

TRADE LIBERALIZATION, EXPORT PERFORMANCE AND ECONOMIC GROWTH IN JAMAICA*

Marie Freckleton

I. INTRODUCTION

Since the 1980s trade liberalization has become an increasingly common feature of economic policy in developing countries. Some developing countries have unilaterally liberalized trade in an attempt to integrate into the global economy and promote economic growth. In other cases countries have had to liberalize trade in order to satisfy the requirements of international lending agencies. At the global level, multilateral trade negotiations under the auspices of the World Trade Organization are pushing for freer trade in response to the demands of globalization.

The increasing emphasis on trade liberalization represents a reversal of the inward looking economic policies pursued by developing countries during the 1950s and 1960s. This policy reversal is largely due to the view that open economies outperform protectionist economies. The relationship between openness and economic growth has been studied extensively. A number of empirical studies for example World Bank (1987), Dollar (1992), Sachs and Warner (1995), Edwards (1998) and Panagariya (2004) provide evidence of a positive relationship between openness and economic growth. The World bank 1987 study of economic performance in 41 developing countries concluded that “the evidence suggests that the economic performance of the outward-oriented economies has been broadly superior to that of inward oriented economies in all respects” (World Bank, 1987:85). More recently Panagariya (2004) reviewed the performance of 138 developing countries over the period 1961-1999 and found that virtually all developing countries that experienced sustained growth did so while pursuing outward oriented policies.

* The author acknowledges support for this study provided by the University of the West Indies
Mona, through a research fellowship

Openness is multifaceted in that an open economy is one that is open not just to international trade but to foreign capital and foreign technology (Grossman and Helpman, 1991). Nevertheless, the link between openness and economic growth implies that trade liberalization is necessary to promote openness and generate economic growth. Consequently, international lending agencies such as the World Bank and the International Monetary Fund recommend trade liberalization as an essential component of economic reform programs in developing countries. However, trade liberalization may not necessarily promote growth. Rodriquez and Rodrik (1999) argue that the relationship between trade and economic growth is dependent on a range of factors including the characteristics of the country and external economic conditions. Further study of the impact of trade liberalization on individual countries is therefore needed.

The objective of this paper is to analyze the impact of trade liberalization on exports and economic growth in Jamaica. The paper is structured as follows: section 2 provides an overview of the relationship between trade liberalization and economic growth. Section 3 reviews Jamaica's trade liberalization program. Section 4 examines Jamaica's export performance before and after trade liberalization. Section 5 presents empirical evidence on the impact of trade liberalization on economic growth in Jamaica. Finally, conclusions are presented in section 6.

II. TRADE LIBERALIZATION AND GROWTH

Neo classical trade theory suggests that international trade promotes economic growth by promoting specialization in the production of goods and services in which a country has a comparative advantage. Such specialization entails the reallocation of resources from relatively inefficient sectors to more efficient sectors thereby improving the efficiency of the economy. The increased competition provided by international trade is also expected to have positive effects on economic efficiency. Other things being equal improved efficiency should contribute to higher rates of economic growth. In addition, specialization in sectors in which a country has a comparative advantage promotes export expansion which in turn stimulates economic growth.

The two gap model identifies foreign exchange shortage as an important constraint on economic growth in developing countries (Chenery and Strout, 1966). This implies that export expansion can facilitate economic growth by relaxing the foreign exchange constraint. Increased availability of foreign exchange allows for imports of intermediate and capital goods necessary to promote a higher level of economic growth.

Another important benefit of trade is that export markets overcome the constraint of a small domestic market allowing producers to take advantage of economies of scale. The specialization and higher levels of investment made possible by the larger export market can promote industrialization and economic growth. It is important to note however that access to export markets may be restricted by protectionist measures. This is particularly true in the case of “sensitive” goods such as agricultural products that are subject to high levels of protection in developed countries.

Endogenous growth theory postulates that trade stimulates growth by increasing the rate of technological spillovers¹. According to this theory more open economies are able to absorb new technologies at a faster rate and will therefore achieve a higher rate of economic growth. This theory is supported by empirical research which indicates that imported capital goods facilitate the international spillover of knowledge (Coe, Helpman and Hoffmaister, 1997). The access to imports facilitated by trade also provides other benefits. It has been found that imported capital goods improve export competitiveness by reducing production costs in developing countries (Mody and Yilmaz, 2002). This suggests that increased access to imports facilitated by trade liberalization can contribute to export expansion and economic growth.

While economic theory suggests that trade promotes growth, Rodriquez and Rodrik (1999) argue that the relationship between trade and growth is contingent upon domestic and external factors. Hence trade liberalization may fail to have a positive effect on economic growth in cases where domestic or external conditions are unfavorable.

The empirical evidence on trade liberalization and growth is inconclusive. In the case of the least developed countries (LDCs) in sub Saharan Africa, Shafaeddin (1995) found that there was no significant association between trade liberalization and economic growth. That study also found that some LDCs actually experienced deindustrialization after trade liberalization. Greenaway, Morgan and Wright (1997) studied 74 developing countries including 30 that liberalized trade and found that on average trade liberalization was associated with a decline in economic growth. Rodriquez and Rodrik (1999) reviewed a number of empirical studies and found “little evidence” to support the view that lower trade barriers promote growth. Contrary to the findings of the foregoing studies, a study of 73 developing countries using panel data found the impact of trade liberalization on growth of real GDP per capita to be “lagged and relatively modest” (Greenaway, Morgan and Wright, 2002:243).

III. TRADE LIBERALIZATION IN JAMAICA

During the 1950s and 1960s Jamaica pursued an import substitution industrialization policy. Infant industries were protected by means of high tariffs and quantitative restrictions on imports. In the mid 1970s Jamaica experienced a balance of payments crisis as a result of the oil price shock. During 1976-1980 the balance of payments crisis deepened as political instability contributed to capital flight and declining inflows of foreign investment. The Government of Jamaica responded to the foreign exchange shortage by intensifying protectionist measures. Consequently import restrictions increased and a system of import licensing was introduced.

In 1981 the government of Jamaica embarked on a structural adjustment program financed by the World Bank and the International Monetary Fund. The main objectives of the structural adjustment program were to improve the

Balance of payments and restore economic growth. These objectives were to be achieved by shifting the economy away from the inward looking import substitution strategy to a strategy of export promotion. Trade liberalization was viewed as necessary to encourage export growth. The structural adjustment program also included other economic reforms intended to improve the economic efficiency. These included privatization of state owned enterprises and deregulation of the economy.

Trade liberalization in Jamaica was phased in on a gradual basis over an extended period of time. The first phase of the trade liberalization program implemented during 1982-87 involved progressive liberalization of imports, with import quotas being replaced by tariffs. During this phase tariffs remained high as the government tried to maintain revenues from trade taxes. The second phase of the trade liberalization program was a tariff reform program introduced in 1987 to reduce tariff rates on a phased basis over the period 1987-1991. Tariffs were reduced from a range of 30 to 103 percent in 1987 to a range of 0-45 percent in 1991 (World Bank, 1994:38). In 1990 the policy of using import licenses to restrict imports was discontinued². In 1991 the Government of Jamaica abolished the monopoly status of the state owned Jamaica Commodity Trading Company which had controlled imports of basic commodities and motor vehicles³. This was intended to promote competition in the import trade.

Recognizing that an overvalued exchange rate discriminates against exports, the government of Jamaica also attempted to realign the exchange rate so as to improve the competitiveness of exports. During 1982-1991 Jamaica maintained a fixed exchange rate system and the value of the dollar was consistently devalued moving the exchange rate from US\$1.00=J\$1.78 in January 1982 to US\$1.00 =J\$12.01 at the end of August 1991.

Meanwhile exchange controls were maintained in order to protect scarce foreign exchange. In September 1991, the exchange rate was liberalized with the removal of exchange controls and the introduction of a flexible exchange rate system. This precipitated sharp depreciation of the Jamaican dollar from US\$1.00= J\$13.97 on September 25, 1991 to US\$ 1.00 =J\$20.91 at the end of December 1991⁴.

Jamaica's trade liberalization program was affected by the country's obligations as a member of the Caribbean Community (CARICOM), an integration arrangement that maintains a Common External Tariff (CET) against third countries. In October 1992 the member states of CARICOM agreed to introduce a revised CET that would reduce tariff rates. In order to implement the revised CET Jamaica introduced further tariff reductions over the period 1993-1999. In January 1993 a new tariff structure with a range of 5 to 30 percent was introduced. In January 1999 Jamaica completed implementation of the CET resulting in a tariff structure with rates ranging from 0-20 percent for industrial products and a rate of 40 percent for agricultural products⁵. The higher rate for agricultural products is intended to protect the agricultural sector which is an important source of employment in some CARICOM countries.

Trade liberalization resulted in significant decline in average tariffs. Table 1 shows that average tariffs declined from 50.0 percent in 1989 to 20.0 percent in 1991. By 2004 the average tariff fell to 9.0 percent.

Table 1 - Jamaica: Average Tariffs (percent)

Year	Average tariff
1989	50.0
1991	20.0
1995	15.9
2000	14.9
2003	9.0

Source: Authors calculations based on Planning Institute of Jamaica.

IV. EXPORT PERFORMANCE

The Heckscher- Ohlin Model predicts that liberalization of imports will cause a reallocation of factors of production from import competing sectors in which a country has a comparative disadvantage into those export sectors in which the country has a comparative advantage. Trade liberalization is therefore expected to increase export production.

In order to evaluate the impact of trade liberalization on export performance, it is necessary to determine the degree of trade liberalization that actually occurred as a result of the trade reforms. In addition, a year of liberalization has to be chosen to facilitate comparison of export performance before and after trade liberalization. Several indicators of

trade liberalization have been used in empirical studies. One commonly used indicator is the average tariff rate which provides a direct measure of trade restrictions. The weakness of this indicator is that it fails to take account of non tariff barriers to trade. An alternative indicator is the percentage of trade covered by non tariff barriers. This indicator has the drawback of assuming that all non- tariff barriers restrict trade to the same degree. It is also difficult to measure. Since overvalued exchange rates can create an anti- export bias, the black market premium for foreign currency is sometimes used as a proxy for trade liberalization. It is assumed that a reduction in the black market premium implies a greater degree of trade liberalization. The weakness of this indicator is that the black market premium is also an indicator of macroeconomic instability.

Given the limitations of the individual indicators of trade liberalization composite indicators of openness have been used as a proxy for trade liberalization. One of the most well known of this type of indicator is the index developed by Sachs and Warner (1995). According to the Sachs and Warner approach, an economy is open if the following conditions are satisfied: the average tariff rate is less than 40 percent; average non tariff barriers are less than 40 percent; the black market premium is less than 20 percent of the official exchange rate; state owned enterprises have no monopoly on major exports and the government is not socialist. Rodriquez and Rodrik (1999) criticized this index on the ground that is a proxy for a wide range of macroeconomic policy failures and therefore a poor measure of trade policy.

In this paper the average tariff rate is used to determine the degree of trade liberalization. Sachs and Warner (1995) used an average tariff rate of less than 40 percent to represent open trade. However some researchers are of the view that this tariff rate is too high for a liberalized economy (Greenaway, Morgan and Wright, 2002). An average tariff rate of 20 percent or less is therefore used as the indicator of trade liberalization in this article. Based on this criterion 1991 is identified as the year of trade liberalization. This means that it took almost a decade of trade reform before Jamaica achieved meaningful trade liberalization.

Table 2 shows that during 1976-81, the period of balance of payments crisis annual export growth averaged 3.9 percent. Export growth declined to 3.3 percent during 1982-91 when the trade reforms were being implemented. In the post liberalization period 1992-2004 export growth declined further to 2.6 percent per year. The data suggests that trade liberalization did not result in improved export performance in Jamaica.

Table 2 - Jamaica Export Growth Rate

	Period	Average annual growth rate
1976-81	Balance of payments crisis	3.9
1982-91	Period of trade reform	3.3
1992-2004	Post liberalization period	2.6

Source: Author's calculations based on IMF - International Financial Statistics.

Further information on export performance is provided in Table 3. It can be seen that the period 1992-2004 was characterized by weak export performance and widening trade deficits.

Table 3 - Jamaica- Merchandise Trade 1990-2004 US\$ mn

Year	Exports	Imports	Trade balance
1990	1190.6	-1692.7	-502.1
1991	1196.7	-1588.3	-391.6
1992	1116.5	-1541.1	-424.6
1993	1105.4	-1920.5	-815.1
1994	1548.0	-2099.2	-551.2
1995	1796.0	-2625.3	-829.3
1996	1721.0	-2715.2	-994.2
1997	1700.3	-2832.6	-1132.3
1998	1613.4	-2743.9	-1130.5
1999	1499.1	-2685.6	-1186.5
2000	1562.8	-2908.1	-1345.3
2001	1454.4	-3072.6	-1618.2
2002	1309.1	-3179.6	-1870.5
2003	1385.6	-3328.2	-1942.6
2004	1601.6	-3546.1	-1944.5

Source: International Monetary Fund- International Financial Statistics.

Factors Underlying Export Performance

The available data indicates that trade liberalization proved insufficient to promote export growth. Neoclassical economic theory assumes that the changes in relative prices brought about by trade liberalization will provide incentives for producers to shift resources from import substitution to production for exports. This approach overlooks structural problems that can thwart the response to price incentives. Furthermore, as noted by Rodriquez and Rodrik (1999), domestic economic conditions and external factors also influence the response to trade liberalization. The underlying factors that contributed to weak export performance in Jamaica will now be examined.

Composition of Exports

Despite efforts to promote industrialization Jamaica's merchandise exports are dominated by primary products. The major commodity exports are bauxite and alumina which together accounted for 63.7 percent of merchandise exports in 2004⁶. Export production in the bauxite and

alumina industry is dependent on international market conditions and the production decisions of the transnational corporations that operate the mines. In theory, reductions in trade barriers could affect the production decisions of the transnationals if such reductions affected the relative price of Jamaica's bauxite/ alumina. However, the tax incentives offered by the government of Jamaica to attract investment into the bauxite/ alumina industry include total exemption from tariffs on imports of capital goods and most other inputs⁷. Hence relative prices in the bauxite/ alumina industry are not significantly affected by trade liberalization.

In the case of the traditional agricultural exports-sugar and bananas, export production is uncompetitive. Competitiveness is constrained by structural factors such as inadequate technology, deficient infrastructure (including roads, irrigation systems and flood control mechanisms) and lack of access to capital. Hence survival of these industries is dependent on preferential treatment provided by the European Union (EU) to its former colonies in Africa, the Caribbean and the Pacific (ACP countries). The commodity protocols governing EU imports from ACP countries allow preferential access for specific quotas of sugar and bananas⁸. In the case of sugar, the EU also offers a guaranteed price similar to the price paid to EU producers of sugar beet.

Supply rigidities have limited Jamaica's ability to take advantage of preferential access to the EU market. The quota for bananas allocated to Jamaica is 105,000 tonnes but exports have consistently failed to achieve this target. During the post liberalization period the highest level of banana exports was achieved in 1996 when exports reached 88917 tonnes (84 percent of quota)⁹. In addition to the structural problems already mentioned banana exports have been adversely affected by tropical storms and diseases. In 2004 banana exports fell to 27657 tonnes (26 percent of quota) due to the effects of a hurricane¹⁰. In the case of the sugar industry, output in some years is insufficient to satisfy both the EU quota and domestic consumption making it necessary to import sugar to meet the needs of the domestic market. Adequate response to trade liberalization requires productive capacity and international competitiveness. It is evident that Jamaica's traditional agricultural exports do not meet these requirements.

Weak Manufacturing Sector

Given the constraints on expansion of traditional primary exports, export growth in Jamaica is largely dependent on the ability to diversify into manufactured exports. Table 4 indicates that the manufacturing sector contracted in the post liberalization period. Manufacturing declined from 21.1 percent of GDP in 1990 to 13.4 percent of GDP in 2003. Exports of

manufactured goods experienced growth during 1992-1995 due to expansion of garment exports but declined thereafter.

Table 4 - Jamaica Manufacturing Sector: Selected Indicators

Year	Manufacturing contribution to GDP (percent)	Exports of manufactures US\$ mn
1990	21.1	321.0
1991	19.4	290.1
1992	19.3	375.8
1993	18.8	393.1
1994	18.7	479.9
1995	18.3	533.1
1996	18.0	522.6
1997	17.8	522.0
1998	17.0	475.6
1999	16.9	401.7
2000	14.2	372.6
2001	14.1	341.5
2002	13.9	281.4
2003	13.4	277.8
2004	13.7	359.1 ^p

p- Provisional

Source: Planning Institute of Jamaica Economic and Social Survey, various years.

Other things being equal, increased competition from imports is supposed to encourage domestic manufacturers to improve their efficiency or to reallocate resources to export industries where they have a comparative advantage. The underlying assumption is that there is a developed industrial sector willing to take the risks involved in penetrating export markets. In the case of Jamaica, manufacturers faced with increasing competition from imports reallocated resources from manufacturing to the distribution of imports¹¹. This response to competition can be partly explained by the characteristics of the Jamaican manufacturing sector. The Jamaican private sector has traditionally shown a preference for low risk trading activities. Investment in manufacturing was viewed as attractive when the government implemented protectionist measures that provided a captive market thereby significantly reducing risk. Consequently the Jamaican manufacturing sector is weak and underdeveloped.

The manufacturing sector is dominated by relatively small inefficient firms producing light manufactures mainly for the domestic market. Export manufacturing is concentrated in a few products- garments, processed foods, beverages and chemicals. It is important to note that the garment industry which accounted for the growth of exports of manufactures from the mid 1980s to 1995 is comprised mainly of foreign firms that invested in Jamaica to take advantage of preferential access to the United States market.

Protection from competition provided little incentive for firms producing for the domestic market to undertake investment to achieve technological advancement and improved efficiency. Jamaican manufacturers were therefore ill prepared to compete against import competition in the domestic market or to penetrate export markets when trade liberalization occurred. Moreover, the problems facing the manufacturing sector were compounded by inadequate access to capital. Given the relative inefficiency of the manufacturing sector, expansion of exports requires investment to undertake the technological upgrading required to become competitive. However access to capital in the post liberalization period proved difficult due to a banking crisis and high cost of capital.

Macroeconomic Instability

Trade liberalization in Jamaica was introduced in the context of macroeconomic instability. The liberalization of the capital account and the introduction of a flexible exchange rate in September 1991 destabilized the Jamaican economy. The introduction of the flexible exchange rate system was followed by depreciation of the Jamaican dollar which gave rise to a depreciation- inflation spiral. Table 5 shows that the inflation rate was 80.2 percent in 1991. Tight monetary policies intended to stabilize the economy contributed to high real interest rates. By 1994 real lending rates exceeded 20 percent and did not fall below 20 percent until 2000.

Table 5 - Jamaica: Selected Economic Indicators 1991-2004

Indicator	1991	1994	1997	2000	2004
Real GDP growth (percent)	0.80	1.10	-2.00	0.70	0.90
Average exchange rate (J\$ per US\$)	12.11	33.09	35.40	42.70	61.19
Inflation rate (percent)	80.20	26.90	9.20	6.10	13.70
Average lending rate (percent)	31.50	49.46	36.29	23.35	18.14
Real lending rate (percent)	-48.70	22.56	27.09	17.25	4.44
Total public debt	133.50	121.10	84.20	107.70	142.80

Sources: IMF, International Financial Statistics; Planning Institute of Jamaica, Economic and Social Survey of Jamaica; Bank of Jamaica Statistical Digest.

It can be argued that the unstable macroeconomic environment contributed to the failure of trade liberalization due to its adverse effects on investment. Macroeconomic instability undermined investor confidence, in addition the high real interest rates acted as a disincentive to investment.

The problems associated with macroeconomic instability were compounded by the banking crisis of 1995-96 that followed financial liberalization. The banking crisis resulted in a reduction in lending that made it difficult for investors to access capital. Commercial bank loans declined by 27.4 percent in 1998 and by a further 15 percent in 1999¹².

Government expenditure to bail out the financial sector also adversely affected private investment in that government borrowing crowded out private borrowers and helped to maintain high interest rates. The share of commercial bank loans granted to government increased from 9.6 percent in 1996 to 26.3 percent in 2004¹³. In addition, the share of commercial Bank assets held in Government of Jamaica treasury bills and bonds increased from 9.8 percent at the end of 1996 to 16.4 percent at the end of 2004¹⁴. The unstable economic environment also contributed to economic stagnation. Economic growth averaged only 0.56 percent during 1991-2004¹⁵. It is fair to say that the macroeconomic environment during the post trade liberalization period was not conducive to export expansion and economic growth.

Global Competition

Jamaica is heavily dependent on inflows of foreign investment to supplement low levels of domestic investment. During the 1980s and early 1990s, foreign direct investment (FDI) was attracted into garment manufacturing in Jamaica to take advantage of the country's quota under the multifibre arrangement and the preferential access to the market of the United States of America offered under the 807 and "Super 807" arrangements¹⁶. Consequently, the garment industry developed into the most dynamic export industry in the manufacturing sector accounting for 52 percent of manufactured exports by 1994¹⁷. However, from the mid 1990s onwards, FDI inflows into the manufacturing sector were adversely affected by increasing global competition. In particular, FDI was attracted to cheaper garment manufacturing locations such as China. The establishment of the North American Free Trade area (NAFTA) in January 1994 also had adverse effects on Jamaica's manufacturing as NAFTA made it profitable for some foreign investors producing garments for the United States market to relocate their operations from Jamaica to Mexico¹⁸. In an attempt to redress this problem the United States government signed the Caribbean Basin Trade Partnership Act (CBTPA) in 2000. The CBTPA allows Caribbean exports to the U.S. market that are not eligible for duty free treatment under other preferential arrangements to enjoy equal tariff treatment with NAFTA products. Despite this measure, Jamaica's garment exports declined by 41 percent between 2000 and 2004 due to lack of

competitiveness¹⁹. Jamaica's production costs are uncompetitive due to relatively high labor, energy and security costs. High energy costs derive from the country's complete dependence on imported fuel while the high security costs are due to the high crime rate²⁰.

V. THE IMPACT OF TRADE LIBERALIZATION ON GROWTH

The impact of trade liberalization on economic growth is estimated using a conventional production function. The model is specified with GDP being a function of capital stock, the labor force, human capital and technology.

Human capital is included based on endogenous growth theory which suggests that positive externalities associated with the accumulation of human capital promotes economic growth Lucas (1988), Romer (1986, 1990).

The inclusion of human capital is also justified by cross country empirical studies- Mankiw, Romer and Weil (1992) and Sanhadji (2000) that found human capital to be a significant variable influencing economic growth. With respect to technology, economic theory suggests that higher levels of technology are associated with higher productivity and faster rates of economic growth. Moreover it has been argued that technological spillovers through trade and foreign direct investment help to promote growth de Mello (1997), Grossman and Helpman (1994) Saggi (2002). Technological advancement in developing countries such as Jamaica that have limited domestic capacity for technological innovation is largely dependent on FDI. The inward stock of FDI is therefore used to represent technology in the estimating equation. The estimating equation is:

$$Y = B_1 + B_2K + B_3L + B_4H + B_5F + B_6D \quad (1)$$

Where Y is real gross domestic product, K is capital stock, L is the labor force, H is human capital and F is the inward stock of FDI. The dummy variable D is included to take account of the impact of liberalization. The dummy variable takes the value of zero for the period before liberalization and 1 for the post liberalization period. In the absence of data on capital stock, gross fixed capital formation is used as a proxy. Secondary school enrolment is used as a measure of human capital. The data covers the period 1972-2003. In log linear form the estimating equation is:

$$Y = B_1 + B_2 \ln K + B_3 \ln L + B_4 \ln H + B_5 \ln F + B_6 D \quad (2)$$

While FDI has been identified in the literature as a factor contributing to economic growth, it is also possible that a growing economy will attract more FDI. This gives rise to the possibility of

endogeneity. The model is therefore estimated by Generalized Instrumental Variable Estimation (GIVE) so as avoid the simultaneity bias that would result from Ordinary Least Squares estimation. The results of the estimated regression equation are shown in Table 6.

Capital is positively correlated with GDP and is significant at the 1 percent level. Labor and human capital are not statistically significant. FDI is positively correlated with GDP and is statistically significant at the 5 percent level. The liberalization dummy is negatively correlated with GDP but is not statistically significant.

Table 6 - Regression results

Regressor	Coefficient
K	0.46 (3.28)**
L	0.68 (0.94)
H	0.27 (0.12)
F	0.30 (2.58)*
D	-0.28 (-0.85)
R- squared = 0.93	
Sargan's test chi-sq (4) = 8.44	
N = 32	

T ratios are in brackets. ** indicates significance at the 1 percent level. * indicates significance at the 5 percent level. Lagged explanatory variables are used as instruments. Sargan's test is used to test the validity of the instruments. The results of Sargan's test indicate that the instruments are valid.

The regression results suggest that trade liberalization had no significant impact on GDP growth in Jamaica. This finding is not surprising as it was seen in section 4 that trade liberalization was implemented in a macroeconomic environment that militated against economic growth. Furthermore, structural constraints limited the ability of the export sector to respond to trade liberalization.

VI. CONCLUSIONS

Trade liberalization is viewed as necessary to promote economic growth. This view is supported by the superior economic performance of some outward oriented economies. Developing countries therefore face increasing pressure to liberalize trade. The Jamaican experience suggests that trade liberalization may not promote economic growth. Trade liberalization in Jamaica has been followed by contraction of the

underdeveloped manufacturing sector, widening trade deficits and economic stagnation. The main factors underlying the failure of trade liberalization in Jamaica are structural problems and an unstable economic environment. The structural problems are of paramount importance as they are likely to impede the response to trade liberalization even under stable economic conditions.

The changes in price incentives associated with trade liberalization may be necessary to reduce bias against exports but are certainly not sufficient to overcome structural constraints such as dependence on primary commodity exports, inadequate infrastructure, deficient technology, underdeveloped human resources and weak industrial sectors. It follows that countries that are subject to structural constraints that restrict the capacity to expand exports may be made worse off by trade liberalization. For such developing countries, measures to address structural problems must be implemented if trade liberalization is to succeed.

APPENDIX

Sources of Data

Data	Source
Gross domestic product	Statistical Institute of Jamaica, National Income and Product
Gross fixed capital formation	Statistical Institute of Jamaica. National Income and Product
Labor force	Planning Institute of Jamaica. Economic and Social Survey of Jamaica
Secondary school enrolment	Planning Institute of Jamaica. Economic and social survey of Jamaica
Foreign direct investment	UNCTAD World Investment Report and IMF Balance of Payments Yearbook

Notes

¹ See for example, Romer (1986), Grossman and Helpman (1994).

² Since 1990 import licenses have been used only for the purpose of monitoring imports that have the potential to affect health, safety and the environment. Such imports include pharmaceutical drugs, firearms and motor vehicles.

³ Planning Institute of Jamaica Economic and Social Survey of Jamaica 1991, pp.3.6.

⁴ All exchange rates were obtained from Bank of Jamaica Statistical Digest.

⁵ Planning Institute of Jamaica Economic and Social Survey of Jamaica 1999, pp.10.8.

⁶ Authors calculations based on Planning Institute of Jamaica.

⁷ The exemption from import duties is provided under the bauxite and Alumina Industries Encouragement Act.

- ⁸ It is important to note that the preferential arrangements that allow Jamaica to export its high cost sugar and bananas to the European Union (EU) Market are being diminished. The World Trade Organization (WTO) has ruled that the EU preferential regime for ACP bananas violates multilateral trade rules. Consequently the import quotas are to be replaced by a single tariff for bananas imported into the EU. This means increased competition for Jamaican bananas in the EU market. The guaranteed EU market for sugar produced by the ACP countries has also been challenged by some members of the WTO. Furthermore, the EU decision to cut the guaranteed price paid for ACP sugar by 36 percent adversely affects the viability of high cost producers such as Jamaica.
- ⁹ Planning Institute of Jamaica, Economic and Social Survey of Jamaica 1996, pp.7.2.
- ¹⁰ Planning Institute of Jamaica, Economic and Social Survey of Jamaica 2004, pp 8.4.
- ¹¹ Planning Institute of Jamaica, Economic and Social Survey of Jamaica, 2000 pp.10.9.
- ¹² Author's calculations based on Bank of Jamaica Statistical Digest.
- ¹³ Authors calculations based on Bank of Jamaica Statistical Digest.
- ¹⁴ Authors calculations based on Bank of Jamaica Statistical Digest.
- ¹⁵ Author's calculations based on Planning Institute of Jamaica Economic and Social Survey.
- ¹⁶ The 807 program exempts the value of U.S components from import duties when products exported to the U.S include U.S inputs. Under the "Super 807" arrangement implemented in 1986, textile products manufactured in Caribbean Basin countries from 100 percent U.S components were allowed to enter the U. S. outside of the multifibre arrangement quotas. The "Super 807" arrangement was terminated in 2005.
- ¹⁷ Planning Institute of Jamaica Economic and Social Survey of Jamaica 1994 pp.10.3.
- ¹⁸ The member states of NAFTA are the United States of America, Canada and Mexico.
- ¹⁹ Author's calculations based on Planning Institute of Jamaica.
- ²⁰ Jamaica's homicide rate increased from 44 homicides per 100,000 persons in 2001 to 62 homicides per 100, 000 persons in 2005. These homicide rates are among the highest in the world. Security costs are also affected by pilferage and by contamination of export shipments with illicit drugs.

References

- Bank of Jamaica (various years) *Statistical Digest*. Kingston: Author.
- Coe, D., E. Helpman and A. Hoffmaister (1997), "North-South R&D Spillovers", *Economic Journal* 107(440):134-49.
- Chenery, H. and A. Strout (1966), "Foreign Assistance and Economic Development", *American Economic Review* 56(4):679-733.
- de Mello, L. R. (1997) "Foreign Direct Investment in developing Countries and Growth: a Selective Survey", *Journal of Development Studies* 34(1): 1-34.
- Dollar, David (1992), "Outward Oriented Developing Economies Really Do Grow More Rapidly: Evidence from 95 LDCs 1976-1985", *Economic Development and Cultural Change* 40(3):523-544.
- Edwards, S. (1998), "Openness, Productivity and Growth: What do We Really Know?", *Economic Journal* 108(447):383-398.
- Greenaway, D., W. Morgan and P. Wright (1997), "Trade Liberalization and Growth in Developing Countries: Some New Evidence", *World Development* 25(11): 1885-1892.

- Greenaway, D., W. Morgan and P. Wright (2002), "Trade Liberalization and Growth in Developing Countries", *Journal of Development Economics* 67(1):229-244.
- Grossman, G. M. and E. Helpman (1991), *Innovation and Growth in the Global Economy*. Cambridge Massachusetts: MIT Press.
- Grossman, G. M. and E. Helpman (1994), "Endogenous Innovation in the Theory of Growth", *Journal of Economic Perspectives* 8(1):55-72.
- IMF (various years), *International Financial Statistics*. Washington D.C.: IMF.
- IMF (various years), *Balance of Payments Yearbook*. Washington D.C.: IMF.
- Krueger, A.O. (1997), "Trade Policy and Economic Development: How We Learn", *American Economic Review* 87(1):1-22.
- Krueger, A.O. (1998), "Why Trade Liberalization is Good For Growth", *The Economic Journal* 108 (450):1513-1522.
- Lucas, R. (1988), "On the Mechanics of Economic Development", *Journal of Monetary Economics* 22(1):3-42.
- Mankiw, N., D. Romer and D. Weil (1992) "A Contribution to the Empirics of Economic Growth", *Quarterly Journal of Economics* 107(2):407- 437.
- Mody, A. and K. Yilmaz (2002), "Imported Machinery for Export Competitiveness", *The World Bank Economic Review* 16 (1):23-48.
- Panagariya, A. (2004), "Miracles and Debacles: In Defense of Trade Openness", *World Economy* 27(8):149-1171.
- Planning Institute of Jamaica (various issues), *Economic and Social Survey of Jamaica*. Kingston: PIJ.
- Rodriquez, F. and D. Rodrik (1999), *Trade Policy and Economic Growth: A Skeptics Guide to the Cross National Evidence*. NBER Working Paper no. W7081.
- Romer, P.M. (1986) "Increasing Returns and Long Run Growth", *Journal of Political Economy* 94 (5):1002-1037.
- Romer, P.M. (1990), "Endogenous technical Change", *Journal of Political Economy* 98(5):S71-S102.
- Sachs, Jeffrey and A. Warner (1997), *Economic Convergence and Economic Policies*. NBER Working Paper no. 5039.
- Saggi, K. (2002), "Trade, Foreign Direct Investment and International Technology Transfer: A Survey", *World Bank Research Observer* 17(2):191-235.
- Senhadji, A. (2000), "Sources of Economic Growth: An extensive Growth Accounting Exercise", *IMF Staff Papers* 47(1):129-157.
- Shafaeddin, M. (1995), "The Impact of Trade Liberalization on Export and Economic Growth in Least Developed Countries" , *UNCTAD Review*.
- Statistical Institute of Jamaica (various years), *National Income and Product*. Kingston: STATIN
- UNCTAD (various years), *World Investment Report*. Geneva: United Nations
- World Bank (1987), *World Development Report* . Washington D. C.: Author.
- World Bank (1994), *Jamaica: A Strategy For Growth and Poverty Reduction*. Washington D. C.: Author.
- Country Economic Memorandum. Report no. 12702 JM. Washington D. C.: World Bank.