** Inflation rate estimated from annual changes in the CPI
NER = Nominal exchange rate, RER = Real exchange rate and estimated as NER * P p/CPI, where P p = Producer prices in the US.

Appendix IV

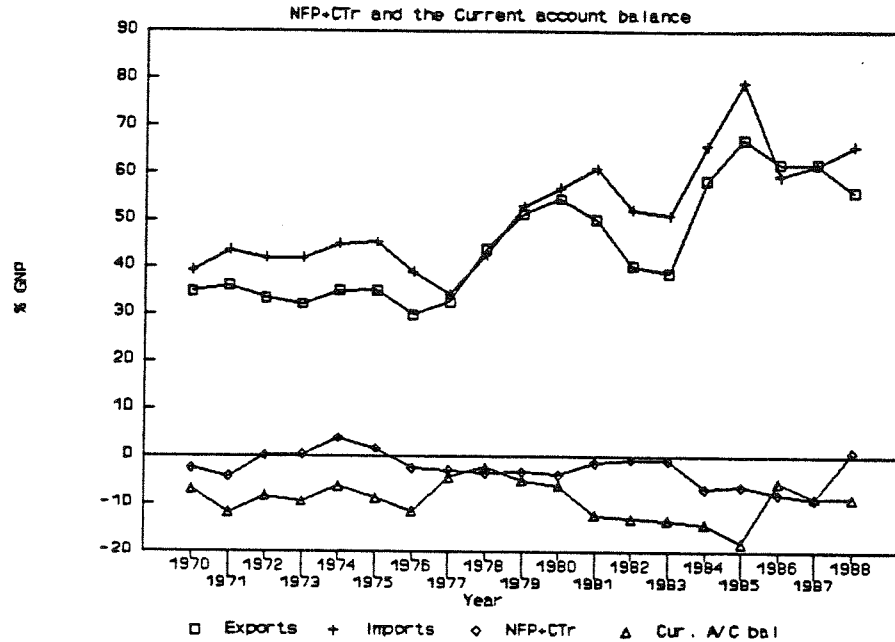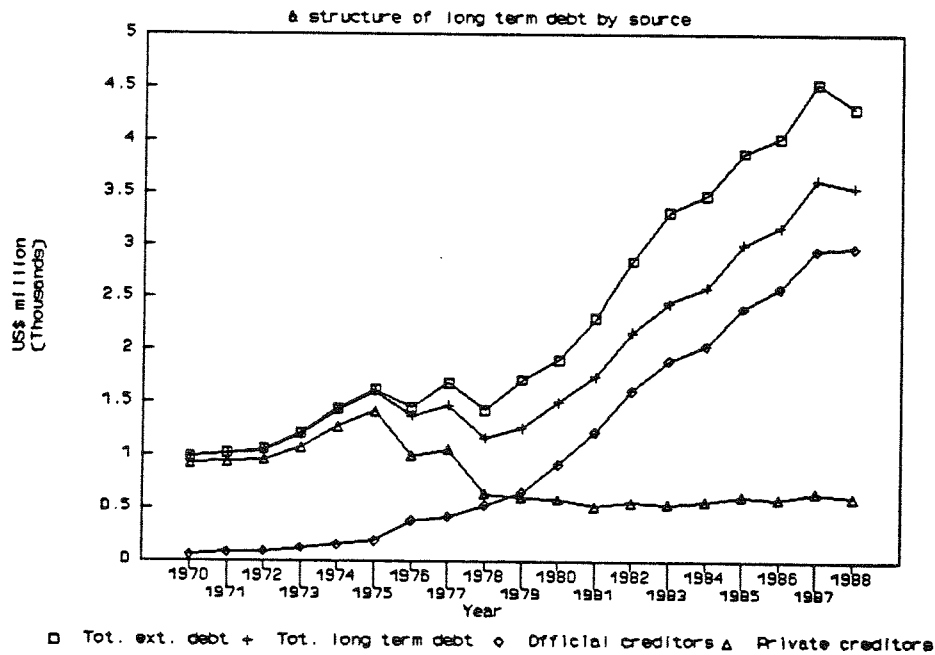# Fig. 4 Trends in exports, imports,

NFP+CTr and the current account balance

□ Exports   + Imports   ◇ NFP+CTr   △ Cur. A/C bal

Fig. 5 : Jamaica's external debt and

△ structure of long term debt by source

□ Tot. ext. debt   + Tot. long term debt   ◇ Official creditors   △ Private creditors

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