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# SUPPLY SIDE CONSTRAINTS ON EXPORT DEVELOPMENT IN JAMAICA

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## I. INTRODUCTION

The ongoing process of trade liberalization is expected to promote economic growth in developing economies by providing enhanced market access for their exports. However, the experience with preferential market access suggests that market access while necessary, may not be sufficient to promote export growth. Despite several years of preferential access to their major export markets some developing countries, mainly in Africa and the Caribbean, have failed to achieve significant export growth and diversification.

The extent to which developing countries can benefit from improved market access depends on their ability to supply goods and services to export markets and to compete effectively. Yet there is empirical evidence that some developing countries are subject to supply side constraints that limit their capacity to increase export production and to compete in international markets.[1] For example, Fugazza (2004) studied the determinants of export performance in a sample of 84 countries and found that the export performances of African, Middle Eastern and Latin American countries were adversely affected by supply constraints while in South Asian countries, export growth was largely due to expansion in their supply capacities.

Supply side capacity is determined by the factors that influence investment in export production as well as the costs of production of exports.

This means that a good investment climate is necessary to enhance the capacity of firms to increase export production. Important components of the investment climate that affect supply capacity include access to capital, the efficiency of institutions, the quality of infrastructure, the availability of

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human capital and the macroeconomic environment (WTO 2007, World Bank 2005). While all of the foregoing factors are necessary for efficient production, it is also recognized that the ability to innovate is critical for international competitiveness. According to Porter (1998:45) firms create competitive advantage by means of innovation. Consequently the increasing competition in global markets means that firms in developing countries are under increasing pressure to innovate in order to maintain competitiveness.

Efforts to promote export development in Jamaica have yielded limited results. Trade liberalization and preferential access to markets notwithstanding, exports have grown slowly and remain concentrated in a narrow range of traditional primary products. Consequently, the economy experiences persistent trade deficits that lead to increasing reliance on inflows of migrant remittances and earnings from tourism. Diversification and expansion of exports are therefore critical for sustainable economic growth. However, this will require relaxation of the constraints on export development.

The objective of this study is to investigate the major constraints on expansion of non-traditional exports in Jamaica. The paper is organized as follows: Section two reviews Jamaica's export performance. The methodology is outlined in section three. Section four analyzes the results of the survey. Finally, conclusions are presented in section five.

## II. JAMAICA'S EXPORT PERFORMANCE

Jamaica's major trading partners provide preferential market access to its merchandise exports. In addition to the Generalized Scheme of preferences offered to all developing countries under the General Agreement on Tariffs and Trade (GATT), Jamaica benefits from other preferential trade arrangements that offer additional benefits. These include the Cotonou Agreement that provides preferential access to the European Union (EU) market for African–Caribbean–Pacific (ACP) exports; the CARICOM–Canada (CARIBCAN) agreement and the Caribbean Basin Initiative offered by the United States of America.[2] Nevertheless, Jamaica's export growth remains sluggish due to failure to take full advantage of these market access opportunities.

In an effort to expand exports, a program of trade liberalization was implemented over the period 1982-1991. Trade liberalization was expected to stimulate export growth by providing incentives for producers to reallocate resources from production for the domestic market to export industries. However, the export response to trade liberalization was inadequate. Annual export growth averaged 4.0 per cent during the post liberalization period (1992-2006) compared to 3.3 per cent during 1982-91.[3] Consequently trade deficits widened in the post liberalization period (1992-2006). Moreover, as can be seen from Table 1, the trade deficit exceeded total exports in every year during the period 2001-2006.

In addition to slow growth, another significant feature of Jamaica's merchandise exports is limited diversification. In 2006, five products (bauxite, alumina, sugar, bananas and coffee) accounted for 60.9 per cent of total exports.[4] This concentration of exports makes the economy vulnerable to price shocks. Moreover, the low value added of the traditional exports limits the development impact of export expansion. Sustainable export growth therefore requires diversification into production of exports with higher value added and dynamism in world markets. It is important to note that ongoing efforts to promote export diversification through expansion of tourism, while necessary are not sufficient to promote long run economic stability given the volatility of tourism. It is therefore prudent to seek to develop new exports of goods for which it is possible to create a competitive advantage.

**Table 1: Jamaica Merchandise Trade 1990-2006 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 |
| 2005 | 1664.3 | -4245.6 | -2581.3 |
| 2006 | 2117.3 | -5062.0 | -2944.7 |

*Sources:* IMF, International Financial Statistics and Bank of Jamaica (2006)

## III. METHODOLOGY

The primary data in this study are based on a survey of non traditional exporters. The survey was conducted over the period November to December 2007. The sample was chosen from the list of exporters on the Jamaica Exporter's Association website and the Jamaica Exporters

Directory published by Jamaica Promotions and the Jamaica Exporters Association.[5] Since the focus of this study is on non-traditional merchandise exports, services and traditional merchandise exports were excluded. The remaining exporters totaled 375. Purposive sampling was used to select non-traditional exporters producing products with growth potential in the world market.[6] The number of enterprises included in the study totaled 75 (20 per cent). The analysis is based on responses from 53 firms. The remaining firms either provided incomplete information or did not participate in the study. The questionnaire was structured to obtain information on factors that affect the ability to expand exports. Part I of the questionnaire focused on access to capital. Part II addressed the issue of innovation. In part III respondents were asked to rate the extent to which various factors impeded exporting.

**Table 2: Distribution of Respondents**

| Sector | Number of firms |
|---|---|
| Processed foods | 15 |
| Fresh agricultural produce | 13 |
| Manufactures (excluding food) | 19 |
| Art and Craft | 6 |
| Total | 53 |

## IV. SURVEY RESULTS

### Access to Capital and Innovation

Expanding production for exports is dependent on access to capital. This is particularly true for small and medium sized enterprises that have limited financial resources. In order to examine the issue of access to capital, respondents were asked to indicate the main source of finance for new investments. Retained earnings constituted the main source of finance for 54.7 per cent of respondents, followed by bank credit at 41.5 per cent. A small percentage (3.8 per cent) relied on personal and family funds. None of the firms in the sample had been able to access venture capital. This reflects the scarcity of venture capital institutions in the Jamaican economy.[7]

The heavy reliance on retained earnings and bank credit suggests that there is limited access to long term capital. It is also possible that unwillingness to dilute ownership could be a contributory factor to the reliance on retained earnings and bank credit.[8]

Innovation is not limited to technological innovation. According to Porter (1998:45) innovation broadly defined involves “product changes, process changes, new approaches to marketing, new forms of distribution and new conceptions of scope.” In the case of technological innovation the

ECLAC (2006:195) notes that the process begins with the acquisition of technology by purchasing machinery and equipment or licenses while a higher stage of innovation that leads to improved products or services is dependent on research and development and may require collaboration with universities or institutes of technology.

Based on the foregoing, respondents were given a list of six activities that can be used as indicators of innovation and asked to identify the activities they had undertaken in the previous three years. The findings suggest that the rate of innovation is relatively low. The innovative activity with the highest frequency was the purchase of new machinery and equipment which was undertaken by 30.2 per cent of respondents. The second most frequent innovative activity was the improvement of an existing product by 20.7 per cent of respondents. A new product was produced by 11.3 per cent of respondents but only 7.5 per cent of respondents had entered new export markets during the previous three years. None of the firms had entered into a joint venture with a foreign firm, while only 1.9 per cent had collaborated with the scientific research council or a university to develop a new product for export. Given the important role of innovation in promoting international competitiveness, the low rate of innovation is an important supply side constraint on development of non-traditional exports in Jamaica.

## Firm’s Perceptions of Constraints on Exports

The firms’ perceptions of the factors restricting export growth are investigated in this section. The factors chosen for examination are aspects of the business climate that affect investment, costs of production and costs of trading. Respondents were asked to rate the various factors that are potential constraints on export expansion using the following scale: 1=(no problem), 2= (minor obstacle), 3= (major problem).The results are summarized in table 3.

The cost of capital affects the cost of export production. Hence, the availability of finance at a competitive cost is an important determinant of export competitiveness. A large share of the respondents (64.2 per cent) viewed the interest rate as a major obstacle to export expansion. A small percentage of respondents (9.4 per cent) viewed interest rates as no problem. The view that the interest rate constitutes a major obstacle to export growth is not surprising as lending rates in Jamaica are significantly higher than those prevailing in competing economies. In 2006, for example, the average lending rate in Jamaica was 17.64 per cent compared to 10.92 per cent in Trinidad and Tobago and 7.96 per cent in the United States of

America.[9] Given the importance of bank credit as a source of finance for exporters high interest rates constrain export growth.

The ability to qualify for credit is dependent on borrowers being able to provide the collateral and financial information required by financial institutions. The ability to qualify for credit was rated as a major obstacle to export expansion by 28.7 per cent of respondents while 54.7 per cent were of the view that the ability to qualify for credit was no problem for them. The findings suggest that there is a need for reform of collateral regulations to allow a wide range of assets to be used as collateral. It also appears that some exporters are either unaware of or are failing to utilize the business support services such as preparation of loan requests offered by the Jamaica Business Development Center established by the Government of Jamaica.

Timely and accurate information about market opportunities abroad are required for successful exporting. However, 30.2 per cent of respondents rated access to information about market opportunities abroad as a major obstacle to expansion of exports. While exporters with the requisite resources are able to undertake their own market research, the exporters with limited resources are more dependent on Jamaica trade and Invest (JTI), the government agency established to promote trade and investment. The findings of the survey thus suggest that the operations of JTI with respect to provision of market information to exporters need to be strengthened so as to meet the needs of more exporters.

The cost of promotion in foreign markets was viewed as a major obstacle to exports by 60.4 per cent of respondents. This suggests that the current level of assistance to exporters is inadequate.[10] Additional mechanisms for reducing the costs of promotion in foreign markets therefore need to be implemented. One possible mechanism is the promotion of supply linkages with transnational corporations (TNCs) operating in the Jamaican market. The UNCTAD (2004:7) argues that integration of exporters into the global supply chains of TNCs offers access to global markets and reduces the costs of promotion.

Adequate human capital is critical for the diversification of exports into the production of high value, technology intensive products. The availability of managerial personnel and the availability of labor with technical skills were therefore included among the potential obstacles to export expansion. The availability of managerial personnel was rated as a major obstacle to expansion of exports by 9.4 per cent of respondents. On the other hand, the availability of labor with technical skills was rated as a major obstacle by only 1.9 per cent of the respondents. These findings reflect the fact that even though the firms covered in the survey are producing non traditional exports, they are producing goods that involve simple technologies that do not require large amounts of human capital.

It is well known that excessive bureaucracy increases the costs of doing business. The World Bank (2008) rankings on the ease of doing business places Jamaica at 63 out of 178 countries. This suggests that much more needs to be done to facilitate business. In this study the time required to complete export procedures is used as a measure of the bureaucracy involved in exporting. A significant share (28.3 per cent) of respondents believed that the time required to complete export procedures was a major obstacle to export expansion.[11] This suggests that there is a need for further simplification of export procedures.[12]

Good infrastructure for transport, energy and communications are basic requirements for efficient production and international competitiveness (World Economic Forum 2006). The aspects of infrastructure examined in this study include power supply, telecommunication services, shipping and air transportation.

The cost of electricity was rated as a major obstacle to export expansion by more than half (58.5 per cent) of respondents. The country's total dependence on imported fuel for power generation means that further increases in international oil prices could reduce the competitiveness of exports as well as reduce the ability to expand production of those exports that are energy intensive. In the case of the reliability of the power supply, 35.8 per cent of respondents viewed this factor as a major obstacle while 20.8 per cent viewed it as no problem.

Only a small share, 5.7 per cent of respondents rated the cost of telecommunication services as a major obstacle to expansion of their operations. This finding is largely explained by the liberalization of the telecommunications sector that has generated competition and reduced the costs of telecommunication services. Competition has also stimulated modernization of the telecommunications infrastructure. Consequently, 79.2 per cent of respondents viewed the reliability of the telecommunications services as no problem.

The Cost of shipping was viewed as no problem by 60.4 per cent of respondents. However, the availability of shipping was a major obstacle for 26.4 per cent of the exporters surveyed. This problem mainly affects exporters selling to the Caribbean Community (CARICOM) market. Similarly, in the case of air transportation, the cost was rated as a major obstacle by only 7.5 per cent of respondents. However, 24.5 per cent of respondents viewed the availability of transport as a major obstacle. As in the case of shipping, air transport is a problem in the case of the

CARICOM region where there are inadequate transport links to facilitate intra-regional trade.

**Table 3: Firms' Perceptions of Constraints on Export Expansion**

| Factor | No problem | Minor obstacle | Major obstacle | Rank of major obstacles |
|---|---|---|---|---|
| Interest rates | 9.4 | 26.4 | 64.2 | 1 |
| Ability to qualify for credit | 54.7 | 17.0 | 28.3 | 6 |
| Access to information about market opportunities | 58.5 | 11.3 | 30.2 | 5 |
| Cost of promotion in foreign markets | 24.5 | 15.1 | 60.4 | 2 |
| Availability of managerial personnel | 56.6 | 34.0 | 9.4 | 10 |
| Availability of skilled labor | 58.5 | 39.6 | 1.9 | 13 |
| Time required to complete export procedures | 30.2 | 41.5 | 28.3 | 6 |
| Cost of electricity | 0 | 41.5 | 58.5 | 3 |
| Reliability of power supply | 20.8 | 43.4 | 35.8 | 4 |
| Cost of telecommunications services | 11.3 | 83.0 | 5.7 | 12 |
| Reliability of telecommunications services | 79.2 | 20.8 | 0 | 14 |
| Cost of shipping | 60.4 | 22.6 | 17.0 | 9 |
| Availability of shipping services | 58.5 | 15.1 | 26.4 | 7 |
| Cost of air transport | 18.9 | 73.6 | 7.5 | 11 |
| Availability of air transport | 52.8 | 22.6 | 24.5 | 8 |

## V. CONCLUSIONS

The three most important constraints identified by the exporters surveyed were the interest rate on loans, the cost of promotion in foreign markets and the cost of electricity. The interest rate on loans was ranked as the most significant obstacle to export expansion. This finding can be explained by the relatively high lending rates in Jamaica.

The finding that the cost of electricity was a major constraint for exporters implies that the upward trend in international oil prices is likely to have adverse effects on export growth. With respect to infrastructure, the reliability of the electricity supply was seen as the most significant infrastructural problem. Other infrastructural deficiencies include air and sea transportation links to regional markets.

The survey data also indicates that the availability of skilled labor was a major obstacle for only a small percentage of exporters. This result has to be interpreted with caution as the firms surveyed were not involved in the production of goods that require significant amounts of human capital. Hence the high rates of emigration of skilled labor did not adversely affect the ability to expand production.

It is argued that trade liberalization can stimulate economic growth in developing countries by providing increased market access for their exports. The findings of this study support the view that some developing countries are subject to supply side constraints that limit their ability to take advantage of improved market access.

Market access by itself is not sufficient to promote export growth in those developing countries facing supply side constraints. In such cases, market access has to be complemented by measures to relax supply side constraints. In the case of Jamaica, required measures include creation of venture capital institutions, stimulation of innovation and upgrading of infrastructure.

## NOTES

1. Acknowledgement of the detrimental effects of supply side constraints on trade expansion in some developing countries has resulted in efforts to promote 'Aid-for-Trade'. In particular the World Trade Organization Hong Kong Ministerial declaration of 2005 mandated the WTO to undertake a work program on Aid-for-Trade to assist developing countries, particularly the Least Developed Countries (LDCs), to build supply side capacity. See WTO (2007) for further details.
2. Under the terms of the Cotonou Agreement, non-reciprocal references were to be replaced by Economic Partnership Agreements (EPAs) based on reciprocal free trade after December 2007. The CARICOM negotiated an EPA with the EU that was signed in October 2008.
3. Author's calculations based on International Monetary Fund International Financial Statistics and Bank of Jamaica Annual Report (2006).
4. Author's calculations based on Bank of Jamaica Annual Report (2006).
5. Jamaica Promotions is now named Jamaica Trade and Invest.
6. Purposive sampling is non random hence standard tests of statistical significance cannot be used in this study.
7. The main source of venture capital, the National Investment Bank of Jamaica discontinued venture capital lending after it was merged with the Development Bank of Jamaica (DBJ) in 2006.
8. The small number of companies listed on the Jamaica Stock Exchange (JSE) suggests that Jamaican business owners are reluctant to dilute ownership. The JSE which began trading on February 3, 1969 had only 40 listed companies at the end of February 2008.

9. International Monetary Fund International Financial Statistics Yearbook (2007).
10. The Jamaica Trade and Invest provides some assistance to exporters mainly in the form of partial payment of the costs of attending trade shows abroad.
11. This view is supported by the findings of World Bank (2008) that ranks Jamaica at 92 out of 178 countries for the ease of trading across borders.
12. In recent years the Government of Jamaica has attempted to simplify export procedures, for example through the establishment of a trade facilitation portal that provides on-line processing of the various permits required for exporting.

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