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THE MINISTRY OF FINANCE AND THE PUBLIC SERVICE  
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## **TOWARDS EXPONENTIAL GROWTH IN JAMAICA**

**Dialogue on policies and instruments to unleash innovation**

**November 20<sup>th</sup>, 2018, 8:00 am – 5:30 pm, followed by cocktail**

**November 21<sup>st</sup>, 2018, 8:30 am – 11:30 am.**

**Marriott Hotel, Kingston**

Economic growth in the Caribbean has been hindered by stagnant total factor productivity growth over the last 3 decades<sup>1</sup>. In the case of Jamaica, since the early nineties, both GDP/worker and total factor productivity has been contracting relative to other small economies<sup>2</sup>. 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)<sup>3</sup>.

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 financing. It also requires risk-taking, in the sense that a truly innovative product or process has uncertain outcomes, and may fail outright, or require several 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

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<sup>1</sup> Ruprah, Inder, Karl Melgarejo and Ricardo Sierra (2014). "Is there a Caribbean Sclerosis?". IDB Caribbean Country Department.

<sup>2</sup> Ruprah, Inder (2017). "Jamaica: Where we are and why it matters", Presentation delivered on Acorn's 20<sup>th</sup> Anniversary Seminar, UWI, Jamaica

<sup>3</sup> Ruprah, Inder and Ricardo Sierra (2016). "The Caribbean Private Sector needs more than an oil change". IDB Caribbean Country Department.



Canada



THE MINISTRY OF FINANCE AND THE PUBLIC SERVICE  
A CENTRE OF EXCELLENCE

as compared to other small economies<sup>4</sup>, 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. 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 Inter-American Development Bank (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 early 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 people<sup>5</sup>. 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 dollars 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 4<sup>th</sup> 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.

Jamaica could be in a position to take advantage of the ongoing 4<sup>th</sup> industrial revolution. It boasts five universities generating local talent in business and in tech, as evidenced by two cohorts of Jamaican university students winning top prizes at international tech pitch competitions. Jamaica has a relatively well-developed financial sector and domestic conglomerates cognizant of the need to explore new technology solutions, and desirous of investing in dynamic firms. Finally, Jamaica faces domestic problems that can become an inspiration for global solutions to local problems. Missing in Jamaica, however, are key policies and instruments to support innovative businesses at all stages, particularly in the early stages, and especially in the high-

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<sup>4</sup> Ibid.

<sup>5</sup> ANII (2017). Presentation: "We celebrate 10 years turning challenges into opportunities".



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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, located in a small and similarly isolated geographical setting as most countries in the Caribbean<sup>6</sup>, will illustrate what a dynamic innovation agency can do for economic growth.

### **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 GDP<sup>7</sup>.

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 jobs<sup>8</sup>.

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 Jamaica's potential to benefit from an eco-system to support entrepreneurship and innovation, this event will bring Ruta N representatives to Jamaica, to delve into the different kinds of support that a Jamaican eco-system would need to provide to achieve Jamaica's potential for dynamic growth. It is important that all the institutions that have a current role in supporting entrepreneurs and businesses of all sizes attend and participate in the event.

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<sup>6</sup> Medellín is located in a valley surrounded by mountains, and for decades, internal violence in Colombia meant that people needed to fly to get to other places in Colombia.

<sup>7</sup> <https://www.weforum.org/agenda/2016/02/6-powerful-lessons-from-the-transformation-of-medellin/>

<sup>8</sup> <https://www.rutanmedellin.org/en/news/news/item/medellin-world-innovation-hub>

## Day 1 – November 20<sup>th</sup>, 2018 – Marriott Hotel

Time	Topic
8:00 – 8:30 am	Registration
8:30 am – 9:15 am	<b>Welcome Remarks</b>
Setting the context	<ul style="list-style-type: none"> <li>- Caribbean Department Manager, Inter-American Development Bank – Therese Turner-Jones</li> <li>- Canadian High Commissioner to Jamaica – Laurie Peters</li> <li>- Director of Projects, Caribbean Development Bank – Daniel Best</li> </ul>
	<b>A vision for growth, entrepreneurship and innovation in Jamaica</b>
	<ul style="list-style-type: none"> <li>- Minister of Finance and the Public Service – Dr. the Hon. Nigel Clarke</li> </ul>
9:15 am – 10:45 am	<b>Spurring growth in small economies – the trajectory of Medellin</b>
What is possible	<ul style="list-style-type: none"> <li>- Alejandro Delgado, Ruta N, Medellín, Colombia (30 min)</li> </ul>
	<b>4<sup>th</sup> industrial revolution technologies: opportunities for Jamaica</b>
	<ul style="list-style-type: none"> <li>- Sylvia Dohnert – Compete Caribbean Partnership Facility (10 min)</li> </ul>
	<b>Policy-makers’ toolbox to support innovative entrepreneurship</b>
	<ul style="list-style-type: none"> <li>- Adrian Magendzo – Inter-American Development Bank (30 min)</li> </ul>
10:45 am – 11:00 am	Coffee Break
11:00 am – 1:00 pm	<b>Instruments to stimulate dynamic entrepreneurship in Jamaica</b>
Deep-dive session 1	<ul style="list-style-type: none"> <li>- Conceptual taxonomy for instruments to support dynamic entrepreneurship with illustrations from Chile – Adrian Magendzo (10 min)</li> <li>- Mapping of entrepreneurship support in Jamaica – Audrey Richards, Development Bank of Jamaica (10 min)</li> <li>- How Medellín stimulates dynamic entrepreneurship (Smart Capital, Company Builder, Business Development Centers and Landing Program) – Jorge Areiza, Ruta N (10 min)</li> <li>- Design-thinking around the following themes (60 min) <ul style="list-style-type: none"> <li>o Increasing the pipeline of entrepreneurs</li> <li>o Financing for entrepreneurs</li> <li>o Supporting tech-based start-ups</li> </ul> </li> <li>- Presentations on design-thinking exercise (30 min)</li> </ul>
	Facilitator: Adrian Magendzo, Private Sector Specialist, Inter-American Development Bank
1:00 pm – 2:15 pm	Lunch
2:15 – 4:15 pm	<b>Instruments to support innovation in Jamaica</b>
Deep-dive session 2	<ul style="list-style-type: none"> <li>- Conceptual taxonomy for instruments to support innovation – Adrian Magendzo (10 min)</li> <li>- Mapping of support for innovation in Jamaica – Chris Brown, Development Bank of Jamaica (10 min)</li> </ul>



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- How Medellín stimulates innovation and adoption of industry 4.0 technology (Innovation managers, Innovation Lab, Public and Private Challenges, Innovation Pact) – Alejandro Delgado, Ruta N (10 min)
- Design-thinking around the following themes (60 min)
  - 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: Alejandro Delgado, Ruta N, Medellín

4:15 pm – 4:30 pm

Coffee Break

4:30 pm – 5:30 pm

**Wrap up day 1**

Jamaican participants, with comments from Ruta N and IDB

5:30 – 7:00 pm

Cocktail

**Day 2 – November 21<sup>st</sup>, 2018 - Marriott Hotel**

<b>Time</b>	<b>Topic</b>
8:30 am – 10:30 am	<b>Institutional Architecture</b> <ul style="list-style-type: none"><li>- A vision from the private sector for coordination and alignment of private sector support in Jamaica – <i>private sector representative</i> (TBC) (15 min)</li><li>- Collaboration and alignment between different public and private agencies – Ruta N's experience – Alejandro Delgado (15 minutes)</li><li>- Design thinking on the following themes (60 min)<ul style="list-style-type: none"><li>o Coordinating support for entrepreneurship (public, private, academic: roles and accountability)</li><li>o Coordinating support for innovation (public, private, academic: roles and accountability)</li></ul></li><li>- Presentations on design-thinking exercise (30 min)</li></ul>

Facilitator: Jorge Areiza, Ruta N

**10:30 am – 10:45 am**

**Coffee Break**

10:45 – 11:30 pm

**Closing remarks**

Claudia Stevenson, Private Sector Specialist, Inter-American Development Bank