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Reindustrializing a Dutch Diseased Economy: Empirical Evidence from Trinidad and Tobago and Lessons for Guyana

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INTRODUCTION

The purpose of this inaugural working paper series is to examine the socio-economic and political implications of petroleum extraction in Guyana. On its own, the prospect of petroleum extraction is worthy of extensive academic examination, due to its promise of economic prosperity, its environmental ramifications and the political disruption within which its arrival is ushered. These issues are compounded when played out in a society such as Guyana's characterized by stark racial and ethnic cleavages, age-old political tensions and entrenched socio-economic problems. Further to this, is the question of external influence in the form of supranational governmental agencies, foreign financial corporations upon the process of petroleum industrialisation in this developing state.

In recognition of the complex nature of this topic, the authors in this series explore the question of a petroleum Industry in Guyana from a sociological, political and economic perspective. These papers not only seek to make academic inferences but also to provide recommendations and suggestions as to how the current and potential issues can be approached to prevent political and socio-economic failure in Guyana

Reindustrializing a Dutch Diseased Economy: Empirical evidence from Trinidad and Tobago and lessons for Guyana

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ABSTRACT

Manufacturing has been seen as a traditional sector capable of absorbing large amounts of skilled and unskilled labour. There is currently limited literature on how to reindustrialize a Dutch Disease economy. This paper identifies areas for reindustrialization for the Trinidad and Tobago economy which has been identified by previous authors as being affected by the Dutch Disease. The paper firstly addresses the issue of deindustrialization in the manufacturing sector due to the existence of the Dutch Disease. The paper then examines changes in the manufacturing sector in terms of manufacturing output, employment and capacity utilization paying particular attention to Trinidad and Tobago. A synthesized TradeCAN analysis and RCA methodology for Trinidad and Tobago were conducted to identify areas for potential reindustrialization. This methodology was also applied for the Guyanese economy to provide a sketch of possible domestically produced goods Guyana can follow to dampen the effect of incurring the Dutch Disease. The paper finds that manufacturing output and employment has been declining and the sector is characterized by the existence of spare capacity in Trinidad and Tobago. The paper applies theory to explain trends in the data that suggest the presence of the Dutch Disease in the manufacturing sector in Trinidad and Tobago, which in turn has negatively impacted growth and sustainability of the sector. The paper identifies lessons for policy-makers in Guyana and relevant areas for export to cushion the effect of overdependence of oil revenues and the possible implication of the Dutch Disease in future.

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Introduction

Saeger (1997, p. 587) noted that changes to relative endowments, that is, natural resources can affect the share of employment in manufacturing. He noted that countries which lacked natural resources and agriculture exhibited higher shares of manufacturing employment as they will generally tend to specialize in manufacturing. Countries that are resource abundant would import manufactures and specialize in the resource that is abundant to them, therefore, they have lower shares in manufacturing employment. Saeger (1997) notes that this is due to Dutch Disease led deindustrialization.

This paper links deindustrialization to the Dutch Disease and focuses on trends in manufacturing output, employment and capacity utilization drawing on data from the Trinidad and Tobago economy. Relevant areas for reindustrialization are also provided for the Trinidad and Tobago economy and precautionary areas to prevent deindustrialization in the Guyanese economy are investigated for both the CARICOM and non-CARICOM markets, using a combination Trade Competitiveness Analysis of Nations (TradeCAN) and Revealed Comparative Advantage (RCA) methodologies.

There is currently limited literature on how to reindustrialize a Dutch Disease economy. This paper identifies areas for reindustrialization for the Trinidad and Tobago economy which has been identified by Gelb (1988), Hosein and Tewarie (2004), Moya, Mohammed and Sookram (2010) and Auty (2017) as being affected by the Dutch Disease. These methodologies were also applied to Guyana to identify feasible areas to cushion the effect of rapid deindustrialization on the horizon due to the upcoming oil boom and possible cause of the Dutch Disease in future.

The paper progresses from the issue of deindustrialization and specifically links it to the

existence of the Dutch Disease. The paper then focuses on trends in manufacturing output, employment and capacity utilization in Trinidad and Tobago. A synthesized TradeCAN analysis and RCA methodology for Trinidad and Tobago were conducted to identify areas for potential reindustrialization. TradeCAN output determines areas that are feasible for a country to produce, based on the import market, whilst RCA determines the areas to produce output based on the country's export market. Combining TradeCAN and RCA, therefore, gives results in areas that are simultaneously being demanded from the import market, with commodities that have a revealed comparative advantage in the export market. This methodology was also applied for the Guyanese economy to provide relevant exports areas to dampen the effect of incurring the Dutch Disease. The paper has also identified lessons for Guyana and relevant areas feasible for export to cushion the effect of overdependence of oil revenues and the possible implication of the Dutch Disease in future.

This paper makes several contributions to the literature, by linking the Dutch Disease to deindustrialization and then identifying feasible areas for reindustrialization for the Trinidad and Tobago economy, while deriving relevant precautions to policymakers in Guyana, pending an oil boom. It also provides guidelines as to which sectors should be targeted to maintain and preserve the manufacturing sector from becoming deindustrialized.

The paper finds that manufacturing output and employment have been declining, and the sector is characterized by the existence of spare capacity. The paper also ascertains that the manufacturing sector in Trinidad and Tobago is operating with the existence of the Dutch Disease, which in turn, negatively impacts the growth and sustainability of the sector. In general, it was found that Trinidad and Tobago has been experiencing deindustrialization as a result of the Dutch Disease as identified by scholars in the past.

However, this paper identifies requisite areas that are feasible for the potential reindustrialization of the manufacturing sector in an attempt to reduce the effect of the Dutch Disease occurring in Trinidad and Tobago.

The following research questions were examined in the paper:

1. What are the effects of the Dutch Disease on the manufacturing sector as it pertains to Trinidad and Tobago?
2. Determine a relevant approach to the reindustrialization of the manufacturing sector in Trinidad and Tobago.
3. Identify relevant areas for Guyana in order to prevent the effect of rapid deindustrialization and dampen the occurrence of the Dutch Disease on the Guyanese economy due to the pending oil boom.

The rest of this paper proceeds as follows: Section 2 reviews the literature on deindustrialization and links it to the Dutch Disease, Section 3 reviews the extent of deindustrialization in Trinidad and Tobago through analysis of manufacturing output, employment, value added, capacity utilization and the business environment, Section 4 applies in-depth Trade Competitiveness Analysis of Nations (TradeCAN) and Revealed Comparative Advantage (RCA) methodologies to identify and examine areas that are feasible for reindustrialization, as it related to both CARICOM and non-CARICOM markets, and Section 5 is highly relevant to the Guyanese economy in cushioning the effect of pending windfall gains from the oil sector which can lead to the existence of the Dutch Disease.

Overview of The Literature on Dutch Disease Deindustrialization and Reindustrialization

Clark (1957) identified that deindustrialization occurs as a result of a shift in demand from manufactured goods towards services as an economy matures. The reasoning behind this is a negative relationship between GDP per capita and the demand for manufactures. At lower levels of GDP per capita, more income is spent on manufactures,

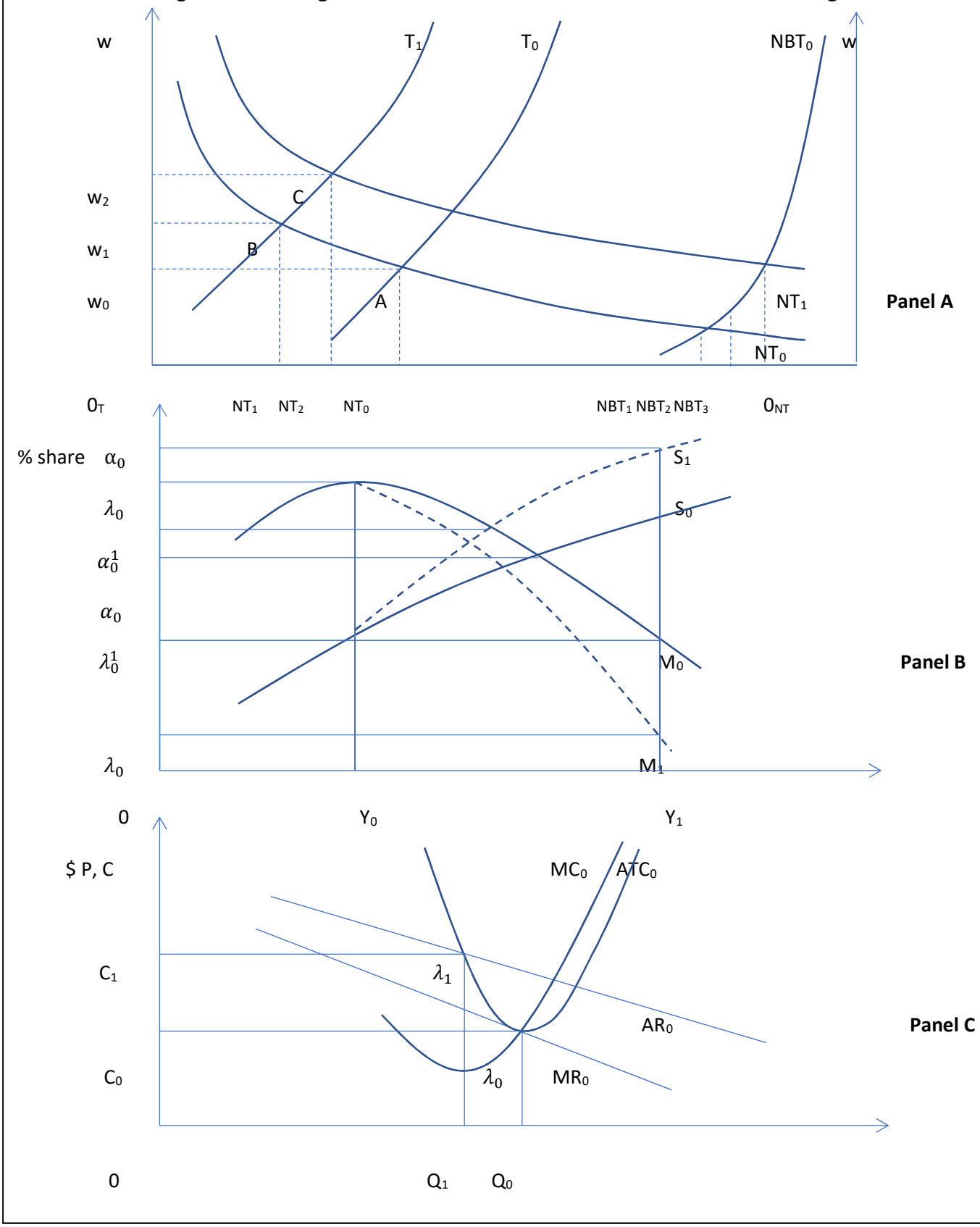
but as GDP per capita increases, the amount of income spent on manufactures decreases as consumption patterns shifts towards services (Engel's law). Škuflić and Družić (2016, pp. 992) defines deindustrialization as "*either an absolute or relative (to total employment) decrease of employment in industry, or as a decrease of the share of industry in GDP/ Value Added GDP*" (see also Rowthorn and Ramaswamy, 1997; Sachs, Shatz, Deardoff and Hall, 1994; Saeger, 1997). Seager (1997), using both pooled data and fixed effects, revealed that oil and gas production remain significant in influencing manufacturing employment, which captures the effect of the Dutch Disease.

An economic boom in the tradable sector for a primary export in an economy can lead to increased national income in the said sector but can also lead to contracting output and employment in the non-booming tradable sector of the economy (mainly agriculture and manufacturing). The discussion below builds on the work of Corden and Neary (1982)[1]. Assume we have a small open economy with a Tradable Sector (T) and a Non-traded sector (NT) where the former is a Hicksian composite traded good comprising of a Booming Tradable Sector (BT) and a Non-Booming Tradable sector (NBT). The BT sector is representative of the energy sector, with the NBT sector being representative of the manufacturing and export agricultural sectors.

The non-traded goods sector is representative of the services sector. The entire labour force is represented on 0_T0_{NT}. A boom in the tradable sector draws labour, from the non-booming tradable sector (NBT) and the non-traded sector (NT) to the tradable sector (T) which shifts from T_0 to T_1. Output and employment in the non-tradable sector (mainly services) contracts as the BT sector expands. The fall in employment in the NBT sector

[1]Other Seminal works on the Dutch Disease in Trinidad and Tobago were done by Gelb (1988), Hosein and Tewarie (2004), Moya, Mohammed and Sookram (2010) and Auty (2017).

Figure 1: Showing the Effect of The Dutch Disease on the Manufacturing Sector



(M_0-M_1) is known as direct deindustrialization. Service sector employment also decreases from NT_0 to NT_1, thereby creating a situation of excess demand, which pushes the wage rate higher to w_1.

The initial shifts in labour which take place on the assumption that income effects are held constant is called the resource movement effect. Given that income does increase, as a result of the expansion in the size of the booming sector, and assuming the propensity to import is less than unity, there would be an increase in consumption due to the spending effect. This would increase the wage rate in the economy if sterilization does not occur. The spending effect increases the demand for services (which shifts NT^0 to NT^1) and therefore expands the non-traded service sector and equilibrium is restored at point C (point C is drawn to the right of A, on the assumption that the income elasticity of demand for services, is more than unity).

Note that the spending effect results in yet higher wages and a further contraction in the size of the manufacturing sector. The resource movement and spending effects both impact negatively on the NBT sector. Overall it is clear that a boom in the traded sector causes the progression of the booming tradable sector and the contraction of the non-booming tradable sector, while simultaneously resulting in an expansion in the non-traded sector (services). In the second panel of the diagram, manufacturing output is drawn to follow the pattern indicated by Rowthorn and Ramaswammy (1997) i.e. it has an inverted U shape. This supports Engle's law which states that as income rises, the proportion of income spent on food decreases and additional income would be spent on manufactures and services. The supply of manufactured goods is initially on the humped shaped MA_0. Given that the demand for manufactures decreases in mature economies due to

deindustrialization, this results in a downward movement of this curve over time. This is further compounded by the fall in manufacturing employment in economies affected by the Dutch Disease, occurring simultaneously. MA_1 (the Dutch Disease manufacturing curve) is lower than MA_0 which occurs due to the loss of labour in manufacturing which in turn leaves the manufacturing sector with spare capacity (given that the economy is assumed to have full employment, we assume that the manufacturing sector has full capacity). Thus, with the resource movement and spending effect in combination, manufacturing share falls from λ_0 to λ_1 (read from Panel b above). The sectoral shift in the economy on account of the resource movement and spending effect sees the service sector activity proceed along S_1 instead of S_0 and the shares progress from α_0 to α_1.

If we assume that at λ_0 the manufacturing sector was operating at full capacity, then the manufacturing sector shrinks as it loses labour and other things constant, it is forced to operate with spare capacity, at income level Y_1. Note that $Y_1 > Y_0$ as commodity prices are higher than manufacturing prices thereby contributing to more national income.

The representative firm in the manufacturing sector, therefore, experiences a decline in output and its per unit costs rises from C_0 to C_1. In summary, with the Dutch Disease, the manufacturing sector loses workers, market share, faces higher wages and becomes less competitive externally.

In this regard, Rodrik notes that "*resource booms magnify the deindustrializing consequences that trade has on countries with comparative advantage in primary products* (Rodrik, 2015, pp.22)." The result for the Dutch Diseased country is a decline in manufacturing sector employment and output, as fewer investments are made into the manufacturing sector.

Konstantinova and Konarev (2015 pp. 358) define reindustrialization as "*as a process*

of an increase in the relative share of the industry in the structure of the Gross Domestic Product (GDP) through the establishment of new and the expansion of existing competitive industrial processes on the basis of smart specialization." Mayer (2004) notes that manufactured exports from developing countries have grown faster in developing countries as compared to developed countries. Manufacturing value added has also risen in developing countries and manufacturing exports have grown faster than manufacturing value added in developed countries. Additionally, Mayer (2004) further emphasizes that "*the patterns of manufactured exports from developed and developing countries have converged, contrary to the patterns of manufacturing value added*."

Guadagno (2012) suggests that manufacturing has been brought back into the spotlight due to the recent global financial crisis, the considerable expansion of the financial sector and the difficulties that developing countries face in order to become industrialized. Misrahi (2012) notes that modern manufacturing increases economic growth, technological shocks and skills in a country and emphasizes that "*it is the backbone of an industrialized society and still today can be a strategic advantage for countries worldwide*."

Martorano et al (2017) identify several benefits of industrialization. These benefits include economic growth and development, manufacturing has a productivity advantage as compared to other sectors, higher productivity levels and the ability to absorb a large portion of the labour force as compared to other sectors. Additionally, the manufacturing sector promotes savings, capital accumulation and investment opportunities. Furthermore, this sector benefits a great deal from economies of scale due to technological progress.

Su and Yao (2016) note that for middle-income economies, manufacturing pulls along services, instead of services pulling manufacturing along. There is a positive relationship between the manufacturing sector growth rate and the growth rate of services in the long

run and the short run. This reveals that "*an increase/decrease in the manufacturing growth rate will positively/ negatively affect the growth rate of other sectors."* Su and Yao (2016) also determined that asymmetric Granger Causality is present between the manufacturing and other sectors in middle income countries and revealed that if a country has fast growth in its manufacturing sector, its services sector and agricultural sector growth rates will also be higher. Furthermore, the development of the manufacturing sector promotes the incentives of savings and increases the pace of technological accumulation. The manufacturing sector has a higher demand for capital and investment, which provides special opportunities, for both capital and technological accumulation. For these middle-income countries, the utilization of human capital and institution enhanced in economies where a higher share of manufacturing is present.

Martorano et al (2017) ascertain that the manufacturing sector also provides spillover through linkages to other sectors in the economy. There is also increased economies of scope by engaging in industrialization which allows for more variety of goods to be produced that would be expected to lead to economic growth.

What Are the Effects of the Dutch Disease on the Manufacturing Sector as It Pertains to Trinidad And Tobago?

The World Integrated Trade Solutions[2] (2015) identifies the top five export partners of Trinidad and Tobago to be the United States, Argentina, Columbia, Peru and Chile. The top import country origins to Trinidad and Tobago are United States, Gabon, China, Colombia and the Russian Federation. Furthermore, the top five exported products from

[2] World Integrated Trade Solutions (WITS) is a software that gives access to international trade data and has built in analytical tools to use data from the database which is sourced from international partner and other organizations and makes data access and the ability to retrieve data easy.

Trinidad and Tobago does not include manufactured items but rather are liquefied natural gas (26.47%), anhydrous ammonia (15.34%), petroleum oils (11.72%), methanol (10.8%) and floating and submersible drilling and production (4.25%).

The data in Table 1, on the next page, indicates that oil prices increased from US$14.4 in 1998 to US$99.6 in 2008, before crashing to US$61.7 in 2009 and rebounding to an average of US$91.94 between 2010 and 2014. For the period 2015-2018 oil prices averaged US$47.60 representing a 48.22% decrease in the average oil price for the time period 2010-2014. The other key factor in determining oil prices are crude oil production trends which decreased almost continuously from 1991 to 2018, except for a small bleep upwards in 2005 and 2006. In the context of these trends in price and production, there was an increase in oil rents as a percentage of GDP from 4.6% in 1998 to 12.5% of GDP in 2006. Similarly, natural gas rents as a percentage of GDP increased from 1.3% in 1991 to 10.9% in 2013, although by 2017 it had collapsed to 4.5%. In the context of the rise in energy rents, manufacturing sector employment declined on account of the resource movement and spending effects, from 60,300 in 2004 to 49,100 in 2017.

Examining the period 1991-2008, Trinidad and Tobago's total exports has steadily increased from 2009 to 2015, exports decreased and have fluctuated upwards towards 2018. Manufactured exports have been on an upward trend with minor fluctuations until 2014, following which, it has significantly plummeted to 2018. Manufactured goods as a percentage of total exports have on average displayed a downward trend over the period 1998-2009 and then fluctuated over the period 2009 to 2015, and sharply decreased by 2018. Manufacturing Value Added as a percentage of GDP has also displayed a downward trend over the time period 1991-2018.

Table 1: Relationship between manufacturing employment and output, Oil and Natural Gas Prices and Production

Year	WTI annual Oil Price (US$/bbl)	Crude Oil Production (000 Barrels)	Oil Rents as a % of GDP	Manufactured Exports as a % of Total Exports	Manufactured Value Added as a % of GDP	Natural Gas Rents as a % of GDP	Employment in Manufacturing (000's)	Total Exports US$M	Total Manufactures US$M
1991	21.5	52,423.0	10.5	27.9	9.8	1.3	43.7	1959.6	546.0
1992	20.6	49,195.0	10.1	28.3	9.8	1.0	42.5	1834.8	518.9
1993	18.5	45,202.5	11.1	33.6	9.7	1.6	40.7	1662.1	558.2
1994	17.2	47,845.7	9.4	42.6	8.1	1.4	41.5	1954.3	831.6
1995	18.4	47,696.2	9.5	43.3	8.6	1.5	45	2467.0	1069.2
1996	22.1	47,171.1	11.5	38.7	7.3	1.8	45.4	2456.4	949.6
1997	20.6	45,190.1	9.5	41.6	8.2	2.1	47.6	2452.6	1019.5
1998	14.4	44,888.0	4.6	43.8	9.7	1.7	52.4	2263.8	992.0
1999	19.2	45,688.8	7.3	37.2	8.4	2.2	53.6	2805.7	1044.0
2000	30.3	43,593.0	11.1	28.8	7.3	3.6	55.6	4273.7	1232.0
2001	25.9	41,398.5	6.9	42.7	7.7	3.8	53.9	5115.4	2183.2
2002	26.1	47,684.6	7.8	33.1	8.3	3.9	56.6	3853.3	1277.3
2003	31.1	49,191.4	8.1	27.4	7.2	4.2	55.8	5118.0	1400.1

Year	WTI annual Oil Price (US$/bbl)	Crude Oil Production (000 Barrels)	Oil Rents as a % of GDP	Manufactured Exports as a % of Total Exports	Manufactured Value Added as a % of GDP	Natural Gas Rents as a % of GDP	Employment in Manufacturing (000's)	Total Exports US$M	Total Manufactures US$M
2005	56.4	52,715.3	12.4	26.2	5.5	5.4	56.6	9611.5	2518.6
2006	66.1	52,359.3	12.5	20.9	5.6	7.3	56.2	14018.7	2928.1
2007	72.3	44,261.6	9.3	28.5	5.5	7.0	55.4	13375.2	3811.0
2008	99.6	41,826.1	9.3	25.1	4.2	6.2	56	18629.9	4675.6
2009	61.7	38,966.0	6.3	15.3	6	10.0	53.1	8755.7	1336.8
2010	79.4	35,836.6	7.2	31.0	6.3	7.4	52.1	9991.8	3099.3
2011	95.1	33,550.3	9.0	37.6	5.8	9.6	50.2	14011.2	5271.2
2012	94.2	29,914.9	7.7	40.7	5.6	10.8	51	10798.2	4393.3
2013	97.9	29,617.	6.9	34.8	6.2	10.9	51.1	16454.4	5726.8
2014	93.1	29,659.3	6.1	37.0	5.5	7.7	50.4	13211.7	4894.7
2015	48.7	28,709.5	2.6	43.6	6.0	5.2	51.2	9441.4	4117.1
2016	43.2	26,164.0	1.9	18.1	5.9	3.0	48.3	8504.2	1535.3
2017	50.9	26,210.9	3.2	15.7	5.1	4.5	49.1	9509.6	1499.1
2018	64.8	23,175.6	NA	14.1	5.1	NA	NA	10754.3	1515.7

Source: Central Bank of Trinidad and Tobago, US Energy Information Administration, WDI Indicators, World Integrated Trade Solutions, Review of the Economy 2018, Author Calculations

It can be observed from Table 2, on the next page, that the manufacturing capacity utilization rate has hovered between 60% and 70% over the past ten years with an average of 67.31%. This would, therefore, infer that the manufacturing sector is operating with considerable spare capacity, consistent with what one would expect in a Dutch Diseased economy. Data on this measure is not available prior to 2009, but it is noted that the average capacity utilization rate of 67.31% coincides with a period of declining manufacturing employment.

Determine A Relevant Approach to Reindustrialization of the Manufacturing Sector in Trinidad and Tobago

In order to further probe and synthesize relevant areas in order to focus resources and to boost manufacturing in Trinidad and Tobago, dynamic results from the TradeCAN results were combined with RCA data for the period 2000-2015 for both the CARICOM and non-CARICOM markets. TradeCAN gives an import perspective on what is being demanded and imported globally. Therefore, there are occurrences where these products may not be currently produced in Trinidad and Tobago. Using RCA would give the areas in which the country has a "revealed" comparative advantage based on its exports. Combining results from dynamic (increasing demand and market share) areas in the international import market and the domestic export market can help to give an improved subset of export commodities, by which resources can be streamlined or towards which revenues can be channeled to propel the growth of the manufacturing sector in the country.

TradeCAN[3] is designed to analyze competitiveness in commodities and manufactured exports. The TradeCAN can be used to understand the market positioning for the country and reveal areas changes to market share and market structure.

[3] TradeCAN was created via a cooperative venture of the United Nations Economic Commission for Latin America and the Caribbean (UNECLAC) and the World Bank by Michael Mortimore, Wilson Peres, Andrew Stone and Manjula Luthria, under the supervision of R. Shyam Khemani.

Table 2: Manufacturing Capacity Utilization in Trinidad and Tobago 2009-2018		
Year	Quarter	Manufacturing Capacity Utilization Rate
2009	Q1	65.1
	Q2	64.8
	Q3	63.4
	Q4	66.8
2010	Q1	63.8
	Q2	68.2
	Q3	64.9
	Q4	67.6
2011	Q1	65.1
	Q2	69.1
	Q3	69.5
	Q4	67.1
2012	Q1	62.1
	Q2	64.7
	Q3	65.3
	Q4	64.1
2013	Q1	62.7
	Q2	67.5
	Q3	65.6
	Q4	68.3
2014	Q1	69.8
	Q2	70
	Q3	70.8
	Q4	72.8
2015	Q1	66.6
	Q2	71.6
	Q3	68
	Q4	68.5
2016	Q1	67.6
	Q2	68.6
	Q3	69.2
	Q4	69.5
2017	Q1	69.4
	Q2	65.5
	Q3	75.4
	Q4	68
2018	Q1	67.1
	Q2	66.6
	Q3	67.3
	Q4	64
2019	Q1	67.7
	Mean	67.30976
	Mode	65.1
	Standard Deviation	2.723234
Source: Central Bank of Trinidad and Tobago, Author Calculations		

The paper manually calculates the formulas in the TradeCAN methodology, as the original TradeCAN is a statistical software package. The Matrix of Market Positioning illustrates the various permutations of ways that a country is placed for growth in the world market. There are 4 possibilities. A rising star reflects export areas that are dynamic products, and which are gaining market share. A missed opportunity is reflective of areas that have lost market share in dynamic products. Declining stars are reflective of areas that are gaining market share in stagnant export areas. Retreat areas reflect decreasing market share for stagnant export areas.

Figure 2: TradeCAN Matrix of Market Positioning

Market Share Share of Exports Specialization		Stagnant Commodities / Sectors	Dynamic Commodities / Sectors
	+	Declining Stars	Rising Stars
	-	Retreats	Missed Opportunities
		-	+

Percentage of Imports

Comparative advantage is gained from trade as a result of increased productivity or technology. Balassa (1965) derived what is known as the Revealed Comparative Advantage (RCA) Index in order to determine if a country has a "revealed" comparative advantage.[4]

[4] $RCA_{ji} = \frac{X_{ji}/X_{jw}}{X_i/X_w}$

Where X = exports, i = Country Index, j = Commodity Index, n = Set of Countries and t = Set of commodities.

The disadvantages of the Balassa Index as examined by Sinanan and Hosein (2012) include its asymmetric property as there is no upper bound for revealed comparative advantage. Hinloopen and Marrewijk (2001) further categorized the Balassa (1965, 1989) index into four categories of no comparative advantage ($0 \leq$ Balassa Index < 1), weak comparative advantage ($1 \leq$ Balassa Index < 2), medium comparative advantage ($2 \leq$ Balassa Index < 4) and strong comparative advantage ($<$ 4 Balassa Index) in an effort to aid in the interpretation of the RCA index.

TradeCAN for the period 2000-2015	CARICOM countries Number of export areas		non-CARICOM Number of export areas		CARICOM countries Number of export areas		non-CARICOM Number of export areas		CARICOM countries Number of export areas		non-CARICOM Number of export areas	
	Market Share Approach				**Percentage of Exports Approach**				**Specialization**			
Declining Star	12	3.3%	3	.9%	12	3.3%		.0%	15	9.4%	1145	1.6%
Rising Star	22	8.2%	051	7.3%	35	8.9%	174	1.6%	99	7.1%	659	4.0%
Retreat	98	9.4%	589	6.4%	99	9.4%	646	8.3%	83	3.3%	431	5.7%
Missed Opportunity	40	9.2%	24	.4%	26	8.4%		.0%	53	0.2%	516	8.8%

Table 3: TradeCAN analysis for T&T exports to both CARICOM and non-CARICOM countries

RCA was combined with the TradeCAN analysis based on SITC Revision 3 five-digit data. Results indicate that for all three approaches, there have been a high number of export areas that have been classified as 'Retreat' in both CARICOM (on average of 37.38% using all three approaches) and non-CARICOM (on average of 43.47% using all three approaches) markets. This implies that most of the country's export areas have a declining market share in stagnant commodities with limited growth possibilities. Retreat areas imply that Trinidad and Tobago is losing market share, has a falling proportion of exports and decreased specialization in stagnant sectors, with limited growth prospects.

Trinidad and Tobago has a relatively high number of export areas that are Rising Stars in both CARICOM (18.05% using all three approaches) and non-CARICOM (34.29% using all three approaches) markets. Rising stars indicate that export areas have been increasing in areas that are dynamic globally and have positive growth possibilities. It is also noted from all three approaches that there are more rising star areas in the non-CARICOM market for T&T exports, as compared to the CARICOM market. This reveals that T&T's exports have been gaining market share, increasing its proportion of exports and increasing specialization

in export areas that are dynamic and have positive growth prospects, in the non-CARICOM market.

It is therefore favourable for Trinidad and Tobago to engage in promoting exports to both CARICOM and non-CARICOM countries in areas that have been identified as 'rising stars' in order to increase export earnings in these sectors. Streamlining resources into areas considered 'rising stars' means the Trinidad and Tobago would be capable of gaining market share in fast-growing products that are being imported by these countries and incorporating their production into the already existing E-Teck Parks. Given that the dynamic areas were identified under TradeCAN, this was combined with areas that have a "revealed" comparative advantage and are presented in Appendices A-D. Additionally, Sinanan and Hosein (2012) noted that there exists persistence in RCA over time in T&T. Streamlining resources into these areas would yield the desired return of increasing market share internationally.

Appendix A and Appendix B illustrate a list of Rising Star (RS) areas for the CARICOM and non-CARICOM markets respectively for T&T. RS areas have the capability of increasing export earnings in products that are gaining market share globally which in turn can positively contribute towards increasing GDP, foreign exchange and international competitiveness using 2015 RCA. Examples of RS areas to the CARICOM market in which T&T has a strong RCA include cereals, other than maize (corn), in grain form, precooked or otherwise prepared, flour, meal and powder of the products of any heading of fruit and nut (not including oil nuts) fresh or dried, spirits and distilled alcoholic beverages, n.e.s., manufactures of base metals ne.s. castors, other spices; mixtures of two or more of the products of different headings of spices, pineapples, other sauces and preparations; mixed condiments and mixed seasonings etc. Rising star areas in the non-CARICOM market include pure sugar, gin and geneva, ferrous waste and scrap; remelting scrap ingots of iron

and steel of other alloy steel, cobalt ores and concentrates etc.

Appendix C and Appendix D reveals a list of Missed Opportunities (MO) in the CARICOM and non-CARICOM markets respectively, which represent areas with potential that are dynamic globally, but the market share, proportion of exports and specialization has been falling in Trinidad and Tobago using 2015 RCA. Given that these are dynamic areas with potential, investments can be used to increase export earnings by streamlining resources in these areas. MO areas in CARICOM include sweet corn, prepared or preserved otherwise than by vinegar or acetic acid, sweet biscuits, waffles and wafers, gingerbread and the like, germ of cereals, whole, rolled, flaked or ground, other fish, fresh or chilled (excluding livers and roes) fish, fresh (alive or dead) or chilled (excluding fillets and minced fish, cream of a fat content, by weight, exceeding 6% milk (including skimmed milk) and cream, not concentrated or sweetened coffee, not roasted, not decaffeinated etc. As it concerns the non-CARICOM market, one missed opportunity with strong RCA was found to be Cereals other than maize (corn), in grain form, precooked or otherwise prepared.

Lessons for Guyana on Dutch Disease Deindustrialization on the Pending Oil Boom

Guyana's main export commodities include sugar, rice, shrimp, gold, bauxite, rum, timber and alumina. It's main markets, according to the International Trade Centre and Author calculations in 2018, for these exports, are Canada (26.9%), the United States (15.36%), Panama (10.93%), the United Arab Emirates (7.23%), Ukraine (5.25%), Jamaica (4%), Trinidad and Tobago (3.87%) and the United Kingdom (3.16%). The International Trade Centre (2018) noted that the top exports for the Guyanese economy consisted of natural or cultured pearls, precious or semi-precious stones, ores, slag and ash, cereals, fish and crustaceans, molluscs and other aquatic invertebrates, sugars and sugar confectionery,

beverages, spirits and vinegar, wood and articles of wood; wood charcoal, aircraft, spacecraft, and parts thereof and edible fruit and nuts; peel of citrus fruit or melons.

The International Trade Administration (2019) states that the agricultural sector is important to Guyana, as it provides one-third of the country's GDP and 30% of employment. The agricultural sector produces rice and sugar but has also flourished into agro-processing industries such as prepared food, molasses, jams and jellies, coconut milk, spices, pasta etc., which has expanded over time (International Trade Administration, 2019). Also important to the Guyanese economy is the export of seafood and the fisheries industry which include commodities such as prawns, shrimp, seabob shrimp and a variety of commercial finfish. It was noted by the International Trade Administration that a variety of opportunities exist in the production of both traditional agricultural products such as rice and sugar, and also in non-traditional agricultural sectors such as fresh fruits, fresh vegetables, plantains, roots and tubers, organic products, herbs and spices, livestock and dairy products, processed foods and also high-quality fish. These opportunities exist due to increased exports of these commodities to markets in the North American, European and Caribbean markets.

Examining Table 4 below, in 2012 the dominant employment sector in Guyana was agriculture, forestry and fishing, followed by the wholesale and retail trade sector. Construction and manufacturing also employ significant shares of the population, as does mining and quarrying and transport and storage. By the 4th quarter of 2017, the biggest growth areas in terms of employment shares were agriculture, forestry and fishing, wholesale and retail trade and public administration and defense. Employment in construction and manufacturing shrunk in 2017. Employment in Guyana in these sectors can further shrink on account of the Dutch Disease in future given the start of oil production in early 2020.

Table 4: Employment by ISIC Sectors in Guyana			
Economic sectors (ISIC rev 4)	2012 (A)	2017 (B)	(B-A)
A- Agriculture, forestry and fishing	17.5	18.9	1.4
G- Wholesale and retail trade	15.4	18.1	2.7
O- Public administration and defence	7.2	9.3	2.1
F- Construction	10.4	7.7	-2.7
C- Manufacturing	8.6	8.4	-0.2
H-Transportation and shortage	7.7	7.3	-0.4
P- Education	5.3	6.3	1
B- Mining and quarrying	8.2	4.2	-4
N- Administrative and support services	3.7	4.3	0.6
I- Accommodation and food service activities	2.8	4.4	1.6
Q- Human health and social work activities	2.7	1.2	-1.5
T- Activities of households as employers	2.3	2.8	0.5
S- Other service activities	2.7	2.6	-0.1
K- Financial and insurance activities	1.3	1.2	-0.1
Not classifiable by economic activity	0.3	0.0	-0.3
M- Professional, scientific, and technical services	1.0	0.97	-0.03
E- Water supply, sewerage, waste management.	0.5	1.24	0.74
J- Information and communication	1.0	0.84	-0.16
D- Electricity, gas, stream, and air con	1.0	0.82	-0.18
U- Activities of extraterritorial organizations	0.2	0.8	0.6
R- Arts, entertainment and recreation * (q3-2017 not statistically significant)	0.6	0.5	-0.1
L. Real estate activities * (q3-2017 not statistically significant)	0.1	0.04	-0.06
Source: Guyana Bureau of Statistics			

Guyana is also set to enter into the oil and gas industry in 2020 with production potentially reaching 750,000 barrels per day by 2025, which places Guyana in the top position of highest per capita oil-producing countries. The International Trade Administration (2019) noted that ExxonMobil announced their thirteenth oil discovery in the Stabroek Block which has increased the estimated oil reserves to over 5.5 billion barrels as of March 2019. Guyana's economy is also set to expand by 25.8% from 2019 to 2020 (Refer to Table 5). Guyana's growth rate projected for 2020-2024 are significantly higher than that of advanced

Economies, Emerging Economies and also the World in aggregate.

Table 5: Comparison of Real GDP Growth In Selected Countries					
Real GDP growth (Annual percent change)	Guyana	Trinidad and Tobago	Advanced economies	Emerging market and developing economies	World
2000	-1.3	6.9	4.1	5.8	4.8
2005	-1.9	5.9	2.8	7.2	4.9
2010	4.4	3.5	3.1	7.4	5.4
2015	3.1	1.9	2.3	4.3	3.4
2016	3.4	-6.5	1.7	4.6	3.4
2017	2.1	-2	2.4	4.8	3.8
2018	3.4	0.3	2.2	4.5	3.6
2019	3.8	0	1.8	4.4	3.3
2020p	29.6	1.5	1.7	4.8	3.6
2021p	23.6	2.3	1.7	4.9	3.6
2022p	13	2	1.6	4.8	3.6
2023p	29.7	1.6	1.6	4.9	3.6
2024p	17.9	1.7	1.6	4.9	3.7
Source: IMF (2019)					

Given massive oil finds off the coast of Guyana and the projection that Guyana is set to become the second-largest oil producer in South America and the largest per capita oil-producing country in the world in 2020 (Mills, 2018). This would increase the country's dependence on the energy sector for revenues and can lead to deindustrialization and shrinking of the agricultural sectors on account of the Dutch Disease in future. Guyana can possibly adopt an E-TecK Park like strategy based on a TradeCAN/RCA analysis which identifies areas that are feasible to dampen the effect of the Dutch Disease in the Guyanese economy.

Results indicate that for all three approaches, there have been a high number of export areas that have been classified as 'Retreat' in both CARICOM (on average of 39.68% using all three approaches) and non-CARICOM (on average of 45.01% using all three approaches) markets. This implies that most of the country's export areas have a declining market share in stagnant commodities with limited growth possibilities. Retreat areas imply that Guyana is

losing market share, has a falling proportion of exports and decreased specialization in stagnant sectors, with limited growth prospects.

TradeCAN for the period 2000-2015	CARICOM countries Number of export areas		non-CARICOM Number of export areas		CARICOM countries Number of export areas		non-CARICOM Number of export areas		CARICOM countries Number of export areas		non-CARICOM Number of export areas	
	Market Share Approach				**Percentage of Exports Approach**				**Specialization**			
Declining Star	126	24.5%	22	0.8%	124	24.1%	4	0.1%	131	25.8%	1025	39.7%
Rising Star	103	20.0%	975	35.5%	104	20.2%	1114	40.4%	101	19.9%	614	23.8%
Retreat	206	40.1%	1609	58.6%	209	40.6%	1637	59.4%	195	38.4%	442	17.1%
Missed Opportunity	79	15.4%	141	5.1%	78	15.1%	3	0.1%	81	15.9%	503	19.5%

Table 6: TradeCAN analysis for Guyana exports to both CARICOM and non-CARICOM countries

Guyana has a relatively high number of export areas that are Rising Stars in both CARICOM (20.4% using all three approaches) and non-CARICOM (33.22% using all three approaches) markets. Rising stars indicate that export areas have been increasing in areas that are dynamic globally and have positive growth possibilities. It is also noted from all three approaches that there are more rising star areas in the non-CARICOM market for Guyana's exports, as compared to the CARICOM market. This reveals that Guyana's exports have been gaining market share, increasing its proportion of exports and increasing specialization in export areas that are dynamic and have positive growth prospects, in the non-CARICOM market.

It is therefore favourable for Guyana to engage in promoting exports to both CARICOM and non-CARICOM countries, in areas that have been identified as 'rising stars,' in order to increase export earnings in these sectors. Streamlining resources into areas considered 'rising stars' means that Guyana would be capable of gaining market share in fast-growing products that are being imported by these countries and incorporating their production into the already

existing E-Teck Parks. Given that the dynamic areas were identified under TradeCAN, this was combined with areas that have a "revealed" comparative advantage and are presented in Appendices E-H.

Appendix E and Appendix F illustrate a list of Guyana's Rising Star (RS) areas for the CARICOM and non-CARICOM markets respectively. RS areas have the capability of increasing export earnings in products that are gaining market share globally which in turn can have a favourable balance to GDP, foreign exchange and international competitiveness using 2018 RCA. Examples of RS areas to the CARICOM market in which Guyana has a strong RCA include nutmeg, mace and cardamoms, crustaceans, prepared or preserved, n.e.s., Cigars, cheroots, cigarillos and cigarettes, of tobacco substitutes, ginger (excluding ginger preserved in sugar or conserved in syrup), pasta, cooked or stuffed; couscous, whether prepared or not, lemons and limes fresh or dried, melons (including watermelons) and papaws (papayas), fresh, refined oil and its fractions (fixed vegetable fats and oils), other fish, fresh or chilled (excluding livers and roes) and beet sugar molasses and other molasses (e.g., corn molasses). As it concerns the non-CARCOM, areas with a strong RCA that Guyana can capitalize on include other sands, cigars, cheroots, cigarillos and cigarettes, of tobacco substitutes, fruits or edible parts of plants, n.e.s., waste and scrap of tinned iron or steel, shingles and shakes (wood manufactures) and cork, natural, debacked or roughly squared, or in rectangular (including square) blocks, plates, sheets or strip (including sharp-edged blanks for corks and stoppers).

Appendix G and Appendix H reveal a list of Guyana's Missed Opportunities (MO), in the CARICOM and non-CARICOM markets respectively, which represent areas with potential that are dynamic globally, but the market share, proportion of exports and specialization have been falling in Guyana using 2018 RCA. MO areas in CARICOM include

other fresh fruit, other fish, frozen (excluding livers and roes), pineapples, fresh or dried and other crustaceans, frozen, including flours, meals and pellets of crustaceans, fit for human consumption. Guyana can focus on producing more of broken rice, bran, sharps and other residues, whether or not in the form of pellets, derived from the sifting, milling or another working of cereals or of leguminous plants of other cereals and coconuts in the non-CARICOM market.

Conclusion

It is evident that deindustrialization and the Dutch Disease have been occurring in Trinidad and Tobago. The effects of this is seen in declining manufacturing employment and manufacturing output, in addition to the existence of spare capacity in the manufacturing sector based on analysis of the manufacturing utilization rate during the natural gas boom period from 2000 to 2010. Furthermore, it is anticipated that favorable developments in the hydrocarbon sector can lead to prolonged effects of the Dutch Disease in Trinidad and Tobago which in turn negatively affects manufacturing.[5]

This paper used the TradeCAN and Revealed Comparative Advantage methodologies to identify areas of manufacturing sector competitiveness for the Trinidad and Tobago economy, on the basis that manufacturing can lead to economic growth. Combining results from dynamic (increasing demand and market share) TradeCAN areas in the international import market and the domestic export market, based on RCA, can help to give an improved subset

[5] New developments in the energy sector in Trinidad and Tobago are expected to come on stream. These would include increased drilling in oil and natural gas fields and new wells such as Angelin and Cannonball by BPTT, Starfish and Dolphin Field by Shell, Petrotrin on land drilling under Lease Operatorship, Farmount and Production Services and Primera Oil and Gas Limited. It is also anticipated that natural gas developments from Sercan, TROC and Juniper are to come on-stream. BHP is also engaging in deep water exploration activities. Natural gas agreements from Dragon gas NGC, Shell and PDVSA are also projected to come on stream in 2018. These developments in the hydrocarbon sector are also being supported by projected higher oil and gas prices which would further exacerbate the occurrence of the Dutch Disease if nothing is done to address the concerns of the shrinking manufacturing sector.

of export commodities by which resources can be streamlined or towards which revenues can be channeled to propel growth of the manufacturing sector in the country. This methodology revealed favorable export areas to both the CARICOM and non-CARICOM markets.

The rapid economic growth of the Guyanese economy is projected to occur as a result of the pending oil boom with growth in Guyana being as six times higher than emerging economies, twenty-nine times that of advanced economies and over nine times as much over average growth in the world. This is expected to lead to deindustrialization with a decline in the production of agriculture and manufacturing as well as a redistribution of jobs leading to a decline in both agriculture and manufacturing. The country thus runs the risk of being affected by the Dutch Disease. The paper, therefore, serves as lessons for the Guyanese economy in an attempt to provide areas that can simultaneously support the economy in non-energy areas using the combination of TradeCAN and RCA methodologies to both the CARICOM and non-CARICOM markets. Examples of rising star areas to the CARICOM market, in which Guyana has a strong RCA, where resources can be streamlined include nutmeg, mace and cardamoms, crustaceans, prepared or preserved, n.e.s., cigars, cheroots, cigarillos and cigarettes, of tobacco substitutes, Ginger (excluding ginger preserved in sugar or conserved in syrup), pasta, cooked or stuffed; couscous, whether or not prepared etc. As it concerns the non-CARCOM, rising star areas with a strong RCA that Guyana can capitalize on include other sands, cigars, cheroots, cigarillos and cigarettes, of tobacco substitutes, fruits or edible parts of plants, n.e.s., waste and scrap of tinned iron or steel, shingles and shakes (wood manufactures) etc. Production of these commodities can be streamlined using an E-Teck Park SEZ strategy for promoting manufacturing and dampening the occurrence of the Dutch Disease in Guyana in the future.

Appendix A

Appendix A representing 'Rising Star' Areas which current possess an RCA for T&T's export market to CARICOM countries			
RCA Category	RCA Score	SITC Rv-3 5 Digit Code	Description
Weak RCA	1.206746	84523	Women's or girls' garments made up of fabrics (not knitted or crocheted) of heading 657.32, 657.33 or 657.34
	1.668465	9843	Mustard flour and meal and prepared mustard
	1.69475	5613	Mushrooms, wood ears, jelly fungi and truffles
Medium RCA	2.141555	59818	Wood tar; wood tar oils; wood creosote; wood naphtha; vegetable pitch; brewers' pitch and similar preparations based on rosin, resin acids or on vegetable pitch
	2.46475	54139	Other antibiotics
	2.494349	64291	Bobbins, spools, cops and similar supports of paper pulp, paper or paperboard (whether or not perforated or hardened).
	2.882273	7513	Fruits of the genus Capsicum or of the genus Pimenta, dried or crushed or ground
	2.998655	89941	Umbrellas and sun umbrellas (including walking-stick umbrellas, garden umbrellas and similar umbrellas)
Strong RCA	4.574111	64215	Other packing containers, including record sleeves
	5.79221	5648	Flour, meal and powder of the products of any heading of Fruit and Nut (Not including Oil nuts) Fresh or Dried
	5.841094	11249	Spirits and distilled alcoholic beverages, n.e.s.
	5.911559	69914	Manufactures of Base Metals ne.s. Castors
	6.092648	61183	Patent leather and patent-laminated leather; metallized leather
	6.34382	77583	Electrothermic hairdressing or hand-drying apparatus
	8.300063	5897	Mixtures of fruits or other edible parts of plants, n.e.s.
	12.95113	64299	Other paper, paperboard, cellulose wadding or webs of cellulose fibres cut to size or shape; other articles of paper pulp, paper or paperboard, cellulose wadding or webs of cellulose fibres
	13.63929	9849	Other sauces and preparations therefor; mixed condiments and mixed seasonings
	14.26663	5893	Pineapples
	16.11679	89815	Other string musical instruments (e.g., guitars, violins, harps)
	34.56432	7529	Other spices; mixtures of two or more of the products of different headings of Spices
	38.52839	59774	Lubricating preparations containing oils or greases other than of petroleum or bituminous minerals
	41.7641	4812	Cereals other than maize (corn), in grain form, precooked or otherwise prepared

	47.73475	67643	Bars and rods of iron or steel, not further worked than coldformed or cold-finished of iron or non-alloy steel, not further worked than forged, hot-rolled, hot-drawn or hot extruded but including those twisted after rolling

Appendix B

Appendix B representing 'Rising Star' Areas which current possess an RCA for T&T's export market to Non-CARICOM countries			
RCA Category	RCA Score	SITC Rv-3 5 Digit Code	Description
Weak RCA	1.042969	9899	Pasta, cooked or stuffed; couscous, whether or not prepared
	1.258778	11101	Waters, including natural or artificial mineral waters and aerated waters, not containing added sugar or other sweetening matter nor flavoured; ice and snow
	1.380735	82116	Seats, n.e.s., with wooden frames
	1.434923	69129	Aluminium structures and parts of structures, n.e.s.; aluminium plates, fods, profiles, tubes and the like, prepared for use in structures
	1.92842	33541	Petroleum bitumen and other residues of petroleum oils or of oils obtained from bituminous mineral
Medium RCA	2.790274	64241	Cigarette paper, cut to size, whether or not in the form of booklets or tubes
	3.901776	51574	Heterocyclic compounds with nitrogen hetero-atom(s) only, containing an unfused pyridine ring, whether or not hydrogenated, in the structure.
	3.991344	8199	Preparations of a kind used for animal food, n.e.s.
Strong RCA	4.514529	52237	Silicon dioxide
	4.530889	51692	Sugars, pure (other than sucrose, lactose, maltose, glucose and fructose); sugar ethers and sugar esters, and their salts (other than products of subgroups 541.4 and 541.5 or heading 541.61)
	5.844197	11245	Gin and geneva
	24.18508	67247	Ingots and other primary forms of stainless steel
	28.81461	56214	Double salts and mixtures of calcium nitrate and ammonium nitrate
	54.36578	28229	Ferrous Waste and Scrap; Remelting Scrap Ingots of Iron and Steel of other alloy steel
	65.99592	28793	Cobalt ores and concentrates

Appendix C

Table 7A representing 'Missed Opportunity' Areas which current possess an RCA for T&T's export market to CARICOM countries			
RCA Category	RCA Score	ITC Rv-3 Digit Code	Description
Weak RCA	1.153656	4562	Spray-guns and similar appliances
	1.242548	459	Other vegetables, fresh or chilled
	1.574334	5215	Other pile and chenille fabrics, woven, of cotton (other than terry toweling or similar terry fabrics of headings 652.12 and 652.13 and subgroup 656.1)
	1.627557	4521	Dishwashing machines (other than household-type)
	1.888818	5839	Blankets and travelling-rugs (other than electric) of other materials
Medium RCA	2.030507	9227	Glues based on starches, or on dextrins or other modified starches
	2.66208	612	Bellies (streaky) and cuts thereof of Bacon, ham and other salted, dried or smoked meat of swine
	2.802007	4692	Other gloves, mittens and mitts
	3.116062	6339	Ceramic articles, n.e.s.
	3.936405	4293	Trays, dishes, plates, cups and the like, of paper or paperboard
Strong RCA	4.949655	7912	Line pipe of a kind used for oil or gas pipelines, of iron (other than cast iron) or steel
	5.211319	9721	Imitation Jewellery of base metal, whether or not plated with precious metal
	5.63682	815	Germ of cereals, whole, rolled, flaked or ground
	6.340041	811	Prepared foods obtained by the swelling or roasting of cereals or cereal products and from unroasted cereal flakes or from mixtures of unroasted and roasted cereal flakes or swelled cereals
	6.963052	111	Coffee, not roasted, not decaffeinated
	7.562703	849	Other Bread, pastry, cakes, biscuits and other bakers' wares, whether or not containing cocoa in any proportion; communion wafers, empty cachets of a kind suitable for pharmaceutical use, sealing wafers, rice-paper and similar products.

	7.735744	418	Other fish, fresh or chilled (excluding livers and roes) Fish, fresh (alive or dead) or chilled (excluding fillets and minced fish
	7.783457	456	Cucumbers and gherkins, fresh or chilled
	8.908701	842	Sweet biscuits, waffles and wafers, gingerbread and the like
	9.008604	677	Sweet corn prepared or preserved otherwise than by vinegar or acetic acid
	10.07111	891	Pasta, cooked or stuffed; couscous, whether or not prepared
	10.33887	844	Vinegar and substitutes for vinegar obtained from acetic acid
	10.84013	995	Juice of any other single fruit or vegetable
	11.0319	1211	Grape must in fermentation or with fermentation arrested otherwise than by the addition of alcohol.
	11.78125	213	Cream of a fat content, by weight, exceeding 6% Milk (including skimmed milk) and cream, not concentrated or sweetened
	17.27475	9919	Other mountings, fittings and similar articles; base metal hatracks, hat-pegs, brackets and similar fixtures; automatic door closer
	18.04815	8231	Copper bars, rods and profiles of copper alloys
	18.51841	9729	Imitation Jewellery of other non-precious materials

Appendix D

Appendix D representing 'Missed Opportunity' Areas which current possess an RCA for T&T's export market to Non-CARICOM countries			
RCA Category	RCA Score	SITC Rv-3 5 Digit Code	Description
Weak RCA	1.772767	528	Saffron
	1.97401	527	Ginger (excluding ginger preserved in sugar or conserved in syrup)
Medium RCA	3.710919	811	Prepared foods obtained by the swelling or roasting of cereals or cereal products and from unroasted cereal flakes or from mixtures of unroasted and roasted cereal flakes or swelled cereals
Strong RCA	4.777678	812	Cereals other than maize (corn), in grain form, precooked or otherwise prepared

Appendix E

Appendix E representing 'Rising Star' Areas which current possess an RCA for Guyana's export market to CARICOM countries			
RCA Category	RCA Score	SITC Rv-3 5 Digit Code	Description
Weak RCA	1.616733	7524	Cloves (whole fruit, cloves and stems)
	1.88875	9109	Other Margarine and Shortening
Medium RCA	2.717393	11101	Waters, including natural or artificial mineral waters and aerated waters, not containing added sugar or other sweetening matter nor flavoured; ice and snow.
	2.781963	6151	Cane molasses
	3.255212	7523	Cinnamon and cinnamon-tree flowers, crushed or ground
	3.8469	9101	Margarine (excluding liquid margarine)
Strong RCA	6.744851	7525	Nutmeg, mace and cardamoms
	7.715973	3721	Crustaceans, prepared or preserved, n.e.s.
	7.764842	12231	Cigars, cheroots, cigarillos and cigarettes, of tobacco substitutes
	12.71868	7527	Ginger (excluding ginger preserved in sugar or conserved in syrup)
	34.33468	9891	Pasta, cooked or stuffed; couscous, whether or not prepared
	43.7138	5721	Lemons and limes fresh or dried
	99.07715	5791	Melons (including water melons) and papaws (papayas), fresh
	113.262	42129	Refined oil and its fractions (Fixed Vegetable Fats and Oils)
	157.1122	3418	Other fish, fresh or chilled (excluding livers and roes)
	168.0408	6159	Beet sugar molasses and other molasses (e.g., corn molasses)

Appendix F

Appendix F representing 'Missed Opportunity' Areas which current possess an RCA for Guyana's export market to CARICOM countries			
RCA Category	RCA Score	SITC Rv-3 5 Digit Code	Description
Weak RCA	1.08343	11102	Waters (including mineral waters and aerated waters) containing added sugar or other sweetening matter or flavoured, and other non-alcoholic beverages, n.e.s.
	1.449924	54222	Medicaments containing other hormones or other products of subgroup 541.5, not put up in measured doses or in forms or packings for retail sale
	1.452104	83129	Other trunks, suitcases, vanity cases, executive cases, briefcases, school satchels and similar containers
	1.79948	84813	Belts and bandoliers
Medium RCA	3.184183	74317	Air compressors mounted on a wheeled chassis for towing
	3.411528	3423	Tunas, skipjack or stripe-bellied bonito, frozen (excluding livers and roes)
Strong RCA	8.380769	5798	Other fresh fruit
	23.81533	3428	Other fish, frozen (excluding livers and roes)
	75.81405	5795	Pineapples, fresh or dried
	82.48051	3619	Other crustaceans, frozen, including flours, meals and pellets of crustaceans, fit for human consumption.

Appendix G

Appendix G representing 'Rising Star' Areas which current possess an RCA for Guyana's export market to non-CARICOM countries			
RCA Category	RCA Score	SITC Rv-3 5 Digit Code	Description
Weak RCA	1.454559	3417	Mackerel (scombrids), fresh or chilled (excluding livers and roes)
Medium RCA	2.464172	59222	Caseinates and other casein derivatives; casein glues
	2.509969	9891	Pasta, cooked or stuffed; couscous, whether or not prepared
	2.928329	11249	Spirits and distilled alcoholic beverages, n.e.s.
	3.190328	28824	Lead waste and scrap
Strong RCA	6.054935	27339	Other sands
	7.596621	12231	Cigars, cheroots, cigarillos and cigarettes, of tobacco substitutes
	8.844328	5896	Fruits or edible parts of plants, n.e.s.
	16.62153	28231	Waste and scrap of tinned iron or steel
	114.4885	63533	Shingles and shakes (Wood Manufactures)
	187.4506	24402	Cork, natural, debacked or roughly squared, or in rectangular (including square) blocks, plates, sheets or strip (including sharp-edged blanks for corks and stoppers)

Appendix H

Appendix H representing 'Missed Opportunity' Areas which current possess an RCA for Guyana's export market to non- CARICOM countries			
RCA Category	RCA Score	SITC Rv-3 5 Digit Code	Description
Weak RCA	1.084151	7511	Pepper of the genus Piper, neither crushed nor ground
Medium RCA	2.761132	7529	Other spices; mixtures of two or more of the products of different headings of group 075
Strong RCA	13.20384	4232	Broken rice
	45.61129	8129	Bran, sharps and other residues, whether or not in the form of pellets, derived from the sifting, milling or other working of cereals or of leguminous plants of other cereals
	64.48524	5771	Coconuts