



TOWARDS EXPONENTIAL GROWTH IN BARBADOS

Dialogue on policies and instruments to unleash innovation

November 22nd, 2018 - 8:30 am – 5:30 pm, followed by cocktail

November 23rd, 2018 - 9:00 am – 12:00 m

Courtyard by Marriott Hotel

Economic growth in the Caribbean has been hindered by stagnant total factor productivity growth over the last 3 decades¹. At the macro level, total factor productivity measures how an economy combines its inputs – capital and labor – to produce value, and it is generally understood to reflect the rate of technological change and innovation of an economy. However, total factor productivity growth starts at the micro level, led by private sector firms. At that level, total factor productivity concerns the efforts that businesses undertake to create more value by creating new products, or by seeking ways to become more efficient. Research has found that while Caribbean countries do not differ from other small economies in their potential capacity for innovation – as measured by the quality of research institutions, corporate R&D spending, university-industry collaboration, and the availability of scientists and engineers – Caribbean businesses innovate at a much lower rate than businesses in other small economies, and the difference is starkest among small and medium enterprises (SMEs)².

Innovation at the firm level requires certain inputs, the most important of which are knowledge (what, where, how, who) and the capacity to implement, which requires funding. It also requires risk-taking, in the sense that a truly innovative product or process has uncertain outcomes, and may fail outright, or require a number of iterations. Innovation does not happen automatically. It is hampered by a host of market failures related to a) the public good aspects of generating knowledge; b) asymmetry of information between the entrepreneur and possible funders, which affects the ability of firms to raise financing, and c) the uncertainty surrounding innovation, which makes it difficult to put a price on the possible upside of innovative businesses and limits the flow of capital to promising firms. Innovation at the firm level therefore requires an eco-system that encourages knowledge generation and appropriation, provides capital to high-risk, promising projects, and supports radical risk-taking by businesses in an environment that minimizes red-tape. There is evidence that the Caribbean has a lower return to innovation as compared to other small economies³, which indicates an absence of some or all of these mechanisms of support.

In recognition of the market failures that surround the process of innovation, developed countries, and to a lesser extent, developing countries, have put in place institutions that offer support for innovation.

¹ Ruprah, Inder, Karl Melgarejo and Ricardo Sierra (2014). “Is there a Caribbean Sclerosis?”. IDB Caribbean Country Department.

² Ruprah, Inder and Ricardo Sierra (2016). “The Caribbean Private Sector needs more than an oil change”. IDB Caribbean Country Department.

³ Ibid.



In smaller countries (such as Finland, Israel, Uruguay), these efforts have been led by innovation agencies that create incentives for knowledge creation and sharing, provide crucial support for promising, dynamic firms, and foster networks that can overcome diseconomies of scale and scope. Most Latin American countries have innovation agencies, all of which have received vital support by the IDB. These agencies' work has produced tangible results evidenced in the creation of new businesses and new export sectors, with a corresponding impact on tax revenue and employment. For example, the innovation agency of Peru contributed start-up capital to a firm producing seedless grapes for the US market, in the off season. That firm became such a successful exporter of seedless grapes that its taxes are equivalent to the entire funding for start-ups of Peru's innovation agency. In Uruguay, one entrepreneur supported by the National Research and Innovation Agency presented a project based on his end-of-degree thesis in 2008. Today his company is present in the main Latin American markets and employs 350 people⁴. An impact evaluation commissioned by Uruguay concluded that every US\$1 provided by its national innovation agency to support entrepreneurs and innovators has generated US\$19 in increased fiscal revenue to the Uruguayan government, confirming the sustainability of the whole operation.

The need for an eco-system to support innovation is even more pressing in a global context of rapid technological change. The world is experiencing a 4th industrial revolution, where artificial intelligence, 3D printing, new materials, genetic coding, machine learning, robotics, big data, blockchain and remote sensing, along with an exponential rise in computing power, are converging to disrupt the production, commercialization and distribution of goods and services. These massive technological changes produce radical threats to established businesses. Conversely, these changes also create massive opportunities for businesses to become more efficient, and to produce new products and services that can be globally traded without the friction of logistics. For the Caribbean, new technology is an opportunity to use the region's recognized creativity to transcend the logistics hurdles that have traditionally affected its goods and services' exports.

Barbados has crucial elements to take advantage of the ongoing 4th industrial revolution. Its UWI Cave Hill campus is investing in industry 4.0 technologies, such as artificial intelligence and blockchain, and some of its students have won top prizes at international global tech pitch competitions. The country has a well-developed financial sector and domestic conglomerates cognizant of the need to explore new technology solutions, and desirous of investing in dynamic firms. Barbados has a home-grown firm in blockchain technology, BITT, which has attracted international capital and visibility, making Barbados a chosen investment destination for other international blockchain companies. Finally, Barbados faces domestic problems that can become an inspiration for global solutions to local problems. Missing in Barbados are key policies and instruments to support innovative businesses at all stages, particularly in the early stages, and especially in the high-tech sector, as well as institutions that effectively coordinate those actors that already exist in the eco-system.

The following example of the city of Medellín, Colombia in a small geographical setting, will illustrate what a dynamic innovation agency can do for economic growth in a country or region.

⁴ ANII (2017). Presentation: "We celebrate 10 years turning challenges into opportunities".



Ruta N

Ruta N is the innovation agency of Medellín, a city of 3.6 million people in Colombia which was once known as the global capital of narco-trafficking. Medellín has transformed itself from one of the most dangerous cities in the world during the 1990s, to being recognized in 2013 as the world's most innovative city by the Urban Land Institute, and as a global hub of innovation by Australia's 2ThinkNow in 2017. Today Medellín is experiencing a boom in the fashion and other industries – including medical devices, and global process outsourcing – it is widely recognized as an entrepreneurial city, and it contributes to more than 8% of Colombia's GDP⁵.

The history of Medellín's transformation is itself one of urban innovation. A new city government in 2003 sought to turn the city around by focusing on increasing public investments in the culture of citizenship, integration (of the urban poor to city services), and education, as well as by delivering these services in a very innovative way. Ruta N, created in 2009 to support the economic transformation of Medellín, has successfully coordinated an eco-system of innovation that creates incentives for companies to use science and technology to produce new products and services, and improved the attractiveness of the city for global investors. Today, more than half of the companies in the city are bringing innovations to the market and creating jobs as a result, and 154 companies from 23 countries have located in Medellín, generating more than 2700 direct jobs⁶.

Ruta N provides incentives to increase the supply and demand for scientific and technological knowledge in the city, as well as to mobilize talent and attract capital. Ruta N's different instruments generate a meeting point for business people, the university, policy-makers and citizens to demand innovative solutions to public, social or private problems, as well as incentives for incubators, accelerators and venture capital funds. A critical element of the turn-around has been intense public-private dialogue, which ensures that the instruments fulfill its objectives of growth while keeping the institutions that manage them accountable.

The Dialogue

Given Barbados's potential to benefit from an eco-system to support entrepreneurship and innovation, the dialogue will bring Ruta N representatives to Barbados, to delve into the different kinds of support that a Barbadian eco-system would need to provide to achieve Barbados' potential for dynamic growth. It is important that all the public and private institutions that have a current role and/or could have a future role in supporting entrepreneurs attend this event and participate in the discussion.

While the focus of the event is on Barbados, representatives from the OECS countries will participate in the event as well, to optimise the visit by the Ruta N representatives. As such, during each 'deep dive session' there will be a table engaged in design-thinking in the context of the OECS.

⁵ <https://www.weforum.org/agenda/2016/02/6-powerful-lessons-from-the-transformation-of-medellin/>

⁶ <https://www.rutanmedellin.org//en/news/news/item/medellin-world-innovation-hub>

Day 1: Thursday, November 22nd, 2018, Marriott

Time	Topic
8:00 – 8:30 am	Registration
8:30 am – 9:15 am	Welcome Remarks
Setting the context	IDB Representative – Juan Carlos de la Hoz Vinas Senior Director of Canada’s Caribbean Regional Program – Benoit-Pierre Laramée Director of Projects, Caribbean Development Bank – Daniel Best
	A vision for growth, entrepreneurship and innovation in Barbados Minister of Innovation, Science and Smart Technology – Senator Kay McConney
9:15 am – 10:45 am	Policy-makers’ toolbox to support innovative entrepreneurship
What is possible	- Adrian Magendzo – Inter-American Development Bank (30 min)
	4th industrial revolution technologies: opportunities for Barbados
	- Sylvia Dohnert – Compete Caribbean Partnership Facility (10 min)
	Spurring growth in small economies – the trajectory of Medellin
	- Alejandro Delgado, Ruta N, Medellín, Colombia (30 min)
	Q&A
10:45 am – 11:00 am	Coffee Break
11:00 am – 1:30 pm	Instruments to stimulate dynamic entrepreneurship in Barbados
Deep-dive session	- Conceptual taxonomy for instruments to support dynamic entrepreneurship with illustrations from Chile – Adrian Magendzo - Mapping of entrepreneurial support in Barbados – Sonja Trotman, BIDC - How Medellin stimulates dynamic entrepreneurship (Smart Capital, Company Builder, Business Development Centers and Landing Program) – Jorge Areiza, Ruta N
1:30 pm – 2:15 pm	Lunch
2:15 – 4:30 pm	Instruments to support innovation in Barbados
Deep-dive session	- Conceptual taxonomy for instruments to support innovation – Sylvia Dohnert, IDB - Mapping of support for innovation in Barbados – Charles Cyrus, Director, National Council for Science and Technology (acting), Ministry of Innovation, Science and Smart Technology



Canada

- How Medellin stimulates innovation and adoption of industry 4.0 technology (Innovation managers, Innovation Lab, Public and Private Challenges, Innovation Pact) – Alejandro Delgado, Ruta N

Practical session

- Design-thinking around the following themes (60 min)
 - o Generating a stronger pipeline of dynamic entrepreneurs
 - o Financing for entrepreneurs
 - o Supporting tech-based start-ups
 - o Bridging knowledge generation with innovation
 - o Fostering technology adoption across the board
 - o Increasing private sector investment in R&D
- Presentations on design-thinking exercise (30 min)

Facilitator: Jorge Areiza, Ruta N, Medellin

4:30 pm – 5:30 pm

Wrap-up Day 1

Barbadian participants, with comments from Ruta N and IDB

5:30 – 7:00 pm

Cocktail



Canada

Day 2 – November 23rd, 2018 - Marriott

Time	Topic
8:30 am – 9:00 am	Continental Breakfast
9:00 am – 11:00 am	Institutional Architecture <ul style="list-style-type: none">- Collaboration and alignment between different public and private agencies – Ruta N’s experience – Alejandro Delgado- A vision from the private sector for coordination and alignment of private sector support in Barbados – Christopher De Caires – Chairman of the Board, Barbados Entrepreneurship Foundation- Design thinking on the following themes (60 min):<ul style="list-style-type: none">o Coordinating support for entrepreneurship (public, private, academic: roles and accountability)o Coordinating support for innovation (public, private, academic: roles and accountability)- Presentations on design-thinking exercise (30 min)
	Facilitator: Jorge Areiza, Ruta N
11:00 am – 11:15 am	Coffee Break
11:15 – 12:00 pm	Closing remarks Sylvia Dohnert – Compete Caribbean Partnership Facility