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#### **Executive Summary**

The Global Entrepreneurship Monitor (GEM) is the largest global study of entrepreneurship and the entrepreneurial environment. The GEM study now covers 75% of the world's population and 90% of its GDP. The Arthur Lok Jack Graduate School of Business has conducted the GEM Study for Trinidad and Tobago each year since 2010. In 2014, a representative sample of 2004 Trinidad and Tobago citizens aged 18 and over was interviewed in the Adult Population Survey (APS). Aside from the views of the general public, 36 'experts' from various fields related to entrepreneurship were also interviewed in the National Expert Survey (NES), and an entrepreneurship environment scan was undertaken in which public documents relating to entrepreneurship were reviewed and policy makers were interviewed.

The perceptions and attitudes among adults in Trinidad and Tobago towards entrepreneurship continue to be favourable. The key indicator of GEM research is the rate of Total Entrepreneurial Activity (TEA). This is the percentage of adults who are operating or in the process of starting a new business. This includes employed people who are also in the process of starting or operating a new business. The TEA rate for Trinidad and Tobago in 2014 stood at 14.6%, down from 19.5% in 2013. This is as a result of a large decline in nascent entrepreneurial activity (from 11.4% in 2013 to 8.5% in 2014) and a decline in new business ownership from 8.5% to 7.4%. Demographic data collected in the APS suggest that the average early stage entrepreneur in Trinidad and Tobago: is in the age group 35-44, has completed secondary education, is improvement rather than necessity driven, and is more likely to be male than female. These entrepreneurs were found to finance their businesses from personal savings rather than through venture financing from banks and other financial institutions.

The majority of the TEA activity was found to be replicative rather than innovative, and entrepreneurial firms in Trinidad and Tobago continue to perform at low levels in terms of growth expectations, innovation and export orientation; three dimensions of entrepreneurial performance that need to be strengthened and developed if the entrepreneurial sector is to contribute to diversification of the Trinidad and Tobago economy to reduce its dependence on the energy sector. The creation of replicative businesses serves to increase dependence on the energy sector. Some issues relating to the national culture of Trinidad and Tobago, the financing arrangements for entrepreneurial firms, and challenges in Research and Development (R&D) transfer were seen as factors that may promote replicative entrepreneurial activity despite the efforts that have been made to encourage firms to be innovative, export competitive and fast growing.

The 2014 GEM survey included a detailed review of the agencies that have been set up to support entrepreneurship in Trinidad and Tobago. Despite the number of agencies that have been set up to support entrepreneurial firms, the APS data show extremely low levels of awareness of the existence of such agencies and programmes, and of the services that they offer.

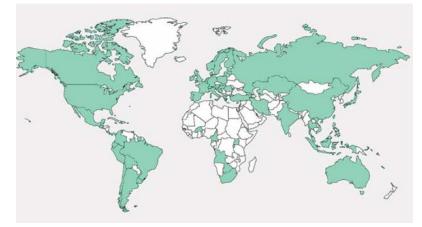
## Introduction

The Global Entrepreneurship Monitor (GEM) began in 1999 as a not for profit academic research consortium comprising the London Business School in the United Kingdom and Babson College in the United States. Today GEM is the most extensive longitudinal research into global entrepreneurial activity. The GEM study allows for a deep understanding of the entrepreneurial environment and provides a tool for:

- Cross-country comparisons based on harmonized data
- Determining the degree to which economic growth is impacted by entrepreneurial activity
- Outlining the factors that create barriers to increasing the level of entrepreneurial activity
- To enable policy makers to make informed policy decisions.

The GEM project is led by the Global Entrepreneurship Research Association (GERA) which has over the past 15 years included over 500 researchers in over 300 academic and research institutions. In 2014 GEM survey covered 72.4% of the global population and 90% of the world GDP. Figure 1 shows the countries that participated in the GEM project in 2014.

Figure 1. Countries participating in the 2014 GEM Cycle.



Source: Global Entrepreneurship Monitor 2014 Global Report.

## **Evolution of the GEM Conceptual Framework**

GEM research was initially developed to investigate the relationship between entrepreneurship and economic development. Over the past 15 years the GEM conceptual framework has evolved to allow facilitating comparisons across and within countries.

The concept of entrepreneurship defined in relation to economic growth is, "Any attempt at new business or new venture creation, such as self-employment, a new business organization, or the expansion of an existing business, by an individual, a team of individuals, or an established business." (Reynolds et al., 1999, p. 3)

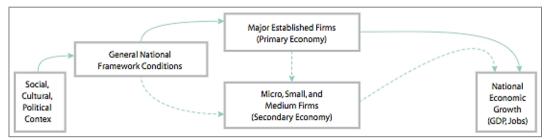
From 1999, the definition of entrepreneurship has remained unchanged. However three basic research questions have been reconfigured.

Three questions are critical to GEM research (Reynolds et al., 1999, p. 3):

- 1. Does the level of entrepreneurial activity vary between countries, and if so, to what extent?
- 2. Does the level of entrepreneurial activity affect a country's rate of economic growth and prosperity?
- 3. What makes a country 'entrepreneurial'?

In order to answer these questions GEM had to build on the conventional approach to thinking about national economic growth. The traditional model explained national economic growth as a product of its citizens' innate capacity (regardless of whether they are self-employed and their location or size of their business) to recognize and take hold of existing opportunities. Early architectural enhancements to the framework produced the model in Figure 2 which formed the basis of GEM research up to 2014. The big change here was the inclusion of the entrepreneurial profile in Figure 3.

Figure 2. A Conventional Model of Economic Growth



Source: Reynolds, Hay and Camp (1999)

Moreover, this was seen as a process of interaction with the environment. Thus over the years, an enhanced version of the GEM conceptual framework has been produced, evolving from its initial form (Figure 2) into the model shown in Figure 4.

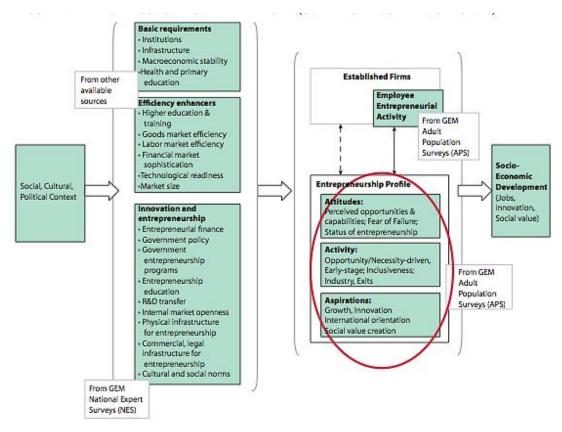
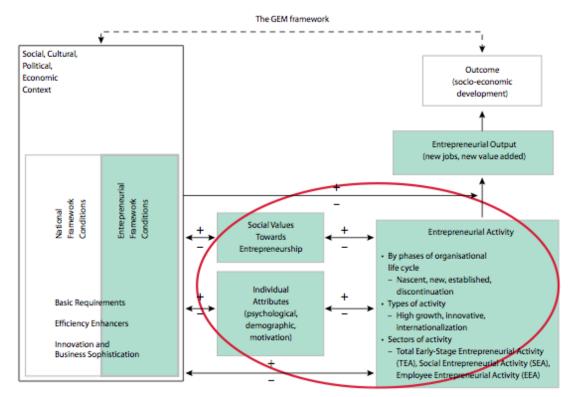


Figure 3. The Revised GEM Conceptual Framework (Up to 2014)

Source: GEM Global Report 2013.

The distinguishing feature of this new version is that the Entrepreneurship Profile is now being explored in greater depth, as illustrated in Figure 3. From the start of GEM research, recognition has been given to the existence of probable relationships existing amongst attitudes, aspirations and activities. However, the exact forms of these relationships were not directly described or understood.





#### Source: GEM 2014 Global Report.

The new model focuses on the opening of the 'black box' (Figure 4), with emphasis being placed on testing the various relationships that may exist between social values, personal characteristics, and other related types of entrepreneurial activity.

Some foundational principles have remained unchanged throughout all models of the conceptual framework:

1. Entrepreneurial activity is not a heroic act of an individual, regardless of the environment in which the activity is performed.

2. Entrepreneurial activity is an output of the interaction of an individual's perception of an opportunity and capacity (motivation and skills) to act upon this, and the distinct conditions of the respective environment in which the individual is located.

GEM results have shown that the level of entrepreneurial activity varies among countries at a fairly constant rate. This provides further evidence of the need for time and consistency

in order for a policy to have an impact on entrepreneurial activity. Analysis of GEM data shows a positive correlation between the level of activity throughout the phases of the entrepreneurial cycle (nascent, start-up, entrepreneurship) and economic growth. (Acs and Amorós, 2008; Van Stel et al., 2005; Wennekers et al., 2010).

This has become even more evident as further policy interventions are being formulated based on components of the GEM conceptual framework. These components include the environment, (the ability of individuals to recognize and grasp opportunities) and the capacity of the society to create a culture of entrepreneurship. Colombia and Chile are two examples of countries that have implemented several such initiatives to enhance their entrepreneurial environments.

Three new objectives follow from the revised conceptual framework:

- Determine the extent to which entrepreneurial activity influences economic growth within individual economies.
- Identify factors which encourage or hinder entrepreneurial activity, especially the relationships between the national entrepreneurship conditions, social values, personal attributes and entrepreneurial activity (opening the black box of the GEM conceptual framework shown in Figure 4 into a revised GEM conceptual framework as presented in Figure 5).
- Identify policy implications for enhancing entrepreneurial capacity in an economy.

The World Economic Forum *(Global Competitiveness Index)* has been used since 2008 to categorize countries based on Porter's definition of levels of economic development - factor-driven, efficiency-driven and innovation-driven (Figure 3). This places countries into three categories, based on the main development focus, GDP per capita, and composition of exports. For each group of counties GEM investigates individuals' attributes, values, activities, and the nature of their interaction and engagement with entrepreneurial activity (reactiveness, innovativeness, as well as responsible choices).

The revised GEM conceptual framework comprises the following components:

**Social, cultural, political and economic context:** This is defined based on the World Economic Forum's twelve pillars for profiling economic development phases when surveying competitiveness and the nine components of the GEM National Entrepreneurial Conditions (Figure 5). These components may be dispersed in different combinations in different economies, but the levels of economic development are determined by the dominant presence of the identified group of pillars. All components of the environment in which women and men act with an entrepreneurial mindset (or cannot act proactively and innovatively) are mutually dependent. This dependence demands a holistic approach not only in research but also in designing appropriate policies to build a supportive environment in which people can adopt an entrepreneurial behavior.

**Social Values towards Entrepreneurship:** This includes the extent to which a society values entrepreneurship as a good career choice; whether entrepreneurs have a high social status; and how media attention to entrepreneurship is contributing (or not contributing) to the development of a national entrepreneurial culture.

**Individual Attributes:** This includes several demographic factors (gender, age, and geographic location), psychological factors (perceived capabilities, perceived opportunities, fear of failure) and motivational factors (necessity-based vs. opportunity-based venturing, improvement-driven venturing, etc.).

**Entrepreneurial Activity:** This is defined according to the ventures' life cycle phases (nascent, new venture, established venture, discontinuation), the types of activity (high growth, innovation, internationalization) and the sector of the activity (Total Early-stage Entrepreneurial Activity—TEA, Social Entrepreneurial Activity—SEA, Employee

Entrepreneurial Activity—EEA). See detailed definitions in section 1.3. of the Global Entrepreneurship Monitor (GEM) Global Report 2014.

Figure 5. Social, Cultural, Political and Economic Context and Economic Phases

	From other available sources	From GEM National Expert Surveys (NES)
Economic development phases	National Framework Conditions, based on World Economic Forum pillars for profiling economic development phases	Entrepreneurial Framework Conditions
Basic requirements—key to factor-driven economies	<ul> <li>Institutions</li> <li>Infrastructure</li> <li>Macroeconomic stability</li> <li>Health and primary education</li> </ul>	$\wedge$
Efficiency enhancers—key to <b>efficiency- driven economies</b>	<ul> <li>Higher education and training</li> <li>Goods market efficiency</li> <li>Labor market efficiency</li> <li>Financial market sophistication</li> <li>Technological readiness</li> <li>Market size</li> </ul>	
Innovation and sophistication factors— key to <b>innovation-driven economies</b>	<ul> <li>Business sophistication</li> <li>Innovation</li> </ul>	<ul> <li>Entrepreneurial finance</li> <li>Education for entrepreneurship</li> <li>Government policy</li> <li>Government entrepreneurship programs</li> <li>R&amp;D transfer</li> <li>Internal market openness</li> <li>Physical infrastructure for entrepreneurship</li> <li>Commercial and legal infrastructure for entrepreneurship</li> <li>Cultural and social norms</li> </ul>

Source: GEM 2014 Global Report

## **GEM Methodology**

The Research and Innovation Advisory Committee and Data Quality Team work together with the data quality team and the GERA expert team to consider and evaluate the findings that have been generated during the past cycles, after which necessary changes are implemented. The GERA team is responsible for the process of testing the instruments used to carry out surveys and coordinating data collection, by identifying samples for the surveying instruments. Their duties also include coding collected information with the respective national teams. The annual GEM report gathers data through a two pronged methodology; the Adult Population survey (APS) and the National Expert Survey (NES), which captures how entrepreneurs interact with their environment, particularly in relation to their attitudes, attributes and activities.

The Adult Population Survey (APS) covers a representative national sample of at least two thousand citizens aged 18 and over. It comprises of those in and out of the labor force e.g., employees, homemakers, retirees and students. The only groups that are excluded from the sample design are tourists, persons who are institutionalized (prisons, mentally institutions, group quarter or the military).

The National Expert Survey (NES) is used by GEM to study the view and opinions of experts who are directly involved in delivering or assessing major aspects of the entrepreneurial framework in their country. These experts are sourced from various fields relating to the entrepreneurial environment.

The information collected from both the APS and the NES allows for the views elicited from the general public and the experts to be directly compared.

GEM research highlights special issues by adding supplementary questions into the standard APS and NES questionnaires. From 2004, GEM has included several special topics and published separate issues illustrated in (Table 1.)

			0004 0044
Table 1. Special	l'opics Included in	The GEM Study from	2004-2014.
1	1	5	

Year	GEM Special Topic				
2004	Financing				
2005	Women and Entrepreneurship, High expectation				
	entrepreneurship, High-growth entrepreneurship,				
	High impact entrepreneurship.				
2006	Financing, Women and Entrepreneurship.				
2007	Women and Entrepreneurship high expectation				
	entrepreneurship, High-growth entrepreneurship,				
	High impact entrepreneurship, Innovation confidence index—EU funded project.				
2008	Innovation confidence index—EU funded project				
2009	Women and Entrepreneurship, innovation confidenc				
	index—EU funded project, Social entrepreneurship				
2010	Women and Entrepreneurship, Education and				
	training				
2011	High expectation entrepreneurship, on high-growth				
	entrepreneurship, High impact entrepreneurship				
2012	Women and Entrepreneurship				
2013	Youth, Entrepreneurial Employee Activity, Sub-				
	Saharan Africa (Youth)				
2014	Sub-Saharan Africa (Youth)				
2015	Entrepreneurship, Competitiveness and Development				

## **GEM Indicators**

Among the indicators included in GEM research, three basic indicators provide insight into the extent and level of entrepreneurship that exist in individual countries.

- Total Early-Stage Entrepreneurial Activity (TEA).
   GEM employs a unique measure of entrepreneurship that measures the percentage of individuals within the nascent entrepreneur phase and in the new business stage.
- Entrepreneurial Employee Activity
   Considers the level of entrepreneurial activity of employees, including the creation
   or promotion of new and innovative goods and services or the setting up of a new
   business unit, institution or subsidiary body.
- Social Entrepreneurial Activity

The number of individuals involved in the initiation of some entrepreneurial activity wherein the focus is on the value to society as opposed to the values to individuals.

#### The Phases and Profile of Entrepreneurship

The GEM model sees entrepreneurial activity as a cycle comprising five stages. The process begins when an individual perceives an opportunity for a new business in his/her environment and is confident in their ability to operate a business that can successfully take advantage of the perceived opportunity.

The individual then starts making arrangements to start the new business. This stage is referred to as Nascent Entrepreneurship in the GEM model. This stage includes preparatory work such as finding a location, arranging financing etc. and extends up to the first 3 months of operation of business.

The third stage of the entrepreneurship cycle in the GEM model is called the New Business stage. A business is considered to be at this stage in the GEM model from 3 months to 3 1/2 years.

Once the business has existed for more than 3 1/2 years it becomes an Established Business in the GEM model (the fourth stage).

Finally the business is discontinued, sold or passed on to another. This marks the fifth stage of the process in the GEM model. After discontinuation, the entrepreneur becomes available to repeat the cycle (by starting another business) or to provide support to other businesses (e.g. through mentorship or financing).

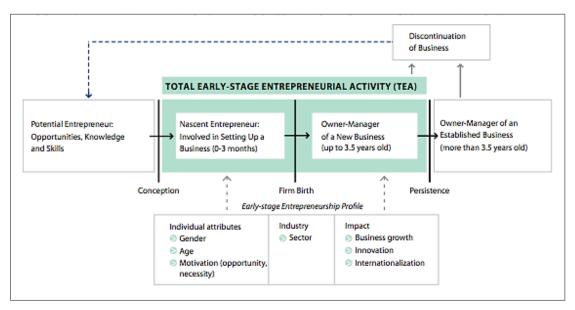


Figure 6. The Entrepreneurship Process and the GEM Operational Definitions

Source: GEM 2014 Global Report

## **Entrepreneurial Activity in Trinidad and Tobago**

In the GEM model the entrepreneurship process begins before the creation of a business. An individual must recognize an opportunity, assemble the necessary resources and have positive beliefs about his or her capability to take advantage of the opportunity and the likely success of the business. All of the entrepreneurial activity in Figure 6 only happens when individuals move out of the Potential Entrepreneurs box. Societal attitudes towards entrepreneurship are also important. Negative societal attitudes towards entrepreneurship can lead to barriers to entrepreneurial activity particularly in key elements that are important in the early stages of entrepreneurship such as social support, financial and business assistance for entrepreneurs. For this reason the GEM survey includes indicators of attitudes towards starting a new business:

- Self-Perception:
  - Awareness of good opportunities for starting a business
  - o Belief in one's skills and experience to start a business
  - Fear of failure as a deterrent to starting a new business
- Societal attitudes towards entrepreneurship:
  - Favorability of entrepreneurship as a 'good career choice'
  - o The status of the entrepreneur
  - o Positive or negative media attention for entrepreneurs

The percentage of adults in Trinidad and Tobago who report being aware of good opportunities for starting a business in their immediate environment in the next 6 months has remained stable at 58-59% over the period 2012 to 2014. Figure 7 shows that Trinidad and Tobago ranks 5<sup>th</sup> highest in Latin America and 13<sup>th</sup> highest out of the 68 economies for which such data are available. For perceptions about ability to operate a business and fear of failure, Trinidad and Tobago continues to maintain extremely high and low levels respectively when compared with other countries (Figures 7 and 8).

Figure 7. The percentage of APS respondents answering "Yes" when asked if they were capable of starting and operating a new business.

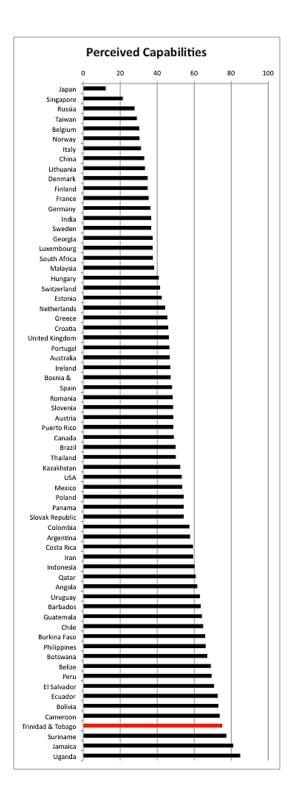


Figure 8. The percentage of APS respondents answering 'Yes' to the question, "In the next 6 months, will there be good opportunities for starting a business in the area where you live?"

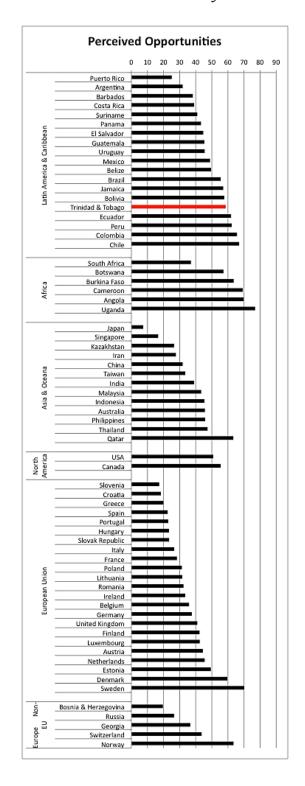


Figure 9 .The percentage of respondents answering "Yes" to the question, "Would fear of failure prevent you from starting a new business?"



APS data shows that the percentage of adults in Trinidad and Tobago who believe that they are capable of operating a business has remained stable at 75-76% over the period 2012-2014. Trinidad and Tobago has consistently ranked among the lowest countries when it comes to Fear of Failure as a deterrent to starting a new business. This issue is raised in the 2014 Global GEM Report. People in different countries are likely to have different types of businesses in mind when they answer these APS questions. In less developed economies there would be more obvious opportunities in businesses with lower financial and knowledge entry-barriers. This serves to explain the consistent findings that respondents in more developed economies generally report higher Fear of Failure and lower perceived opportunities and capabilities than respondents in less developed economies. This

Figures 10 through 12 show the position of Trinidad and Tobago regarding perceptions about the image of the entrepreneur. Trinidad and Tobago continues to rank among the highest countries in the world on the desirability of entrepreneurship as a career choice among the adult population. Over the period 2012-2014, this perception has been shared by 78-80% of the APS respondents.

Figure 10. The percentage of APS respondents answering "Yes" when asked if they agree with the statement: "In my country, most people consider starting a new business to be a desirable career choice".

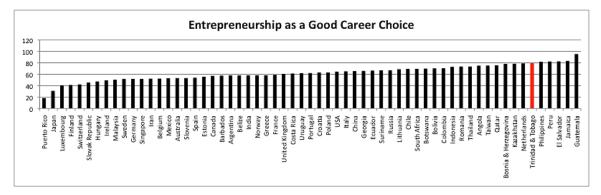


Figure 11 shows the position of close to the middle for Trinidad and Tobago relative to other countries on the favorability of media attention towards entrepreneurship. Trinidad and Tobago has held this approximate position in this ranking over the past 2-3 years.

Figure 11. The percentage of APS respondents answering "Yes" when asked if they agree with the statement: "In my country you will often see stories in the public media about successful new businesses".

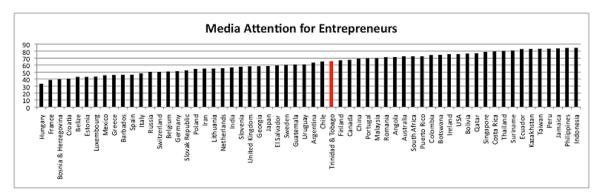


Figure 12 shows Trinidad and Tobago's position of next to the median country on the important issue of the status of the entrepreneur in society. Trinidad and Tobago has been falling on this measure – both in rank position and in respondents' perception.

Figure 12. The percentage of APS respondents answering "Yes" when asked if they agree with the statement: "In my country, those successful at starting a new business have a high level of status and respect".

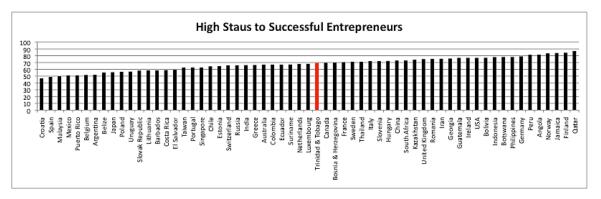


Figure 13 shows this decline, even though the other two factors in this graph that would usually correlate with this variable have not been in decline. Consideration should be given to further research into the reasons for this decline, and the potential consequences on the level and nature of future entrepreneurial activity.

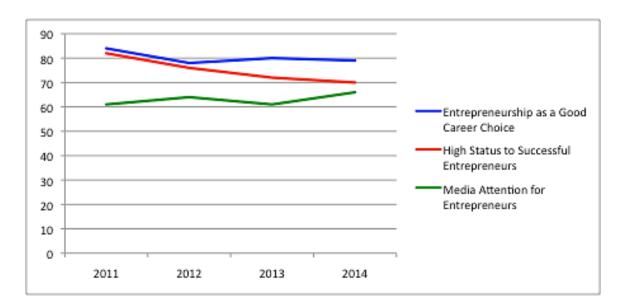


Figure 13. Trends in factors relating to the Image of the Entrepreneur 2011-2014

Figure 14 shows a summary of the position of Trinidad and Tobago relative to the Caribbean average, and to the global averages with regard to self-perceptions and societal impressions towards entrepreneurship. Trinidad and Tobago continues to be well placed, measuring above the CARICOM and world average on all factors that have a positive impact on entrepreneurship, and lower than the CARICOM and world average on Fear of Failure which has a negative effect on entrepreneurship.

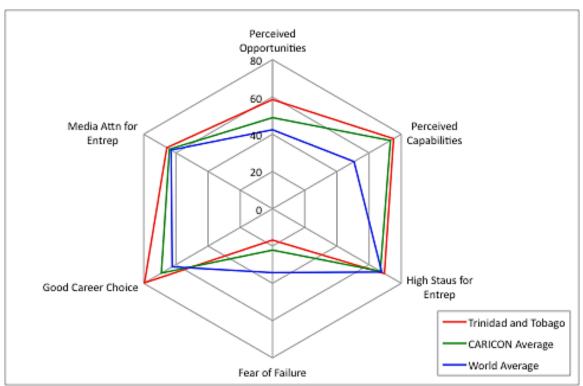


Figure 14. Trinidad and Tobago vs other countries on Self Perception and Societal Impression towards entrepreneurship

Self-perception and societal impression together with political, economic, social and technological factors all contribute to the levels of entrepreneurial intent. This can change quickly at a local and regional level as the business environment changes. Trends in entrepreneurial intent for the four CARICOM countries for which more than one year of data are available are presented in Figure 15. This figure shows that entrepreneurial intent in Trinidad and Tobago has varied about an average of 30% with no consistent downward trend as in Barbados.

Figure 16 shows the levels of entrepreneurial intent for all countries broken out by region. Latin America continues to have relatively high levels of entrepreneurial intent (second only to Africa) with Trinidad and Tobago being above average for the region.

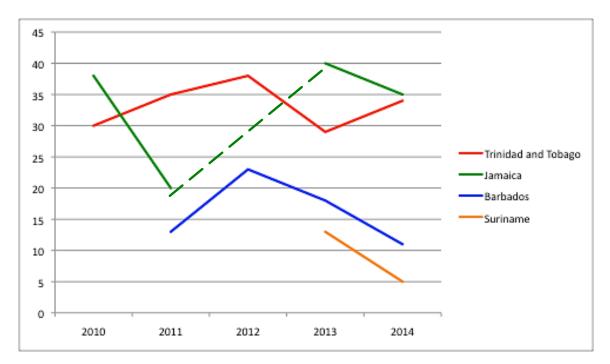


Figure 15. Entrepreneurial Intentions for CARICOM Countries: 2010-2014

Note: No data for Jamaica in 2012.

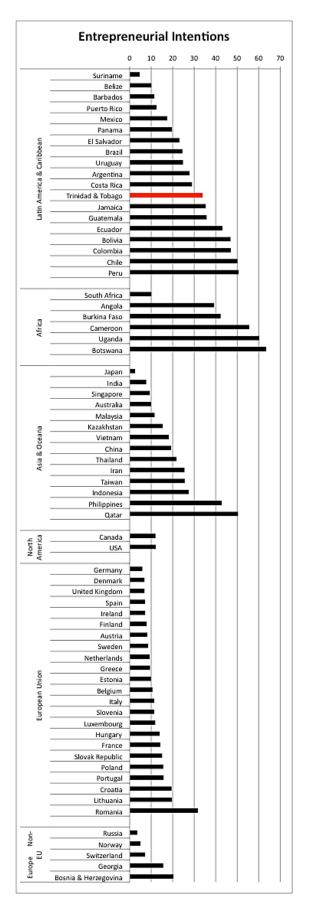


Figure 16. Entrepreneurial Intent by Country for each Region

#### **Total Early Stage Entrepreneurial Activity (TEA)**

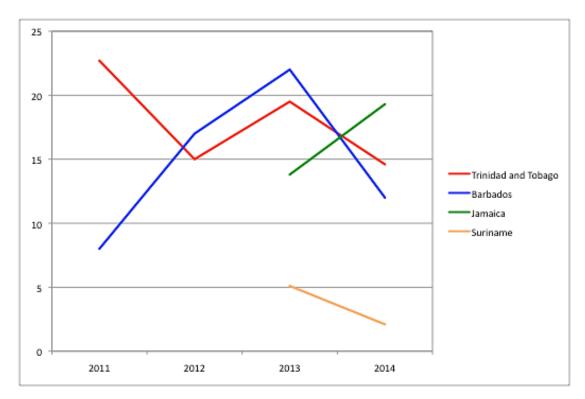
In the GEM model, the rate of TEA is a combination of 1- the rate of nascent entrepreneurial activity (entrepreneurs in the process of setting up new businesses) and 2- the rate of new business ownership. In the GEM model a new business is one that is up to three and a half years old. The TEA rate for Trinidad and Tobago in 2014 stood at 14.6%, down from 19.5% in 2013. This is as a result of a large decline in nascent entrepreneurial activity (from 11.4% in 2013 to 8.5% in 2014) and a decline in new business ownership from 8.5% to 7.4%. Figure 15 shows a general downward trend in TEA for Trinidad and Tobago over the past four years. This can be explained in part by the downward trend in the unemployment rate which fell from 5.0% to 3.6% over the period 2012 to 2014. Global TEA was 13.1% for the 2014 GEM cycle so Trinidad and Tobago was still above the world average, however for the first time in the GEM study, the TEA rate for Trinidad and Tobago was below the average for the Latin America and Caribbean region.

GEM distinguishes between people who are pushed into entrepreneurial activity through unemployment (Necessity-Driven entrepreneurship) and those who are pulled in to entrepreneurship by the prospect of opportunity (opportunity driven entrepreneurship). TEA in Trinidad and Tobago continues to comprise the highest ratio of opportunity driven activity, and the proportion of TEA that is necessitydriven continues to be among the lowest in Latin America and the Caribbean. This relatively high share of opportunity-driven entrepreneurship is also consistent with the low level of unemployment in Trinidad and Tobago durin22g the survey period.

	Nascent Entrepreneurship Rate	New Business Ownership Rate	TEA	Established Business	Necessity Driven (% of TEA)	Improvement Driven (% of TEA)
Argentina	9.5	5.2	14.4	9.1	28	43.5
Barbados	8.5	4.2	12.7	7.1	14.6	53.1
Belize	4.3	3	7.1	3.7	13.1	47.6
Bolivia	21.5	7.1	27.4	7.6	22.8	51.7
Brazil	3.7	13.8	17.2	17.5	29	57.8
Chile	16.6	11.1	26.8	8.8	17.6	62.2
Colombia	12.4	6.7	18.6	4.9	33.3	51.6
Costa Rica	7.6	3.7	11.3	2.5	19.3	63.5
Ecuador	24.5	9.9	32.6	17.7	29.4	35
El Salvador	11.4	8.7	19.5	12.7	32	54.5
Guatemala	12	9.2	20.4	7.4	40.6	38.9
Jamaica	7.9	11.9	19.3	14.4	32.1	33.5
Mexico	12.7	6.4	19	4.5	22.5	50
Panama	13.1	4.1	17.1	3.4	26.3	60.2
Peru	23.1	7.3	28.8	9.2	16.4	58.9
Puerto Rico	8.8	1.3	10	1.3	20.5	51.1
Suriname	1.9	0.2	2.1	5.2	5.4	39.8
Trinidad & Tobago	7.5	7.4	14.6	8.5	12	64.3
Uruguay	10.5	5.8	16.1	6.7	16	27.3
Unweighted Average	11.4	6.7	17.6	8.0	22.7	49.7

#### Figure 17. Entrepreneurial Activity in the Latin America Region

Figure 18. Trends in Early Stage Entrepreneurial activity in the 4 CARICOM Territories



Note: No data for Jamaica in 2012.

#### The Profile of the Entrepreneur

Figure 19 shows that males continue to dominate entrepreneurship in Trinidad and Tobago. This is consistent with the earlier GEM Reports for Trinidad and Tobago and most other countries.

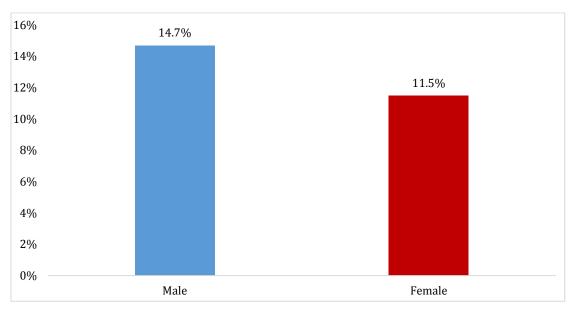
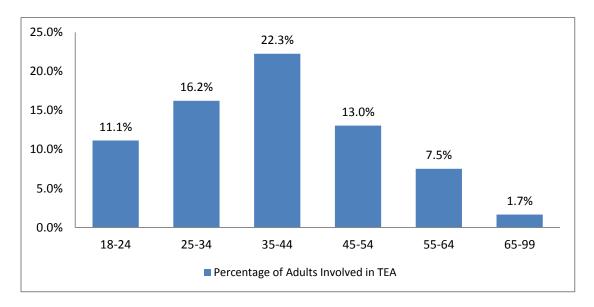


Figure 19. Male/ Female Entrepreneurship

The rates of entrepreneurial activity among different age groups in Trinidad and Tobago are shown in Figure 20. In previous GEM Reports for Trinidad and Tobago, the age group with the highest level of entrepreneurial activity has been 25-34 (similar to international findings). In 2014, the age group with the highest rate of entrepreneurial activity in Trinidad and Tobago was the older group 35-44. This was due to a sharp decline in the 25-34 age group (from 27% in 2013 to 16% in 2014).



*Figure 20. The Percentage of Adults Involved in TEA by Age Group.* 

The sharp decline in entrepreneurial activity within the 25-34 age group is also reflected in the age distribution of TEA participants shown in Figure 21. In previous GEM Studies for Trinidad and Tobago, the biggest group of TEA participants was 25-34. In 2014 there was a marked decline in this age group (from 35% to 29%) and an increase in the 35-44 age group making the latter the biggest group.

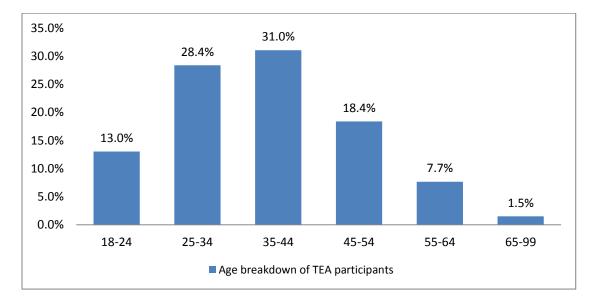
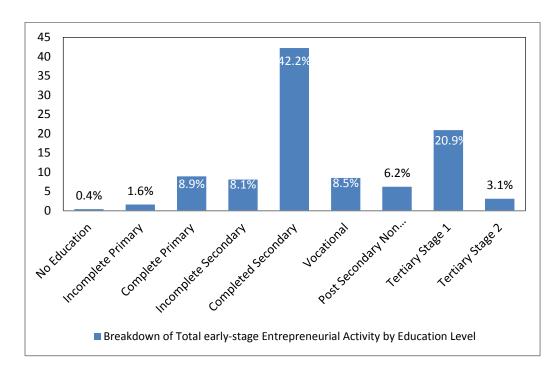


Figure 21. Age breakdown of TEA Participants.

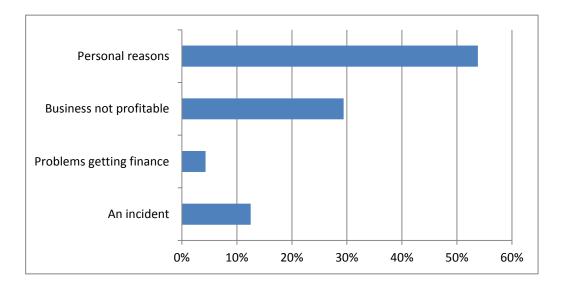
Figure 22 shows the highest level of education attained by TEA respondents for 2014. The 2014 APS findings showed those with a secondary school education to be the largest group of TEA participants. This follows the pattern seen in earlier GEM studies for Trinidad and Tobago. The percentage of entrepreneurs with Tertiary level education has been stable at over 25% over the past GEM cycles but in the 2014 APS this has fallen to 24%. The post secondary non-tertiary group has also fallen by 3% whereas there have been modest increases in some of the lower level groups. The resulting mix is a gradually less educated sector.





The discontinuance rate captures the percentage of APS respondents who have sold, closed down or discontinued businesses in the twelve months prior to the APS. Figure 23 shows that in the case of Trinidad and Tobago the main reason for entrepreneurs discontinuing their businesses in 2014 was 'personal reasons'. There has been a gradual decline in "Problems getting finance" as the reason given for business discontinuance in Trinidad and Tobago.

Figure 23. Reasons for exit



#### Innovation

GEM investigates not only the number of new businesses that are being established but also some dimensions of the quality of those businesses, particularly along those dimensions that are associated with transformation of the economy. Figure 24 shows some indicators of the level of innovation within TEA firms in Trinidad and Tobago. Overall, almost all of the respondents expressed that within TEA business activity, innovation and differentiation is minimal in terms of products and services offered and the processes used to create them. Thus nearly all of the TEA businesses are replicative; neither offering new, innovative products and services nor using innovative processes. The decline in "Problems getting finance" as the reason given for business discontinuance in Trinidad and Tobago may reflect a high comfort level for lenders and financiers in supporting businesses in traditional activities especially small scale retailing and food services. Conversely there may have been less working knowledge of innovative activities and less interest in startups based entirely on innovation. Similarly, there may be an un-intended effect where tax incentives and other supportive measures tend to be more extensively used by existing businesses in traditional activities than by new and young innovative businesses.

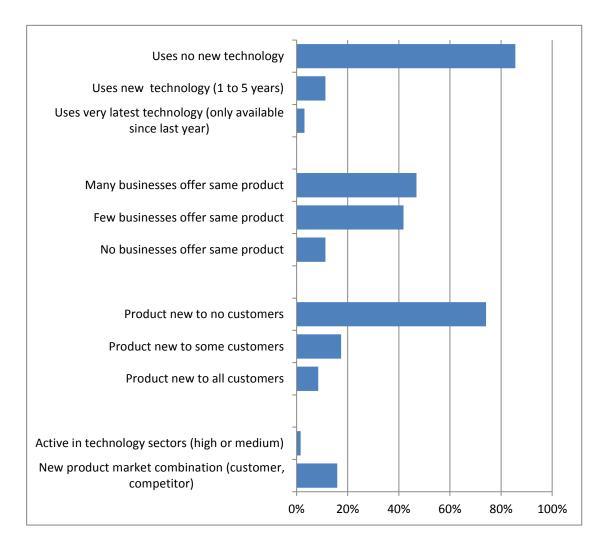


Figure 24. Innovation in TEA

Figure 25 presents the same indicators of innovation as those in Figure 24, for established businesses. The pattern is very similar for both types of firms. Entrepreneurial firms in Trinidad and Tobago have consistently performed poorly in innovation. This issue is discussed further in the NES Section of this report.

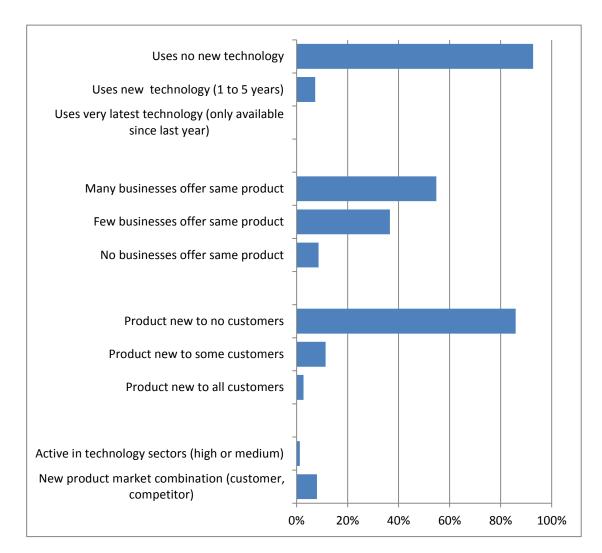


Figure 25. Innovation in Established businesses

#### **Entrepreneurial Aspirations and Growth Potential**

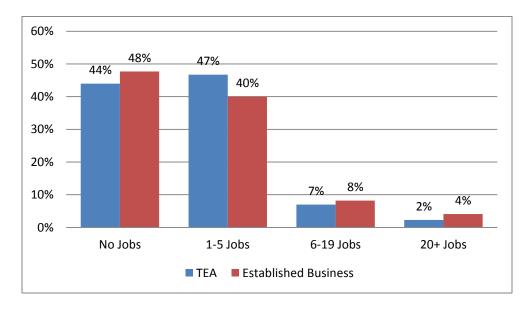
Figure 26 shows the number of jobs created by TEA firms and established businesses for 2014. 44% of TEA businesses have not created any jobs (other than for the owner) while 46.7% reported current job creation rate of 1-5 jobs. This is broadly similar to the patterns in previous GEM Reports Trinidad and Tobago. At the policy level, job creation is a key reason for interest in entrepreneurship,

particularly through SME. It is well-known that SME creates jobs in both developing as well as in developed countries. SME also destroys jobs; thus taking this factor into account we need to refer to Net Job Creation as the relevant metric.

Multi-country empirical studies suggest that SME account for at least 60% of employment in any given country. What needs to be examined is the dynamics of SME job creation. This is affected at various times by factors such as size and age of firms. For example, there is evidence from an OECD survey (Criscuolo et al 2014) to support the view that young SME (post-start-up) create jobs at a faster rate than mature SME. Since entrepreneurship is an important factor in job creation, there is even more urgent need for innovative, high growth potential firms. Successful innovation will sustain jobs. Innovation can also lead to higher productivity in the SME sector. This ought to be an important objective at the policy level. "Across countries the least productive companies tend to be the smaller ones and throughout the [LAC] region, size and productivity are related" (Pages 2010).

At the level of the firm, total factor productivity (TFP) is one of the key factors in competitiveness. In non-innovative firms, deficiencies in TFP (whether internal or external) lead to job destruction for various reasons. One of the reasons is that competition for relatively un-skilled labor resources drives up labor unit costs which over time must be offset by lower employment levels. In addition, non-innovative firms whose products are not distinctive or entrenched in niche markets will compete against each other for markets leading to loan defaults, business failure and destruction of jobs. Labor-related factors such as un-reliability of workers and non-wage costs (in addition to work-force management difficulties) mitigate against job creation especially when mature firms gain access to readily available technology and out-sourced services. Successful innovation in entrepreneurship is crucial to Net Job Creation.

Figure 26. Current Job Creation



Future job creation expectations provide a good predictor of realized future job creation. Just under half of the owners of both TEA and established firms do not expect to create any new jobs within the next 5 years. Overwhelmingly, entrepreneurs who do expect to create jobs in the next 5 years expect to create small numbers of new jobs.

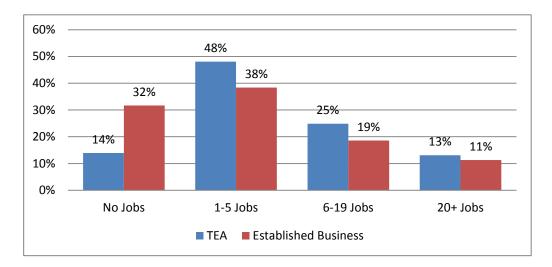


Figure 27. Job growth expectations

## **International Orientation**

GEM also investigates the ambitions of entrepreneurs with regard to selling their products and services to foreign markets. Figure 28 shows that almost two thirds of all entrepreneurial firms sell all of their output within Trinidad and Tobago. The majority of the firms that sell outside of the domestic market, exports less than one quarter of their total output.

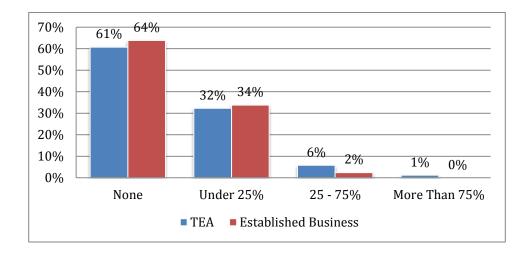


Figure 28. International Orientation

59.8% of established businesses and 60.7% of TEA reported having no export customers. Less than 2% of Trinidad and Tobago's early-stage businesses as well as established businesses reported having an international customer base of over 75%. In order for entrepreneurship to realize its potential in transforming the economy of Trinidad and Tobago, this sector must become export competitive. Trinidad and Tobago fall well below the other Caribbean countries on this measure. Further, export business from this sector in Trinidad and Tobago continues to fall. Comparing Figure 28 with the previous year, the 'None' category increased from 61% to 63%, the group 'under 25%' went from 30% to 32% and the group 'more than 75%' went from 2% to 1%.

## **National Expert Survey**

GEM assesses the state of the entrepreneurial framework conditions existing within a country through the use of the National Expert Survey (NES). This survey attempts to capture the expert opinion of individuals with over ten years' experience working in nine social spheres:

- Finance: bankers, public managers of financial programmes or subsidies, venture capitalists, business angels, entrepreneurs, and business people.
- Policy Makers: public officers involved in economics, taxation, and development agencies.
- Public Program Administrators: personnel in government programmes, public agencies, business associations, development agencies, entrepreneurs, and people to whom the programmes are addressed.
- Education: Professors, lecturers, teachers (school, college, university, professional or vocational education), and other personnel involved in education.
- R&D Transfer: personnel in industry, innovation, development and growth, public or private agencies, scientific parks personnel, university researchers, engineers, some technological and scientific entrepreneurs.
- Commercial and business services: lawyers, accountants, advisors economists, market analysts, and survey vendors.
- Market openness: market analysts, some researchers at universities or business schools, business associations, commerce chambers, governmental agencies involved with the economy and development.
- Physical infrastructure: personnel from businesses and enterprises that provide utilities (water, phone, and electricity), engineering, real estate, governmental agencies related to infrastructure, industrial parks, etc.
- Cultural and social norms: business associations, press, media in general, customers, providers, sociologists, entrepreneurs, foundations, researchers, and trade unions.

A total of 36 experts were interviewed for the Trinidad and Tobago NES. In addition to providing an understanding of the entrepreneurial framework conditions, the NES facilitates the triangulation of the findings of the adult population survey. NES respondents are provided with a set of statements about the attitudes, perceptions, and aspirations of entrepreneurs that mirror questions asked of the general population in the Adult Population Survey (APS) and asked to express the extent of their agreement on a Likert scale. This allows for a direct comparison of perceptions among the general public with the perceptions of experts. The following sections will include a more detailed examination of each of the conditions necessary to foster a healthy entrepreneurial environment.

Figure 16 shows the overall ratings that the NES respondents gave to main indicators for entrepreneurship framework conditions in the Latin America and Caribbean countries that took part in the GEM study in 2013.

Looking at the ranks among the indicators, Trinidad and Tobago bears some resemblance to the rest of the Latin America region. Physical and commercial infrastructure and cultural/social norms all rank highly for both Trinidad and Tobago and the rest of the region. Tertiary education receives a higher score than primary/secondary education. R&D transfer and primary/secondary education receive relatively low scores. There are also some key differences between Trinidad and Tobago and the Latin American region. Finance receives a high score in Trinidad and Tobago but a low average score in Latin America. Regulation receives a score close to the median for Trinidad and Tobago but a low average score for the region. Internal market dynamics received a low score for Trinidad and Tobago but is close to the median for the region.

## *Figure 29. Ratings for the Main Indicators for Entrepreneurship Framework Conditions.*

	1	Einenee					5	D.C.D.T.	n afan			
	1		Finance				-	R&D Transfer				
	2.a	National Policy: General Policy				6	Commercial Infrastructure					
	2.b			legulation	n		7.a	Internal Market Dynamics				
	3		nent Prog				7.b	Internal market Openness				
	4.a	Primary and Secondary Education				8	Physical Infrastructure					
	4.b	Tertiary Education				9	Cultural and Social Norms					
	1	2.a	2.b	3	4.a	4.b	5	6	7.a	7.b	8	9
Argentina	2.03	2.08	1.49	2.70	1.82	3.11	2.49	2.85	3.24	2.53	3.31	3.01
Barbados	2.42	2.42	1.87	2.30	1.71	2.96	1.78	2.72	2.06	2.42	3.75	2.61
Belize	2.14	2.55	2.20	2.45	2.05	2.53	1.77	2.68	2.31	2.54	3.41	2.65
Bolivia	2.25	2.15	1.97	2.34	2.13	3.11	2.33	2.81	2.98	2.65	3.30	2.79
Brazil	2.46	2.40	1.46	2.24	1.48	2.54	2.00	2.50	3.36	2.24	2.93	2.36
Chile	2.35	2.77	2.91	3.06	1.63	2.98	2.20	2.80	2.18	2.57	4.33	3.09
Colombia	2.37	2.75	2.41	2.95	2.14	2.97	2.17	2.79	2.70	2.55	3.38	2.97
Costa Rica	1.90	2.39	2.02	2.80	1.93	3.07	2.12	2.63	2.42	2.58	3.39	2.90
Ecuador	2.19	2.98	2.19	2.66	2.36	3.18	2.35	2.76	2.46	2.72	4.05	2.99
El Salvador	1.88	2.26	1.92	2.50	1.64	2.76	1.88	2.65	2.68	2.46	3.89	2.79
Guatemala	2.04	1.91	2.10	1.87	1.73	3.06	2.09	2.89	2.41	2.53	3.83	2.44
Jamaica	2.24	2.20	1.99	2.34	2.07	3.03	1.97	2.86	2.90	2.22	3.43	2.96
Mexico	2.20	2.27	1.87	2.69	2.00	3.12	2.44	2.64	2.81	2.21	3.29	2.99
Panama	1.99	2.11	2.95	2.52	1.67	2.78	2.35	2.68	2.36	2.53	4.01	2.75
Peru	2.20	2.21	2.14	2.13	1.98	2.87	1.87	2.81	2.43	2.70	3.52	3.09
Puerto Rico	1.96	2.42	1.78	2.56	1.66	3.07	2.28	2.84	2.61	2.30	3.25	2.76
Suriname	2.30	2.69	2.36	2.42	2.11	3.53	2.01	3.15	3.00	2.98	3.01	2.96
Trinidad and Tobago	2.66	1.81	2.38	2.34	1.83	2.51	1.95	2.94	2.29	2.34	3.76	2.85
Uruguay	2.21	2.22	2.78	2.89	1.41	3.43	2.49	3.02	2.09	2.40	3.79	2.11
Unweighted Average	2.20	2.35	2.15	2.51	1.86	2.98	2.13	2.79	2.59	2.50	3.56	2.79

#### Finance

Nearly 75% of the NES respondents believed that there is adequate equity and debt funding available for entrepreneurs. However, more than half of the NES respondents believed that government subsidies, funding from IPO's and private sources other than owners are insufficient. These patterns are broadly similar to the findings of the 2013 GEM Study for Trinidad and Tobago. The gains made in the area of finance for entrepreneurial firms have been maintained, and Trinidad and Tobago continues to achieve the highest NES rating on this indicator for Latin America.

The limited availability of suitable non-loan funding for new and growing firms is a constraint that restricts innovative ventures. The most likely traditional source is from individuals but less than 40% of the NES respondents reported that such funding was adequate (Figure 30). Less than 30% of the NES respondents reported that venture capital funding was adequate while expectations for IPO financing are even lower. These responses may be based on perceptions about the availability of venture capital, and they would be even lower if actual accessibility was measured. Differences between availability and accessibility arise because sources of venture capital are neither universal nor uniform. Some sources target specific sectors or industries and focus on advanced stages of company growth and may have restrictions such as minimum investment limits or country exposure limits. For these and other reasons venture capital and private equity funds in the region have experienced only modest success in investing out funds in the last twenty 20 years. This was one major reason for their limited success, if any, in achieving targeted fund investment returns in view of high overhead costs.

Evidence from successive GEM surveys implies that connections between supply of and demand for venture capital are not readily or easily made. There is no network of viable institutional investors, which is a necessary condition for the development of a structured, well-known market place for risk capital as there is for loan capital. This is an extreme challenge given the intrinsic economics of venture/private equity funds and the inherently small size and wide variety of demand in the region. The development of any "eco-system" would need to be universal, inclusive and accommodating to encourage a suitable range of institutional investors. There will be need to facilitate the orderly evolution of such an "eco-system" on an on-going basis possibly by a suitable research and development, advisory, non-regulatory institution. While there is little evidence of successfully executed IPO's there are clear indications from the GEM surveys that there is interest based on the few instances where some progress was made. The professional capability and the legal framework to structure and execute IPO's, already exist in most countries. There is financial capacity and latent demand for IPOs as evidenced by recent efforts. It could be that there is a need for an institutional framework to facilitate a better understanding of IPOs, and enhance trust and institutional capability to provide an independent advisory service.

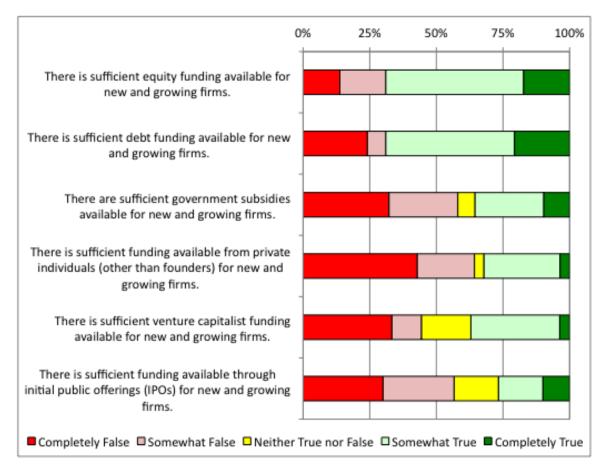
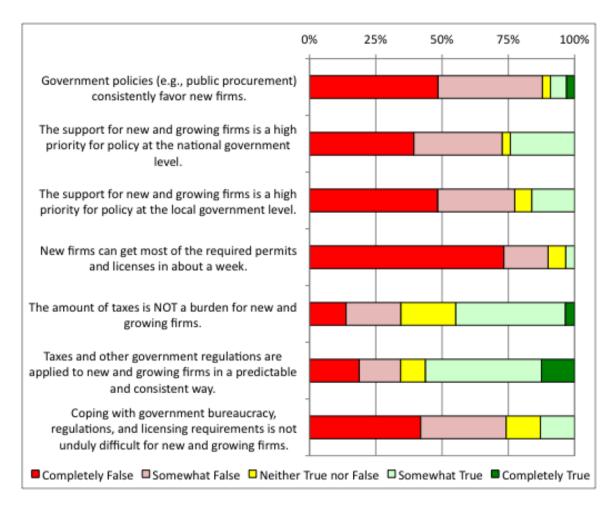


Figure 30.Perceptions of the NES Respondents concerning Finance

#### **Government** Policy

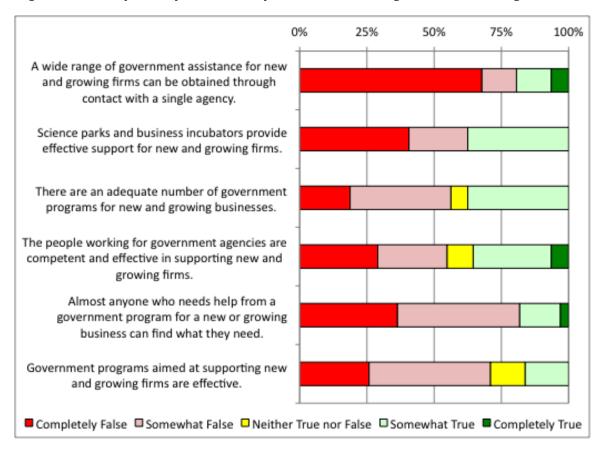
Government policy received the lowest rating among all of the indicators from the NES respondents. The biggest challenges continue to be the treatment of new firms in policy (e.g. in procurement) and the processes of obtaining permits and licenses. The NES respondents gave relatively high ratings for predictability, and consistency of regulations and the level of taxes. These patterns have remained consistent over the past few years. According to the Doing Business Survey of 2014 (World Bank Group) Trinidad and Tobago ranked 67<sup>th</sup> out of 189 countries in terms of the ease of starting a business. The same survey found that it takes 37.5 days to complete the process of starting a new business in Trinidad and Tobago versus 5.5 days in Chile.



#### *Figure 31. Perceptions of the NES Respondents concerning Policy*

#### Government Programmes

In Figure 32, over 75% of the respondents indicated that programmes and services offered through the government's assistance could not be attained through a single agency. This low rating is also reflected with less than 25% of the NES respondents reporting that individuals requiring assistance from government programs would be able to access their needs. Close to 70% believed that government programs to support new and growing firms were inadequate. Despite the efforts that have been put into developing science parks and incubators, such facilities received favorable ratings from less than half of the NES respondents. None of the NES respondents completely agreed with the statements regarding adequacy of government programmes and the effectiveness of support from incubators and science parks.



#### *Figure 32. Perceptions of the NES Respondents concerning Government Programmes*

### Education

The ratings given for education by NES respondents trend from very low at the primary level to moderate at the tertiary and vocational levels. The efforts of primary and secondary education in supporting and promoting self-sufficiency, creativity and personal initiative were given a generally low rating with less than 25% of the NES respondents agreeing with the statements in Figure 33, on these issues. In addition, the concepts of entrepreneurship and new firm creation were seen as being inadequately emphasized in the primary and secondary school system by almost 80% of the experts. However the respondents seem to have a higher satisfaction rate with the groundwork being done in the vocational, professional and continuing education system. This points to a need for more emphasis in building the skills and mindset for entrepreneurship at the earlier stages of education in Trinidad and Tobago.

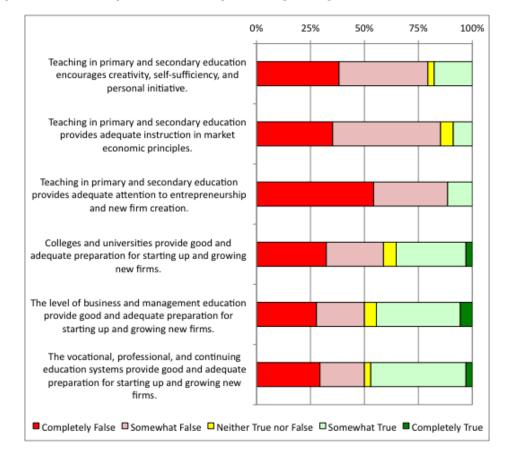
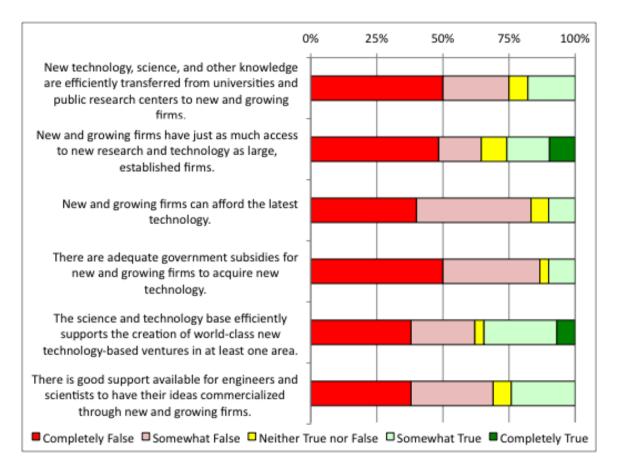


Figure 33. NES Respondents' Perceptions Regarding Education.

#### R&D Transfer

R&D is particularly important because it can lead to the introduction of new products and services, new processes and entry into new markets. The accessibility and affordability of new technologies for new and growing firms in Trinidad and Tobago received low ratings from the NES respondents. Support for new firms in acquiring new technology was also given a low rating by the NES respondents. Figure 34 also points to challenges in commercializing the results of R&D.

Figure 34. Perceptions of the NES Respondents concerning R&D Transfer



## Commercial Infrastructure

Commercial infrastructure can act as a restrictor or enabler of successful and sustainable entrepreneurial firms. Figure 35 shows that almost 75% of the NES respondents agreed that there was an adequate supply of- and easy access to sub-contractors, suppliers, and consultants for entrepreneurial firms. Despite the existence of such support services, the NES respondents expressed concerns about the affordability among entrepreneurial firms. 60% of the experts believed that entrepreneurs can easily access good banking, professional and legal services.

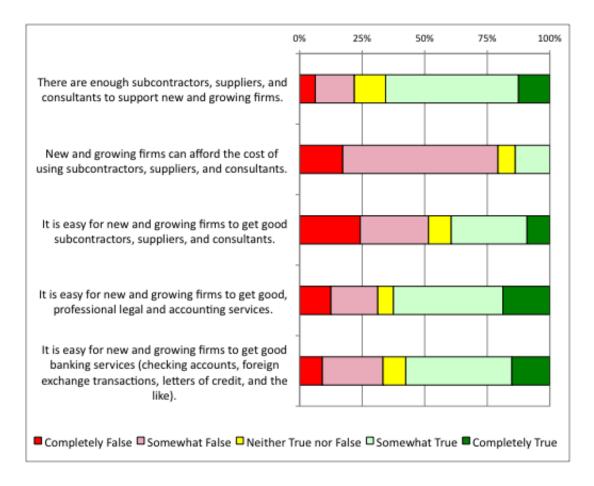
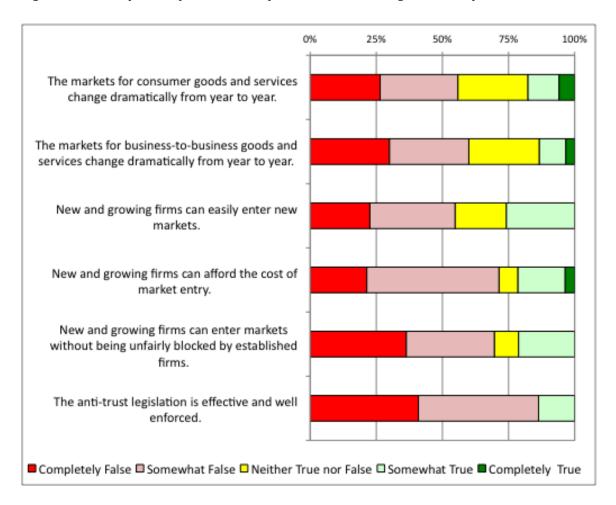


Figure 35. Perceptions of the NES Respondents concerning Commercial Infrastructure

## Market Openness

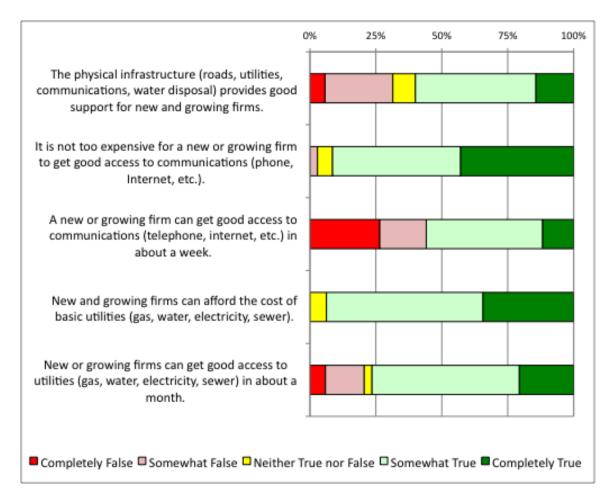
From Figure 36, the NES respondents felt that new and growing enterprises are faced with numerous restrictions to market entry. Small markets are likely to give rise to oligopolies and entry barriers. Access to markets, anti-trust legislation and issues relating to retaliation form existing firms were all cited as issues of concern among the NES respondents.

Figure 36. Perceptions of the NES Respondents concerning Market Openness



### Physical infrastructure

Physical infrastructure continued to receive very high ratings from the NES respondents who generally believed that utilities, transport and communications networks are widely available and affordable to entrepreneurial firms.

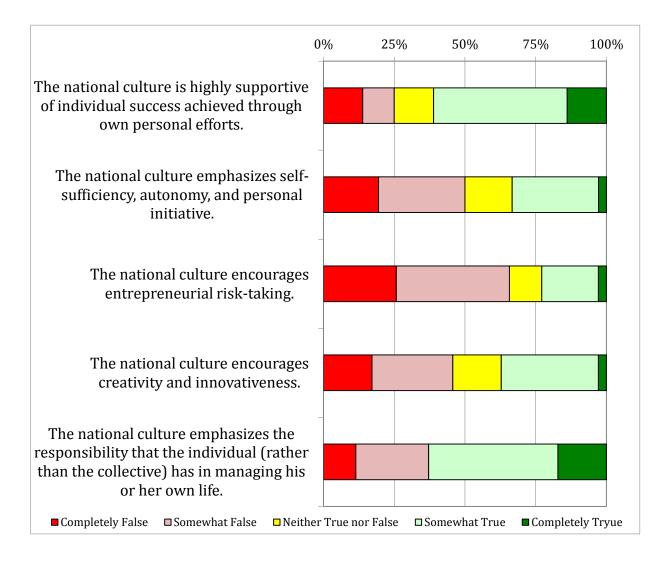


#### Figure 37. Perceptions of NES Respondents regarding Physical Infrastructure

#### Cultural and Social Norms

Figure 38 shows that nearly 75% of the NES respondents agree with the statement that the national culture is supportive of individual success achieved through personal efforts. This aspect of the national culture augurs well for entrepreneurial activity. However, the NES respondents believed that the national culture is less conducive to entrepreneurship on issues such as risk-taking, self-sufficiency, and innovation.

Hofstede and Hofstede (2005) observe that the Trinidad and Tobago population has a relatively low level on the Uncertainty Avoidance dimension of national culture. This is a measure that anthropologists use to evaluate the extent to which people of a given culture can tolerate ambiguity and unfamiliar risks, and can function in ambiguous situations. Trinidad and Tobago ranks 51<sup>st</sup> in the world on this measure suggesting that Trinidad and Tobago citizens are less uncertainty avoidant than all of Latin America and the Caribbean (except Jamaica) and most of Europe. Hofstede and Hofstede (2005) show that countries with lower uncertainty avoidance are more predisposed to 'basic' innovation, but may be weaker at implementation of new processes. This is explained by creative thinking that goes with an ability to tolerate ambiguity, along with the sense of detail, punctuality and conformance that is necessary to implement new and different ideas. The message concerning Trinidad and Tobago that comes from the studies in Hostede and Hofstede's (2005) review is that the national culture of Trinidad and Tobago actually puts the country in a much more favourable position than the rest of the region for developing innovative ideas, products, services and ways of doing things, but that a different mindset (and skill set) may be called for in commercializing the potential stream of innovative ideas, products, services and processes that may be harnessed from this society. This observation is consistent with the creativity that can be found in the arts and entertainment sectors of Trinidad and Tobago, as well as the limited success that has been achieved to date for the attempts to move the creative sector into a set of sustainable high growth industries.



#### *Figure 38. Perceptions of the NES Respondents concerning Cultural and Social Norms*

# Agencies that Support Entrepreneurial Firms in Trinidad and Tobago

The 2013 GEM Report for Trinidad and Tobago included a section that provided an overview of the agencies that have been set up to support entrepreneurial firms in Trinidad and Tobago. In the 2014 GEM Report for Trinidad and Tobago we take this overview one step further by going into more detail about the operations, offerings and output of these agencies and the APS findings concerning perceptions about them. Figure 39 is taken from the 2013 GEM Report for Trinidad and Tobago. This shows the key agencies and organizations that support the entrepreneurial effort.

Category	Institution	Focus			
<ol> <li>Ministries and Government Agencies</li> </ol>	<ul> <li>Ministry of Labour, Small and Micro Enterprise</li> <li>Ministry of Planning and Sustainable Development (i2i)</li> <li>Ministry of Trade, Investment &amp; Communications</li> <li>NEDCO</li> <li>YTEPP</li> <li>ExporTT</li> </ul>	Community Incubation, training, development and support at the community level and focus on local strengths in innovation			
<ol> <li>International and Regional agencies</li> </ol>	<ul> <li>World Bank</li> <li>YBTT</li> <li>CARIRI</li> <li>Startup Weekend</li> </ul>	Programmes for at-risk or marginalized groups such as youth, women or specialized groups such as technology entrepreneurs especially mobile technology.			
3. University Incubators	<ul> <li>LokJack GSB BizBooster</li> <li>UTT</li> <li>UWI</li> </ul>	Commercial Incubation of high potential firms and support of entrepreneurial students.			
4. Chambers of Commerce	<ul> <li>AmCham</li> <li>T&amp;T Chamber of Commerce</li> </ul>	Mentorship of new firms and support of youth in entrepreneurship			
5. The Banking Sector	<ul> <li>Commercial Banks</li> <li>Credit Unions</li> <li>The Central Bank of Trinidad and Tobago</li> </ul>	Financial literacy, business advisory and the provision of SME tools			

#### National Entrepreneurship Development Company Limited (NEDCO)

The National Entrepreneurship Development Company Limited (NEDCO) was created in August 2011, as a holistic business development support system that has adopted a future focused approach, aimed to develop the skillset and capacity of those within the startup and early stage of business ventures. This includes the business incubator initiative project: the National Integrated Business Incubation System (IBIS). Their five sites across Trinidad and Tobago are directly managed by the programs manager who reports to the CEO of NEDCO with support from the business advisory board. IBIS is a nonprofit endeavor that is exclusively government funded, with a 12 million dollar budget for 2014. IBIS currently has 90 clients enrolled in their business incubator program, from a pool of over 400 applicants.

NEDCO's training initiative comprises two phases. Entrepreneurship fundamentals are covered in a pre-incubation phase. Once participants successfully complete this phase, they move on to the second phase which is focused on business plan development.

Entrepreneurs that are successful in this pre incubation stage can then apply for a variety of services. These include office space rented at subsidized rate for a standard three-year period. This allows the advantage of engaging regularly with like-minded entrepreneurs at similar phases of development. Within practical application, as wide a range of businesses as possible, are encouraged and accommodated with physical infrastructural working space. While in the program, participants are directly supported by on site mentors, from generally experienced entrepreneurs operating at senior managerial level, industry knowledge personnel and sector specific mentors assigned to relative entrepreneurs. These mentorship sessions are detailed and comprehensive, at a minimum of one hour per week, covering business advice and key aspects from cash flow projections to practical aspects, as well as monitoring off-site businesses. Over the past year, 108 entrepreneurs graduated from pre incubation training and transitioning.

IBIS also hosts monthly networking events that generally include a cohort of entrepreneurs and guest speakers from wide range of relevant fields, providing a platform for discussion and socializing intended to conceive ideas and stimulate new and competitive business ventures. The IBIS program places no restrictions on the type of business ventures that entrepreneurs are allowed to engage with and they remain committed to dedicating their services to thrust forward any viable business opportunity.

NEDCO also offers equipment financing and seed capital that are accessible through the loans facility managed by the IBIS program, for startup requirements, marketing or advertising. These loans are not guaranteed and have a combined maximum value of \$100,000 with a minimum interest rate of 4%.

#### Youth Business Trinidad and Tobago (YBTT)

Established in 2000 as a non-governmental organization, Youth Business Trinidad and Tobago (YBTT) was founded as a local arm of a larger international business community, Youth Business International. Their focus is on providing young entrepreneurs with opportunities for turning innovative ideas into viable business ventures. The organization provided support for 63 entrepreneurs in 2014 and approximately 500 since its genesis. YBTT has been funded through financial injections from international and local donor agencies including United Way, IADB, Republic Bank and others.

YBTT has hosted Global Entrepreneur Week (GEW) for the past 4 years. YBTT offers support to young entrepreneurs in the form of loans, mentorship, training, and advice. These training and development initiatives cover business plan development, life skills, financial planning, and idea evaluation. While YBTT does not house or operate a business incubator, it does provide some financial support for incubators external to their organization including The National Integrated Business Incubation System (IBIS). YBTT provides flexible loans and grants up to a maximum of TT\$30,000. These initiatives target specific activities in order to encourage innovative, high value adding entrepreneurial businesses.

#### Youth Training and Employment Partnership Program Limited (YTEPP)

Youth Training and Employment Partnership Program Limited (YTEPP), affiliated with the Ministry of Education was established in 1988 as a technical and vocational education and training institute for youth, unemployed, and persons displaced from the workforce falling between the ages 15-60 years. Its main commission is for merging technical and vocational skill with entrepreneurial capacity, allowing these individuals to create niche markets for themselves and meeting the needs of the national and international economic environment. YTEPP is a non-profit organization with a staff of three hundred and fifty full time employees and three hundred and fifty part time employees, governed by a board of directors, a chief executive officer and four executive directors.

Entrepreneurial training is administered via six full time centers and twenty four part time centers with three regional offices and one head office. It was developed and funded as an initiative of the government of Trinidad and Tobago and incorporated under the companies act as a limited liability company. YTEPP Limited signed a Memorandum of Understanding to become a member of The National Incubator Council officially joining the national pursuit to enhance the entrepreneurial eco system in Trinidad and Tobago.

YTEPP plans to introduce a business incubator. The recent signing of a Memorandum of Understanding to become a member of The National Incubator Council in January 15th 2015, made headway for the launch of the Micro Entrepreneurship program that is focused on equipping those individuals that fall between the ages of 15 and 35, to gain considerable exposure and immerse

themselves in the many facets and possibilities of entrepreneurship within various sectors.

Given that YTEPP is not financially positioned to provide the essential monetary assistance needed to support the entrepreneurs within their system, a Memorandum of Understanding has been signed with NEDCO where trainees can access \$15,000 without any collateral once they have completed the 6 month program at YTEPP.

YTEPP also works in close collaboration with the International Labor Organization (ILO) having developed a local entrepreneurship manual modeled after that of the ILO. Apart from this other materials sourced from the ILO such as the, Know About Business (KAB), and Start to Improve Your Business (SIYB) modules are utilized as tools for guiding those who thread along the lines of becoming an entrepreneur.

#### The University of Trinidad and Tobago (UTT)

The University of Trinidad and Tobago was established by the government of Trinidad and Tobago in 2004 as an academic institution with a focus on creating a dynamic and well-equipped local human resource to revitalize the spirit of innovation within various sectors and stimulate diversification of the Trinidad and Tobago's economy. This includes training in entrepreneurship. UTT was founded out of the Trinidad and Tobago Institute of Technology (TTIT), with the foundational principle of becoming a renowned entrepreneurial university. The Government Assistance for Tuition Expenses (GATE) and Public Sector Investment Program (PSIP) have together been the financial backbone of UTT's financing of over 12 campuses throughout Trinidad and Tobago. Aside from its training initiatives, UTT also started a business incubator (uSTART) in 2014 out of which 12 businesses are expected to graduate from the physical incubation space and 38 from the virtual platform. As a member of the National Business Incubator Association and IBIS, UTT partners with key stakeholders to host monthly workshops and

seminars, as an integral practical component of the incubation program. Mentorship services are also offered for these entrepreneurs provided by subject matter experts both internal and external to the university, professionals from the public and private sector, retired persons, the Trinidad and Tobago Manufacturing Association (TTMA) as well as The Chamber of Commerce. UTT also offers some physical infrastructural support and plans to provide loan financing in future.

## The UWI - Arthur Lok Jack Graduate School of Business Commercial Business Booster (BIZBOOSTER)

The UWI-Arthur Lok Jack Graduate School of Business Commercial Business Booster or 'BIZBOOSTER' was launched by the UWI- ALJGSB in 2012 to become a vehicle through which ideas with high growth potential can be refined and accelerated into sustainable, competitive businesses. This commercial business incubator is accessible to all citizens with creative initiatives that have some potential for commercial viability. The program became functional in 2013 and is designed such that the first 6 months qualify as (pre incubation), 18 months as (incubation) and 12 months as (post incubation), with a total duration period of three years. The incubator functions with a small core group of four staff members and operates on a budget provided by the UWI-ALJGSB, and is additionally positioned to receive funds from a collation of strategic partners invested in BIZBOOSTER'S fiscal advancement including National Entrepreneurship Development Company Limited (NEDCO)/ Ministry of Labor and Small and Micro Enterprise Development (MOLSMED).

BIZBOOSTER is incubating its first cohort of 10 entrepreneurs. Training is offered in the form of workshops. The entrepreneurs are introduced to the fundamentals and emerging aspects of the current business environment and the workshops are tailored to suit the specific requirements of each entrepreneur. Though provision of physical space is not included in the package of services offered, negotiations are currently being undergone with IBIS to acquire some form of physical accommodation at their facilities for the entrepreneurs. BIZBOOSTER utilizes its large and extensive access to networks of agencies and strategic partners in the business community, to engage the entrepreneurs and foster synergies within the workshop activities. Apart from this, mentors are assigned to each entrepreneur to provide one on one advice.

In 2013, a business showcase was hosted by UWI-ALGSB for the entrepreneurs to create markets for their products and services. UWI-ALJGSB also facilitates entrepreneurs with rooms for meetings and events, and access to the business library and computer laboratories. Additionally, while fiscal support has not yet been included within their portfolio, an initial decision of financial supplication of soft loans with personal guarantees is in progress through an MOU with MOLSMED and NEDCO. BIZBOOSTER works with the businesses to identify their needs and to decide on the best route to follow in accessing external start-up capital that can financially suffice viable business ventures.

The Arthur Lok Jack Graduate School of Business also manages another incubator that was established in October 30th 2014, the 'The Sustainable and Renewable Energy Project Incubator'. The objective of the UWI-ALJGSB Sustainable Renewable Energy Business Incubator is to grow and nurture companies operating within this emerging sector through the provision of business support, facilitation of access to markets and access to finance as well as technology transfer and joint ventures. This incubator initiative targets entrepreneurs in the field of energy as well as persons in the Oil & Gas and Manufacturing field for the Certificate in Energy Management.

#### ExporTT

In October 2012, ExporTT received a change in mandate with its operations being reconfigured to develop a diversified and sustainable export sector geared towards exporters and potential exporters in the non-energy sector. It is a state agency under the Ministry of Trade Industry, Investment and Communication that was developed out of the Business Development Company with approximately 60 employees. The organization is 70% fiscally supported by the government and 30% revenue generated. The functional layout consists of four 'operational units' which focus on the services of the company related to export promotions, trade certification, research, capacity building, services and training. Currently, ExporTT does not have an incubator program but plans are in the place for a business incubation project known as Cottage Food and Beverage Export Development. As such, training programs targeted at cottage food and beverage providers are offered at least monthly with subsidized fees. Physical infrastructural and mentorship support are not currently facilitated by ExporTT but there are plans to develop and offer such services in the near future. Entrepreneurs are allowed opportunities to engage in workshop activities that are export focused. These include Introduction to Market Research, Fundamentals of Exporting, Export Pricing, and Trade Leads Management. Moreover networking is facilitated through structured discussion forums which would cover a specific sector or issue, and advertising is specific to the companies related to the issue at hand. Many of these entrepreneurs have participated in international trade shows in places such as Havana, New York and Panama. Within events such as these ExporTT assists entrepreneurs in defraying a part of the cost related to the booth space and décor and renting necessary equipment.

There is also a Research and Development Grant which provides access to companies interested in developing new products or processes. The facility, however, is winding up as it existed under the BDC and it may not be as relevant to export and so attempts are being made to keep the fund but make it more export oriented. ExporTT employs screening criteria and an application process whereby applicants can access grants of TT\$500,000 for individuals and TT\$1 million for partnerships. Based on its mandate ExporTT is also active in providing other services related to research, co-financing of costs related to market entry, trade mission facilitation, certifications of good for duty free access and standards implementation for companies.

#### Idea to Innovation (I2I)

The Council for Competitiveness and Innovation (CCI) was established as an advisory body to the Ministry of Planning and Sustainable Development in 2011, commissioned to cultivate and enhance the innovative and knowledge-based capacity of Trinidad and Tobago. The CCI in collaboration with the Economic Development Board (EDB) conceptualized and established the Idea to Innovate (I2I) as a catalyst for nurturing novel ideas, and developing the initial ideating stage until the completion of the proof of concept stage. This window of opportunity is open to any national 18 years and over, project teams of five and less and companies or small business with turnover of less than TT\$50 million. The organization is government owned, though some members of 21 members of the Council are drawn from the private sector and while not officially designated as a not-for-profit entity, it is not profit generating. The Innovation Financing Facility, provides a financial injection of TT\$10 million to fuel the annual cycles of I2I, including access to grants that are valued between \$75,000 and \$200,000, whereby prospects are screened and assessed competitively against a set of 7 criteria, of which with innovativeness is most critical.

Presently I2I is supporting 42 participants including project teams with potential businesses that together form the cohort for the 2014 cycle. As an integral component of the programme, structured networking has been integrated since the inception of I2I, having hosted a series of promotional events including 'Launch rocket', 'Startup Weekend', and 'Startup Grind' stimulating business alliances. The workshops are intended to be an introduction to training and as such, are not content intensive as the more personalized training conducted by expert personnel from CARIRI. The format of the program is such that each awardee is assigned a project officer sourced from CARIRI, whose role it would be to appropriately guide the participant in their project. Also, workshops allow awardees to gain insight and knowledge into the entrepreneurial journey and landscape of champions that have gone before them, as well as to engage in interactive sessions with other support agencies. Since 2014, webinars have been hosted two or three times per month to

cover issues related to Intellectual Property and financing for small and micro enterprises. I2I held an exhibition as part of the America's Competiveness Forum, specifically for 121 awardees, while CARIRI has also held one for participants of the 2012 cycle.

#### The Caribbean Industrial Research Institute (CARIRI)

The Caribbean Industrial Research Institute (CARIRI) was set up in 1970 as a regional entity developed to support and enhances the quality of goods and services produced in Trinidad and Tobago and the wider Caribbean, through research and technical development. CARIRI is in pursuit of becoming a premiere institution for enhancing the technological capacity within various sectors to enable the growth and production of premium quality goods and services in various companies. The institution is partially funded by the government of Trinidad and Tobago and internal sales of the institute which is run by a board that consists of individuals from academia and the private sector. The Center for Enterprise Development (CED) was launched in 2013 as a new facility for enterprise development and entrepreneurial activity, innovation, business advisory, and technical support, from proof of concept phase to full incubation.

CARIRI is presently supporting 12 entrepreneurs for a duration of two years with specially designed entrepreneurial training, accompanied by a three month Innovation Boot Camp that encompasses content that is focused on Microsoft Innovation, business plan development, as well as technological advancement. Their incubation services are provided to 50 companies per year, working in the areas of food technology, food production and development as well as testing. These are conducted within facilities such as the Microsoft innovation center, the Caribbean Climate Innovation center, the application club and the business hatchery, executed through the form of weekly workshops. This platform allows for vertical and well as horizontal convergence on best and novel practices within the technology and business environment.

While CARIRI has had some record of participation in exhibitions, regular exhibition initiatives are not highly prioritized items on their agenda. CARIRI is nonetheless equipped with basic resources from computers for the entrepreneurs, to more advanced technological equipment testing facilities for 3D printing, along with other technical programs that allow for virtual prototype development, prior to the launch of the business to test the viability of the prospective venture.

Entrepreneurial training and tools such as computers are accessed at the CARIRI institution but are generally not specific to the field of the entrepreneurial venture. The participants have access to consultants and other technical and business advisory support services in group and personal sessions. In addition to this, in house accommodation for testing, research and necessary groundwork is provided with a maximum holding capacity of ten cubicles for projects that are in some form, ICT related. Financial assistance programs are not stipulated within their mandate thus far and so outsourcing of funds are encouraged and indirectly supported.

#### UpMarket

UpMarket is a privately funded gourmet food and craft market, which was started in 2012 to give local artisans and small businesses an affordable opportunity to showcase and sell their craft to the public on a consistent basis. The market is held monthly with additional markets added for special events and during the months of November to December it is hosted every week. UpMarket is sustained by a part time staff of three members charged with the responsibility of facilitating the setup of the location on the day of UpMarket events with one overall general manager that coordinates all activities. The market is a hub for creativity and small businesses, as not only do the products get exposure, but it is also used for peer to peer networking. Market displays are charged a small rental fee for the opportunity to showcase their products. The program is simple in its structure and more specific entrepreneurial provisions including business advice, monetary assistance plans or mentorship are not components of their existing arrangement.

Throughout the year over 80 vendors are usually active and engaged in UpMarket events and around 90% of them sell items they produce locally. In addition to this, UpMarket delivers specific classes in organic gardening, paper recycling and other related undertakings, geared towards enhancing local artisan skill. UpMarket has partnered with the University of Trinidad and Tobago (UTT) in implementing training programs for building and sustaining businesses.

## APS Respondents and the Agencies that Support Entrepreneurial Firms in Trinidad and Tobago

Some questions were added to the 2014 APS to reveal the awareness that APS respondents have of the agencies that have been set up to support entrepreneurial firms in Trinidad and Tobago. Further questions were included to obtain feedback from APS respondents concerning their experience in dealing with these agencies.

When asked to name organizations that provide support for people with business ideas, 3.4% of respondents named NEDCO and 0.5% of the respondents were able to name YTEPP. Overwhelmingly the respondents were not able to name any of the agencies. When asked to name the types of support that NEDCO provides, two thirds of the respondents who named NEDCO were aware that the organization provides loan financing. Respondents were generally unaware of the other services offered by NEDCO, and they were generally unaware of the availability of services from the other agencies that have been set up to support SME firms.

Concerning the experience of respondents in dealing with these agencies, the only agencies that were reported to have been approached by any of the APS respondents were NEDCO and the Chamber of Commerce in both cases the agencies had been approached for loans by less than 1% of the APS respondents.

#### Recommendations

The APS data show that Trinidad and Tobago now performs better than the rest of the region in terms of the attitudes, image and aspirations towards entrepreneurship. Despite these favourable perceptions among the people, there has been no indication of any improvement in the nature of entrepreneurial firms on the dimensions that are important to diversification and transformation of the economy. With falling prices in the world markets for oil and natural gas, and constraints in the form of falling levels of proven reserves, the need for diversification of the Trinidad and Tobago economy towards sources of revenue outside of the energy sector has become increasingly urgent. Entrepreneurship is considered to be a vehicle for economic transformation as seen in the "Drilling Down" and other similar models for diversification of the Trinidad and Tobago economy. In order for entrepreneurial firms to play this role, they must be export competitive, have high growth potential, and be innovative. The APS data continue to point to an SME sector that is dominated by replicative, small scale firms. Such a configuration serves to further increase dependence of the economy on the energy sector. Changes in the demographics of Trinidad and Tobago entrepreneurs may be of some concern if these prove to be trends in future GEM studies. Older, less educated, less opportunity driven entrepreneurs are less likely to produce the kinds of firms that would be required in order for this sector to fulfil its potential as a driver of economic transformation. The reality is that the Trinidad and Tobago economy is largely driven by the energy sector with a wide range of programmes by which the government distributes its revenues therefrom. This provides many opportunities for individuals to earn incomes without the risk of innovative entrepreneurship. Future GEM research can look deeper into this phenomenon to test (for example) whether programmes such as the OJT (On the Job Training) Programme may be raising the opportunity cost to entrepreneurship facing young graduates. This may in part explain the changing demographic.

The NES data continue to point to challenges in key areas that would facilitate the entrepreneurial sector in rising to challenge and realizing its potential as a path to economic transformation. According to the NES respondents, there has been no shift in government policies or programmes in key areas that would promote innovative, high growth potential firms that are export competitive. NES respondents also continue to cite market openness as a key challenge for small firms attempting to enter oligopolistic markets. There is still a need to address the deepening of training and developing skills relating to entrepreneurship at the earlier stages of the education system - particularly at high school level below the sixth form as half of the entrepreneurs in Trinidad and Tobago finish school at CXC level. While consumers, firms, policy makers and all other stakeholders all seem to place a high value on innovation, NES respondents observe that firms are still reluctant to experiment with new technologies. NES respondents have further pointed to financial and access challenges, with regard to technology diffusion. NES respondents have also pointed to an almost complete absence of support for engineers and scientists to have their ideas commercialized through new and growing firms.

Several agencies have been set up to support entrepreneurial firms. While some agencies focus on specific groups of entrepreneurs or on specific markets, there is good coverage of available services to entrepreneurial firms. Despite the effort that has gone into providing this support, the APS respondents were largely unaware of the existence of these organizations, or of the services that are available. Over 95% of the APS respondents were not able to name any of the agencies reviewed in this report. Of the respondents who could name at least one agency, the only service of which they were aware was loan financing. These are the same APS respondents of whom 59% reported being aware of a business opportunity in their environment. Consideration could be given to raising awareness of the agencies and the services that have been created to assist and develop entrepreneurial firms. Future GEM surveys should continue to track the awareness of APS respondents regarding the agencies set up to support entrepreneurs and the services that they offer. This lack

of awareness is a potential barrier to entrepreneurial activity that can possess the qualities necessary to contribute to economic diversification. There may be some potential gains in efficiency and coverage through coordination and harmonization of the activities of such agencies. This can be achieved in several ways that need not threaten or reduce the autonomy of these agencies.

Increases in TEA, and in the innovation, growth potential and export competitiveness of TEA will have a significant impact on productivity and Net Job Creation. Supportive financing is required for these specific needs. This observation is not new. It has been acted upon in the region over two decades. Previously there have been some innovative financing approaches that were indeed fit for the purpose in the environment at the time and suitable for a nascent private sector. There is now a fundamentally different business "eco-system". Today there is much less free space but wider markets, more un-known opportunities but more skills and knowledge. There is also a much larger and more mature private enterprise sector. Clearly, the funding needs are different and will require different delivery systems. Internationally there is now a wide range of funding solutions. The issue is selecting what will be successful for each country and for each sector or industry at a given time. Consideration could be given to careful, objective examination of the precise needs for financing, and clear definitions of the impact that should be achieved. This applies particularly to the volatile and demanding needs of certain high-potential sectors accessible to entrepreneurs. In Trinidad and Tobago these include the performing arts and creative services but also a range of personal services arising from changing social needs such as some niches in health services.

The national culture was seen as giving Trinidad and Tobago certain advantages when it comes to innovation, but at the same time, posing some challenges with regard to implementation, commercialization and 'scaling up' of innovations. This conundrum can be addressed by programmes such as the business incubators and the I2I initiative. Consideration could be given to developing and strengthening support mechanisms that are focused on technology transfer, implementation and commercialization of innovative products, services and processes.

## **Glossary of Terms**

#### Adult Population Survey

A survey that samples a portion of the non-institutionalized adult population; adults 18 years and over, both in and out of labour force from all geographic regions of the country about their perceptions, attitudes capabilities and awareness concerning the entrepreneurial environment in the country.

#### **Business Discontinuance Rate**

The percentage of adults (18 and older) who in the past 12 months has discontinued a business either by selling, shutting down operations or otherwise discontinuing an owner/manager relationship with the business.

#### **Entrepreneurial Aspirations**

The efforts of the early-stage entrepreneur to introduce new products and services, develop new production processes, penetrate foreign markets, substantially increase the number of firm employees, and finance the business with either formal or informal venture capital, or both.

#### Entrepreneurship as a Desirable Career Choice

The percentage of the population aged 18 and over, who agree with the statement that in their country, most people consider starting a business as a desirable career choice.

#### **Established Business Owners**

Individuals who are currently owner-managers of an operating business that has paid salaries, wages, or any other payment to the owners for more than 42 months.

#### Fear of Failure

The percentage of the population 18 and older with positive perceived opportunities who indicate that fear of failure would prevent them from actually starting a business.

#### **High-Growth Expectation**

The percentage of the early-stage entrepreneurs who expects to employ at least 20 employees in five years' time.

#### High Status of Successful Entrepreneurs

The percentage of the population aged 18 and over, who agrees with the statement that in their country, successful entrepreneurs receive high status.

#### **International Orientation**

The percentage of the Early-Stage entrepreneurs with more than 25% of the customers coming from other countries.

#### Media Attention for Entrepreneurship

The percentage of the population 18 and over, who agrees with the statement that in their country, stories about successful new businesses are often seen in the public media.

#### **Nascent Entrepreneurs**

Individuals who are currently actively involved in setting up a business they will own or co-own which has not yet paid salaries, wages or any other payment to the owners for more than three months.

#### National Expert Survey

A survey that studies the views of experts who are directly involved in delivering or assessing a major aspect of an entrepreneurial framework condition in their country.

#### Necessity-Driven Entrepreneurship

The percentage of Total Early-Stage entrepreneurs who are involved in entrepreneurship because they had no other option for work.

#### New Business Owners

The percentage of adults 18 and over, who is currently an owner-manager of a new business; that is owner-manager of an operating business that has paid salaries, wages, or any other payment to the owners for more than three months but not more than 42 months.

#### New Product Market Oriented

The percentage of the Early-Stage entrepreneurs who indicates that their product or service is new to at least some customers, and indicate that not many businesses offer the same product or service.

#### Opportunity-Driven Entrepreneurship

The percentage of those involved in Total Early-Stage entrepreneurial activity (as defined above) who (i) claim to be driven by opportunity as against having no other option for work; and (ii) who identify being independent or increasing their income rather than just maintaining their income as the main driver for being involved in the business.

#### Perceived Opportunity

The percentage of population 18 and over, who sees good opportunities for entrepreneurship in the area where they live.

#### **Perceived Capability**

The percentage of population 18 and over, who believes they have the skills and knowledge required to start a business.

## Total Early-Stage Entrepreneurs

Adults 18 and over, who are either nascent entrepreneurs or owner-managers of a new business.

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## **Appendix 1- Entrepreneurial Activity in the Countries Participating in GEM in 2014**

-	Nascent Entrepreneurship	New Business	Total early-stage Entrepreneurial	Established Business Ownership	Necessity-Driven Entrepreneurial Activity: Relative	Improvement- Driven Opportunity Entrepreneurial Activity: Relative
Economy	Rate	Ownership Rate	Activity (TEA)	Rate	Prevalence	Prevalence
Angola	9.52	12.36	21.50	6.50	24.45	43.41
Argentina	9.47	5.21	14.41	9.09	28.03	43.51
Australia	7.65	5.69	13.14	9.80	17.60	63.78
Austria	5.80	3.06	8.71	9.86	10.95	37.37
Barbados	8.48	4.23	12.71	7.09	14.56	53.13
Belgium	2.93	2.55	5.40	3.54	30.67	43.12
Belize	4.25	3.02	7.14	3.74	13.07	47.61
Bolivia	21.51	7.07	27.40	7.59	22.84	51.70
Bosnia and Herzegovina	4.48	2.94	7.42	6.67	50.83	25.16
Botswana	23.13	11.13	32.79	4.95	30.25	54.71
Brazil	3.66	13.79	17.23	17.51	28.95	57.81
Burkina Faso	12.72	9.75	21.71	17.68	22.27	52.84
Cameroon	26.35	13.70	37.37	11.50	33.46	40.51
Canada	7.93	5.61	13.04	9.35	15.67	63.34
Chile	16.61	11.05	26.83	8.79	17.63	62.18
China	5.45	10.17	15.53	11.59	33.22	45.41
Colombia	12.39	6.66	18.55	4.86	33.33	51.55
Costa Rica	7.58	3.74	11.33	2.53	19.31	63.52
Croatia	5.95	2.02	7.97	3.61	46.57	28.67
Denmark	3.07	2.49	5.47	5.09	5.43	60.15
Ecuador	24.54	9.92	32.61	17.67	29.43	34.95
El Salvador	11.37	8.74	19.48	12.73	31.95	54.48
Estonia	6.34	3.54	9.43	5.70	15.10	41.15
Finland	3.45	2.29	5.63	6.60	15.62	63.12
France	3.69	1.71	5.34	2.94	16.06	69.15
Georgia	4.10	3.23	7.22	7.28	48.59	30.95
Germany	3.05	2.25	5.27	5.15	23.18	53.74
Greece	4.58	3.37	7.85	12.84	34.77	30.53
Guatemala	11.98	9.19	20.39	7.36	40.62	38.93
Hungary	5.56	3.87	9.33	7.95	33.19	36.27
India	4.12	2.54	6.60	3.73	31.71	36.54
Indonesia	4.38	10.12	14.20	11.90	20.52	37.95
Iran	7.52	8.68	16.02	10.92	38.69	49.58
Ireland	4.36	2.46	6.53	9.91	29.65	48.56
Italy	3.18	1.28	4.42	4.27	13.59	38.58
Jamaica	7.94	11.90	19.27	14.44	32.09	33.51
Japan	2.71	1.26	3.83	7.18	18.82	68.24
Kazakhstan	8.10	6.19	13.72	7.43	26.39	33.68
Kosovo	2.46	1.79	4.03	2.06	22.01	29.13
Lithuania	6.07	5.34	11.32	7.84	19.61	43.78
Luxembourg	4.94	2.33	7.14	3.70	11.81	59.81
Malaysia	1.36	4.55	5.91	8.46	17.54	63.99
Mexico	12.66	6.39	18.99	4.48	22.46	50.04
Netherlands	5.15	4.53	9.46	9.59	15.67	62.77
Norway	2.75	2.95	5.65	5.35	3.54	69.03
Panama	13.12	4.09	17.06	3.44	26.32	60.23
Peru	23.10	7.32	28.81	9.24	16.39	58.90
Philippines	8.16	10.52	18.38	6.16	29.36	33.49
Poland	5.77	3.58	9.21	7.30	36.75	47.11
Portugal	5.83	4.40	9.97	7.58	27.37	49.31
Puerto Rico	8.80	1.29	10.04	1.27	20.50	51.08
Qatar	11.32	5.39	16.38	3.54	21.53	54.37

Economy	Nascent Entrepreneurship Rate	New Business Ownership Rate	Total early-stage Entrepreneurial Activity (TEA)	Established Business Ownership Rate	Necessity-Driven Entrepreneurial Activity: Relative Prevalence	Improvement- Driven Opportunity Entrepreneurial Activity: Relative Prevalence
Romania	5.33	6.17	11.35	7.60	28.94	49.75
Russia	2.39	2.35	4.69	3.95	39.02	41.56
Singapore	6.36	4.82	10.96	2.88	11.40	70.81
Slovakia	6.70	4.35	10.90	7.80	32.57	51.83
Slovenia	3.78	2.66	6.33	4.76	25.46	44.78
South Africa	3.87	3.20	6.97	2.68	28.19	35.49
Spain	3.33	2.21	5.47	7.03	29.79	33.48
Suriname	1.93	0.17	2.10	5.17	5.42	39.83
Sweden	4.86	1.90	6.71	6.46	7.91	56.16
Switzerland	3.38	3.81	7.12	9.10	14.35	58.14
Taiwan	4.41	4.13	8.49	12.19	13.26	66.04
Thailand	7.63	16.73	23.30	33.06	17.81	71.23
Trinidad and Tobago	7.47	7.44	14.62	8.48	12.01	64.26
Uganda	8.92	28.13	35.53	35.94	18.88	54.25
United Kingdom	6.28	4.48	10.66	6.50	12.90	52.71
United States	9.67	4.25	13.81	6.95	13.50	66.93
Uruguay	10.51	5.75	16.08	6.74	15.96	27.28
Vietnam	2.00	13.30	15.30	22.15	29.74	53.27

## **Appendix 2- Author Biographies**

#### Miguel Carrillo

Professor Miguel Carrillo has provided expertise in the area of Strategy and Innovation to many governments, multi-lateral agencies such as The World Bank, Inter-American Development Bank and private sector organizations such as Ernst and Young, Coca Cola, CEMEX, Volkswagen, Novartis. He also gives his expertise to non-profit and non-governmental organizations. He has lectured in over 15 countries and has been a visiting lecturer at MIT, University of Massachusetts, HEC Paris and University of Texas in Austin. He is the pioneer or champion of several nova research agendas for the region in the areas of Business Analytics, Cluster Mapping, Sustainable Innovation, and Governance, in addition to his involvement with GEM research in Chile, Trinidad and Tobago, and Suriname. He holds a PhD in Strategy from the joint PhD Programme of Concordia and McGill University in Montreal, Canada. Prior positions include Dean, Adolfo Ibanez School of Management, Miami Campus; Dean, School of Business, Monterrey Institute of Technology, Mexico; Finance Manager, Hewlett Packard; Association Consultant, McKinsey & Company. In 2009, he assumed position as the Executive Director and Professor of Strategy of the Arthur Lok Jack Graduate School of Business.

#### Henry Bailey

Henry Bailey lectures in Economics and Applied Economics courses at the Arthur Lok Jack Graduate School of Business and at the St. Augustine campus of the University of the West Indies. He holds a PhD in economics from the University of the West Indies, and an MBA from Brunel University. He also has BSc and MSc degrees in economics. He has published in several international journals in the areas of utility construction, health economics and health outcomes research, and he has presented at various research forums in Health Economics and Development. He is a member of the EuroQol Research Foundation, and a founding member of the Global Health Delivery Network of Harvard University. In 2013 he received the Quality in Tertiary Education Award for Academic and Applied Research from the Accreditation Council of Trinidad and Tobago and in 2014 he received the NGC-UWI Award for the most Outstanding Researcher in the Social Sciences/Humanities/Arts at UWI. He has led the GEM Team for Trinidad and Tobago since 2011, and for Suriname since 2014. Prior to his career in academia, he worked for Johnson & Johnson for over 25 years in the pharmaceutical and medical device businesses in the Caribbean and Central America.

#### Marvin Pacheco

Marvin Pacheco holds Bachelor's and Master's Degrees in Management Studies from the University of the West Indies, St. Augustine. He is presently is the Lead Researcher in the Centre for Strategy and Competitiveness at the Arthur Lok Jack Graduate School of Business. In this capacity, he has successfully led consulting teams on key projects in the Caribbean region in the areas of Cluster Development, Innovation, Market Research and Impact Assessments for both public sector and private sector clients. He has also been a member of the Global Entrepreneurship Monitor team in Trinidad & Tobago, Suriname and Belize since 2010. Mr. Pacheco is Adjunct Faculty in Marketing in the Department of Management Studies, UWI and at the Arthur Lok Jack Graduate School of Business. He is currently in the final stages of completing his Doctor of Philosophy in Business Administration specialization in Marketing and his research interests include Product Portfolio Management, Brand Management and Strategy & Competitiveness.

#### **Gerard Pemberton**

Gerard Pemberton worked as a CEO in financial services and in industry for over 25 years. He is a specialist in Small and Medium Enterprise (SME) development and funding. His experience includes development and management of Private Equity funds for SME for over 20 years in collaboration with international development financial institutions. His extensive Board experience in a broad range of companies in the financial and industrial sectors, both in executive and non-executive roles, has provided in-depth knowledge of corporate governance practices and Board dynamics. He holds a BSc degree in Economics and Management Studies from the University of the West Indies and a Diploma in Development Banking at American University, Washington D.C. He has presented at international conferences in his areas of expertise, including SME Financing and Microfinance, Corporate Governance and Access to Finance. He has served as a member on Governmentappointed financial sector reform committees, the Economic Advisory Council (1988) and on the Public Service Commission for six years. He also served on the Board of the Trinidad & Tobago Chamber of Industry & Commerce. He was instrumental in the development of the original concepts, operating models and systems for the first commercial microfinance group of companies in the Caribbean (MICROFIN) which once operated in four countries (Trinidad & Tobago, Guyana, Grenada and St Lucia).

#### Gabrielle Ghany

Gabrielle Ghany holds a BSc degree in International Relations with a minor in Political Science and an MSc in Global Studies from the Institute of International Relations, The University of the West Indies. She is a Researcher in the areas of health economics and entrepreneurship at the Arthur Lok Jack Graduate School of Business, The University of the West Indies. Her areas of research also include Renewable Energy development in Trinidad and Tobago and the wider Caribbean. Prior to this she worked in the technical - administrative field at Campus Information Technology Services at the University of the West Indies and is currently a member of the Click to Start organization, an entrepreneurial venture for promoting technology literacy in Trinidad and Tobago.



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