

# **Benchmarking for International Competitiveness: Lessons for Public Policy**

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## **Abstract**

This paper presents the findings from a benchmarking study of Jamaica's competitiveness position viz-a-viz other similar small economies in the Caribbean. Using the Dual Double Diamond model and the Rank Xerox Benchmarking methodology as its guiding frameworks, the paper analyzed Jamaica's international competitiveness position in relation to Singapore, the most competitive small, open economy in the world. Comparisons were also made with three other small, open economies in the Caribbean namely Barbados, Trinidad and Tobago and Costa Rica. The results revealed that Jamaica's weak competitiveness position relative to its benchmark country, Singapore results from a number of factors, including but not limited to: an unstable macro-economic environment, weak institutions, distrust for public officials and, poor factor conditions. These competitiveness drivers were present in Singapore in a positive way, thus leading to the economy being able to upgrade its diamond of national competitiveness. The lessons learnt from the Singaporean story have implications for Jamaica and other similar small, open economies that are experiencing a decline in their levels of international competitiveness.

**Keywords:** Competitiveness, Benchmarking, Small economies

## Introduction

There is little doubt that as globalization deepens, it will have serious implications for the international competitiveness of economies all around the world. This is even more so for small, open economies. Due to the liability of size, if these economies are to afford a decent standard of living for their citizens through higher economic growth and higher per capita incomes, they will have to become involved in international trade. The growth in world trade has outpaced the growth in world output since the mid-1980s. Further, FDI flows have grown faster than the growth in world trade and world GDP. Indeed, between 1994-2003, world trade grew by 6.3% per year, world GDP growth was 3.6% and world FDI flow grew by 13.4 % per year (ITC, 2004). These developments occurred mainly due to the removal of distortions to trade (e.g. reduction in tariff barriers- in 2004, the average tariff on manufactured good was 2.1 % down from 47% in six decade before), improvement in technology and declining cost of communications (communication costs have fallen by 95% since the 1950s) and, a high mobility of foreign capital. If small economies are to survive in this highly integrated international market place, they will have to become internationally competitive<sup>3</sup>.

Unfortunately, some economies are losing competitiveness. This is even more glaring for the small, open economies in the Caribbean region. The global economic forum world competitiveness index has shown that many countries have slipped in their levels of competitiveness over time. Jamaica, for example; has seen its ranking slipped from number 67 in 2006 to 86 in 2008. This poses serious questions about the economy's ability to attain sustained economic growth and development in an increasingly globalized world economy. How do small economies like Jamaica, improve their levels of international competitiveness? This question is at the heart of policy discourses in these economies.

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<sup>3</sup>International competitiveness is defined here to mean increased productivity over time. It will encapsulate countries operating at internationally accepted standards of cost, efficiency and rules and also, using locally-owned resources to compete in an open market (Wint, 2003).

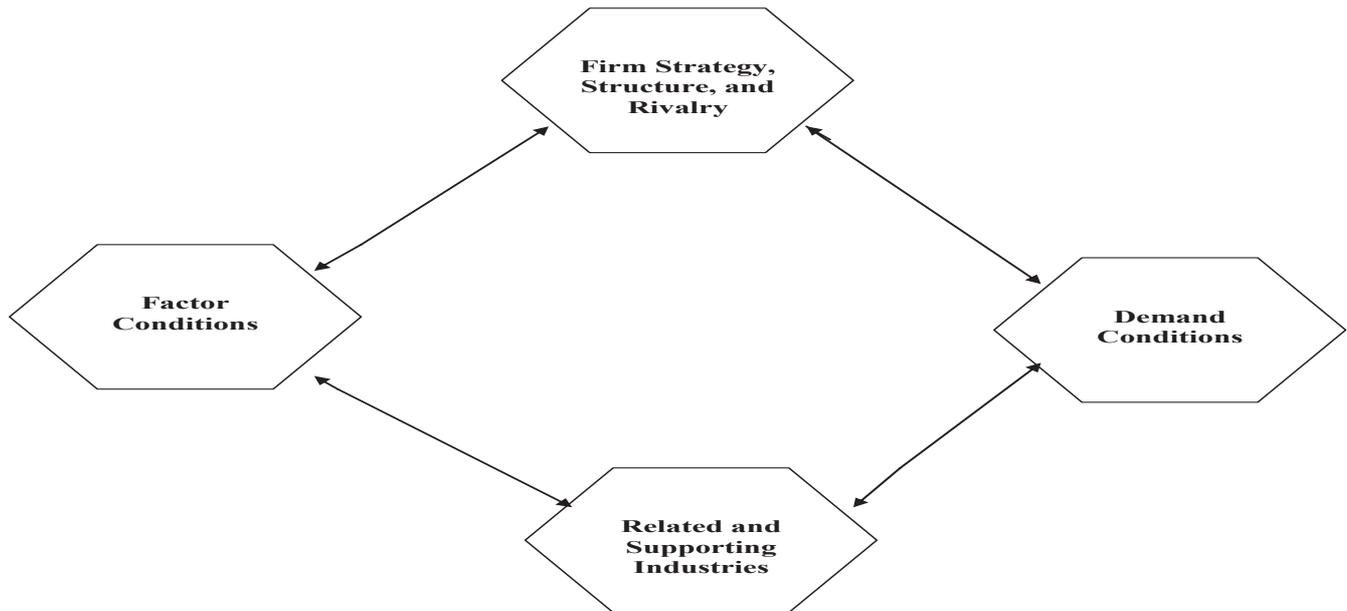
This paper addresses some of the issues that are involved in enhancing the international competitiveness of a country. It argues that one way to improve international competitiveness is to benchmark the actions and activities of other similar, more internationally competitive economies. The lessons from these locations can be used to inform public policies aimed at increasing the attractiveness of the business environment in those economies experiencing declining international competitiveness. Indeed, the competitiveness of a national economy really narrows down to how attractive is the location for facilitating the activities of enterprises, which are the units that are engaged in international trade and not national governments (Porter, 1990).

To address these issues, the remainder of the paper is organized as follows: the next section will look at the analytical framework that is used to conceptualize the arguments and provide theoretical justifications for the variables selected and the conclusions drawn. Following this analytical framework, the paper will do a brief description of the data source and the research method that is employed in trying to attain the research objective. The subsequent sections will provide some data that will give an indication of Jamaica's competitiveness position. The paper will end with a discussion and some concluding remarks.

## **The Analytical Framework**

The competitiveness of a nation is dependent on a number of factors and no single variable may explain this phenomenon. Indeed, a number of researchers (e.g. Krugman 1994) see it as one of the most elusive concepts. However, Porter (1990) tried to resolve this elusion by proposing an integrative model that can be used to operationalize the concept. Porter refers to this model as the diamond model of national competitiveness. Here, he argues that the competitiveness of a nation is derived from a combination of factors in the domestic environment working simultaneously. These he labeled as: demand conditions; factor conditions; the presence of related and supporting industry

and, the strategy, structure and rivalry of competing firms<sup>4</sup>. A national economy which possesses the right combinations of these factors will see its level of efficiency and innovation be improved thus increasing its productivity and by extension its level of competitiveness. The figure below captures a pictorial representation of the diamond model of national competitiveness.



**Porter, M. E. (1990). The Competitive Advantage of Nations. *Harvard Business Review* (March-April)**

However, a number of researchers posit that Porter's diamond treats the issue in a very limited way (e.g. Rugman & D'Cruz, 1993; Cho, 1994; Dunning, 2003; Moon et al., 1998). They argue that multinationals integrating their ownership specific advantages into the home environment also influences the international competitiveness of the national economy (Ozawa, 1992; Rugman & D'Cruz, 1993). This dynamic interaction between the multinational and the domestic environment gives rise to what Rugman and D'Cruz refer to as the double diamond of national competitiveness. The role of the multinational is captured through its ownership advantage of specific assets which will

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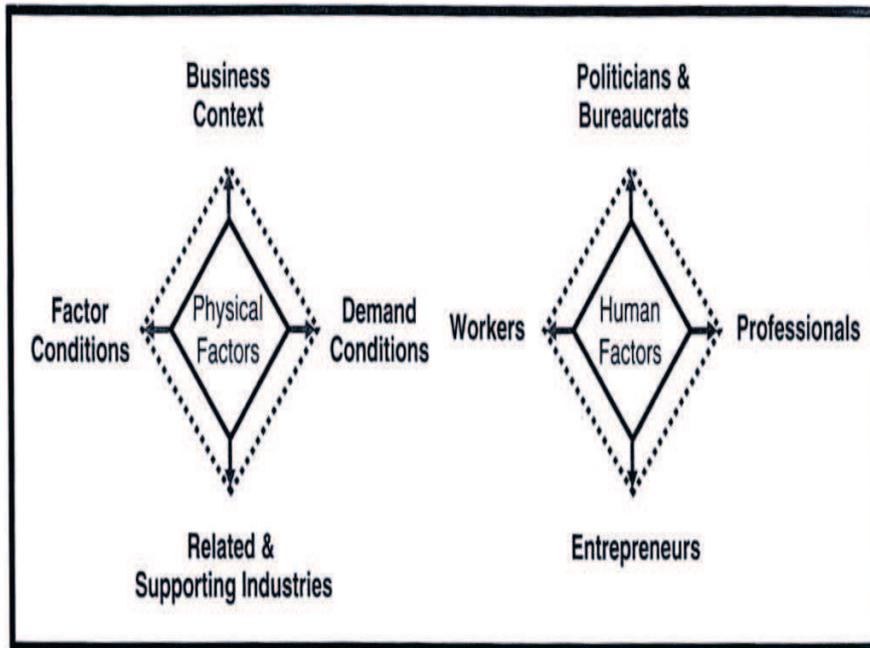
<sup>4</sup> For a full explanation of these constructs, see **Porter, M. E. (1990). The Competitive Advantage of Nations. *Harvard Business Review* (March-April).** The full explanation of these concepts is beyond the scope of this paper.

help to shape the various elements of the diamond model. For example, the multinational will bring sophisticated management techniques to a domestic location which will enhance the factor conditions in that location.

Further, other researchers argue that physical factors as captured in the double diamond model are necessary but not sufficient for enhancing the competitiveness of a national economy (Cho, 1994). A sufficient condition is to incorporate explicitly, the role of human capital in the competitiveness process. In Porter's diamond, human capital is implied through systems of innovation and other indirect means.

The human factors are to be explicit because they are critical for coordinating the aspects of the diamond so that it can operate as a system. It is this explicit treatment of the role of human capital in facilitating the workings of the diamond model which gives rise to what scholars call the Dual Double Diamond model (DDD) of national competitiveness (IPS, 2008). From a reading of the literature, the DDD model seems to explain national competitiveness in a more holistic way. Indeed, it incorporates in its explanation of national competitiveness; the physical factors from Porter (1990), the role of the multinational enterprise from Rugman & D'Cruz (1993) and, the human factors from Cho (1994). This therefore, seems to provide a more comprehensive picture of the factors that are used to drive efficiency and innovation in national economies to improve productivity over time. The picture below captures the graphical representation of the DDD model.

### The Dual Double Diamond Model



**Source: Cho, D-A & Moon, H-C (2006). A comprehensive methodology to enhance national competitiveness: An introduction to MASI methodology. Institute for Industrial Policy Strategies**

These models, although they were not developed on the basis of the idiosyncratic features of small economies, can be adapted to explain the competitiveness of these economies. For example, the Porter's diamond held constant the issue of macro economic stability because all the countries used to develop that model, had similar levels of economic stability. In the case of the analysis in this paper, all the countries do not have similar levels of economic stability therefore; the analysis will have to take this difference into consideration when trying to explain the difference in levels of competitiveness.

This paper will focus on the dynamic interactions among the various elements of the DDD to assess the level of international competitiveness of Jamaica in relation to a similar location that has a greater level of international competitiveness. The idea is that the lessons learnt from the economy with a higher level of international competitiveness can be used to inform public policy decisions aimed at improving the attractiveness of the

Jamaican environment. The main question that will be addressed in this paper is: **how does Jamaica's competitiveness position compare with that of economies of similar size and what lessons can Jamaican policymakers derive from this assessment?** Based on the conclusions drawn from the results of the analyses, the paper will offer some recommendations on how Jamaica may improve its competitiveness position.

## **The Research Method and Data Sources**

The objective of this paper is to assess the level of competitiveness of the Jamaican economy relative to other similar small, open economies. In this regard, a methodology that will allow a comparison of Jamaica's competitiveness position to that of a best-in-class economy will be required. As such, the benchmarking methodology was deemed most appropriate. Benchmarking can be referred as an improvement tool. The benchmark is a standard by which an item can be measured or judged (Zairi, 1996). However, the process of benchmarking is more than just identifying a benchmark. It involves a systematic way of identifying, understanding and, creatively developing superior strategies to improve real performance. The principle behind benchmarking is to a) find a better way of doing what you do; b) understand better how what you do is being done and, c) adopt or adapt the best practices in terms of what is being done to your environment. The benchmarking method adopted in this study is similar to that used at the enterprise level to establish superior performance<sup>5</sup>.

### **Choosing the benchmark country**

To determine the benchmark country, a careful examination was undertaken. The examination ensured that this country is endowed with similar comparative advantages and competing in similar industries to those of Jamaica. With these considerations in mind, this study followed closely; the Institute of Policy Studies (IPS) country grouping and selected from this, those countries that are possible candidates for benchmarking Jamaica's level of international competitiveness.

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<sup>5</sup> For a comprehensive review of this methodology, see Zairi, 1996; for the rank Xerox framework. There seems to be a consensus in the academic community that this is the most robust approach to benchmarking.

For competitiveness analysis, the IPS categorizes countries in three mutually exclusive groups: small, medium and large. It further sub-divides each group into strong, intermediate and weak economies. The idea is that, if a country falls in the weak sub-group and wants to benchmark its international competitiveness; it should look at those countries in the strong sub-group and see what they are doing why they have achieved a high level of international competitiveness.

Jamaica is a small, open economy<sup>6</sup>. Therefore, in benchmarking its level of international competitiveness; the benchmark must be a similar small, open economy which has a higher level of international competitiveness. Based on the IPS categorization, Jamaica falls into the category small economies. Therefore, for benchmarking purposes, the strongest country in this grouping would have to be chosen. In the small, strong country category, the report lists countries such as Austria, Belgium, Denmark, Hong Kong, Israel, Netherlands, Singapore and Switzerland. Of these countries, Switzerland, Denmark, Netherlands and Singapore are listed in the top 10 most competitive countries in the world for 2008-2009 based on the competitiveness assessment done by the world economic forum. Further, these countries have been in the top 10 most competitive nations in the world for the last five years. Therefore these are possible candidates for benchmarking Jamaica's level of international competitiveness.

Further, of all these small, strong economies, Jamaica seems to be most similar to Singapore. Singapore has a population of approximately 4.4 mill people while Jamaica has a population of approximately 2.7mill people. All the other countries in the top ten listing have population upward of 4.4 million people. Also, all the countries in the top ten listing are at the innovation stage of their national development while Jamaica is at the efficiency stage. In addition, all the countries are heavily involved in international trade with trade accounting for over 100 per cent of their GDP. Indeed, like Jamaica, these

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<sup>6</sup> Small economies can be defined in various ways. These include population, land mass, or national income. The most common definition however is based on population size. In most cases, these economies are defined as those with less than 5million inhabitants (Wint, 2003). Others see them as having up to ten million inhabitants. Openness on the other hand refers to the country's share of trade in GDP. The economy is considered open if share of trade in GDP is over 100 percent (Armstrong & Read, 1998).

economies are highly integrated into the world economy. The similarities between these countries and Jamaica are quite high; except that they reach the innovation stage of their national economic development life cycle while Jamaica is at the efficiency stage. As a result, the country size was used as the criterion to choose the benchmark country. In this case, Singapore was closest to Jamaica. In addition to the benchmark country, a number of other small economies (Costa Rica, Trinidad and Tobago, Barbados) similar to Jamaica were also analyzed in order to give some indication of how Jamaica's level of international competitiveness matches up with its regional counter parts.

### **Choosing the research variables**

The unit of analysis for this research is national competitiveness. The model used to operationalize this concept is the Dual Double Diamond model as espoused by the IPS. This model has generated over 100 variables that are used to measure the constructs which best capture international competitiveness. Due to space and also data availability, not all the variables from the DDD model are used in this study. The variables chosen were proxies that capture the various elements of the DDD model. For each point on the diamond, this study chooses at least two variables to capture competitiveness<sup>7</sup>. These variables were randomly selected so there was no bias in reflecting the level of international competitiveness of the economy i.e. strong or weak level of international competitiveness. The list of variables selected for this analysis is presented in the results section.

### **The research data**

Both competitiveness ranking data and hard raw data for each variable are drawn from various sources for this study. Where raw data were collected, it was ensured that these were normalized in order to enable appropriate comparison between Jamaica, its benchmark country and, its regional counter parts. The data on the competitiveness

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<sup>7</sup> Although all the variables were not chosen, the validity of the findings still remains strong. The idea of the paper is to give a snapshot of the level of international competitiveness of an economy. Therefore, randomly selecting a few variables will tell the same story as when all variables are used.

ranking were drawn exclusively from the World Economic Forum's-Global Competitiveness Report. The raw data were drawn from various sources, including the International Monetary Fund's -World Economic Outlook, the World Bank's -World Development Report and Doing Business Report, the International Labour Organization, United Nation Council on Trade and Development's- World Investment Report and; local and regional Central Banks, Export Agencies and, Investment agencies. The sources for the data of each variable used in the analysis can be found in the analysis section.

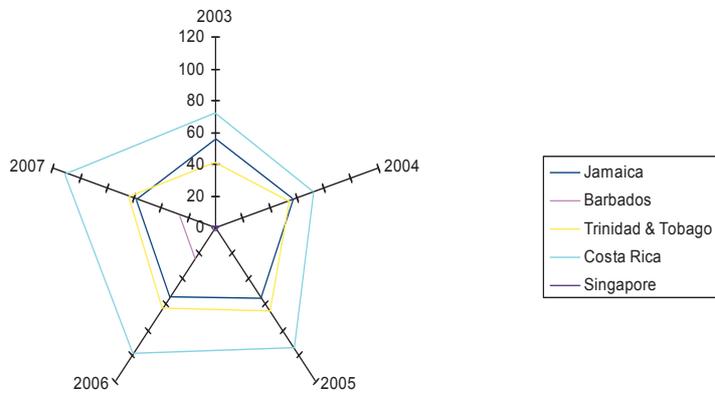
## **Assessing Jamaica's level of International Competitiveness: Some Results**

The dual double diamond model highlights the various facets of national competitiveness. The indicators from this model will be used in making an assessment of Jamaica's level of competitiveness in relation to other similar more competitive economies. Each element of the diamond will be analyzed below in order to give some indication of Jamaica's competitiveness in that area.

### **Factor Conditions**

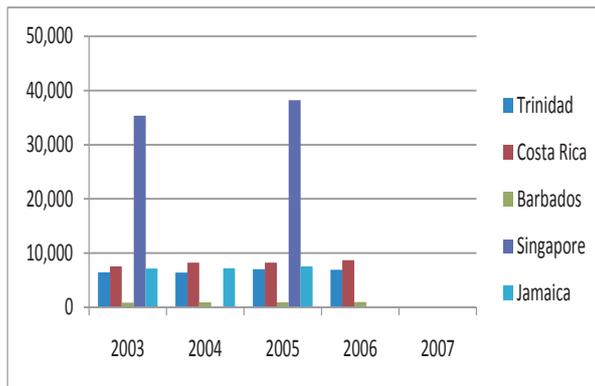
The factor conditions in the model look at those inputs into the production process. To capture the competitiveness of Jamaica's factor conditions, three variables were used. These are: quality of infrastructure, electricity production and, land area. Jamaica's position in terms of these variables in relation to the most competitive country, Singapore and other similar regional economies; is presented in the charts below.

### Overall Quality of Infrastructure – Rank



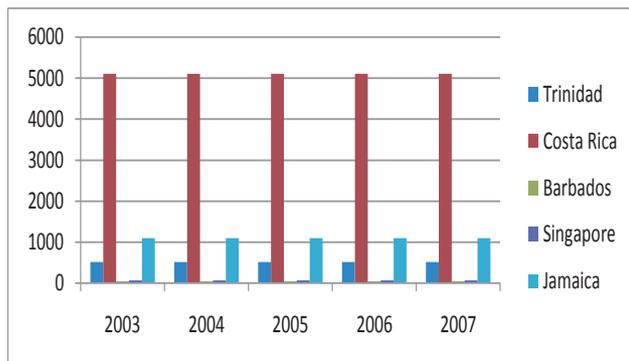
Source: Global Competitiveness Report- Various Years

### Electricity production – kWhr/mill



Source: Energy Statistics Database, United Nations Statistics Division

### Land area measured in 000' hectares



Source: Food and Agriculture Organization of the United Nations (FAO)- Various Years

In relation to factor conditions, the measurements selected show that Jamaica lags significantly behind Singapore but fared better than regional economies such as Trinidad and Tobago and Costa Rica over the five year period 2003- 2007. Jamaica maintained an average ranking of 56 out of 134 countries over the five year period while, the best in class country, Singapore, remained in the top three. Singapore leads Jamaica by a very large margin.

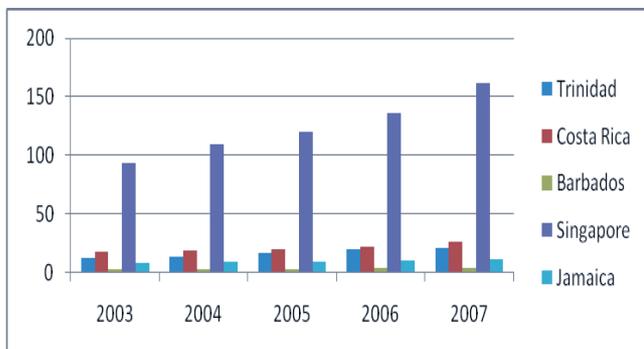
Jamaica electricity production as measured by KWhr/mill persons is around 7000 KWhr/million while Singapore, a country slightly larger than Jamaica in terms of population, has production of over 35 000kwhr/million persons. This shows that electricity conversion in Jamaica is not very efficient and thus significantly impacts on the country's factor competitiveness.

Critically, the data also suggest that size is not a serious deterrent to competitiveness. In terms of land area, Singapore is the second smallest of all the countries in the study; except for Barbados. It is however, highly competitive in terms of the quality of its infrastructure and its electricity production. Overall, Jamaica lags significantly behind Singapore in terms of the competitiveness of the factor conditions in its diamond of national competitiveness.

## Demand Conditions

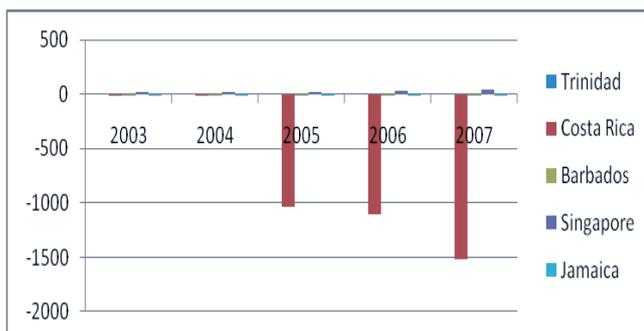
Demand conditions speak to the sophistication and quality of the home country demand. The proxy variables used to capture this concept reflect the transmission mechanism through which the quality of home demand is manifested. The two variables that were used are: the over all size of the local economy and the size of international trade. Jamaica's position in relation to the most competitive country, Singapore and other similar regional economies is presented in the charts below.

### GDP- US\$'bill



Source: Inter-American Development Bank

### Current a/c balance- US\$ bill



Source: IMF- World Economic Outlook Database, October 2008

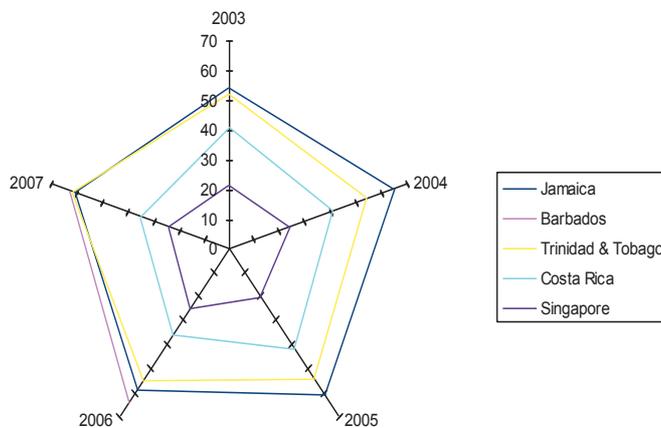
From analyzing this element of Jamaica's diamond of national competitiveness, the story shows that the country is not very competitive in its demand conditions. The data show that Jamaica needs to improve a number of elements (e.g. grow the economy to increase

the GDP, increase the export of local goods etc) in order to drive greater competitiveness in its demand conditions.

### Related and Supporting Industry

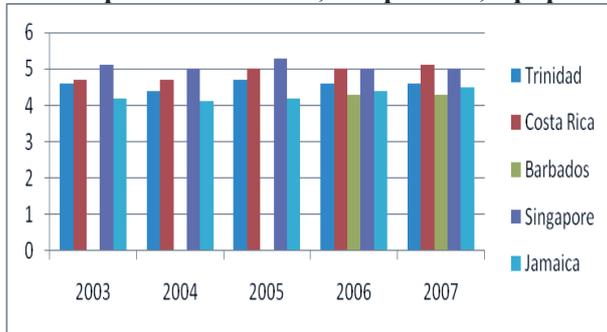
The related and supporting industry element of the diamond speaks to the interconnectedness of the industry sectors in the economy. To capture the competitiveness of Jamaica's related and supporting industries, four variables were used. These are: the quality and quantity of suppliers, quality of scientific research institutions E-business readiness score and, the quality of management schools. Jamaica's position in relation to the most competitive country, Singapore and other similar regional economies is presented in the charts below.

### Supplier Quality-Rank



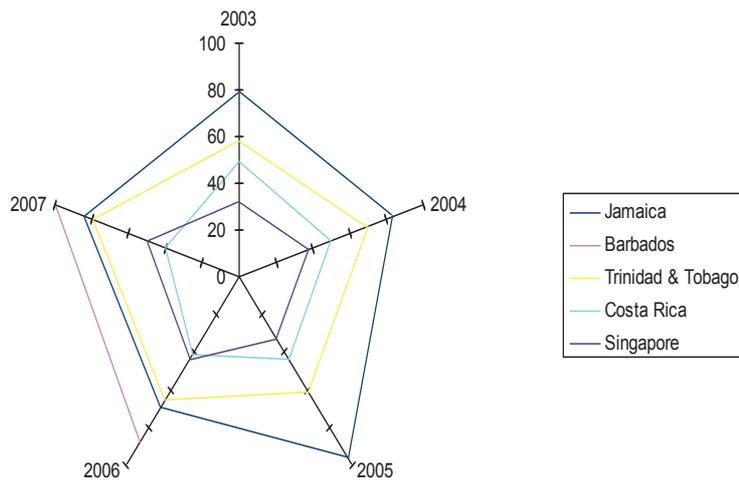
Source: **Global Competitiveness Report- Various Years**

**Local supplier quality- Survey Data: 1=largely nonexistent, 7=numerous and include the most important materials, components, equipment and services**



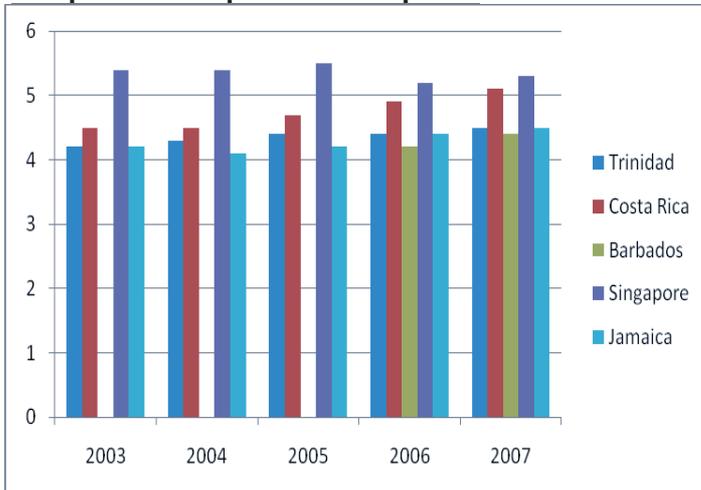
Source: Global Competitiveness Report- Various Years

**Supplier Quantity- Rank**



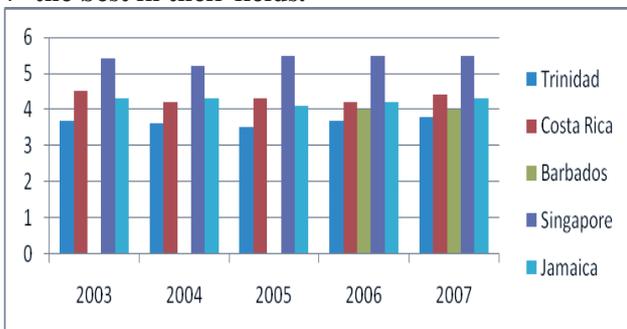
Source: Global Competitiveness Report- Various Years

**Local supplier quantity- Survey Data: 1= poor as they are inefficient and have little technological capability, 7 = very good as they are internationally competitive and assist in new product and process development**



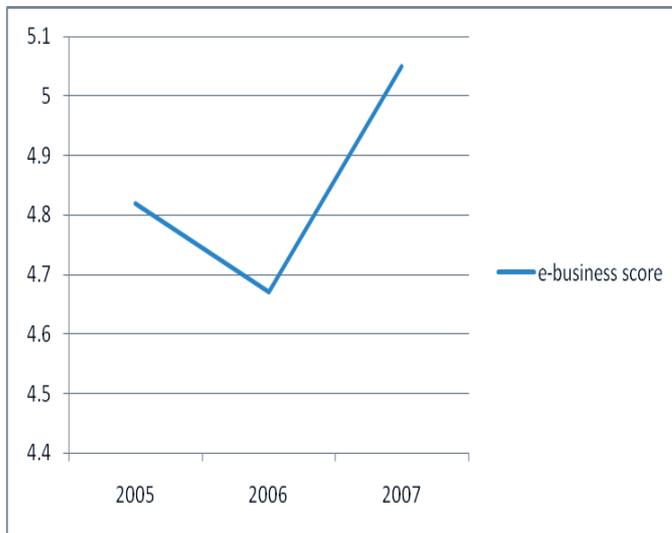
Source: Global Competitiveness Report- Various Years

**Quality of Scientific Research Institutions- Index - Quality of scientific research institutions in your country e.g. University laboratories, government laboratories are: 1=nonexistent, 7=the best in their fields.**



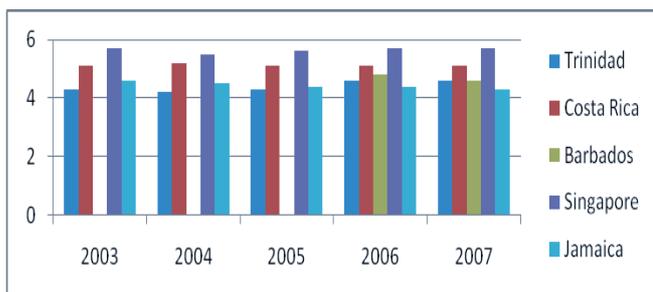
Source: Global Competitiveness Report- Various Years

### E-business Readiness- Score



Source: **Global Technology Forum.**

### Quality of Management Schools- Rating score



Source: **Global Competitiveness Report**

This aspect of Jamaica's diamond shows positive results. The data show that the competitiveness of the quality and quantity of supplier industries does not lag far behind that of Singapore. In fact, all countries in this study seem to do well in this regard. Jamaica has also done well in terms of its e-business readiness score. Since 2006, the country's score has been improving; a signal that it is efficiently using technology to enhance business performance. Critically, the quality of the country's scientific institutions is ranked highly, another indication that there is a good foundation for building national competitiveness especially in the knowledge economy.

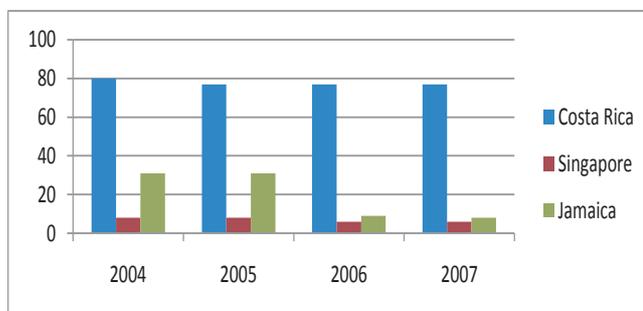
The quality of management education is one fundamental area of the national diamond where Jamaica's competitiveness has lagged behind its benchmark country and regional

counterparts. The quality of management schools as measured by survey responses to a number of questions that are related to faculty qualifications, programmes offered and research output, shows that Jamaica's position has deteriorated over the years. Singapore on the other hand, has shown improvement in these areas.

### **Firm Strategy Structure and Rivalry**

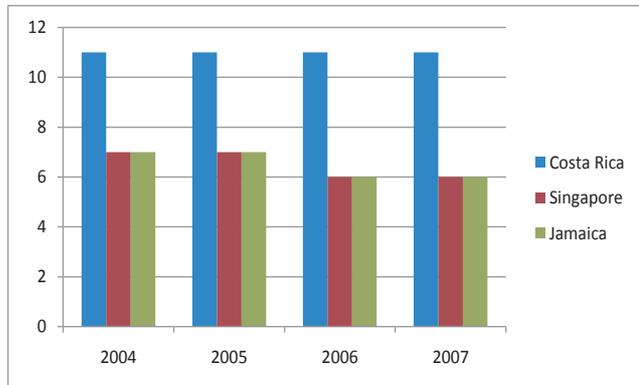
This aspect of the diamond looks at what is happening at the enterprise level to shape innovation and competitiveness. It also reflects government's policy towards competition. To capture this aspect of Jamaica's diamond, two variables were used. These are: the time required for starting a business and the number of procedures required to start a business. These proxies again reflect the transmission mechanism through which this concept manifests itself. They reflect the speed with which competition can enter an industry sector. Jamaica's position in relation to the most competitive country, Singapore and other similar regional economies is presented in the charts below.

#### **Starting a business- # of days**



Source: **Doing Business Report, World Bank**

### Procedures required for starting a business- # of activity



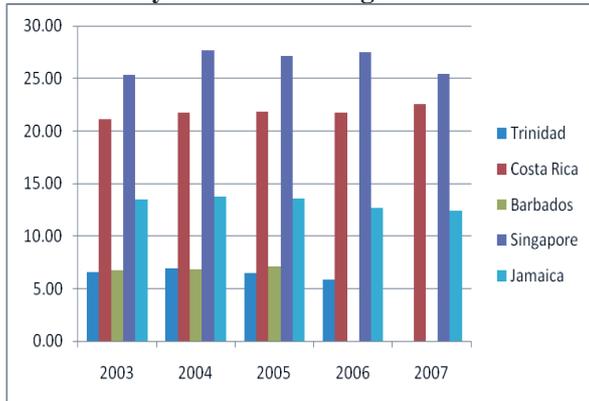
Source: **Doing Business Report, World Bank**

From the snapshot presented, Jamaica's competitiveness in this aspect of its diamond seems to match up well with the best in class, Singapore. The time required to start a business in Jamaica has reduced drastically since 2004 to fall in line with that of Singapore. This reflects an improved level of competitiveness in this area. Similarly, the number of procedures required to start a business has reduced since 2004 to match that of Singapore.

### Human Factors

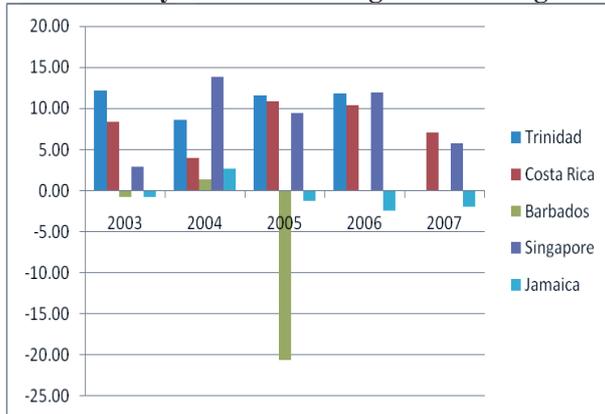
Besides physical resources, human resources also play an important role in driving international competitiveness of a nation. The DDD model explicitly incorporates the role of the human resources in enhancing a nation's level of international competitiveness. Here, we will focus on a few variables that capture the role of human factor in driving competitiveness of national economies. These variables include: productivity in the manufacturing and services sector, the level of trust of public officials, life expectancy, and, HDI score. Jamaica's position in relation to the most competitive country, Singapore and other similar regional economies; is presented in the charts below.

**Productivity –Manufacturing: % of GDP**



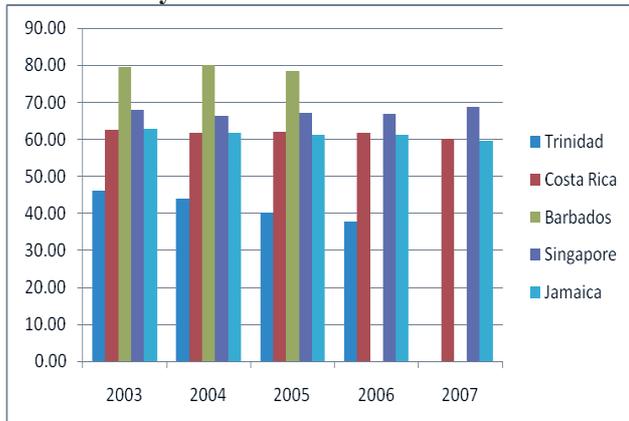
Source: World Development Indicators, World Bank

**Productivity –Manufacturing: annual % growth**



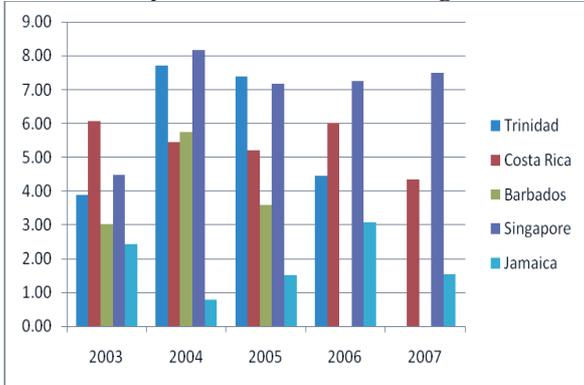
Source: World Development Indicators, World Bank

**Productivity –Services: % of GDP**



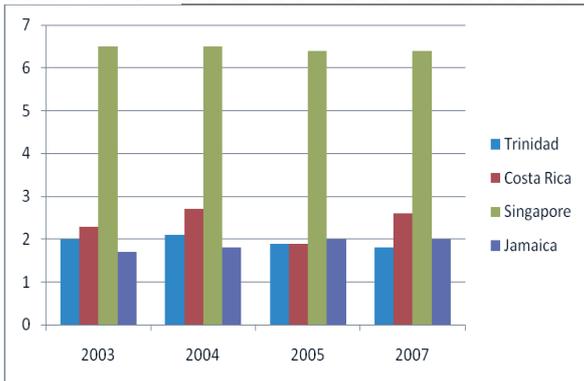
Source: World Development Indicators, World Bank

**Productivity –Services: annual % growth**



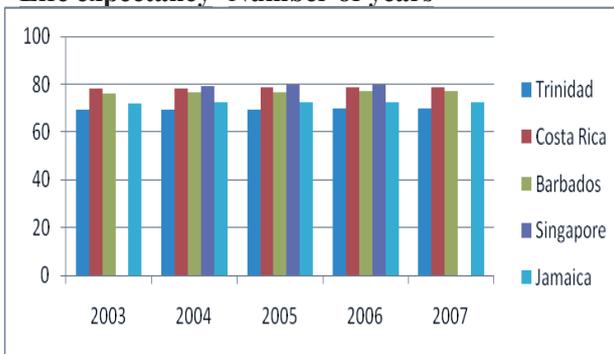
Source: World Development Indicators, World Bank

**Trust- Score - Public trust in the financial honesty of politicians is (1=very low, 7=very high**



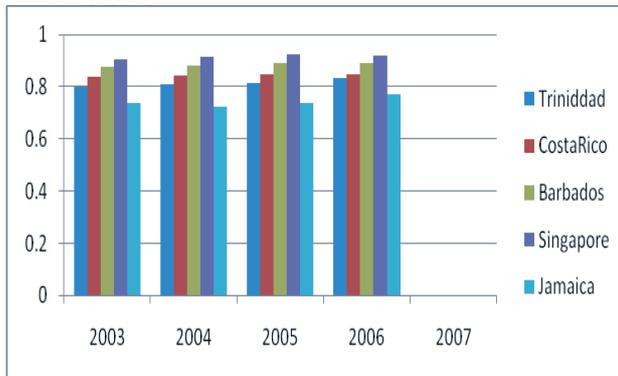
Source: Global Competitiveness Report- Various Years

**Life expectancy- Number of years**



Source: Pan American Health Organization, Health Analysis and Statistics Unit

### HDI- Score



Source: UNDP Human Development Reports

In relation to its human factor, Jamaica's competitiveness lags significantly behind its benchmark country, Singapore. The snapshot from the data shows that Jamaica has a problem in terms of the productivity of its work force. Productivity accounts for less than 15 percent of GDP compared to Singapore where it accounts for almost 30 percent of GDP. Further, the annual growth in productivity is quite disappointing. While its benchmark country, Singapore shows positive growth in productivity, Jamaica has shown negative growth. In addition to productivity concerns, there is also the very serious issue of trust regarding public officials. Trust among public officials has consistently been very low in Jamaica while its benchmark country, Singapore shows consistently high levels of trust among its public officials. This clearly does not augur well for the role of the human resources in coordinating the other aspects of the diamond in order to drive improved international competitiveness.

Two aspects of the human resources show positive sign for driving improved competitiveness. These are life expectancy and the human development index score. Like Singapore and the other countries in this study, the life expectancy in Jamaica is very high. The average life expectancy stands around 75 years old. Similarly, the human development index, a measure of the overall quality of life in a country, shows that Jamaica's score matches up well with those of its benchmark country and its regional counterparts. Jamaica consistently shows a high score on this index of around .75.

## Discussion and Concluding Remarks

The aim of this paper was to benchmark Jamaica's competitiveness position in relation to other more competitive economies with similar features. Using the DDD model as the analytical framework for conceptualizing arguments on competitiveness; the study highlighted a snapshot of Jamaica's competitiveness position on each segment of the model, in relation to its benchmark country, Singapore and other similar regional economies.

Overall, the results revealed that while Jamaica's competitiveness position in some areas of its diamond is good, its competitiveness position generally makes for uncomfortable reading. The analyses revealed that the country's greatest competitive strengths are in the firm's strategy, structure and rivalry segment of its diamond. Jamaica's strongest competitive advantages lie in areas such as the time to start a business and the number of procedures required to start a business. Despite these positives, the benchmarking analysis revealed a number of weaknesses in Jamaica's competitiveness position. Indeed, there are a number of lessons that Jamaica and other similar, small economies that are facing deterioration in their levels of competitiveness can learn from Singapore, the most competitive small, open economy in the world. These lessons will help them to make improvements to their diamond of national competitiveness and thus become a more attractive location for local and international investments.

From a reading of the story of the Singaporean successes, one could deduce that creating an enabling environment is critical for any country to enhance their levels of international competitiveness. While the DDD model used to derived conclusions for this study did not focus explicitly on the role of government because the countries used to derived the model were all at the same level of economic stability, the reading of the story behind Singapore's high level of international competitiveness suggests that macro-economic stability is an important factor that impacts on the attractiveness of the environment. This is a lesson that other small, open economies will have to learn.

Jamaica, unfortunately have had a long history of macro economic instability as manifest in long and sustained high inflation rate, high interest rate, unstable exchange rates, huge budget deficits and, unsustainable external balances. These conditions have impacted negatively on the cost of doing business in the local economy. As such, the goods and services produced in this environment are generally globally uncompetitive when compared to places like Singapore which have managed to maintain stability in their macro economy. To generate stability in its macro economy, like Singapore, small economies such as Jamaica will have to generate a surplus in their fiscal accounts. This will require growing government revenue and/or cutting government expenditure. The lessons from Singapore showed that this fiscal discipline has been a major driving force in their quest for enhancing the competitiveness of the various elements of their diamond of national competitiveness.

Another important lesson from the study is that the quality of domestic infrastructure matters. In upgrading its diamond of national competitiveness, Singapore made sure to improve the quality of its human and physical resources. Universities recruit high quality faculty, they focus on areas with specific skills that are needed for improved international competitiveness (e.g. math and science education), they link pay to productivity, provide computer access to their citizenry so as to improve their skills in areas of information and communication technologies to enhance the efficiency, productivity and, reduce cost of doing business. Also, the quality of their sea and airport infrastructure is of a high standard. This has helped to improve the efficiency with which international business transactions are being carried out.

There are a number of ways in which Jamaica and other small economies can improve their human and physical infrastructure in order to upgrade their diamond of national competitiveness. These economies should focus on promoting the use of information technology in all aspects of business transaction (the public sector should take a lead role in this effort); improve access and the ability to take up the increased access to tertiary education (this can be achieved through the granting of more subsidized university places

and offering more grants to lower income students); local educational institutions should partner with more internationally competitive institutions in developed economies to offer training to local citizens (these institutions must also recruit faculty with international recognition); and, there has to be a clear system of linking pay to productivity. This will help to deal with some of the inefficiencies in the labour market that accounts for the low levels of productivity nationally. For example, when pay is linked to productivity, this may help to reduce the number of absenteeism and overtime work.

A critical lesson from the Singapore experience is the role of trust in enhancing a country's competitiveness. This is an important factor that is usually ignored in analyses of national competitiveness. However, the experience in Singapore suggests that this cannot be ignored. People in Singapore have a high level of trust for their public officials. This seems to translate into a strong work ethic which impacts on efficiency and productivity in the workplace. Indeed, trust of public official is important if citizens are to unite around a national movement to build national competitiveness. Public officials are the ones who the citizens look to for leadership in driving national competitiveness. Small economies like Jamaica can build up a high level of trust in their public officials if they engage in greater partnership between the public sector and the people sector; promote the idea of active citizenship where people are encouraged to carry out civic engagement and good social behavior; and, promote the idea of strong families in order to socialize people in the value of hard work and ethics.

Another important lesson from the Singaporean experience is that strong institutions do matter for international competitiveness. Institutions are important to provide critical information in dealing with cross border transactions and understanding issues specific to the local business environment. High quality institutions will reduce potential transaction cost thus making commerce (whether cross border or domestic) much more efficient. The data show that management schools in Singapore, for example, are rated highly in terms of their levels of international competitiveness. This results from their efficient business process, high quality staff and, their emphasis on the use of technology to enhance

productivity. The implication for small economies like Jamaica is that they will have to upgrade the capacity of their local institutions in order to improve their diamond of national competitiveness. Institutions are important as a related industry in the diamond of national competitiveness. There is no doubt that institutional void will contribute significantly to market failures which are inimical to a country's quest for improved international competitiveness.

### **Concluding Remarks**

The deterioration in Jamaica's level of international competitiveness results from a number of factors including, but not limited to; an unstable macro-economic environment, weak institutions, a low level of trust for public officials, poor factor conditions including infrastructure and inadequate critical human resources, among other things. The data revealed that Singapore is able to remain in the top 10 most competitive countries in the world and, the most competitive small, open economy precisely because it possesses the correct mix of these factors. Possessing the correct mix of competitiveness drivers will help a country to upgrade the various elements of its diamond of national competitiveness as presented in the DDD model and therefore improves its international competitiveness. Small economies like Jamaica that have seen a decline in their competitiveness position in recent time, should adopt and adapt the lessons from the Singaporean experience in order to help them to upgrade their diamond of national competitiveness.

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