Entrepreneurship and Employment in the Caribbean Community

Entrepreneurship and Employment in the Caribbean Community:

Policies for Hydrocarbon-Rich Countries

By Don Charles

Cambridge Scholars Publishing



Entrepreneurship and Employment in the Caribbean Community: Policies for Hydrocarbon-Rich Countries

By Don Charles

This book first published 2023

Cambridge Scholars Publishing

Lady Stephenson Library, Newcastle upon Tyne, NE6 2PA, UK

British Library Cataloguing in Publication Data A catalogue record for this book is available from the British Library

Copyright © 2023 by Don Charles

All rights for this book reserved. No part of this book may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior permission of the copyright owner.

ISBN (10): 1-5275-0152-3 ISBN (13): 978-1-5275-0152-2

TABLE OF CONTENTS

Preface/ Abstract	vii
Chapter One	1
Introduction	
1.1 Background	1
1.1 Research Problem	
1.2 Objective	
1.3 Outline	
Chapter Two	6
Literature Review of Successful Cases of Education and Entreprene	urship
2.1 Nigeria	
2.2 Malaysia	
2.3 Singapore	9
2.4 Summary Insight	
Chapter Three	15
CARICOM Member States Labour Market Overview	
3.1 Labour Statistics of T&T	18
3.2 Labour Statistics of Guyana	20
3.3 Labour Statistics of Suriname	
3.4 Shifting Employment	
3.5 Summary Insight	
Chapter Four	27
Understanding Unemployment and Underemployment	
4.1 Macroeconomic Shocks and Economy-Wide Problems	
4.2 Lack of Experience of Young Workers and the Flawed Educ	
System	
4.3 Excess Supply of Skilled Labour	
4.4 Inefficiency in Public Sector Hiring	
4.5 Inefficiency in the On-the-Job Training Programme	
4.6 Summary Insight	

Chapter Five	46
Stakeholders and Required Institutional Framework for Employment	
Creation	
5.1 The Government	46
5.2 Public Institutions	49
5.3 The Private Sector	52
5.4 Other Non-Government Actors	55
5.5 Implementation and Coordination Project Steering Committee .	
5.6 Summary Insight	
Chapter Six	62
Identifying Potential Sectors for Employment Creation	
6.1 Export of Education	64
6.2 Creative Industries	67
6.3 Technical Vocational Services	69
6.4 Niche Industries	71
6.5 Export Professional Services	73
6.6 Summary Insight	
Chapter Seven	79
Policy Recommendations to Encourage Entrepreneurship	
7.1 Entrepreneurship and Business Incubation	79
7.2 Career Guidance and Entrepreneurship Education	87
7.3 E-commerce	90
7.4 Summary Insight	94
Chapter Eight	96
General Conclusion	
References	101
Appendix	111
A.0 Econometric (Empirical) Analysis of the Statistical impact of	
Services Upon Economic Output	
A.1 Data	
A.2 Methodology: Pretesting	
A.3 Methodology: Regression	
A.4 Methodology: Diagnostic Testing	115
A.5 Results	116

PREFACE/ABSTRACT

Trinidad and Tobago (T&T), Guyana, and Suriname, are Caribbean Community (CARICOM) Member States that are fortunate to be endowed with commercial reserves of hydrocarbons. Hydrocarbon revenues acquired by the respective governments can be used to fund the cost of several merit goods, amongst which the most commendable is the expenditure on education.

Without a doubt, the subsidisation of tertiary education carries tremendous public benefits, the most notable are income improvement, and poverty reduction. However, at the end of the education programme, graduates will be looking for work. If a nationwide education programme is not complemented with a supporting employment creation programme a situation can arise where sufficient employment opportunities are not created for all the people. Furthermore, it is unrealistic to expect a government that is seeking to build the competitiveness of its nation to employ all its citizens.

This study's objectives are threefold. The first is to examine the labour market in the hydrocarbon-rich CARICOM Member States. The second is the review of successful case studies of entrepreneurship in countries similar circumstances to the Caribbean. The third is to provide policy recommendations to address this employment problem in the hydrocarbonrich CARICOM Member States.

An analysis of the education and the labour market in the hydrocarbon-rich CARICOM Member States reveals several deficiencies. The education system in the countries were largely influenced by their colonial heritage. A large focus is placed on academics rather than what the labour market needs. This system produces several graduates with skills that have a weak demand. This in turn results in several graduates being required to be retrained to work in a job, as well as an excess supply of skilled labour. Employers are justified in asking for workers to acquire "work experience" as this seems to be the more appropriate way to procure workers with useful skills. Definitely, an education system that encourages people to train for over 15 years, but produces graduates that are still unprepared to work, is flawed. Indeed, there is an urgent need for education reform to ensure that

young people develop the skills and competencies needed by the labour market.

The much desired policy recommendation is the promotion of entrepreneurship in the hydrocarbon-rich CARICOM Member States. While this can produce sustainable income for people, the countries' present culture does not promote entrepreneurship as a first choice. People are socialised to go to school, obtain passes, then look for a job rather than becoming an entrepreneur. Moreover, many citizens of the hydrocarbon-rich Member States are faced with obstacles that prevent them from becoming successful entrepreneurs on their own.

Policy efforts by the government would be required to break this culture and to create the correct enabling environment for entrepreneurship. The ideal entrepreneurship policy would consist of a comprehensive and holistic business incubation programme, which integrates business mentoring, with educational training, with start-up financing, and e-commerce. These are the factors that are mandatory for small and medium-scale entrepreneurs to achieve success. Once implemented properly, this can stimulate widespread entrepreneurship in the hydrocarbon-rich CARICOM Member States, and set the countries on the path to achieving sustainable inclusive growth.

CHAPTER ONE

INTRODUCTION

1.1 Background

In the Caribbean Community (CARICOM), 3 countries are known to possess commercial reserves of hydrocarbons. They include Trinidad and Tobago (T&T), Guyana, and Suriname. T&T has the oldest oil industry, which spans over a century (Boopsingh and McGuire 2014). Commercial reserves of oil were discovered in Guyana in 2015 by Exxon Mobil, and from 2020 the export of oil commenced from the country (Thomas 2020). In 1928 oil was first discovered in Suriname in the District of Nickerie, which is close to the border with Guyana (Griffith and Bihariesingh-Raghoenath 2016).

As T&T has the longest oil industry, it had the most time to spend its oil rents. These oil rents have been used to fund many public and merit goods, including infrastructure development, such as roads, schools, and hospitals; subsidise electricity costs, health care, public transportation, water utilities; and expand the social safety net through welfare programmes. The Government of the Republic of Trinidad and Tobago (GORTT) also used its oil rents to subsidise the cost of tertiary education. While the public expenditure on all the aforementioned public and merit goods brings some public benefit to society, the expenditure on tertiary education can be singled out as it has the potential to develop the capacity and productivity of labour.

The initial tertiary education subsidisation programme was titled "Dollar for Dollar" and it saw the GORTT cover 50% of the cost of tuition for tertiary education programmes for citizens of T&T pursuing this education in the country. The Cabinet of the GORTT agreed by Minute No. 229 dated January 22, 2004, to the establishment of the Government Assistance for Tuition Expenses (GATE) Programme (Hosein and Franklin 2010).

Chapter One

At its inception, GATE was a mere renaming of the Dollar for Dollar programme as it offered the subsidisation of 50% of the cost of tuition for tertiary education. Students that took a means test were subsidised with 100% of the cost of tuition. There were no official criteria for the means test, however, the objective of the means test was to provide an avenue for full funding of the cost of tuition for students from low-income households. On September 28, 2005, through the 2005-2006 budget, the GORTT made a historic announcement.

"Mr. Speaker, that with effect from January 1, 2006, all nationals of Trinidad and Tobago enrolled at public tertiary institutions, namely UWI, UTT, COSTAATT and other institutions where the Government sponsors students, will be eligible for free tuition, that is free public tertiary education" (GORTT 2005, 15).

This simple announcement had vast and profound implications. Full subsidisation of tertiary education effectively made tertiary education accessible to all citizens of T&T. In fact, it was more than just an increase in access to education. There was market penetration, as a large number of citizens of T&T began to pursue tertiary education. This can be demonstrated by the increase in T&T's tertiary participation rate from 6.06% in 2000 (World Bank 2020), to 65.23% by 2015 (Simms et al. 2016).

Although there were problems with the administration of GATE, the programme is an effective tool in creating opportunities for people. However, at the end of an educational programme, people expect to go to work to earn an income. It is also a reasonable expectation for the citizens of T&T that benefited from the GATE programme to pursue employment opportunities in T&T.

Every year, thousands of citizens of T&T graduate from tertiary educational programmes operating in the country. For example, in 2019, the University of the West Indies (UWI) reported that approximately 4,000 degrees were awarded from the St. Augustine Campus (UWI 2019). UWI is only one of the many tertiary education intuitions in T&T. Other notable national intuitions include the University of Trinidad and Tobago (UTT), the College of Science, Technology and Applied Arts of Trinidad and Tobago (COSTATT), and the Cipriani College of Labour and Cooperative Studies. There are also multiple private tertiary educational institutions operating in the country which produce thousands of graduates. As the GATE programme was gradually expanded to include post-secondary education, every year several students graduate from the National Energy Skills Centre (NESC) and other technical vocational programmes with technical vocational

skills. The number of these combined graduates can easily be approximately 10,000 people (Paul 2019).

Unfortunately, in T&T, 10,000 new jobs are not created every year. Although the government plays a lead role in employment creation either directly or indirectly, the government cannot provide a job for every single graduate. Even if in one given year, a government can provide jobs for all the graduates, the government will never be able to provide jobs for all graduates every year.

Although by the end of 2021 the Governments of Guyana and Suriname did not have a similar tertiary education programme in operation, it can be reasonable to expect them to pursue similar human capacity development after they enter their hydrocarbon boom and earn large oil rents. This is logical given that the tertiary enrolment in Guyana is 11.62%, and Suriname is 10.5%, and the windfall rents would be more than sufficient to subsidise tertiary education costs.

If Guyana and Suriname follow with similar tertiary education subsidisation, they could experience the same problem of excess supply of tertiary labour. This can result in unemployment, and underemployment.

An alternative option would be to look at the private sector in the respective hydrocarbon-rich CARICOM countries to create jobs. Unfortunately, the private sector is not in business to create employment opportunities. They are in business to earn a profit. The private sector will only hire labour if it allows them to produce output to help them earn their profit. But once the private sector operates on traditional microeconomic rules (equating the marginal cost (of labour) to marginal revenue), some people will be left behind.¹

1.1 Research Problem

In T&T, every year thousands (approximately 10,000) of graduates are exiting tertiary educational institutions. However, 10,000 new jobs are not being created every year. In 2018 the total number of unemployed people was 24.9 thousand, and the unemployment rate was 3.9%. But due to a low

¹ Goal 8 of the Sustainable Development Goals (SDGs) is themed "Decent Work and Economic Growth". The goal seeks to encourage economic growth while envisaging full employment and decent work. Moreover, as the SDGs promote sustainability, they do not recommend that anyone is left behind.

labour force participation rate of 59.1%, 438.6 thousand willing able-bodied people of working age did not have work.

Likewise, in Guyana in 2017, the working-age population was 550,831 persons and the labour force participation rate was 56%, indicating that 242 thousand people were out of work. In Suriname, approximately 66,433 people, or 21.5% of the working-age population were without work in 2005.

Therefore, there is a need for a programme that can facilitate incomeearning opportunities for the people without work in the hydrocarbon-rich CARICOM Member States.

1.2 Objective

The hydrocarbon-rich CARICOM Member States are faced with a problem where sufficient decent work is not being generated for its noninstitutionalised working-age population. This study's objectives are threefold. The first is to examine the labour market in the hydrocarbon-rich CARICOM Member States. The second is to review successful case studies of entrepreneurship in countries similar circumstances to the Caribbean. The third is to provide policy recommendations to address this employment problem in the hydrocarbon-rich CARICOM Member States.

Solutions to this labour market problem extend beyond a single actor. This study also seeks to highlight the need for a much stronger and clearer vision of the national decision-makers in enhancing the institutional framework and strengthening partnerships to adequately connect the hydrocarbon-rich CARICOM Member States' education industry with its labour market.

1.3 Outline

This study is structured as follows. Chapter Two synthesizes the literature on various approaches to entrepreneurship in other countries similar circumstances to the Caribbean. Chapter Three provides an overview of the economy of the hydrocarbon-rich CARICOM Member States, as well as their labour markets. Chapter Four analyses the labour market problem. Chapter Five identifies the main stakeholders that would be responsible for triggering an employment transformation in each respective hydrocarbonrich CARICOM Member State. Chapter Six highlights the sectors which can be targeted for employment creation by the respective governments. Chapter Seven explores the policy recommendations to stimulate an appropriate environment to generate employment in the hydrocarbon-rich Entrepreneurship and Employment in the Caribbean Community: 5 Policies for Hydrocarbon-Rich Countries

CARICOM Member States. Chapter Eight provides a general conclusion to this study.

CHAPTER TWO

LITERATURE REVIEW OF SUCCESSFUL CASES OF EDUCATION AND ENTREPRENEURSHIP

The root words of entrepreneurship are 'entreprende' and 'unternhmen', which mean to do something different (Cunningham and Lischeron 1991). Entrepreneurship in its earliest form can be traced to activities involving trade, the discovery of trade routes, and the desire to make a profit by the merchant class. Although early trade was characterised mainly by barter, people quickly learned that through the specialisation in a few select areas while trading the surplus output would allow all parties to experience the gains of trade. Specialisation and trade eventually gave rise to opportunities to increase individuals' prosperity. Eventually, as institutions were developed and as the monetary system replaced the barter system, entrepreneurship emerged as an avenue to grow wealth for the merchants, and the economic fortune of countries (Joseph and Nkuda 2021).

There is no one universally accepted definition of entrepreneurship or an entrepreneur. For instance, Schumpeter (1911) defined an entrepreneur as an individual who introduces new products and new services. Entrepreneurship in the Schumpeterian context required creative destruction, and the creation of a new product or service. This definition of an entrepreneur and entrepreneurship is aligned with innovation and invention. It requires the discovery of something new, which is later turned into a business opportunity.

Other authors held a more open perspective of entrepreneurship. For example, Stevenson (1983) defines entrepreneurship as the pursuit of opportunity without regard to resources currently controlled. Akinbode (2009) defines the entrepreneur as the man who perceives business opportunities and takes advantage of the scarce resources to use them profitably. While Thompson (1999) asserts that an entrepreneur is someone who can identify unexploited business opportunities.

The aforementioned definitions recognise that there may be a demand for a good or service in an economy and a business opportunity can arise if the entrepreneur finds a way to meet the demand with their supply. This

entrepreneurship can be beneficial for countries as it provides an avenue for people to generate their income and sustain themselves. Therefore, for this study, entrepreneurship is referred to as the development of new business opportunities to make a profit. Likewise, an entrepreneur would be defined as the individual that engages in entrepreneurship.

Several countries grappling with unemployment have used entrepreneurship as a solution. The following subsections review the experience of selective countries, namely Nigeria, Malaysia, and Singapore.

2.1 Nigeria

In the 2000s in Nigeria, the Federal Government adopted small and medium-scale entrepreneurs (SMEs) as the building block of the country's economy. Unfortunately, the large volume of unemployed youth and ablebodied adults did not have the requisite skills for entrepreneurship. This prompted the Yaraduah administration to include entrepreneurship and wealth creation as the number three item of its Seven-Point Agenda. Education was identified as the vehicle to promote entrepreneurship, subsequently, the government directed the National Universities Commission (NUC) to commence with entrepreneurship education. This resulted in all tertiary education institutions in Nigeria including a compulsory entrepreneurship course as part of the curriculum for all programs from the 2007/2008 academic year (Nwekeaku 2013).

The policy direction of mandatory entrepreneurship training was needed in Nigeria, especially since the country's education system, which was inherited from its colonial era, was geared towards maintaining administrative control. Emphasis was placed on rote learning, and producing personnel with administrative skills, and teachers.² This was a contrast to the creativity and innovations, and the willingness to explore new business ventures, which are the key tenants behind the growth of many advanced economies (Nwekeaku 2013).

Nigeria's mandatory entrepreneurship training was met with several obstacles. First, the country's universities lack sufficient manpower for effective teaching and learning of entrepreneurship education in the country. As the available stock of teachers does not have the skills to cope with the

² Ironically, European countries have long abandoned their old education systems, and emphasis in the tertiary institutions is placed on developing more knowledge, and building the innovative and creative skills of students (Nwekeaku 2013).

challenges of the new curriculum. Since an individual cannot give what they do not possess, then lecturing by the existing stock of lecturers may not provide the desired results (Tope et al. 2014).

Second, the government's mandatory entrepreneurship training appeared as an adhoc directive without sufficient planning and preparation. Nwekeaku (2013) notes that a pilot study should have been implemented before making any national commitment.

Third, no special funding was made available to achieve the government's objective. Obeleagu-Nzelibe and Moruku (2010) note that Nigeria's universities are in urgent need of funding to train the lecturers, purchase infrastructure and make the necessary preparations to properly implement the mandatory entrepreneurship mandate.

2.2 Malaysia

In Malaysia's Malaysia Vision 2020 plan, the government indicated its goal of transforming the country into a knowledge-based economy by the year 2020. It envisioned that education would be a key tool in stimulating entrepreneurship and economic growth. Subsequently, the government made entrepreneurship subjects mandatory for all students at its country's public universities. It hoped that this policy directive would result in fewer unemployed graduates and an increase in business and entrepreneurship activity (Loh Rahim et al. 2015).

However, entrepreneurship education in Malaysia has earlier roots. In fact, in 1982, the Institut Teknologi MARA (ITM) introduced a compulsory cocurriculum called Kembara Usahawan (KEMUSA) which taught entrepreneurship education for students. Later in 1988, ITM introduced a mandatory subject called Fundamentals of Entrepreneurship (ETR300) for all diploma students.

Apart from the mandatory entrepreneurship education courses, the Government of Malaysia also launched several policies to encourage entrepreneurship. This is evidenced by:

- i) The Malaysia Education Blueprint 2015–2025, aspired for the graduates to be equipped with the necessary leadership, knowledge, and thinking skills to thrive in business.
- ii) The Entrepreneurship Action Plan 2016–2020, sought to 1) integrate elements of entrepreneurship across the curriculum, 2) create a job

8

Literature Review of Successful Cases of Education and Entrepreneurship

creator framework, 3) improve the entrepreneurship ecosystem for graduates, and 4) strengthen the competencies of entrepreneurship lecturers (Nawawi et al. 2020).

Malaysian entrepreneurs have access to various financial instruments for their business endeavors, including business loans, venture capital, grants, and micro finance. In 2015, the Government of Malaysia passed legislation for the support of crowdfunding (Loh Rahim et al. 2015).

Despite the existence of the entrepreneurship education co-circumlum and the implementation of government policies, unemployment among university graduates persists. The Central Bank of Malaysia in March 2019 annual report notes that as of 2018, 173,457 diploma and degree holders penetrated Malaysia's job market, but only 98,514 high-skilled jobs were available (CBM 2019).

Several challenges hinder the greater adoption of entrepreneurship by university graduates in Malaysia. The main reasons include:

- Students continue to focus on grades rather than developing the acumen for business. Subsequently, many graduates are still reluctant to take risks and venture into business despite undergoing entrepreneurship training.
- The bureaucracy involved in obtaining loans is a deterrent to many graduates. Additionally, many graduates are not cognizant of all the financing options available, including microfinancing.
- Some lecturers were not given proper entrepreneurship training and lacked experience in business and entrepreneurship. Subsequently, they only teach business theories to the students but do not create the practical learning environment to help produce greater volumes of graduate entrepreneurs.

Nevertheless, the steps taken by the Government of Malaysia are creating an enabling environment for entrepreneurship, and may require more time to produce better results.

2.3 Singapore

Singapore, a small island city-state of approximately 728 km² in the Pacific, was under British colonial rule for over a century. After the British failed to protect Singapore from Japanese invasion during World War II, it led to strong anti-colonial sentiments within the country. Eventually, in 1963,

Singapore joined with Malaysia to secede from British rule. The subsequent state was called the Federation of Malaysia (Zhou 2019).

But the problems of Singapore did not end through the formation of the Federation of Malaysia. There was social conflict between the Singaporean and Malaysian populations. Eventually, the Malaysian parliament annexed Singapore from the Federation of Malaysia in 1965, resulting in Singapore's independence (Zhou 2019).

In the initial years after gaining independence, a large proportion of Singapore's labour force was unemployed. Furthermore, there was poor sanitation, a lack of proper public infrastructure, and inadequate water supply. Given that the country lacked mineral natural resources, the economic outlook appeared even more dismal (Blomqvist 2000; Zhou 2019). This prompted the Lee Kuan Yew administration to embark on a labour-intensive industrialization programme. Moreover, the Lee Kuan Yew administration networked with the developed world and convinced several multinational corporations to manufacture in Singapore (Zhou 2019).

To attract foreign investors, the government created an enabling environment that was safe, corruption-free, and charged low taxes. This was facilitated through the implementation of draconian³, but business-friendly laws. Unsurprisingly, these policies were highly favoured by investors, and resulted in an influx of foreign direct investment (FDI) in Singapore, and prompted double-digit economic growth within the 1970s.

The policy direction of the Government of Singapore during the 1980s was focused on building human resource capacity to exploit new technologies (Nawaz and Koc 2020). The country also established several technical schools to train people in various technological and technical vocational areas. The co-curriculum of the educational institutes was periodically reviewed and updated to ensure that graduates are produced with the skills required for the targeted industries. Moreover, collaborations were developed with international corporations to facilitate the practical training of graduates in areas such as information, communication and technology (ICT), biotech research, pharmaceuticals, electrical engineering and electronics, and chemical engineering (Ng 2015; Zhou 2019). Graduates

10

³ Some of the laws were draconian. For example, individuals that protested and threatened the authority of the government were quickly jailed without much due process. Nevertheless, these laws were effective in maintaining stability in the country.

that were unable to secure the high-end technology internships were enrolled in labour-intensive services such as tourism and transportation (Zhou 2019).

Singapore implemented several supporting initiatives to encourage research, innovation, and entrepreneurship. The support programmes include:

- Tax allowances and deductions
 - Reducing the corporate tax rate from 40% to 33% in 1986. Then to 17% in 2010.
 - In 1980, the government introduced the Research and Development Tax Allowance Scheme (RDTAS). This instituted a tax deduction for research.
 - The expansion of the RDAS in 1990 from only the manufacturing sector to include the services sector.
 - The revision of the RDAS in 2008 to form the Research and Development Tax Allowance Scheme (RDTAS) and Research and Development Incentive Scheme for Start-up Enterprise (RISE). The RDTAS and the RISE allowed a 100% tax deduction for all qualifying research expenditures inside of Singapore, and by citizens outside of Singapore.
 - In 2010, the government replaced RDTAS and RISE with the Productivity and Innovation Credit (PIC) programme which allowed for an additional 300% tax deduction on research up to 400,000 Singapore Dollar (SGD).
 - In 2014 the government introduced the "enhanced tax deduction for research and development" and the "super deduction for research and development". These additional allowances apply to projects that did not receive the PIC allowance. The projects must be approved by Singapore's Economic Development Board (EDB) and may receive 50% to 100% tax deduction.
- Technology transfer
 - In 1992, the National University of Singapore (NUS) launched the NUS Industry Liaison to facilitate technology transfer in Singapore.
- Research institutions
 - In 1991, the government formed the National Science and Technology Board (NSTB), and the Research and Development Assistance Scheme (RDAS). The organisation's objective was to facilitate collaborations among researchers inside and outside of Singapore.

Chapter Two

- In 2001, the NSTB was restructured as the Agency for Science, Technology and Research (ASTAR).
- ASTAR and its two sub-divisions, namely the Biomedical Research Council (BMRC) and the Science and Engineering Research Council (SERC) provide oversight for research institutions in Singapore in the areas of biotechnology, medical technology, pharmacy, communications, chemicals, computational sciences, and manufacturing.
- In 2006, the Campus for Research Excellence and Technological Enterprise (CREATE) was developed with the mandate of facilitating collaborations in research between institutions inside and outside of Singapore in the following areas: human systems, energy systems, environmental systems, and urban systems.
- In 2007, the Research Centre of Excellence (RCE) was created to help strengthen research in the universities in Singapore in the following areas: earth science, quantum technology, cancer science, mechanobiology, and environmental life science.
- In 2007, Centre of Innovation (COI) was operationalized with the mandate of encouraging partnerships between research institutions and industries, to produce research that will assist SMEs to upgrade their technological and innovative capacity.
- Science parks
 - In 1980, the government developed the first science park in Singapore.
 - In 1993, the government developed the second science park in Singapore.
- Innovation clusters
 - In 2003, the government created Biopolis, a biomedical research and technology cluster.
 - In 2008, the government created Fushionopolis, an ICT, physical sciences, and engineering cluster.
 - In 2020, the government launched Mediapolis, an ICT and media industry cluster. The innovation clusters also act as business incubators.
- Public-private partnerships
 - In 2002, the Nanyang Technological University (NTU) introduced its Technopreneurship and Innovation Program.

- In 2009, the government commissioned the Research, Innovation, and Enterprise (RIE) to encourage public-private partnership programmes.⁴
- Intellectual property protection
 - There are laws in Singapore which protect intellectual property. They include the Patents Act, the Copyright Act, and the Trademark Act (Nawaz and Koc 2020).
- Immigration of labour
 - When Singapore became independent in 1965, it no longer allowed the free migration of people between Singapore and Malaysia. The migration policy shift as well as low fertility rates would have resulted in a significant decline in Singapore's labour force. Subsequently, Singapore allowed the entry of migrants, mainly from Canada, Europe, and the United States.
 - Migrant workers in Singapore are categorised into foreign talent and foreign workers. Foreign talent refers to university-qualified professionals. Foreign workers refer to foreign workers without a university degree.

This technological innovation model allowed Singapore to transition from an economy that was primarily engaged in the production and export of textiles, garments, and basic electronics in the 1970s to an economy participating in solar photovoltaic wafer production, logistics, biotech research, pharmaceuticals, integrated circuit design, and aerospace engineering in the 1990s (Zhou 2019; Nawaz and Koc 2020).

2.4 Summary Insight

A review of the experiences of Nigeria and Malaysia suggests that the education system can be adjusted to produce graduate entrepreneurs. However, entrepreneurship education programmes alone are not enough. The experience of Singapore reveals that a small developing country can develop an appropriate enabling environment for entrepreneurship by looking outwards for foreign capital and talent. However, government

⁴ The projects implemented by RIE during its operation include: Technopreneurship21, Growing Enterprises with Technology Upgrade (Get-up), Corporate Laboratory Initiatives, National Innovation Challenge (NIC), Thematic R&D, Test Bedding and Demonstration of Innovation Research, ASTAR Collaborative Commerce Marketplace (ACCM), Collaborative Industry Projects (CIP), Partnerships for Capability Transformation (PACT), Technology Adoption Program (TAP), and Start-up/Gap Funds (Nawaz and Koc 2020).

policy would be key in triggering the technology and skills transfer. Additionally, due to the small size of the domestic market, entrepreneurs should consider developing goods and services for international markets from the start.

The next chapter reviews the labour market characteristics of the 3 selective hydrocarbon-rich CARICOM Member States. This assessment will provide insight into the labour market constraints faced by the respective countries.

CHAPTER THREE

CARICOM MEMBER STATES LABOUR MARKET OVERVIEW

The CARICOM Member States is a customs union in the Caribbean consisting mainly of English-speaking countries. It was established by the Treaty of Chaguaramas, which was initially signed by Barbados, Jamaica, Guyana, and T&T on 4 July 1973, but came into effect on August 1, 1973. This regional integration was the culmination of a 15-years of negotiation to fulfil the aspirations of regional solidarity which was born with the establishment of the British West Indies Federation in 1958 (Jones 2003).⁵ The members are Antigua and Barbuda, Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, and T&T.

The CARICOM Member States share their historical background as they were all former colonies of European countries. Their economies were structured to produce a few primary agricultural commodities for export to European markets. Additionally, except for Haiti and Suriname, the member

⁵ The first attempt at regional integration in the Caribbean can be seen with the formation of the West Indian Federation among the English speaking Caribbean. This lasted over the 1958-1962 period. However, the desire for country sovereignty overpowered regional solidarity, and consequently the federation was short-lived. The second attempt at regionalism was the Caribbean Free Trade Association (CARIFTA) in 1965. As its name suggested, this was a free trade area formed between Caribbean islands and was geared towards increasing trade among the islands. CARIFTA was succeeded by the formation of CARICOM in 1973. Although its original aim was to be a common market, there were still restrictions to the movement of labour and the member states were not always uniform in the implementation of the common external tariff (CET). In 1989 CARICOM Heads of Government (HoG) decided to improve upon the implementation of a Caribbean common market. In 2006 CARICOM Single Market and Economy (CSME) was formed to build upon the CARICOM framework and effectively implement the Caribbean Common Market.

states are all English-speaking countries. Despite the historical background, language, and cultural similarities, the member states are heterogeneous.

One of the main notable differences of the Caribbean countries is size. The islands of Antigua and Barbuda, Barbados, Dominica, Grenada, Montserrat, St. Kitts and Nevis, St. Lucia, and St. Vincent and the Grenadines are small and occupy less than 751 km². The other member states are endowed with significantly larger land masses. Anguilla land area is only 91 km², in contrast to Jamaica whose land mass is 10,991 km². The Eastern Caribbean islands have a combined area of 2914 km² which represents 0.6% of CARICOM's land area. The islands' small size limits their ability to achieve economies of scale in production and ability to diversify into a wide range of activities (Romer 1986; and Barro and Sala-I-Martin 1995).

There is also a disparity in population size. Haiti has the largest population of 10.12 million (World Bank 2021). It is then followed by the populations of Jamaica and T&T which stand at 2.8 million and 1.3 million respectively. This is a big contrast to countries such as St. Kitts and Nevis, and Montserrat which have population sizes of 100,000 and 5,000 respectively. Haiti accounts for approximately 59% of CARICOM's population whereas Montserrat accounts for approximately 0.03%.

There are also differences in the size of GDP. T&T stood out with the largest real GDP of US\$21.6 billion in 2020. This was followed by Jamaica with a GDP of US\$13.8 billion, then the Bahamas with a GDP of US\$9.9 billion. The smaller Islands such as Grenada, Dominica, St. Kitts and Nevis, Montserrat, and St. Vincent and the Grenadines also had the lowest GDP in the region. Table 3.1 summarises the economic performance of selective CARICOM Member States.

There are differences between the main revenue earning industries of the Caribbean countries. As previously mentioned, T&T is endowed with commercial reserves of hydrocarbons. This has allowed T&T to earn windfall revenue, especially over the 2000 to 2008 period while it experienced a boom in the export of liquefied natural gas (LNG) (Boopsingh and McGuire 2014). While at the time of writing, data was not publicly available, Guyana started to experience an uptick in its revenues from 2020 due to the export of crude oil. Suriname is also likely to experience a similar hydrocarbon boom when it starts the commercial export of crude oil.

	Current GDP (2020)	pop mil	land size km ²
Antigua and Barbuda	\$1,370,281,481	0.1	442
the Bahamas	\$9,907,500,000	0.4	13,864
Barbados	\$4,418,000,000	0.3	431
Belize	\$1,636,280,797	0.3	22,966
Dominica	\$504,214,815	0.1	750
Haiti	N.A.	10.12	27,750
Grenada	\$1,042,100,556	0.1	345
Guyana	\$5,471,256,595	0.8	214,970
Jamaica	\$13,812,425,037	2.8	10,991
Montserrat	N.A.	0.005	103
St. Kitts and Nevis	\$980,740,741	0.1	269
St. Lucia	\$1,616,772,741	0.2	616
St. Vincent and the	\$807,474,074	0.1	389
Grenadines			
Suriname	\$2,884,248,048	0.5	163,820
T&T	\$21,588,037,505	1.3	5,128

 Table 3.1: GDP, Population and Land Area of the CARICOM Member

 States

Source: World Bank (2021)

Apart from hydrocarbons, some member states also possess commodity natural resources. Guyana's economy is dominated by agriculture and extractive industries. The economy is based largely on the export of sugar, gold, bauxite, diamond, shrimp, lumber, and rice. Suriname's economy is heavily dependent upon the mining industry. Its main exports are alumina, gold, and oil, however, bananas, timber, agriculture, and fisheries are also significant sectors (Bermúdez-Lugo 2002). Jamaica is also rich with mineral natural resources as it mines and exports bauxite.

The other member states lack any mineral natural resources. Subsequently, they rely upon the export of primary agriculture commodities, as well as the tourism industry for the earning of export revenue (Downes 1998). Subsequently, the CARICOM Member States can be grouped into categories based on their export structure. The first is the goods-producing and exporting countries, namely Jamaica, Guyana, Suriname, and T&T. The second is the service-producing and exporting countries, namely Antigua and Barbuda, the Bahamas, Barbados, Dominica, Haiti, Grenada, Montserrat, St. Kitts and Nevis, St. Lucia, and St. Vincent and the Grenadines.

The next subsections review the labour market characteristics of the hydrocarbon-rich CARICOM Member States.

3.1 Labour Statistics of T&T

The size of the non-institutional population⁶ in T&T was 991.1 thousand in 2009. Over the next 10 years, the non-institutional population grew to just over 1 million people. The labour force, which is the part of the non-institutional population that has work or is looking for work, managed to grow from 620.9 thousand to 634 thousand over the corresponding period. Since the growth in the labour force was smaller than the growth in the size of the non-institutional population, the labour force participation rate declined from 62.9% in 2009 to 59.1% in 2018. Table 3.02 provides an overview.

The proportion of people categorised as "not part of the labour force" grew to 40.9% in 2018 from 37.4% in 2009. Since these people are not institutionalised, they are typically excluded from the estimation of the labour force as they are regarded as discouraged workers.

There were 32.6 thousand people unemployed in T&T in 2009. This number contracted to 24.9 thousand in 2018. Subsequently, the unemployment rate contracted from 5.3% to 3.9% over the 10-year period. Since full employment unemployment is typically around 5%, it suggests that the economy of T&T may be around full employment.

The consideration of the unemployed proportion of the labour force is an under-representation of the number of people without jobs. Since the labour force participation rate in 2018 was 59.1%, it meant that 40.9% of the non-institutional population had no job. This share was approximately 438.6 thousand people. When the number of discouraged workers is added to the unemployed people, it reveals that the total number of people without jobs was 438.6 thousand in 2018.

The labour force can be decomposed based on gender. Females tend to comprise approximately 40% of the labour force in T&T (World Bank 2021).

⁶ The non-institutional population refers to the part of the population that are not in any institution. In other words, it refers to the people in the population that are not in schools, hospitals, jails, and other institutions.

CARICOM Member States Labour Market Overview

Table 3.02: Labour Market Statistics for T&T (2009-2018)

	Persons with	Labour Force	Unemployment	Unemployment	Non-	Participation
	Jobs (000's)	(000's)	(s,000)	Rate (%)	Institutional	Ratio (%)
					Population (000's)	
2018	609.1	634.0	24.9	3.9	1072.4	59.1
2017	603.3	633.9	30.6	4.8	1071.3	59.2
2016	613	638.3	25.2	3.9	1068.5	59.7
2015	623.3	645.3	22.0	3.4	1065.1	60.6
2014	636.8	658.6	21.8	3.3	1063.4	61.9
2013	626.3	650.1	23.9	3.7	1059.6	61.4
2012	614.1	646.0	31.9	4.9	1044.1	61.9
2011	585.3	616.4	31.1	5.1	1005.7	61.3
2010	582.2	618.9	36.7	5.9	997.0	62.1
2009	588.3	620.9	32.6	5.3	991.1	62.6

Source: CBTT (2022)

19

Youth unemployment is also an important characteristic of the labour market. The youth labour force, the people in the 15 to 24 years' age category that are not institutionalised and are willing to work, tend to have a higher unemployment rate than the overall labour force.

In 2011, approximately 35% of the total unemployed in T&T were young persons. The youth unemployment rate was recorded at 12.1%. The female youth unemployment rate was 16.4%, while the youth unemployment rate for males was 9.3% (PRTT 2012). The GORTT MSDFS (2017) notes that the youth unemployment rate rose from 8.1% to 11.6% over the 2013 to 2016 period. The GORTT MSDFS (2017) blamed the economic contraction in T&T experienced over the 2014 to 2016 period, in lieu of weak energy prices, for the rise in youth unemployment over the corresponding period.

3.2 Labour Statistics of Guyana

Guyana's population in 2020 stood at 786,559 people (World Bank 2021). The country's labour force was 280,850 people in 2012 and grew to 308,188 people by 2017. The labour force is mainly composed of men. This is evidenced by 68.3% of the labour force being male in 2012, and 60.1% (191,921 people) being male in 2017. However, the participation of women in the labour force in Guyana has increased in both absolute terms and relative terms from 31.67% (88,929 people) in 2012 to 39.92% (123,025 people) in 2017. See Table 3.03.

The unemployment rate in Guyana was 12.5% in 2012 and remained relatively unchanged at 12% by 2017. Given that the labour force participation rate was 56% in 2017, it suggested that the working-age population was 550,336 people.⁷ Therefore, 444% of the working-age population, which equates to approximately 242,148 people were out of work in Guyana in 2017. Given that the total number of unemployed people in Guyana in 2017 was 37,119, it suggested that approximately 205,028 people were categorised as discouraged workers.

The youth unemployment rate was also high in Guyana. It stood at 21.6% in 2017.

 $^{^{7}}$ 308,188 * 100/56 = 550,336 people.

Population aged 15+ (thousand persons)	2012 (from Census)		017, Quarter
			% of total
	Total	Total	working age
	persons	persons	population
Men	247,583	268,864	48.8
Women	256,742	281,966	51.2
Total	504,325	550,831	100
Labour force (thousand	D	D	As percentage of total labour
persons)	Persons	Persons	force
Men	191,921	185,163	60.1
Women	88,929	123,025	39.9
Total	280,850	308,188	100
Labour force participation rate (%)	2012	2017, Third Quarter	
Men	77.5	68.9	
Women	34.6	43.6	
Total	55.7	56.0	

Table 3.03: Population & Labour Force (Guyana)

Source: IDB, BSG, ILO (2017)

Table 3.04: Unemployment in Guyana

	2012		2017,
		Thir	d Quarter
Unemployed population			As % of total
(thousand)		Persons	unemployed
Men	20,172	18,290	49.3
Women	14,792	18,829	50.7
Total	34,964	37,119	100
Unemployment rate (%)		2017,	
		Third	
	2012	Quarter	
Men	10.6	9.9	
Women	16.7	15.3	
Total	12.5	12.0	

		2017, T	hird Quarter
			% of total
		Total	employed
Employed population	2012	persons	population
Men	170,905	166,873	61.6
Women	73,930	104,195	38.4
Total	244,835	271,068	100.00
		2017,	
Employment to population		Third	
ratio (%)	2012	Quarter	
Men	66.3	62.1	
Women	28.0	36.9	
Total		49.2	
			Youth
Unemployed youth (thousand			unemployment
persons)	2012	Persons	rate (%) (2017)
Men	10176	7,873	17.3
Women	6635	8,588	28.0
Total		16,462	21.6

Source: IDB, BSG, ILO (2017)

3.3 Labour Statistics of Suriname

The unemployment rate in Suriname was 8.10% in 2012, and marginally decreased to 6.942% by 2019. However, given a labour force participation rate of 56.62% in 2012, it suggested that there were 460,862 non-institutionalised able-bodied people without work. If this is added to the 16,194 unemployed people in 2012, the total number of people without work would increase to 47,7056 people. Similarly, given a labour force participation rate of 56.83% in 2019, the number of "discouraged workers" would be 386,252 people. When this is added to the 15,234 unemployed people in 2019, the total number of people without work would rise to 40,1486 people.

Youth unemployment is also high in Suriname. The youth unemployment rate was 20.59% in 2012, but it declined to 13.32% in 2019, largely on the account of more youth being categorised as "discouraged workers".

Females account for approximately 38% of the labour force in Suriname (World Bank 2021).