

An Analysis of the Manufacturing Export Sector in Jamaica in the Nineties

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Abstract

An analysis is conducted of the factors which are widely held to have contributed to the poor performance of the manufacturing export sector in Jamaica in the nineties. The analysis begins with an identification of factors which have worked to undermined the competitiveness of the manufacturing sector, resulting in a relative stagnation of exports.. It is argued that initiatives in the area of exchange rate management, and monetary and fiscal policy, over the course of the decade, did not work to facilitate a correction of these weaknesses. However, it was suggested that shortcomings in the quality of management were potentially of equal or greater significance than the policy deficiencies, as underlying determinants of the poor performance of the sector. It is argued that these deficiencies in the quality of management reflect broader institutional shortcomings in the structure of society at large, which in turn, works to create an environment not conducive to innovative activity at the firm level. It is concluded, that if there is to emerge an environment more conducive to innovative activity, there will have to be fundamental changes in governance structures, in addition to necessary investments in human capital.

Introduction

At the beginning of the decade of the nineties, the Jamaican authorities embarked on a programme of economic liberalization. The initiatives adopted, the most prominent being the liberalization of the exchange rate regime, appeared to address what might have been considered elements of an anti - export bias in the existing policy framework. The expectation was that the new policy environment would provide a basis for an expansion in exports of manufactured products. There was an initial sharp increase in exports of manufactured goods in the years immediately following the initiative. However, the post 1995 period has witnessed a major decline in exports of manufactured goods. The development in the latter period might be linked to the establishment of NAFTA. This changed the competitive environment for the country's exporters in their major export market. The Jamaican exporters were clearly not able to adjust to the change.

In this paper there will be an analysis of some of the internal and external factors which might have contributed to the poor performance of the sector. In this regard, we will be concerned with an examination of what role might have been played by initiatives in the area of exchange rate, monetary and fiscal policy. This will be followed by an assessment of the potential significance of management

shortcomings in the performance of the sector.

The paper will be organized as follows. In the first section, there will be a brief review of the evolution of the export sector and the overall performance of the economy in the nineties. Included in this section will be an assessment of factors which might be indicative of trends in the international competitiveness of the manufacturing sector. In the subsequent section, we will turn to a consideration of policy initiatives by first examining the impact of fiscal and monetary initiatives on the evolution of the real effective exchange rate. This is being done to provide insights into what role the rate might have played in the performance of the sector. In the third section, attention is directed to the issue of the role of the quality of management in the overall performance of the manufacturing sector and in exports of manufacturing products. In the final section, there will be a discussion as to the types of initiatives required if the country is to realize success in expanding and diversifying its exports of manufactured products.

The Jamaican Economy in the Nineties.

The decade of the nineties might well go down as another lost decade for Jamaica. The overall average annual GDP growth rate, over the decade, was less than one percent. There was negative growth in each year from 1996 through 1999. The manufacturing sector performed even more poorly than the overall economy. Real output of the sector declined at an annual average rate of almost 2 percent. In fact, as shown in Table 1, the sector recorded positive growth in only four years. The sector's contribution to GDP declined from 21 percent in 1990, to 16 percent by 2000.

Given the openness of the economy, the performance of the export sector mirrored that of the overall economy. The overall annual average rate of growth of exports was approximately one percent. There was a modest increase in export sales to the United States, the country's major trading partner. However, as the data in Table 2 reveals, export sales to all the other major trading partners declined over the course of the decade. The decline in sales occurred mainly in the post 1995 period. Exports of manufactured products, as shown in Table 3, tripled in value between 1990 and 1995. The share of manufactured products in total exports rose from 9 percent to 21 percent. However, there was a steady decline in the last half of the decade which was reflected in the fact that the value of these exports in 2000 was approximately 50 percent of the 1995 value. The share of manufactured products in total exports at the end of the decade had fallen back to 12 percent. The pattern reflected

Table 1
Rate of Growth of Gross Domestic Product and Percentage Contribution of the Manufacturing Sector at Constant(1986) Prices

	Total GDP	Manufacturing Sector	Manufacturing % Share GDP
1990	5.6	3.9	21.1
1991	0.9	- 7.7	19.3
1992	1.6	1.6	19.3
1993	1.7	- 1.4	18.7
1994	1.1	0.3	18.6
1995	0.7	- 0.9	18.3
1996	- 1.3	- 3.1	18.0
1997	- 2.0	- 2.9	17.8
1998	- 0.5	- 4.7	17.0
1999	- 0.4	- 1.4	16.9
2000	0.8	0.7	15.9

Sources: Bank of Jamaica, Statistical Digest IMF Jamaica Country Report, N0.01/84

Table 2
Value of Exports to Principal Trading Partners: US \$Millions

	US	UK	Canada	EEC	CARICOM
1990	339.1	174.1	129.2	166.8	71.0
1991	342.0	186.1	119.3	173.4	63.1
1992	336.3	180.2	119.8	65.6	60.0
1993	419.0	147.9	107.4	126.0	59.9
1994	439.7	164.4	147.7	122.1	58.1
1995	520.8	189.7	167.3	219.9	60.4
1996	510.8	183.7	163.7	242.9	55.7
1997	462.9	186.5	195.3	215.7	47.7
1998	521.3	158.9	154.3	217.1	43.6
1999	441.0	161.0	130.0	196.0	42.2
2000	509.0	149.0	133.0	143.0	48.6

Source. Same as Table 1.

Table 3
Exports of Manufactured Products¹

	Total US\$ Million	Percent Total Exports
1990	99.3	8.5
1991	100.0	8.6
1992	165.8	15.7
1993	211.9	19.7
1994	264.9	21.7
1995	302.6	21.0
1996	265.1	19.1
1997	238.9	17.2
1998	212.9	16.1
1999	168.4	13.5
2000	156.2	12.1

¹ Miscellaneous manufactured products, S.I.T.C. section 8.
Source. Same as Table 1.

developments in the exports of garments to the United States. There was a sharp decline in sales in the post 1995 period following the inception of NAFTA, with producers relocating to Mexico, a now more favourable location.

The overall contraction of the manufacturing sector and the post 1995 decline in exports from the sector has raised questions with respect to the overall level of international competitiveness of the sector. For example, a study conducted by Kurt Salmon Associates, cited in an IMF Staff Country Report (IMF, 2000), pointed out that for the textile industry Jamaica ranked close to the top compared to other countries in terms of various components of cost of production. High labour costs and interest rates were singled out as the principal factors undermining the country's international competitiveness in this sector (IMF, 2000, p.27).

We will now proceed to review a set of factors which will shed some light on what might have accounted for the weakening in the competitive position of the sector. In view of the fact that exchange rate misalignment is often seen as being a major factor in poor export performance, we will begin by conducting a review of the evolution of the exchange rate over the period. The link drawn

between exchange rate misalignment and export performance is based on the notion that the level of the exchange rate should reflect relative purchasing power parity. In the post Bretton woods era a measure of the degree of exchange rate overvaluation or misalignment is derived from observing trends in the real effective exchange rate. An appreciation in the real effective exchange rate is seen as being indicative of a departure from purchasing power parity undermining the competitive position of exporters.

It was argued, in the previous section, that the decision to abandon exchange controls and adopt a market based exchange rate regime was based on the notion that this would work towards minimizing exchange rate misalignment. At the same time, the possibility of excessive exchange rate volatility with a market based regime, would clearly work to introduce instability into the system and undermine the performance of the economy. A relative degree of stability could only be achieved if balance was maintained between aggregate demand and productive capacity. The Bank of Jamaica, in carrying out its responsibilities for managing the exchange rate, attempted to control aggregate demand by placing primary emphasis on regulating the cost of borrowing. Nevertheless, the real effective exchange rate, based on relative movements of the consumer price index of the country and that of its principal trading partners, appreciated steadily between 1992 and 1998. The bilateral real exchange rate with its principal trading partner, the United States, as shown in Table 4, also followed a similar pattern. The real effective exchange rate appreciated by 72 percent between 1992 and 1998 and the bilateral real exchange rate with the United States by 61 percent. However, both the real effective and bilateral real exchange rates depreciated in the 1999/ 2000 period.

There are a number of potential shortcomings in using departures from relative purchasing power parity as an indicator of exchange rate misalignment. Williamson(1983) in introducing the concept of the fundamental equilibrium exchange rate, argued that the equilibrium exchange rate is driven by economic fundamentals and can therefore deviate substantially from the path of purchasing power parity. However, given the weak performance of the export sector in this period, the real appreciation of the exchange rate could hardly be considered an equilibrium phenomenon.

In a recent IMF Report(IMF, Staff Country Report no. 00/19), a series of competitiveness indicators were used to highlight the deterioration in the competitive position of the Jamaican economy. We will now proceed to outline the methodology used in the IMF study to establish a series

of benchmarks for assessing the competitive position of the manufacturing sector, and report on the findings. Competitiveness was examined by investigating how profitability in the sector evolved over

Table 4
Jamaica: Exchange Rates Indices¹
Period Averages

	Real Effective Exchange Rate Index	Bilateral Real Exchange Rate Index
1990	100.0	100.0
1991	90.3	83.1
1992	78.1	79.0
1993	88.0	86.3
1994	86.0	85.7
1995	91.5	94.0
1996	108.9	109.3
1997	125.9	123.1
1998	134.2	127.2
1999	133.0	123.2
2000	130.6	117.2

¹ Increase in the index represents an appreciation of the Jamaican dollar

time. In assessing profitability, developments in unit labour costs were compared with movements in the GDP deflator. The GDP deflator measures the cost of the two components, labour and capital, in producing value added. Consequently, if unit labour costs rose faster than the GDP deflator, then the return to capital, and hence profitability must be declining. The findings from the study, which are reproduced in Table 5, reveal that from 1990 - 96, the annual percentage increase in unit labour costs exceed that of the GDP deflator by a substantial margin in all but two years. In 1997 - 98, the change in the GDP deflator was marginally greater than that of unit labour costs.

The evolution of unit labour costs was in large part a reflection on the trend in labour productivity. There was very little change in real output per worker after 1991. Real output per worker declined in each year from 1992 through 1996. Since 1996 there has been some positive growth in productivity, but these increases were more than offset by significant increases in real wages.

Another indicator employed was the trend in the relative price of manufacturing output. The relative price of manufacturing output relative to what may be deemed as production geared primarily to the home market declined. These include sectors engaged in the provision of services, as well as construction and installation.

In summary, the various indicators all point to a weakening in the competitive position of the

Table 5
Manufacturing Sector: Indicators of Competitiveness
Percentage Change

	GDP Deflator	Unit Labour Cost	Output per Worker	Relative price Manufacturing/services ¹
1991	54.9	57.7	- 7.6	13.8
1992	63.9	70.7	35.8	0.9
1993	30.8	33.6	1.5	- 6.8
1994	34.8	17.6	- 2.7	9.6
1995	17.6	35.9	- 2.0	- 4.8
1996	20.9	20.7	- 0.4	- 2.4
1997	8.5	7.2	9.6	- 3.0
1998	4.0	3.1	0.7	- 3.7
1999	9.7	17.2 ²	5.0	3.5

¹ Services include electricity and water, construction and installation, distributive trade, transport, storage and communication, finance and insurance, real estate and business services, government services.

² Percentage change in the real wage.

Source: IMF Staff Country Report No. 00/19, February 2000 and authors estimates.

sector over the course of the decade. This underscores the evidence of a lack of dynamism in exports of manufactured goods.

Exchange Rate Management

Following the decision to adopt a flexible exchange rate standard in 1991, achieving exchange rate stability was seen as being essential if the expected economic benefits of the new policy initiative were to be realized. Such stability would require effective management of aggregate demand. An uncontrolled expansion in aggregate demand would, given the extreme openness of the economy, lead

to exchange rate depreciation and an increase in the rate of inflation. The Bank of Jamaica attempted to control aggregate demand by placing primary emphasis on regulating the cost of borrowing. Throughout the decade the bank maintained interest rates at high levels in nominal and real terms. At the same time, Less emphasis was placed on controlling the rate of growth of the money supply. The average annual percentage change in the money supply, i.e., money and quasi money, of 27 percent, as shown in Table 6, exceeded by a substantial margin the annual average rate of inflation. There was, also, significant annual increases in commercial bank credit to the private sector in the 1993 - 96 period. The high interest rates by dampening aggregate demand should have worked to stabilize the real exchange rate by dampening inflationary pressures. On the other hand, the increases in the money supply and credit to the private sector would have had the opposite effect. Apart from these monetary policy issues, there is the question as to what other internal and external developments might have had an impact on the evolution of the real effective exchange rate.

Table 6
Monetary Policy Indicators

	Interest ¹ Rate	Real Interest ² Rate	Inflation Rate	Percent Change Credit Private Sector	Money ³ Supply
1990	30.8	9.2	19.8	17.7	15.8
1991	31.8	- 6.7	41.3	25.2	36.4
1992	46.6	- 6.7	57.2	26.2	67.8
1993	44.3	20.3	20.0	63.0	44.2
1994	48.7	14.4	30.0	43.0	38.1
1995	43.6	21.5	18.2	39.6	33.7
1996	38.9	12.6	23.4	31.9	19.3
1997	32.6	21.4	9.2	-3.5	18.9
1998	31.5	21.4	8.3	-19.9	8.5
1999	26.9	19.9	5.8	-21.0	14.5
2000	23.0	14.0	7.9	-3.8	13.4

¹ Average of end of quarter weighted average lending rate of commercial banks.

² $(1 + i)/(1 + Inf) - 1$

³ Average end of quarter values of money and quasi money

There have been several empirical investigations geared towards an identification of factors which

are the underlying determinants of trends in real effective exchange rate. Williamson (1983) introduced the concept of the fundamental equilibrium exchange rate. Edwards(1989) conducted a wide ranging empirical investigation covering several developing countries geared at estimating departures from equilibrium and the speed of adjustment to equilibrium. There have been several other studies concerned with trying to estimate the degree of potential exchange rate overvaluation in developing countries. A comprehensive survey of these efforts, as well as some of the methodological and empirical difficulties encountered in conducting this work can be found in Hinkle and Montiel(1999) . These studies identified internal factors such as the share of government consumption and investment in GDP and productivity trends as being important contributors. In addition, external factors, such as, direct investment flows, the terms of trade and the degree of economic openness, as measured by the trade share in GDP, were also identifies as being of importance.

Various estimates were made of the impact of some of these factors on the evolution of the real effective exchange rate over the period from 1984 to 2000. The best results were derived from the following specifications.

$$\text{REER} = 0.54 \text{ Gcon} - 0.33 \text{ Irate} + 0.08 \text{ credit} \quad (1)$$

(3.64) (- 3.37) (4.23)

$$R^2 = 0.94; R^2_{\text{adj}} = 0.93; DW = 2.12$$

$$\text{REER} = 0.59 \text{ Gcon} - 0.26 \text{ Irate} + 0.05 \text{ Money} \quad (2)$$

(4.15) (- 2.96) (4.06)

$$R^2 = 0.94; R^2_{\text{adj}} = 0.93; DW = 1.90.$$

t values are in parentheses.

where Gcon represent government expenditure as a percentage of GDP; Irate, the weighted average lending rate of the commercial banks, credit, commercial bank credit to the private sector and money representing money and quasi money.. The data is annual and all variables are expressed in natural logarithms. All the variables, as judged by the Augmented Dickey - Fuller test were non stationary in levels and stationary in first differences at the 5 percent critical value. The residuals of equations

(1) and (2) were also stationary at the 5 percent critical value. The coefficients were highly significant and had the expected signs. An increase in government consumption expenditure would normally be expected to lead to an appreciation in the real exchange rate through an increase in the price of non tradeables. an increase in credit to the private sector would have similar consequences. The constraint on spending arising from higher interest rates should lead to a real exchange rate depreciation. There was a steady increase in government consumption expenditure in the post 1992 period. It would appear that the combined impact of the growth in government consumption expenditure, increases in the money supply and credit to the private sector worked to offset the impact of the high interest rates. The change in emphasis by the Bank of Jamaica in the period after 1997, to place heavier reliance on restricting the availability of credit appeared to have worked towards reversing the trend towards appreciation in the real exchange rate.

The appreciation in the real effective exchange rate, other things given, would work to undermine the competitive position of exporters. At the same time, it was pointed out earlier, that among other factors were the very low rates of growth of labour productivity in the sector. An assessment of the combined effects of changes in the exchange rate and labour productivity on exporters of products from the sector yielded the following results.

$$\text{MFGX} = 1.50 \text{ REER}_t - 2.24 (\text{REER})_{t-1} + 1.70 \text{lp} \text{ prodm} \quad (3)$$

(1.90) (- 3.28) (3.72)

$$R^2 = 0.74; R^2 \text{ adj.} = 0.69; DW = 1.78.$$

t values are in parentheses.

where MFGX represents exports of manufactured products, S.I.T.C section 8, REER represents the real effective exchange rate and lp real output per worker in the manufacturing sector. The data is annual, covering the period from 1984 to 2000 and all variables are in natural logarithms. A real appreciation of the exchange rate had a significant negative impact on exports of manufactured good with a one period lag. Not surprisingly, increases in labour productivity had a positive impact on exports from the sector. However, given the small increases in productivity, it would have had a minimal impact on exports.

The Quality of Management

One would expect that the following factors would play a significant role in the overall

performance of the sector. First, would be the level of investment activity in the sector. In this context, the issues of particular concern, in addition to quantity would be those pertaining to the quality of investment. For example, to what extent are firms in the sector investing in machinery and equipment embodying new technology appropriate to local environment? What are the levels of expenditure on investments in upgrading the skills of the work force to facilitate the effective exploitation of this technology? Failure to take appropriate action to keep up with advances in technology and in upgrading the skills of the labour force could be seen as reflecting poorly on the quality of management. In Jamaica, if one were to use as a guide to the overall level of sectoral investment activity, gross investment, investment levels were not low by international standards. Gross fixed capital formation as a percentage of GDP ranged between 26 and 34 percent from 1990 to 2000. The poor performance of the sector might be more a reflection on deficiencies in the quality of the investment expenditures, than in the level of investment.

It will be argued here that a useful guide as to the extent to which producers were investing in new technology will be the level of expenditure on imported machinery and equipment. In the absence of direct evidence on expenditures on training it is assumed that the growth in labour productivity in the sector could be a useful indicator as to the level of expenditures in this area. Finally, one would expect all forms of investment to be affected by the cost and availability of funds. This would, in turn, be determined by the monetary policy stance of the central bank.

In light of these considerations, an indirect approach was adopted in an effort to arrive at an estimate of the impact of the quantity and quality of investment activity on the performance of the sector. Expenditure on imported machinery and equipment was used as a proxy to measure the adaptation of technology in the sector. Changes in real output per worker was used to capture the impact of investment in training. The rate of interest was used to potentially capture the impact of cost on investment expenditure. The share of gross investment in GDP was used as proxy for the overall level of investment in the sector. The impact of these factors on the sector was estimated for the period from 1983 to 2000 and yielded the following results.

$$\text{MFG}_{gr} = 0.13 \text{ MImports} + 0.20 \text{ Irate} + 0.44 \text{ LMprod} - 0.52 \text{ GINV} \quad (4)$$

(2.57) (2.96) (3.73) (- 5.48)

$$R^2 = 0.78; R^2 \text{ adj.} = 0.71; DW = 2.10.$$

t values are in parentheses

where MImports represent expenditure on imported machinery and equipment excluding transport and construction equipment and GINV, gross investment as a share of GDP. MFG_{gr} and LMprod, represents the annual growth rate of the manufacturing sector and real output per worker in the sector, measured as the first difference of the natural logarithms. The data is annual, and all variables are in natural logarithms.

As expected, imports of machinery and equipment, as well as labour productivity in the sector had a positive impact on growth performance. On the other hand, changes in the overall level of investment in the economy, as represented by gross investment ratio, had a negative impact on growth performance. This might be indicative of the fact that changes in the level of investment in the manufacturing sector were not in keeping with the investment trends in other sectors, such as the financial sector and tourism. The financial sector, for example, recorded the most rapid rates of growth between 1987 and 1994 and might have accounted for a disproportionate share of investment expenditure. The interest rate variable was significant, but had the wrong sign. This might be indicative of the fact that increases in interest rates occurred at times when there was strong growth in markets for these products. This was the situation during the late eighties and early nineties when the growth performance of the sector was driven by expansion in the production of garments for the North American market.

It was pointed out in the previous section that labour productivity in the sector was relatively stagnant over the period and indeed, rates of growth were negative on a number of occasions. The level of labour productivity would be determined by investment in training, as well as expenditure directed at enhancing the quality of capital equipment for the work force. We will now turn to a consideration of the extent to which expenditure on imported machinery and equipment affected labour productivity. In addition, there will also be an assessment of the degree to which the cost and availability of funds might have possibly affected labour productivity, by restricting productivity enhancing expenditure. Our estimate of the impact on labour productivity of the cost and availability

of funds and expenditure on imported machinery and equipment yielded the following result.

$$L_{\text{prodm}} = -0.188I_{\text{rate}} + 0.187C_{\text{redit}} - 0.189M_{\text{imports}}$$

(-1.82) (7.06) (-1.97)

$$R^2 = 0.83; \quad R^2 \text{ adj.} = 0.80; \quad DW = 2.19.$$

t values are in parentheses.

Where L_{prodm} represents real output per worker in the manufacturing sector. The data is annual, covering the period from 1983 to 2000, and all the variables are in natural logarithms.

An increase in the rate of interest did, as expected, have a negative impact on labour productivity. The high cost of funds causing producers to economize on training and other productivity enhancing investments. At the same time an increase in the availability of credit would contribute to an increase in labour productivity by encouraging productivity enhancing investment in training and the purchase of equipment. An increase in expenditure on imported machinery had a negative impact on labour productivity. Since an increase in the stock of machinery and equipment would normally be expected to increase labour productivity, this result is on the surface somewhat puzzling. However, increases in outlays on machinery and equipment will not be productivity enhancing if it was not suited to the local environment. Moreover, it would also fail to enhance productivity if workers were not provided with the level of training required to operate the machinery efficiently. This lends further support to the notion that the labour productivity in this period might have been influenced more by the expenditures on imported machinery and equipment not ideally suited to the local environment than to overall expenditures on such equipment. In other words, it was a reflection on deficiencies in the quality of management decision making in this area.

Meeting the New Competitive Challenge

It has been argued that the poor performance of the manufacturing export sector reflected some basic underlying weaknesses in the sector. These underlying weaknesses were reenforced by certain aspects of monetary and fiscal policy and exchange rate management. In addition, there was a suggestion of deficiencies in the quality of labour and management. In looking to the future, one can see a situation in which operators in the sector are going to be confronted with changes in the domestic and international environment which will deepen the competitive challenges with which they will have to cope. Producers will be faced with having to cope with less protection in the domestic

market, given the conversion of government to the belief in the benefits to be realized from economic liberalization. In the international domain, this belief in the benefits of liberalization will be reflected in the drive towards hemispheric free trade and in a much broader sense, the overall commitment to the advance of globalization.

It appears that in the area of the conduct of macro economic policy, there has been a recognition of the negative aspect of some of the policy initiatives undertaken in the recent past and the necessary corrective action is being taken. For example, the change in the approach to monetary management taken by the Bank of Jamaica, since 1997, where emphasis was placed on base money management as the principal inflation fighting tool, has succeeded in reducing inflation to single digit levels. This has helped reverse the steady appreciation in the real effective exchange of the earlier part of the decade.

There is no need for the Jamaican authorities to consider the adoption of alternative exchange rate regimes in order to minimize the possibility of currency misalignment. The avoidance of misalignment in the real effective exchange rate is dependent on the effectiveness of the overall conduct of monetary and fiscal policy in assuring a reasonable level of price stability. This is true regardless of the exchange rate regime, be it fixed or flexible, or, for that matter the adoption of alternative arrangements, such as currency boards, or the abandonment of the domestic currency for a foreign currency. In the Caribbean context, the experience of Trinidad and Tobago suggests that a market based exchange rate regime can be stable in the context of a positive growth environment. The punitive high interest rates which have dominated the Jamaican economic scene in the past decade is not consistent with the realization of significant positive rates of economic growth. The central bank will have to adopt as a priority the goal of bringing about a significant reduction in interest rates.

Let us now turn to the question of what ought to be done to address deficiencies in the quality of management and labour. These deficiencies are clearly indicative of inadequacies in the stock of human capital. Given the nature of the government's budgetary constraint, the funding requirements required to overcome shortcomings in education and training cannot be borne solely by the government. A greater share of the burden will have to be borne by the business sector and in some instances by not for profit non governmental organizations. Apart from what might be deemed the

quantitative requirements, there will be a need pay particular attention to shoring up gaps and deficiencies in curricula. The clearest need will be in the area of the new technologies.

However, over and above these investments in human capital, in order to meet the competitive challenge, there will be a need to create within the society an environment more conducive to innovation. There is a critical need for new ideas with respect to types of products to be produced and marketing strategies. Romer(1992, 1993) has raised the issue of what he refers to as an idea gap, as a major constraint on development. He defines an idea gap in the following way.

The notion of an idea gap ... includes the concepts that some author have in mind when they speak of a technology gap, but it is intended suggest something quite broad. The word technology invokes images of manufacturing, but most economic activity takes place outside factories. Ideas include the innumerable insights about packaging, marketing, distribution, inventory control, payments systems, transactions processing, quality control, and worker motivation that are all used in the creation of value in a modern economy(Romer,1993,p.544).

In addition, ingenuity reflected in an ability to bring fresh approaches to traditional methods of operation, will also be a factor of importance. This issue has been highlighted recently by Thomas Homer - Dixon(2000). He outlined the unique role of ingenuity in the following way.

Ingenuity ... consists not only of ideas for new technologies like computers or drought resistant crops but, more fundamentally, of ideas for better institutions and social arrangements like efficient markets and competent governments(Homer - Dixon,2000, pp. 2 - 3).

If this new environment is to emerge, one which facilitates the generation of new ideas and ingenuity, there will have to be changes in the structure of governance. In essence, what is being referred to here are changes in the traditional modes of interaction among different groups in society. Barrett(1997), for example, refers to the importance of trust in making it possible for an environment conducive to encouraging innovative activity to emerge. The importance of trust is explained in the following way.

For individuals to interact willingly, innovatively, and continuously, they must possess trust in people and institutions - their business associates, the state, unions, or perhaps God - to safeguard them against catastrophe and exploitation, and to provide reliable information(Barrett, 1997, p.554).

On a more specific plane, it has been pointed out that the basis of competitive advantage rests on innovativeness at the level of the firm (Hirst and Thompson, 1999). Such innovativeness, it is argued, is closely linked to such institutional considerations as the constitutional nature of company governance systems, the institutional operation of the labour market and the form of social settlement between social partners and organised interest groups. In a report by the Economic Commission for Latin America, it was noted that in the Caribbean, the nature of technical and social aspects of class relations among entrepreneurial, professional and technical workers and their ability to take concerted action to raise productivity was severely undermined by the poor quality of their representative organizations (Watson, 1994). Specifically, in Jamaica, it has been pointed out that the sharp class divisions that have historically characterized the society, contributed to an especially rancorous relationship between management and workers with a negative impact on productivity (Mullings, 1998).

How will the necessary changes be brought about? At a minimum, there will have to be a departure from the traditional hierarchical relationship between management and labour. These relationships reflect what has been the traditional form of interaction in the society at large between those who govern and those who are governed. Consequently, there will be a need to bring about a fundamental change in the society with respect to attitudes concerning the responsibility for articulating and finding solutions to the problems faced by the society. Essentially, what is required is a sense of shared community responsibility for in the formulation and execution of measures geared to the realization defined objectives. An appropriate step towards the realization of such an outcome would be to work towards establishing strong community based organizations at the centre of the policy development process. Dynamic community based organizations will provide the appropriate environment for the generation of ideas and the development of novel approaches to the solution of problems. The experience gained in these organizations would have spill over effects, which would be reflected in the behaviour of individuals in their work environment, as well as in other areas of social interaction.

References

- Barrett, Christopher(1997). "Idea Gaps and Object Gaps in Economic Development", *The Journal of Developing Areas*,31 (Summer): 553 - 568.
- Edwards, Sebastian(1993). *Trade Policy, Exchange Rates and Growth*. NBER Working Paper 4511, Cambridge MA: National Bureau of Economic Research.
- Edwards, Sebastian(1989). *Real Exchange Rates, Devaluation and Adjustment*, Cambridge, MA: The MIT Press.
- Hinkle, Lawrence and Peter J.Montiel(1999). *Exchange Rate Misalignment: Concepts and Measurements for Developing Countries*, New York: Oxford University Press.
- Hirst, P., and G. Thompson(1999). *Globalization in Question*. 2nd Edition, Oxford: Blackwell.
- Homer - Dixon, Thomas(2000). *Ingenuity Gaps*, Toronto: Alfred A Knop.
- IMF(2001). *Staff Country Report No.01/84*
- IMF(2000). *Staff Country Report No. 00/19*
- Krueger, A.(1978). *Foreign Trade Regimes and Economic Development: Liberalization Attempts and Consequences*, Cambridge, MA: Ballinger Publishing Co.
- Mullings, B.(1998). "Jamaica's Information Processing Services: Neo Liberal Niche or Structural Limitation"? in Thomas Klak, ed. *Globalization and Neo Liberalism: The Caribbean Context*, New York: Rowman and Littlefield.
- Romer, Paul(1993). "Idea Gaps and Object Gaps in Economic Development", *Journal of Monetary Economics*,32: 543 - 573.
- Romer, Paul(1992) "Two Strategies for Economic Development: Using Ideas and Producing Ideas", *Proceedings of the World Bank Annual Conference on Development Economics*: 63 - 91.
- Watson, H. ed.(1994). *The Caribbean in the Global Political Economy*, London: Lynne Rienner.

Williamson, John(1983)

The Exchange Rate System, Washington, D.C.: Institute for International Economics.