

Saint Lucia Productivity Summary Report

2000 – 2015



National Competitiveness and Productivity Council

TECHNICAL SECRETARIAT

Table of Contents

Preface.....	4
Introduction.....	6
Aggregate Productivity Performance – Labour Productivity	8
Productivity by Sector (2003 – 2015)	10
Productivity in Agriculture	10
Productivity in Tourism	11
Productivity in Construction	12
Productivity in Manufacturing	13
Productivity in Financial Services	14
Productivity in Wholesale and Retail	15
Unit Labour Costs (2000 to 2014).....	16
Benchmarking Productivity in Saint Lucia across Countries	17
Public Sector Productivity.....	19
Methodology and Case Study Results.....	20
CASE STUDY: Customs & Excise Department.....	21
CASE STUDY: Inland Revenue Department	24
CASE STUDY: Transport Department	26
CASE STUDY: Physical Planning Department	28
Consultations with Stakeholders	30
General Sentiments.....	30
Factors Supporting Productivity Growth	30
Issues and Challenges Affecting Productivity Growth	32
Opportunities for Enhancing Productivity	33
Potential Responses if Opportunities are explored	34
Implications of the Results – 2000 to 2015	35
Data Gaps	40
Recommendations for Improving Productivity.....	41
Appendix.....	43

Definition & Objectives of Productivity 43

Issues in Measuring Productivity..... 43

Preface

The Government of Saint Lucia established the National Competitiveness and Productivity Council (NCPC) in 2013 with the following key objectives:

- To raise awareness and understanding of the importance of competitiveness and productivity to economic well-being.
- To monitor all aspects of productivity growth and competitiveness in Saint Lucia vis-à-vis other countries.
- To monitor all aspects of productivity and competitiveness in the various sectors of the economy.
- To provide advice to the Government on actions to promote productivity growth and competitiveness in Saint Lucia.
- To monitor and report on the progress made in the implementation of solutions to actions designed to boost competitiveness and productivity in Saint Lucia.
- To assess specific competitiveness and productivity topics in greater detail.
- To advocate on actions to promote productivity and competitiveness.

This report fulfil two of the councils objectives:- the monitoring of productivity growth and the benchmarking of Saint Lucia's productivity levels with that of other countries. Undertaking this inaugural assessment of the levels of productivity is a very critical step in the discussions on productivity and the actions that will be required to raise productivity levels in Saint Lucia.

The study focused on productivity levels for the period 2000 – 2015. This assessment was made possible through funding provided by the Government of Saint Lucia and assistance from the team of consultants: Dr Winston Moore, Lecturer at UWI Cave Hill Campus, Ryan Straughn of Barbados and Ezra Jn Baptiste of Development Solutions in Saint Lucia.

Invaluable assistance was also provided by the NCPC Research Team and the dedicated staff of the Technical Secretariat attached to the Council.

The NCPC would like to express special thanks to all the participants from the various sectors of the economy who attended participated in the consultations on productivity. Your input was invaluable.

Queries on this report and data regarding productivity in Saint Lucia should be directed to the NCPC Technical Secretariat at telephone: 468-5571/76 or email at stluciancpc@gmail.com.

The NCPC is also very active on social media networks: Facebook, Twitter, Pinterest, Youtube and WordPress. Our website: stluciancpc.org

Introduction

Productivity is not a new concept. It is a measure of the ratio between the volume of output and the volume of inputs. Therefore, it measures how efficiently production inputs such as labour (workers/employees) and capital are utilised in an economy or a firm to produce a given level of output. The ratio can be expressed as outputs divided by inputs:

$$Productivity = \frac{Total\ outputs}{Total\ inputs} = \frac{Total\ results\ achieved}{Total\ resources\ consumed} = \frac{Effectiveness}{Efficiency}$$

Productivity can increase in several ways:

1. Output increases while the levels of input (labour, land, capital) used remain the unchanged;
2. A situation where both output and inputs are increasing, however output is increasing at a greater rate than the increases in input.

Conversely, productivity can fall or decline in those circumstances:

1. A situation where both output and inputs are increasing, however Output is increasing at a lower rate than input; hence even if output increased, productivity would have fallen;
2. Output is falling while one continues to increase the levels of inputs.

This summarized report provides an assessment of productivity indicators for Saint Lucia (adapted from the detail report on productivity assessment for Saint Lucia, completed by Dr Winston Moore, et al). The report covers both macroeconomic and industry specific productivity using employment as the input indicator and value added as the output indicator. Productivity calculations were completed for six key sectors of the economy. The report also includes unit labour costs ratios, which shows the amount of output an economy receives relative to wages. The report also compares Saint Lucia's productivity levels with nine other small economies.

Although measuring productivity in the public sector has its difficulties, four agencies were selected as pilot agencies for this assessment. The agencies were: The Customs and Excise Department, Inland Revenue Department, the Transport Department and the Physical Planning Department.

As part of the process for completing this report, consultations were held with members of various private sector groups, health sector, education, youth groups, trade unions and communities throughout Saint Lucia. The goal of these consultations was to go beyond the quantitative analysis, and identify the deeper issues affecting productivity in Saint Lucia. The industry groups consulted included: tourism, financial services, agriculture, livestock and fisheries; small businesses, wholesale and retail; youth, education, construction, and manufacturers.

The report also examined the difficulties encountered as a result of the data gaps in Saint Lucia. In addition, the report provides some general recommendations on improving productivity levels in Saint Lucia.

Aggregate Productivity Performance – Labour Productivity

Average productivity or output per worker in Saint Lucia declined by 0.21 per cent from 2000 – 2015, which reflected fluctuations in the levels of output or Gross Value Added for that period which grew on average by only 1.1 per cent. This outcome was attributed to labour input growing at a faster pace to that of output indicator.

Table 1: Aggregate Productivity & Percentage changes in Key Indicators in Saint Lucia

Years	Productivity Levels (GVA per Employed Person) EC\$	Gross Value Added (Output) (\$)	Employment Levels (Labour Input)	Percentage Changes		
				Growth/Decline in Productivity	Growth/Decline in Employment	Growth/Decline in Value Added
2000	\$33,888	\$2,150,890,259	63,470	****	****	****
2001	\$34,209	\$2,086,663,351	60,998	0.95	(3.90)	(2.99)
2002	\$35,262	\$2,063,691,888	58,525	3.08	(4.05)	(1.10)
2003	\$33,787	\$2,157,893,879	63,868	(4.18)	9.13	4.56
2004	\$37,082	\$2,308,909,970	62,265	9.75	(2.51)	7.00
2005	\$34,714	\$2,283,255,381	65,773	(6.39)	5.63	(1.11)
2006	\$36,005	\$2,439,892,111	67,765	3.72	3.03	6.86
2007	\$34,721	\$2,471,552,455	71,183	(3.57)	5.04	1.30
2008	\$35,201	\$2,580,475,854	73,307	1.38	2.98	4.41
2009	\$37,174	\$2,568,579,373	69,097	5.60	(5.74)	(0.46)
2010	\$37,655	\$2,549,313,286	67,702	1.29	(2.02)	(0.75)
2011	\$36,134	\$2,566,134,388	71,017	(4.04)	4.90	0.66
2012	\$34,101	\$2,535,067,492	74,339	(5.63)	4.68	(1.21)
2013	\$33,169	\$2,482,511,922	74,844	(2.73)	0.68	(2.07)
2014	\$33,061	\$2,466,291,795	74,599	(0.33)	(0.33)	(0.65)
2015	\$32,397	\$2,498,393,687	77,118	(2.01)	3.38	1.30

In 2000, it was estimated that each member of the employed labour force produced EC\$33,888 in goods and services (Table 1). By 2004, this figure had reached EC\$37,082 a 9.4 per cent increase, however by 2015, Saint Lucia’s productivity was estimated at \$32,397, the lowest for the period representing a decline of 4.4 per cent from year 2000.

Figure 1: Percentage Change in Input, Productivity Levels & Output 2001-2013



The lowest level of productivity for the period occurred in 2015, and the highest level in 2010. (see table 1).

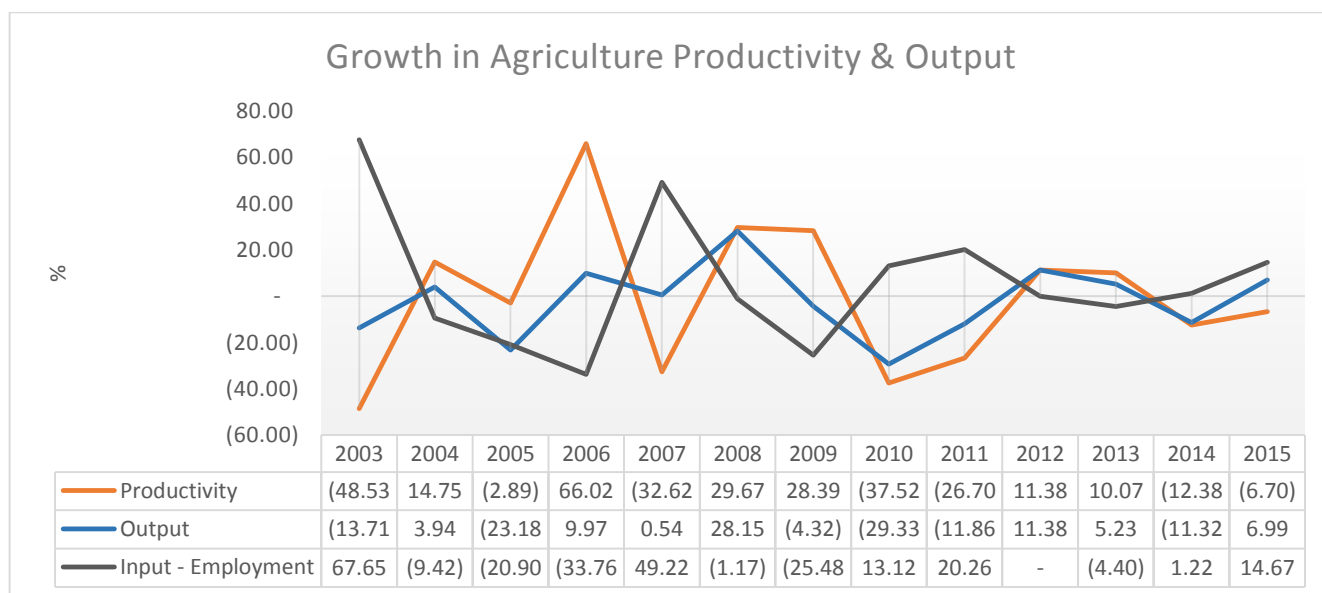
Productivity by Sector (2003 – 2015)

While overall or national productivity indicators provide an indication of trends in national competitiveness, it is also useful to consider movements in labour productivity at the sectors level as well. The assessment of six economic sectors was completed for the period 2003 to 2015 representing a 12-year period. Over the period under review, productivity fell in most of the sectors under review.

Productivity in Agriculture

Productivity in agriculture, livestock and forestry recorded an average decline of 0.5 per cent during the period 2003 to 2015. This performance reflects large fluctuations observed in productivity during the twelve year period as a result of damage caused by natural disasters, pests and diseases which affected the banana sub-sector, Saint Lucia’s main export crop. The period was also reflective of the large increases in output following significant declines which occurred after the passage of storms and hurricanes.

Figure 2: Growth in Agriculture Productivity, Output and Input



Productivity in Tourism

Average productivity in the tourism sector (hotels and restaurants) declined by 1.0 per cent over the period 2003 to 2015. Although, value added over the same period grew on average by 2.5 per cent, the tourism sector being labour-intensive experienced average growth in employment of 6.3 per cent for the same period.

Figure 3: Growth in Tourism Productivity, Value Added & Employment

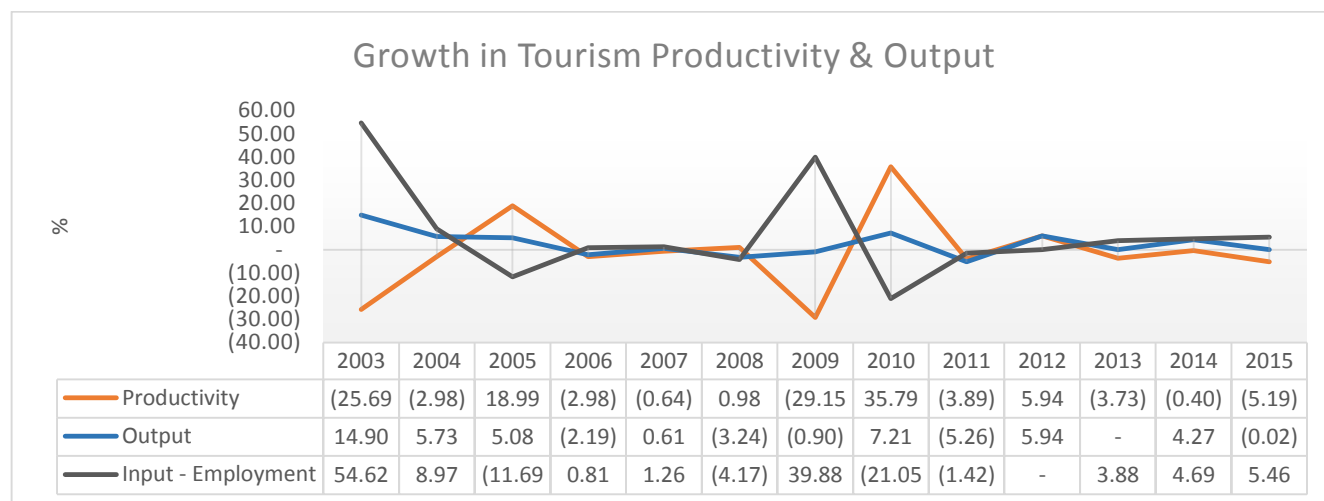
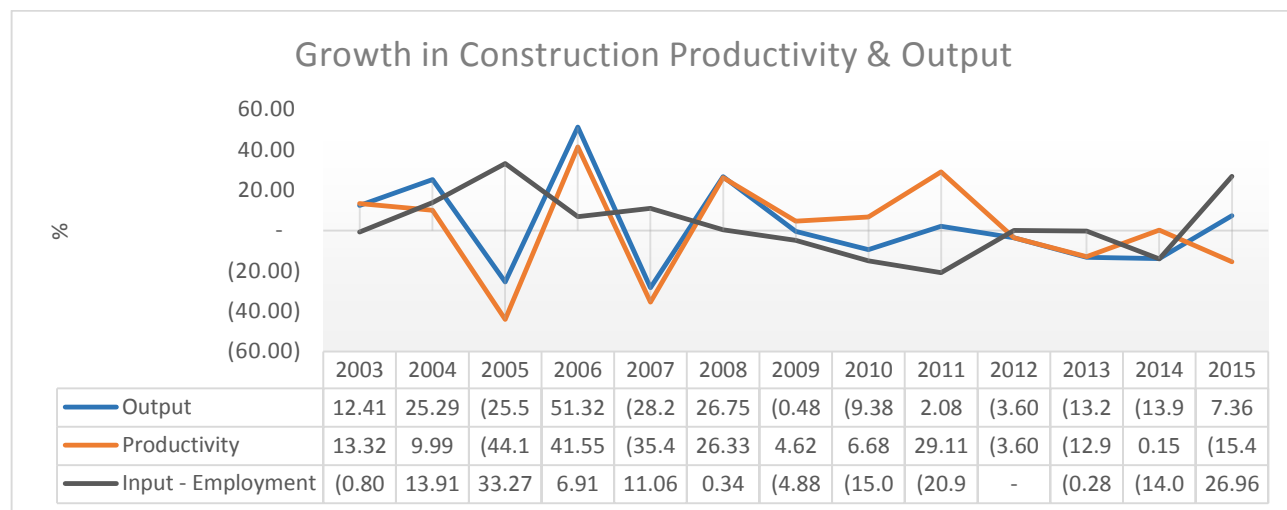


Figure 3 shows that the highest growth in productivity in the tourism sector occurred in 2010 (35.8 per cent) following the largest decline (29.2 per cent) in 2009 due to the impact of the global financial crisis. The year 2010, also saw the largest decline in employment of 21.1 per cent. Although productivity increased in 2012, it has declined thereafter.

Productivity in Construction

Productivity in the construction sector grew on average by 1.6 per cent for the period 2003 to 2015, compared to the growth in output of 2.4 per cent over the same period. On the other hand, average employment in the construction sector grew by 2.8 per cent over that same period.

Figure 4: Growth in Construction Productivity, Employment & Value Added



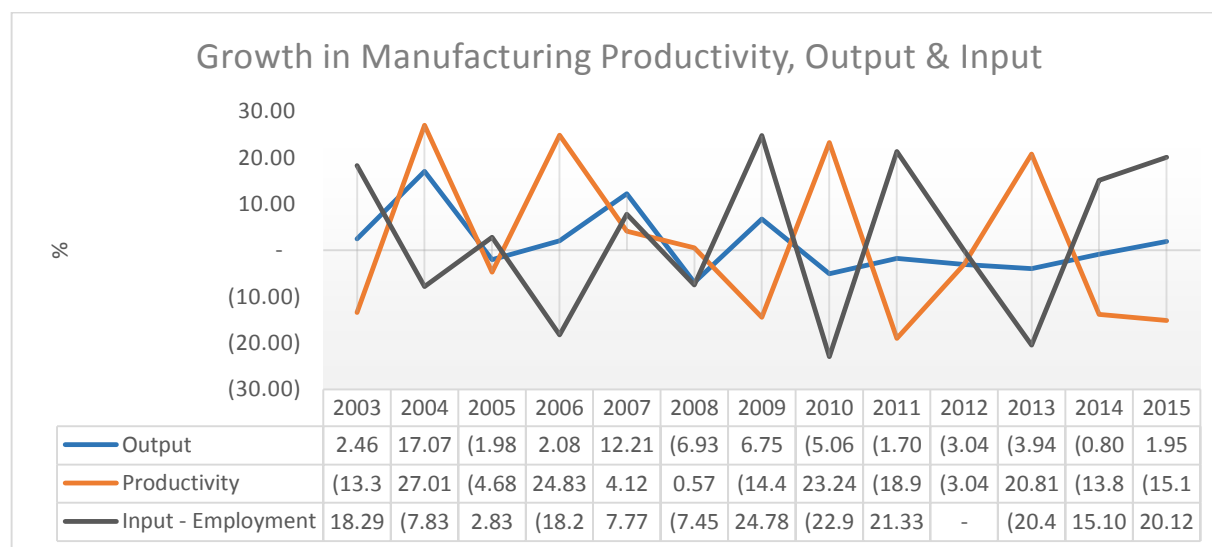
The largest output and productivity levels in the construction sector occurred in 2006 which reflected the high level of construction activity in Saint Lucia for the 2007 Cricket World Cup.

Although employment increased by 27 per cent in 2015, productivity declined by 15.4 per cent while output only increased by 7.4 per cent. This performance is indicative of the lack of value that is added to output from the increased employment (labour costs). Input increased at a higher rate than output.

Productivity in Manufacturing

Average growth in manufacturing productivity for the period 2003 to 2015 was estimated at 1.3 per cent. The performance stemmed from average growth in output of 1.5 per cent and in employment of 2.6 per cent.

Figure 5: Growth in Manufacturing Productivity, Employment & Output



The highest growth in productivity in the manufacturing sector occurred in 2004, see figure 5, (27.0 per cent) followed by 2006 (24.8 per cent). In contrast, the largest decline in productivity occurred in 2011 (19.0 per cent). In 2013, while output declined by 3.9 per cent, productivity increased by 20.8 per cent due to a large decline in employment of 20.4 per cent.

Productivity in Financial Services

Average growth in productivity in the financial sector for the twelve year period was estimated at 6.9 per cent, reflecting the highest growth in productivity for all of the six sectors assessed. Similarly, average growth in output and employment were estimated at 3.1 per cent and 0.6 per cent respectively. This performance is as a result of output growing faster than input (labour).

Figure 6: Growth in Financial Services Productivity, Employment & Output

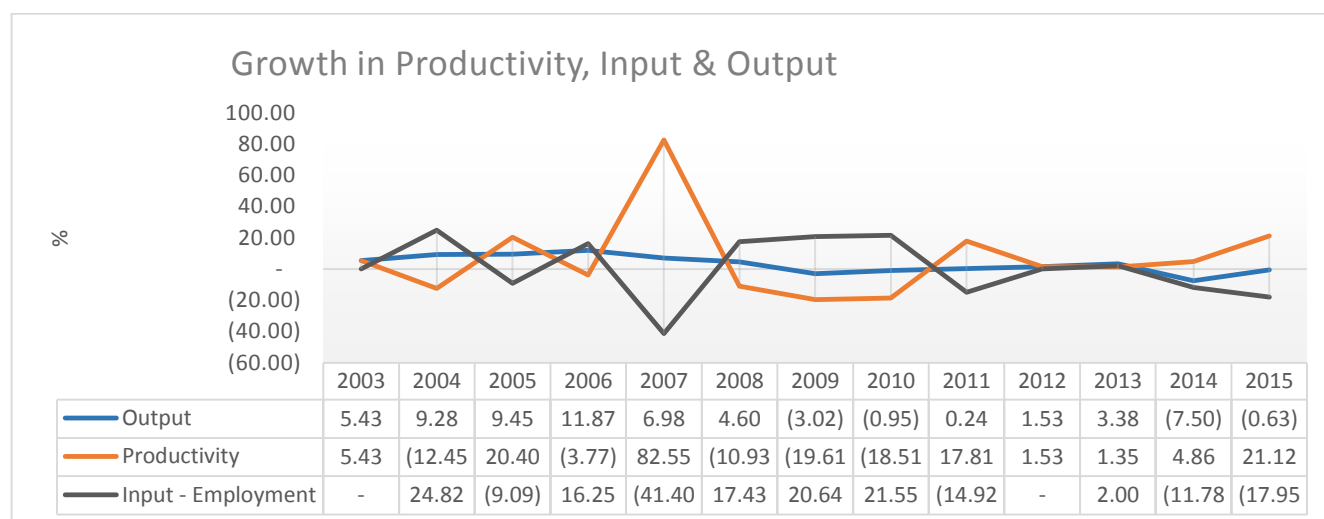
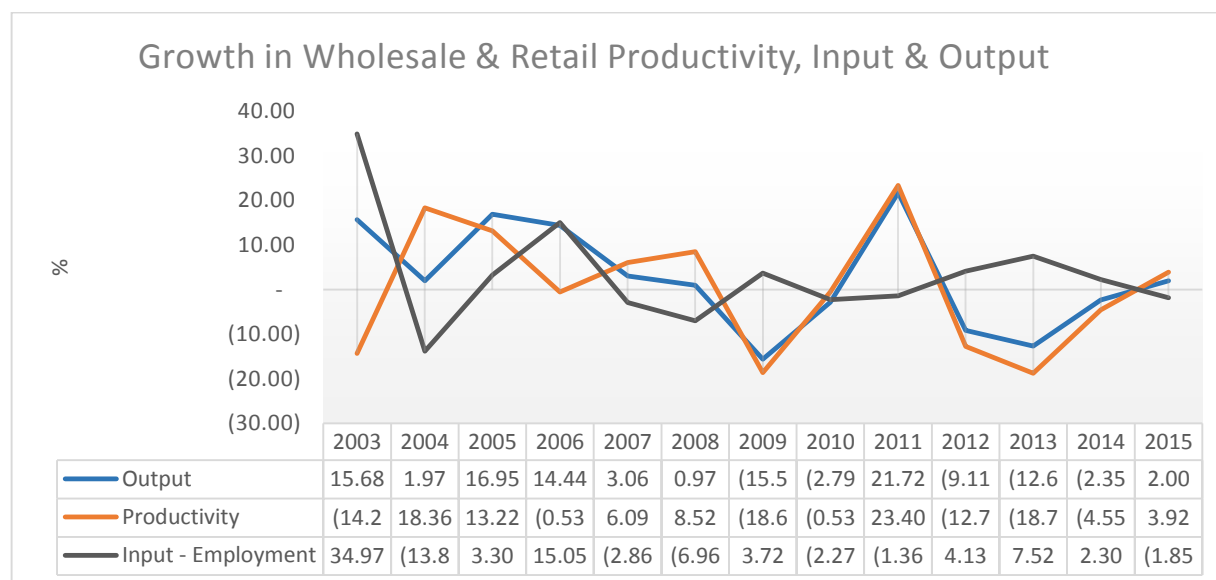


Figure 6 shows that the largest increase in productivity occurred in 2007 on account of a large decline in employment in that same year. Thereafter, decline in productivity were estimated for the period 2008 to 2010. However, productivity levels increased in 2014 and 2015.

Productivity in Wholesale and Retail

Average growth in productivity in the wholesale and retail trade for the period 2003 to 2015 was estimated at 0.3 per cent. On the other hand, average growth in output and employment was recorded at 2.6 per cent and 3.2 per cent respectively.

Figure 7: Growth in Wholesale & Retail Productivity, Employment & Output



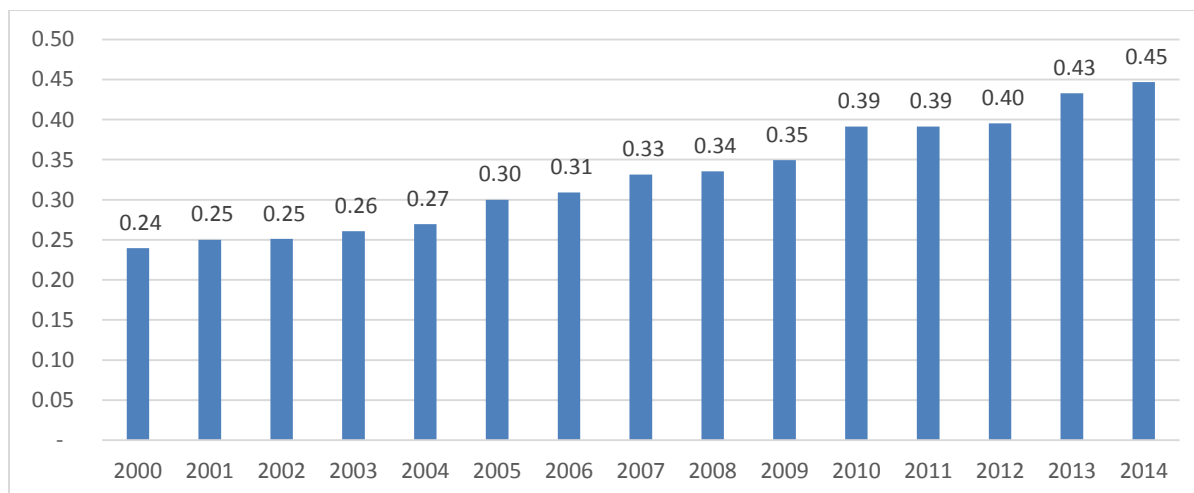
The largest increase in productivity (21.9 per cent) for the wholesale and retail sector occurred in 2011 on account of a similar increase in output (20.2 per cent). However, the slowdown in economic activity in 2012 and 2014 negatively impacted the performance of productivity in the sector which contracted in those years. In contrast, the wholesale and retail sector which is also labour-intensive, recorded increases in employment of workers for the same period. However in 2015, productivity grew due to an increase in output in contrast to the decline in labour inputs.

Unit Labour Costs (2000 to 2014)

Unit labour costs (ULC) show how much output an economy receives relative to wages, or labour cost per unit of output. ULCs are normally calculated as the ratio of labour compensation to real GDP and are normally estimated along with labour productivity, as these two ratios are key barometers of a country's competitiveness. In most circumstances, a rise in labour costs higher than the rise in labour productivity may be a threat to an economy's cost competitiveness, if other costs are not adjusted.

Figure 8 suggests that both prior to the slowdown in economic activity in 2008, as well as after the slowdown, the level of real value-added relative to wage compensation were on the rise. The overall unit labour cost for Saint Lucia moved from EC\$0.24 in 2000 to EC\$0.45 in 2014, representing an average increase of 4.6 per cent over the period under review.

Figure 8: Saint Lucia Unit Labour Cost (constant 2006 EC\$)

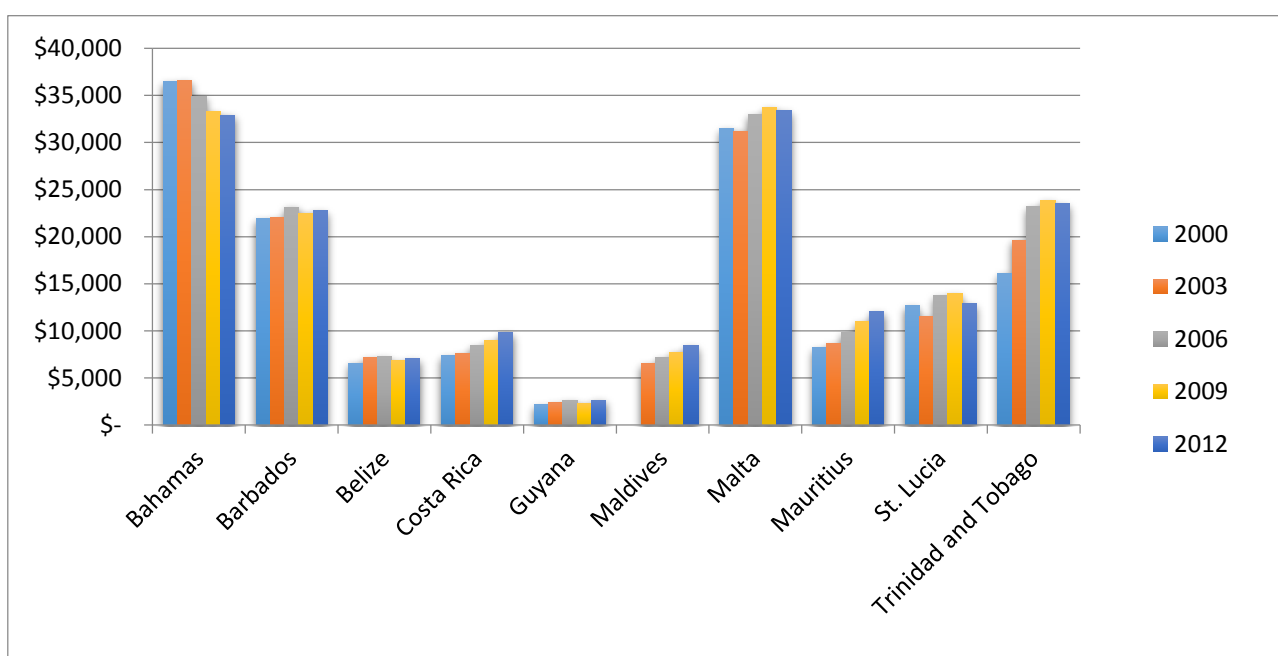


In contrast, the estimated average productivity decline for the same period was 0.08 per cent, indicating higher labour costs compared to the performance in productivity.

Benchmarking Productivity in Saint Lucia across Countries

Productivity levels using GDP as the proxy for output were calculated for the comparator countries of The Bahamas, Barbados, Belize, Costa Rica, Guyana, Maldives, Malta, Mauritius, and Trinidad and Tobago. Saint Lucia’s productivity performance could not be compared with the other countries of the OECS due to the unavailability of employment data.

Figure 9: GDP per employed person, (constant 2005 US\$) – 2000 to 2012



Source: World Bank Data, St. Lucia Statistical Department and Authors’ Calculations

Figure 9 shows that from 2000 to 2012 the Bahamas had, on average, the highest level of GDP labour productivity, with GDP per employed persons peaking at \$36,574 in 2003. Since then, however, labour productivity levels have fallen steadily due to very tepid growth, owing to a weakening in its tourist industry. Malta had the 2nd highest level of GDP per employed person, averaging \$33,000. However, similar to the Bahamas, there was little or no growth in productivity in Malta in recent years, as the country has also experienced weaknesses attributable to the downturn in the global economy. Similar

trends were observed in Belize and Guyana, as output growth fuelled by rising commodities prices was offset by rising employment.

Of the comparator countries presented, only Costa Rica, Maldives and Mauritius reported consistent rising levels of GDP per employed person. In the case of Mauritius and Costa Rica, this reported productivity outcome was largely driven by expansionary fiscal policy. Costa Rica also benefitted from significant Foreign Direct Investment flows over the period under review.

In Saint Lucia, GDP per employed person has increased since 2000, with an average level of labour productivity of \$14,488. Similar to the other countries in the Caribbean, Saint Lucia's productivity have stagnated and fell in recent years.

Public Sector Productivity

This section provides a summary on the productivity assessment for the four piloted agencies of the Government of Saint Lucia. The four agencies are: The Customs Department, Inland Revenue Department, Transport Department, and Physical Planning Department.

Difficulties in measuring the output of the public sector have been well documented in many studies. While input measures are quite adequate in the public sector: labour, capital, and material inputs are easily identifiable and measurable in the provision of public services, and are, in principle, no different than in other industries. The main problem is how to measure productivity in a sector where output is difficult to quantify. As a result government productivity is often overlooked in the discussions on productivity. Given the contribution of the sector to the general economy in terms of value added and employment, it is very important that attempts are made to measure its productivity.

Resolving the public sector productivity challenge relies on three focus areas:

- Prioritisation – Developing a collective approach for improving productivity to accommodate the diversity of responsibilities, functions and activities within the public sector.
- Measurement – Creating public sector measures for determining productivity that can be adopted as a proxy to the ‘shareholder return’ indicator that is prevalent in the private sector.
- Alignment – Translating plans and strategies for reform, and therefore improving productivity, through an implementation plan that actually delivers on desired outcomes.

These three focus areas identified above can ensure a modern public service. This should start through prioritising service delivery and driving a performance alignment mentality through public institutions. Productivity is a relevant term in the public sector. What needs to change, however, is how the sector approaches the topic. Productivity is more than cost reduction; it is the improved efficiency and effectiveness of an activity; it is ceasing some activities and diverting the resources to more socially valuable uses.

Methodology and Case Study Results

In this study, the ratio of tax collected to input costs as the primary measure of productivity for the revenue collection departments was utilised. These output measures are consistent with the findings from internal consultations with the revenue departments of both Inland Revenue and Customs and Excise. Given the availability of data for each Department, we first estimate productivity ratios by dividing the per unit revenue by an index based on deflated labour costs as shown below.

$$\begin{aligned} \text{Agency Productivity}_{i,t} &= \frac{\text{Output}_{i,t}}{\text{Input}_{i,t}} \\ &= \frac{\text{Revenue}_{i,t} / \text{Number of employees}_{i,t}}{\text{Wages \& Salaries}_{i,t} / \text{CPI}_t / \text{Number of employees}_{i,t}} \end{aligned}$$

Secondly, an overall estimate of revenue productivity was further calculated by dividing a cost-weighted output measure by an index based on deflated labour costs as shown below.

$$\text{Revenue Productivity}_t = \frac{\text{Cost weighted revenue}_t}{\text{Deflated labour costs}_t}$$

To accompany the productivity ratios above, performance indicators of productivity were also derived for the departments of Transport and Physical Planning. This methodology contributes to the effort in identifying and measuring government outputs and seeks to enhance the measuring of productivity within the public sector. Moreover, by deriving productivity indicators based on organisational objectives and performance indicators serves to increase the credibility of public sector departments.

Given the availability of data, output indicator indexes were calculated and then divided by an index based on labour costs for each department.

Given that the indicators above might be correlated with the business cycle, cyclically adjusted indicators were also derived, but these did not change the reported results appreciably. In addition to the calculations for productivity provided above, the study also conducted high-level interviews with directors of the departments examined in this report.

This analysis served two purposes. It provided the opportunity to capture information on the views and perspectives in relation to productivity in their organisations, which could then be contrasted with numerical indicators of productivity obtained from applying the approaches highlighted above. These interviews also allowed the researchers to obtain information on innovations that the entities would have implemented in order to enhance productivity, as well as identify any challenges that might be hindering productivity growth.

One shortcoming of the approach identified above is that, the amount of tax revenues collected is not an ideal measure for all the Government Departments that were assessed.

CASE STUDY: Customs & Excise Department

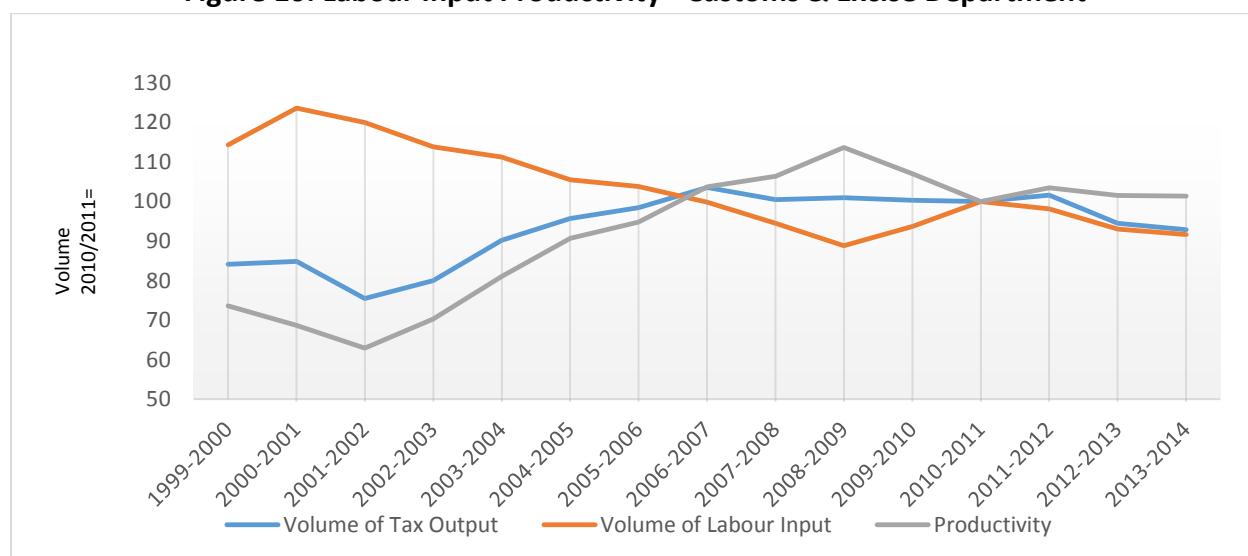
The Customs and Excise Department is the main entity responsible for collecting revenue at the border, as well as ensuring border security. More than 50 per cent of the department's revenue is collected from taxes on the imports of goods.

Tax revenue productivity in the Customs and Excise Department, as estimated using the methodology outlined in the previous section, has increased during the period under review. It should be noted, however that with greater information, other indicators beyond revenue productivity could be considered. These other indicators include:

measures of compliance, effectiveness of the valuation unit and time taken to release goods.

Figure 10 below shows the dynamics of the output versus input indices of productivity from fiscal year 1999/2000 until 2013/2014. On average, productivity in the Customs and Excise Department over the period increased by 2.5 per cent for the period under review. Productivity peaked in 2008/2009, thereafter falling in recent periods with the exception of only 2011/2012.

Figure 10: Labour Input Productivity - Customs & Excise Department



Source: Authors' calculations upon data from Customs & Excise

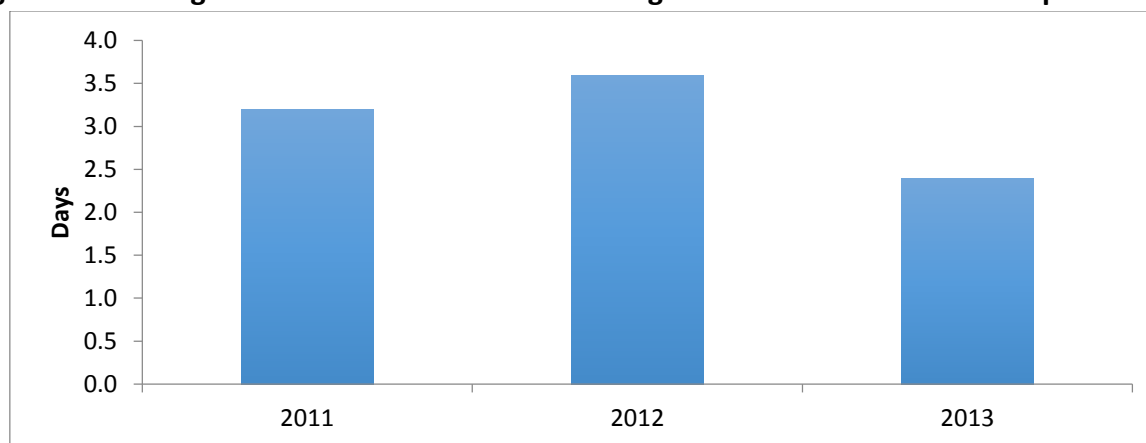
Real input cost declined steadily since the beginning of the period. The slowdown in revenue growth over the last five (5) years (due to the economic recession) is mainly responsible for the decline in productivity growth. Officials at the department also noted that employees were somewhat dissatisfied given the number of unfilled positions and the time taken to fill positions in general.

Representatives of the department also noted that although they are using a risk management approach in relation to inspections, they continue to examine 90 per cent of containers. The department plans to reduce this number to 60 per cent, which would

speed-up the process of clearing goods, but could have negative implications for revenue, as customers would no longer have to pay for the examination of goods.

As an alternative to the revenue productivity indicator calculated above, an indicator of the average time needed to clear goods through the Customs and Excise Department is also analysed (figure 11). It should be noted that this indicator is not a productivity indicator, as it does not account for inputs. Instead, it should be classified as a process efficiency or effectiveness indicator. The trends provided for this indicator are therefore not strictly comparable to those provided earlier. Nevertheless, the indicator is still quite useful, as it provides an indication of the extent to which operations at the department could be enhanced to reduce the waiting time for businesses to obtain their goods.

Figure 11: Average Time to Clear a Container through the Customs and Excise Department



Source: Authors' calculations upon data from Customs and Excise Department

Based on the limited information available, figure 11 suggests that the time needed to clear a container through the Customs and Excise Department has declined. While in 2012 it took almost 4 days to clear a container, by 2013 the department was able to reduce the average clearance time to below 3 days. Given the importance of this indicator for the private sector, however, it is recommended that the department should continue to monitor and maintain a database on average clearance times.

The department has a number of plans and initiatives that once implemented could support the goal of productivity growth. Some of these include:

1. At present, the department is working with the Caribbean Regional Technical Assistance Centre (CARTAC) to review its structure and to make the department more efficient and effective.
2. In an attempt to speed-up the process of goods clearance, the department has published as much information as possible on its website.
3. Plans to introduce a pre-clearance programme.
4. An institutional initiative was the introduction of a Stakeholder Committee. This body is made-up of manufacturers, the Chamber of Commerce, shippers, brokers, as well as the small business association. The objectives of this committee are to examine problem areas, identify solutions and monitor the effectiveness of these solutions. Through this body, stakeholders have developed better relations with customs officials.

CASE STUDY: Inland Revenue Department

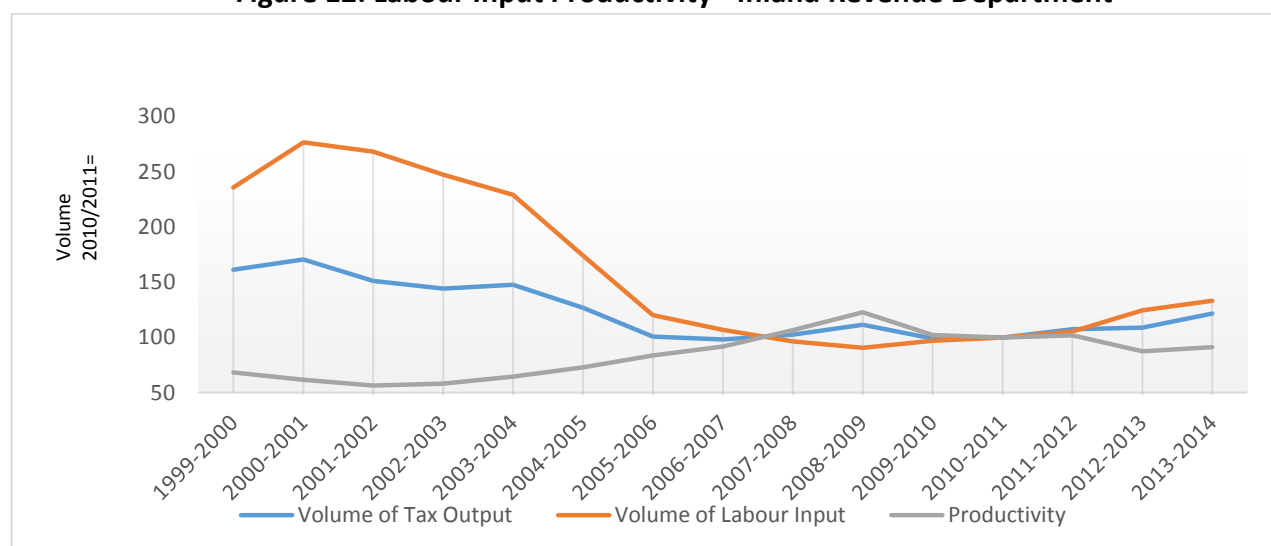
The Inland Revenue Department is responsible for collecting income tax, property tax, corporate tax and Value Added Tax (VAT) on behalf of the Government of Saint Lucia.

The average productivity growth estimated for the department for the period 1999/2000 until 2013/2014 was approximately 2.7 per cent. Similarly to the Department of Customs and Excise, productivity peaked in 2008/2009, see figure 12. It is important to note that for both departments, the real cost of labour was at its lowest for the period 2008/2009. From 2009/2010 to 2010/2011, productivity fell by 16.8 per cent and 2.3 per cent respectively. In addition for both departments, the results reflect the economic recessionary conditions which has been affecting Saint Lucia in recent years.

A slight recovery was experienced in 2011/2012 with productivity falling once more in 2012/2013 and rebounded in 2013/2014 with a growth of 4.4 per cent.

Officials at the department identified a couple of initiatives that would have been responsible for this growth including the introduction of e-filing (in 2013), the audit effort, property revaluation effort as well as IT investment that provided each officer with a computer. Many of these initiatives, however, were only recently introduced and therefore mainly relate to the period 2012-2014.

Figure 12: Labour Input Productivity - Inland Revenue Department



Source: Author’s calculations upon data from Inland Revenue

A number of institutional/structural bottlenecks were also identified. Firstly SIGTAS, the department’s IT system, requires significant effort in order to function efficiently. Unfortunately, purchasing and installing a new system would be quite prohibitive. Like many of the departments interviewed, management noted that the department is under-staffed and the configuration of the department could be problematic at times. In addition, while e-filing has been recently introduced, the tax system in Saint Lucia is primarily paper-based. This slows down processing and retrieval of documents, as well as increases the storage costs that the department incurs.

Officials at the Inland Revenue Department also flagged a number of potential opportunities that could be considered to raise productivity of the department. Even larger gains could be obtained if SIGTAS is replaced. This would allow the department to develop an internet interface, generate real time reports and increase the speed at which activities are completed.

CASE STUDY: Transport Department

The Transport Department is responsible for the registration of vehicles, the issuance of licenses, traffic management as well as transport planning. Two main productivity/performance indicators were calculated with the only pieces of data that were available: (1) vehicle registration per labour unit; and (2) licences issued per labour unit.

Productivity Using Vehicle Registration

During 2000-2004, the productivity index for the period was estimated at 43, or approximately 67 per cent below base year productivity (2010). In subsequent years, however, vehicle registration per labour unit increased and peaked in 2007 (see figure 13) mainly due to a 23 per cent increase in the number of vehicle registration. This outcome may be due to policy changes at the Department of Transport. During the period 2007 - 2009 however, the vehicle registration per labour unit index fell below base year levels, reaching 92 in 2012 and 74 in 2013.

Figure 13: Performance Indicator Productivity - Transport Department



Source: Author's calculations upon data from Transport Department

Productivity Using Licenses Issued

The trends in the licenses issued per labour unit index were somewhat similar to those observed earlier for the vehicle registration per labour unit index. On average, the licence issued per labour unit index was 67 for the period 2000-2013. This outcome was partially due to rising labour cost experienced within the Transport Department in the early 2000s. Between 2008-2011 productivity of the department rose somewhat owing to falling labour inputs, but since 2008 the labour productivity index had been declining.

The department has embarked on a major public sensitisation and awareness campaign, introduced logistical changes in relation to the organisation of the department as well as reduced the number of employees in order to better match responsibilities with activities. These changes have reduced the long lines faced by stakeholders as well as enhanced customer experience.

There are still a number of challenges that the department faces as it attempts to enhance productivity. These challenges are as follows:

- License verifications can be a slow process including the sourcing of materials for cards.
- The support system for the IT infrastructure is poor. There is only one IT officer who provides support to the entire department and the software used is out dated.
- Legal advice is currently provided by central government and this delay the work of the department.
- Employment in the department is out of the control of managers.
- Instances of misconduct and discipline often remain unresolved for many years.

Other opportunities that can support positive productivity growth in the future includes an update and expansion of IT capabilities and support, the availability of in-house legal skills, greater use of online services as well as the introduction of a land use policy. This would allow the department to properly plan and address cross-cutting issues in relation to congestion and business efficiency.

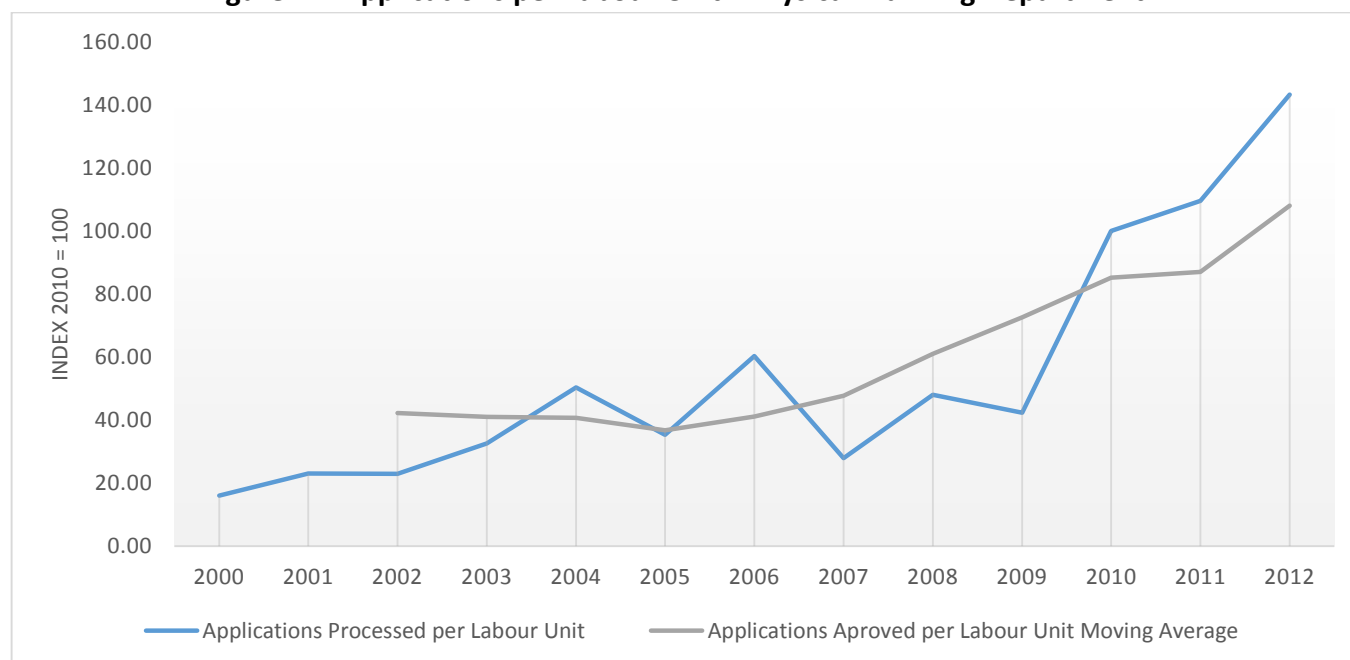
CASE STUDY: Physical Planning Department

The productivity indicators calculated for the Physical Planning Department were: (1) Applications Processed per Labour Unit; and (2) Application Approved per Labour Unit.

Productivity using Applications Processed

Since 2000, the Physical Planning Department’s index of application processed per labour unit has increased moderately. In 2000, the index was estimated at 16, by 2004 the index had risen to 50 and by a further 10 percentage points by 2006. After a period of little growth in productivity between 2007 and 2009, the applications processed per labour unit index again began to rise and since 2010, has increased by a cumulative 43 per cent to end the period at 143. This relatively steep rise in productivity from 2009 partially reflects a degree of understaffing at the department, a sentiment that was echoed during consultations conducted by the researchers.

Figure 14: Applications per Labour Unit - Physical Planning Department



Source: Author’s calculations upon data from Physical Planning Department

Productivity Using Applications Approved

A similar story is obtained if the index of applications approved per labour unit index is employed to assess productivity change at the department. Figure 14 suggests that following a period of little or no change in productivity between 2003 and 2005, the department has seen its index jump from 37 in 2005 to 108 by 2013. The management of the department has indicated that given the work load of the DCA, it is difficult to perform the additional planning function of the department. In addition, the number of physical planners have reduced significantly.

The work of the department also impacts on one of the Ease of Doing Business indicator: *Dealing with Construction Permits, although there are many stakeholders involved in this process*. The indicator affects the overall competitiveness of the Saint Lucia's economy, as a key input into the process of doing business. In 2015, Saint Lucia is currently ranked 39th among 189 countries worldwide for the relatively ease of obtaining construction permits.

The department has introduced numerous initiatives aimed at enhancing productivity, in particular, the introduction of a checklist to help potential applications. This has reduce on the number of applications coming to the department with missing information and delays in approval.

There are some potential opportunities that can be considered in enhancing productivity in the future: increased resources especially staffing, to reduce the IT solutions dependence on a paper-based system, revise the DCA legislation with the objective to modernise operations and to increase fees that will lead to increased revenue for the Government. Fees for the Government has not been revised since 1990. In order to execute the planning function of the department, there must be investment in human resources. More specifically, officers must be trained in the area of Physical Planning.

Consultations with Stakeholders

General Sentiments

As part of the overall assessment of productivity, the Council engaged in a number of consultations island-wide, representing the qualitative part of the study. Stakeholders included: sectors level (manufacturing, wholesale and retail, tourism, agriculture, financial services, and construction). Other sectors engaged included: education, health, youth and Government departments. Consultations were also held in the various communities throughout Saint Lucia.

Generally stakeholders felt that national productivity has declined due to various reasons including: inefficiencies in the public service, limited access to capital, high unemployment levels, an inefficient transport system, absence of profitable linkages between tourism and other sectors, inefficient education system, poor work ethic and lack of accountability. Other issues also highlighted as affecting productivity include: cost of energy especially in tourism, construction and manufacturing, absence of legislation and standards in some sectors, dishonesty amongst workers, poor management and supervision.

Factors Supporting Productivity Growth

The industry groups identified various support factors, as well as challenges that affect productivity in their respective industries. For instance, stakeholders within agriculture, fisheries as well as financial services, in particular the banking and credit union sub-sectors, pointed to the increased use of capital and technology in their day-to-day operations. They indicated that while the estimates of labour productivity generated were useful in establishing a baseline for the country, the critical factor for them going forward would be establishing measures of capital productivity because of the recent capital investment.

In addition, most of the industries identified highly trained and educated human resources as a key support factor (see table 2). Despite the enriched labour force on the island, a number of issues seem to counteract the benefits of a skilled labour force. The stakeholders within agriculture indicated that overall productivity has fallen. However, they also noted that output has increased due to the use of aggregation techniques and increased actors within the sector. The finance sector identified a robust regulatory framework as an instrumental feature, albeit the lack of co-operation amongst institutions in the sector hinders productivity.

Table 2: Strengths of Saint Lucia in relation to Enhancing Productivity

Strengths	Tourism	Finance Wholesale and Retail	Manufacturing and	Construction	Agriculture and Fisheries	Small Businesses	Youth	Education
Highly trainable workforce	X	X		X	X			
Training and development standards	X	X		X		X	X	X
Incentives	X							X
Dependability and innovation of utilities	X		X	X		X		
Suppliers	X							X
Education and training	X	X				X	X	X
Labour relations		X						
Supporting Government institutions		X	X	X		X		

Issues and Challenges Affecting Productivity Growth

The most common challenges to productivity which were identified include: poor employee attitudes, lack of incentives and supporting institutions (table 3).

Table 3: Challenges of Saint Lucia in relation to Enhancing Productivity

Challenges	Tourism	Finance and Wholesale and Retail	Manufacturing	Construction	Agriculture and Fisheries	Small Businesses	Youth	Education
Employee attitudes		X	X	X	X	X	X	
Recruitment	X				X	X		X
Business intelligence					X	X		X
Corruption and crime		X	X		X	X		
External competition			X		X	X		
Labour relations						X		X
Energy costs	X			X	X			
Supporting institutions	X	X		X	X			X
Incentives	X	X	X	X			X	X
Labour skills	X	X						
Standards			X					

Opportunities for Enhancing Productivity

Table 4 shows some of the opportunities for enhancing productivity. The CARICOM Single Market and Economy (CSME), policies that promote sector linkages and technology were identified as some of those areas. The tourism, finance and wholesale and retail sectors have the most opportunities for enhancing productivity. Within agriculture, key opportunities identified were the promotion of sector linkages, increased use of technology and greater investment to improve training. Given the importance of the agriculture in the past, priority must be given to explore areas for enhancing productivity.

Although greater integration and utilisation of CSME is an opportunity that could benefit many areas of economic activity in Saint Lucia, this arrangement is dependent on external factors that could be beyond the direct control of the government and citizens of Saint Lucia. Focusing on internal opportunities, such as more comprehensive and effective policies to foster linkages and incentives to increase investment in technology can be implemented without external consultation.

Table 4: Opportunities for Enhancing Productivity

Opportunities	Tourism	Finance and Wholesale and Retail	Manufacturing	Construction	Agriculture and Fisheries	Small Businesses	Youth	Education
CSME	X	X	X	X		X	X	
Tax Concessions	X	X	X					
Integrated Policies to Foster Linkages	X			X	X	X		X
Standards	X	X		X				X
Product Diversification and Innovation		X				X		
Technology	X	X			X	X	X	X
Legislation Aimed at Praedial Larceny			X		X			
Enhance the Ease of Doing Business		X	X					
Investments in Training				X	X		X	X

Potential Responses if Opportunities are explored

Table shows the potential response if the opportunities identified in Table 4 are exploited. Saint Lucia would benefit mainly from higher levels of employment, a more conducive entrepreneurial culture and greater collaboration between various industries. While some industries might benefit more than others, a rise in overall economic activity should be expected to benefit all sectors.

Table 5: Potential Responses if Opportunities Above Are Exploited

Responses	Tourism	Finance and Wholesale and Retail	Manufacturing	Building	Agriculture and Fisheries	Small Businesses	Youth	Education
Greater employment	X				X		X	X
Entrepreneurship	X		X		X			X
Efficiency of Public Services		X						
Improvement in Quality		X		X				
Greater Collaboration between Various Industries	X		X	X	X	X	X	
Increased Service Exports				X				
Improved Work Ethic			X					
Greater Accountability			X			X		X

Implications of the Results – 2000 to 2015

The formula for measuring productivity is pretty simple: output divided by input (Output/input). For this assessment, Gross Value Added represents Output and Input equals number of employees at the national and or sector levels.

It is critical therefore that the discussions on improving productivity centers on increasing output and lowering or maintaining inputs at acceptable levels. As we have already discussed, an increase in output at a rate greater than the increase in input will lead to an increase in productivity. If output falls or is constant, increases in inputs will lead to a fall in productivity. Therefore, given our situation in Saint Lucia, let us examine each of the components or the levers of productivity.

@ the Output Level

Output or gross value added for the period 2000 – 2015 grew on average by 1.1 percent and for the last five years including 2015, gross value added contracted by 0.4 percent. It is therefore fair to conclude that output growth over time has stagnated and has fallen in recent period despite the growth recorded in 2015 of 1.3 per cent. On the other hand, although unemployment is high (25 percent), the number of persons employed (2000-2015) grew by 1.4 percent and for the last five years grew on average by 2.7 percent.

Both the public and private sectors must engage in strategies and initiatives that will lead to growth in output. Therefore, it is critical that:

1. Expansion of Saint Lucia's Economic Base:

Currently Saint Lucia relies mainly on tourism as its main economic sector. Previously this reliance was on agricultural sector due to the banana sub-sector which has declined significantly due to natural disasters and the removal of preferential access to European markets. Likewise the tourism sector can also be influenced by external shocks especially in source markets as was recently experienced in recent times due to the global financial crisis. It is critical that our

economic base be expanded to include other sectors that can create a buffer in times of crisis and to also impact on output growth and increased economic activity. The following is therefore proposed:

- a. The tourism sector has been economically viable as Saint Lucia's economy transitioned from that of an agricultural based to services given its multiplier effect. Given the ability of tourism to impact many other sectors, it is important that high impact linkages are formed which would allow other sectors of the economy to develop and expand. This is an issue that has been discussed for many years, the recommendation would be for a policy to be formulated and be pursued vigorously as part of the economic strategy for the country.
- b. Saint Lucia should continue to focus efforts on revitalising the agricultural sector by concentrating on higher valued crops and on other sub-sectors such as fishing, livestock and forestry. It is critical that deliberate efforts be undertaken in this area. Taiwanese Government has been very helpful in the agriculture sector in Saint Lucia and they can be encouraged to provide greater assistance in this regard.
- c. Another look must be given to the manufacturing. Although this sector has registered declines in recent years, productivity is increasing due to investment in plant and equipment and decline in the number of persons employed. Some businesses have closed down in the sector which has mostly led to the decline in employment.
- d. Since Saint Lucia has transitioned into a services oriented economy, it is important to focus on high valued niche areas. New areas that have been identified should continue to be explored such as ICT, yachting, health and wellness.
- e. Traditional sectors – actors in those sectors must ensure that they improve on their processes in order to achieve efficiency and effectiveness while at the same time lowering costs.

2. Strengthening and enlarging the private sector. This can be done in many ways:

- a. Simplifying regulations that affects the private sector. This aspect is very important as it affects the ease of doing business in Saint Lucia. Although Saint Lucia has fallen from its number one position, the government has put together a multi-stakeholder Doing Business Task Force that examines and monitors initiatives geared towards improving the business environment. This Task Force need to relentlessly engaged public sector agencies in ensuring that reforms are done in a timely manner.
- b. The private sector need to invest in business solutions that will enhance their productivity and competitiveness. Business owners need to become creative and innovative by using new technology or by simply reevaluating their processes and coming up with new ways of doing business.
- c. To increase output (sales), the private sector would need to examine ways to expand markets especially by exploring export opportunities. Business owners need to be less risk averse and look at the possibilities of setting up businesses outside of Saint Lucia. The OECS Economic Union provides an important avenue for such opportunities.
- d. Promote and encourage entrepreneurship programs and initiatives. This should be considered a priority for the government as new businesses grow faster than mature businesses and can provide critical jobs that are needed due to the high levels of unemployment in Saint Lucia.

Research done by IDB indicated that it is “new firms, rather than established firms that remain small, are a natural conduit for introducing innovative, high productivity ideas to the marketplace”. Since it is difficult to identify those high impact firms at the beginning, it is important for government to have in place policies (eg innovation policies) that would encourage those firms to grow and prosper. Research also done by Preeya Mohan (UWI) has shown that a unit increase in innovation expenditure increases labour

productivity by 63 percent. On average in advanced economies, over 20 percent of firms receive public support for innovation as compared to less than 5 percent in Latin America.

- e. Assistance to be given to SMEs, start-ups as well as those small businesses that have the potential to grow. Therefore those businesses need opportunities to scale up through grant and loan funds. Use of development banks for scaling up is very important. Policies that encourages incubators and venture capital as well as specialized Funds can be a vehicle for providing much needed assistance for SMEs.
- f. There is the need to invest in research and development.

- 3. ***Improving productivity at the public sector level is also critical given its impact on the economy.*** The public sector as a major employer impacts significantly on national output. Efforts aimed at improving productivity within the public sector must be encouraged and mandated.

@ the Input Level

Although for the purpose of this report, we concentrated on measuring the productivity of labour. Inputs can also include capital, technology and raw materials. Therefore, the following need to be considered where input is concern:

- Labour Inputs – there are several ways in which we can improve on labour inputs.
 - a) Investment in training where staff can acquire new knowledge and skills that are necessary for the job at hand.
 - b) Employee engagement and motivation are critical for effective performance on the job. Employees need to know how their role impact on the overall objectives of the organisation and that management values their input.
 - c) Recruitment and selection is very important – ensuring that the right individual is selected for the right post.

- d) Management is key as is considered one of the most important factors that impacts on productivity levels. Managers must be able to motivate, encourage staff as well as exercise judgement and be willing to take risk that will ensure delivery of output at the lowest cost possible.
 - e) Adequate working conditions as well as acceptable remuneration. Business owners and management should also need to develop better relations with employees and trade unions.
- Use of appropriate technology as an input – in order to improve on its process, firms can invest in new technologies or existing technologies new to the firm.
 - Encouraging innovation within firms can lead to diversification and results in productivity growth. According to a study done by the IDB, revealed that a unit increase in innovation expenditure increases labour productivity by 63%. Innovation also results in more effective use of firms resources.

Data Gaps

In undertaking this assessment, a number of data gaps were identified. While calculating productivity using employment as the input indicator is accepted internationally, the ideal measure would be that of hours work. This method would also allow the Council to provide information on issues such as absenteeism.

However, calculating hours worked using the labour force survey may not be ideal, as this depends on workers accurately reporting on the number of hours worked. As an alternative, the Statistics Department could consider conducting establishment surveys to collect information on hours worked, absenteeism, vacation leave and overtime.

As it relates to the public sector, the study also encountered a number of difficulties in relation to the availability of appropriate indicators. In general, most departments do not collect data on non-financial indicators of productivity and performance on an on-going basis. This study therefore had to utilise information on indicators that were available over the period.

In the public sector, most of the information on hours work or even performance indicators were compiled in notebooks and these were not easily retrievable as the assessment were for several years. Recommendations for improving the data gaps include:

- Using electronic database for to store data. Excel spreadsheets are very affordable solution in the absence of a database application. Most computers have Microsoft Office Suite of applications.
- Collect and store data on an ongoing basic. Data should be collected and store, either monthly or annually basis to allow for analysis.
- Data to collect information on hours work.

Recommendations for Improving Productivity

Recommendations were provided by stakeholders during the consultations and Productivity Awareness Week on ways that productivity can be enhanced.

1. **Productivity payment schemes** can be used to increase employee productivity. It is important that employees feel that their efforts, ideas and innovations are appreciated. While there are many non-monetary means of identifying outstanding employees such as prizes and awards, a productivity payment scheme can also be useful in motivating employees to perform better. This approach to compensation ensures that both management and employees are focused on the objective of enhancing firm growth and development.
2. **Labour Market Information Systems** - the stakeholder consultations identified that training and the education level of employees available in Saint Lucia was one of the key factors responsible for productivity growth. The creation of labour market information systems that allow policymakers to quickly identify trends in the job market and to pass these on to employees as well as employers is important. Such a system would also help policymakers to assess the impact of education policies and other initiatives related to the labour market.
3. **Enhanced collaboration** between the various sectors within the Saint Lucian economy can also create opportunities for growth and productivity. It might be necessary for the public sector to take a leading role in supporting greater linkages between the various sectors through policy statements. Ideally, such initiatives should not focus on fiscal incentives, which would add a further burden to public accounts. Initiatives could instead focus on removing supply chain bottlenecks that would create a new market for the supplier while reducing the costs faced by the firm purchasing the good or service.

4. Introduce new technology in order to enhance productivity. In some cases, a software and hardware upgrade can lead to efficiency enhancements.
5. Ensure employees are well trained, motivated and equipped with the right skills for the job.
6. Ensure accountability, proper management and supervision.

Appendix

Definition & Objectives of Productivity

Productivity is commonly defined as a ratio of a volume measure of output relative to a volume measure of input use. The various objectives of productivity measurement include:

- *Technology*
- *Efficiency*
- *Real cost savings*
- *Benchmarking production processes*
- *Living standards*

During the production process, productivity growth occurs in the following manner:

1. An increase in output while the levels of input (labour, land, capital) used remain the same (unchanged);
2. Output is increasing at a greater rate than the levels of input.

Conversely, productivity can decline if:

1. Output is increasing at a lower rate than the levels of input; hence even if output increased, productivity would have fallen;
2. Output is falling while increasing the levels of inputs.

Issues in Measuring Productivity

The issues encountered in attempting to measure national productivity for Saint Lucia were as follows:

1. This study focuses primarily on labour productivity which is a partial productivity measure and reflects the joint influence of a host of factors. It is easily misinterpreted as technical change or as the productivity of the individuals in the labour force.
2. There are a number of factors affecting productivity such as capital, technology etc which could not be assessed in this study due to the lack of data of those indicators.
3. Literature on productivity reveal that the ideal measure of labour productivity is GDP to the total number of hours worked particularly during cyclical downturns in the economy. The literature indicates that during an economic downturn, most companies adjust hours worked by their employees before taking the decision to reduce their labour force. Therefore, while the number of persons employed would remain the same, the hours worked would decline in line with the slowdown in business activity. Data on hours worked for St. Lucia could not be used due to the lack of a reliable data set in this indicator.