

TC Document

I. Basic Information for TC

▪ Country/Region:	REGIONAL
▪ TC Name:	Productivity, Technology, Gender, Innovation and Climate Practices in Caribbean Firms (PROTEGIC)
▪ TC Number:	RG-T4278
▪ Team Leader/Members:	Dohnert De Lascurain, Sylvia Eva (IFD/CTI) Team Leader; Stevenson, Claudia (IFD/CTI) Alternate Team Leader; Beuermann Mendoza, Diether Wolfgang (CCB/CCB); Grant, Kayla Sharee (IFD/CTI); Grazzi, Matteo (IFD/CTI); Greg Broomes (IFD/CTI); Hugo Angel (ITE/IPS); Maria Alejandra Galeano (IFD/CTI); Mendoza Benavente, Horacio (LEG/SGO); Wayne Elliott (IFD/CTI); Acevedo Villalobos, Maria Cecilia Beuermann Mendoza, Diether Wolfgang (CCB/CCB); Maria Alejandra Galeano (IFD/CTI); Mendoza Benavente, Horacio (LEG/SGO)
▪ Taxonomy:	Research and Dissemination
▪ Operation Supported by the TC:	.
▪ Date of TC Abstract authorization:	.
▪ Beneficiary:	Caribbean countries
▪ Executing Agency and contact name:	Inter-American Development Bank
▪ Donors providing funding:	Compete Caribbean Partnership Facility(CCP); OC SDP Window 2 - Institutions(W2C)
▪ IDB Funding Requested:	Compete Caribbean Partnership Facility (CCP): US\$130,000.00 OC SDP Window 2 - Institutions (W2C): US\$300,000.00 Total: US\$430,000.00
▪ Local counterpart funding, if any:	US\$0
▪ Disbursement period (which includes Execution period):	24 months
▪ Required start date:	July 1 st , 2023
▪ Types of consultants:	Firms and Individuals
▪ Prepared by Unit:	IFD/CTI-Competitiveness, Technology and Innovation Division
▪ Unit of Disbursement Responsibility:	CCB/CBA-Country Office Barbados
▪ TC included in Country Strategy (y/n):	No
▪ TC included in CPD (y/n):	No
▪ Alignment to the Update to the Institutional Strategy 2010-2020:	Institutional capacity and rule of law; Productivity and innovation

II. Objectives and Justification of the TC

- 2.1 The economies of the Caribbean are small, open economies that depend mainly on tourism or on the exploitation of natural resources, and that have shown persistent low growth rates over time – averaging an annual GDP growth of 1.55% between 2002 and 2019.¹ Compounded with this low long-term growth, the COVID-19 pandemic severely affected international tourism and reduced these economies' GDP by an average (excluding Guyana) of 15%.² By the end of 2022 and

¹ Average GDP/Capita growth between 2001 and 2019 was 1.22% for the 13 Caribbean countries included in this TC. This average was tilted upwards by the commodity booms of Guyana and Trinidad and Tobago. Excluding these two countries, average GDP/Capita growth over that period was 0.99%. Authors' calculations based on WEO April 2023 data.

² Authors' calculations based on WEO April 2023 data.

despite recovery of the tourism industry starting in 2021, the size of these economies' GDP was, on average (excluding Guyana), 4% smaller than in 2019.³ In most of the countries, the top three exports account for 70% of total exports and merchandise exports have typically been unsophisticated, ubiquitous low value-added commodities like bauxite, oil and sugar.⁴ While the Caribbean has enjoyed relatively modest levels of investment over the last three decades, investment and savings alone are not sufficient to improve productivity.

- 2.2 In the long run, improvements in total factor productivity matter for growth worldwide, as well as in the Caribbean (Griliches 1979, World Bank, 2005; Thacker, Acevedo, and Perrelli 2012, Ruprah et al 2014). Research exploring the determinants of productivity in the Caribbean at the firm level using micro-level data show the significance of innovation on improving productivity (Dohnert, Crespi, and Maffioli 2017), and that during COVID-19 Caribbean innovative firms were more productive, experienced improvements in revenues and therefore were able to sustain higher wages during the pandemic shock (Acevedo, Garcia, Lennon, Pereira, 2023). Firm-level data collected by the IDB with financing from the Compete Caribbean Program⁵ (2011-2017) and the Compete Caribbean Partnership Facility (2017-2024) has allowed the measurement of total factor productivity at the firm level and has delivered a wealth of information on Caribbean firm's characteristics (i.e. size, sector, structure of financing, innovation behavior, use of digital and environmental technology, gender leadership and gender employment practices, etc.) that affect productivity. These insights have been used by the IDB to generate knowledge and numerous publications for this purpose,⁶ as well as to help inform the design of private sector development operations.⁷ The IDB has also used the data extensively to inform Country Development Challenges (CDC) and country strategies for its Caribbean

³ Ibid.

⁴ International Monetary Fund (IMF). World Economic Outlook database. 2014. A 2023 perusal of Harvard's Atlas of Economic Complexity depicts Jamaica and Trinidad and Tobago, the only two Caribbean countries measured, as having a degree of economic complexity in the products that they export that is in the low complexity for Jamaica, and medium complexity for Trinidad and Tobago.
<https://atlas.cid.harvard.edu/rankings>, retrieved April 17th 2023.

⁵ The Compete Caribbean Program (ATN/CJ-12159-RG; ATN/CJ-12159-RG-1) and the Compete Caribbean Partnership Facility (GN-2851, 2017-2024) are technical assistance, private sector development programs of around US\$30 million each, supporting business climate reforms and private sector innovation in 13 Caribbean countries. Compete Caribbean's first and second iterations were financed by the Inter-American Development Bank, the Government of the United Kingdom, the Caribbean Development Bank, and the Government of Canada.

⁶ For example, the following IDB publications: [Is there a Caribbean Sclerosis? Stagnating Economic Growth in the Caribbean \(2014\)](#) (downloaded 4,268 times); [Engine of Growth? The Caribbean Private Sector Needs More Than an Oil Change \(2016\)](#) (downloaded 9,178 times); [Are Oil and Gas Smothering the Private Sector in Trinidad and Tobago? \(2017\)](#) (downloaded 9,929 times); [Exploring Firm-Level Innovation and Productivity in Developing Countries: the Perspective of Caribbean Small States \(2017\)](#) (downloaded 5,297 times); [Nurturing Institutions for a Resilient Caribbean \(2018\)](#) (downloaded 7,961 times); [Economic Institutions for a Resilient Caribbean \(2021\)](#) (downloaded 8,809 times); [Blue-Collar Crime and Finance \(2023\)](#); [Gender Contribution to the Innovation Productivity Relationship in the Wake of COVID-19: Evidence for the Caribbean](#) (2023); and other papers that are undergoing the IDB publication approval process. The IFPG also provided empirical evidence for the following additional publications: Chapter 11 (Management of Private Debt) of the [IDBG's Flagship on Debt](#) (42,000 downloads so far); [The Impacts of the COVID-19 Pandemic Firms in the Caribbean](#), factors of resilience and companies' needs for sustainable recovery; and [Caribbean Economics Quarterly: Finance for Firms, Options for Improving Access and Inclusion](#) (3,516 downloads).

⁷ For example, [4860/OC-JA](#) "Boosting Innovation, Growth and Entrepreneurship Ecosystems Programme", [5647/OC-BL](#) "Digital Innovation to Boost Economic Development in Belize" and [5595/OC-RG](#) "Strengthening private sector development through innovation in the Eastern Caribbean OECS member countries".

member countries. In addition, there is evidence that the datasets are used beyond the IDB to inform private sector development challenges and strategies.⁸

- 2.3 So far, three rounds of Caribbean firm-level surveys have been carried out in the targeted 13 countries, with Compete Caribbean financing: (i) the Latin American and Caribbean Entrepreneurship Surveys (LACES) in 2010 in partnership with the World Bank followed by specific surveys focusing on access to finance and gender (FINGEN) ([ATN/CF-12259-RG](#)); (ii) the Productivity, Technology and Innovation (PROTEQIN) survey carried out in 2014 ([ATN/CF-12160-RG](#); [ATN/CJ-12159-RG](#); [ATN/CJ-12159-RG-1](#)); and (iii) the Innovation, Firm Productivity and Gender (IFPG) performance surveys carried out in 2020 ([ATN/CO-16694-RG](#)), which also measured the impact of COVID-19 on Caribbean businesses.⁹ The LACES survey was the first time that an enterprise level survey was carried out in most of the 15 CARIFORUM countries. PROTEQIN was novel in including additional modules that measured the gender composition of ownership and management and innovation efforts by each enterprise. It covered nearly 1900 firms across 13 Caribbean countries creating a first ever panel dataset of firms. IFPG expanded the survey questionnaire to include questions related to use of digital technology, green innovation, and impact of COVID-19, and extended the panel dataset. PROTEGIC intends to continue collecting data on performance, gender leadership and employment practices, innovation and green innovation and digital technology use, as well as to get the first post-COVID-19 reading of the state of Caribbean firms. All the surveys also collect information on aspects of the business climate that impact firm innovation behavior, including a deep dive into access to finance. Each successive round of survey strengthens the robustness of the panel dataset to reveal the firm's role in the economy and to improve understanding of the determinants, implications, and solutions to surmount the productivity gap in the region.
- 2.4 These data collection efforts are expensive undertakings that small and vulnerable Caribbean countries find difficult to fund and execute on their own, in addition to having weak administrative records and institutions. Thus, as part of the activities of the Compete Caribbean Partnership Facility (CCPF, or GN-2851) approved in 2016, and given the importance of a post-COVID-19 reading of Caribbean firms, a fourth round of innovation surveys is envisioned, focusing on the innovative behavior of Caribbean businesses, and aligned to the innovation data collection exercises routinely carried out by statistical offices in Latin America, and the recent developments and methodological recommendations from the OECD Oslo Manual. In addition, coordination with the World Bank Enterprise Survey team will ensure a more robust sample framework and a focus on the innovation and technology adoption modules.
- 2.5 **Objective.** The objective of this TC is to gather internationally comparable firm-level data on innovation, technology, firm performance, finance, gender and business management that will supply evidence-based data and information to improve private sector development policies and growth-driven strategies in the Caribbean region. The envisioned activities will: (i) collect data that can strengthen the sample framework; (ii) collect data on business performance, innovative activities, use of technology, management practices, gender and business climate; and (iii) provide a complete data

⁸ The IFPG dataset has been downloaded 4,733 times from the Compete Caribbean website since its publication in 2021, and 50 individuals that downloaded have indicated that they are working on papers using the data. Finally, [a data visualizer](#) was built for the last dataset and published mid-2022. Since then, it has been visited 450 times.

⁹ The four datasets are available at www.competecaribbean.org

set for each of the 13 countries, with the respective reports. The PROTEGIC survey will: (i) replicate and enhance the approach taken in the 2020 IFPG round; (ii) continue building a longitudinal panel; and (iii) provide new insights for policy makers, donors, private sector support organizations and firms to develop “productivity-driven” growth strategies. The expectation is that such insights will lead to public and private strategies that will contribute to an increase in GDP growth over time.

- 2.6 **Beneficiaries.** Beneficiaries of this project will be policymakers, researchers, and businesses of the 13 beneficiary countries, who will be able to access data on the innovation, technology, firm performance, finance, gender and business management behaviors of Caribbean firms. This valuable data can support evidence-based decision-making by national and regional policy-makers regarding productive development policies.
- 2.7 **Complementary with other projects.** The PROTEGIC survey will contribute to the wider collection of datasets that document private sector development in the Caribbean region, including the LACES, FINGEN, PROTEQIN and IFPG datasets generated under [ATN/CF-12259-RG](#) and [ATN/CF-12160-RG](#); [ATN/CJ-12159-RG](#); [ATN/CJ-12159-RG-1](#). At the regional level, the survey will contribute to the progress of the Caribbean Community (CARICOM) to improve statistical production related to business information at both the national and regional levels. As such, project activities described in the current TC will be coordinated closely with National Statistical Offices, National Statistical Systems and the Regional Statistical System of the Caribbean region.
- 2.8 In addition, the Competitiveness, Innovation and Technology Division of the IDB published a dataset of Latin American Innovation Surveys (LAIS), which is a harmonized and anonymized dataset of cross-sectional data at the firm level, covering 10 countries over the period 2004-2016, and which includes around 700 variables across 12 themes to describe innovation in Latin American firms (not covering the Caribbean).¹⁰ The methodology for harmonization includes the construction of variables (quantitative and qualitative) and the selection of variables according to two criteria: (i) optimize coverage at the survey level: Include variables common to all surveys; and (ii) optimize coverage at the level of the questionnaire: Include variables that are common to many of the surveys. In order to allow the Caribbean to benchmark itself across a wider set of countries, it is envisioned that innovation data from Caribbean countries will be included in future versions of LAIS.
- 2.9 **Complementarity with other projects.** In terms of IDB operations, the TC will inform the design of BH-L1058: “Local Sustainable Productive Development of the Blue Economy”; the monitoring of [4860/OC-JA](#): “Boosting Innovation, Growth and Entrepreneurship Ecosystems Programme” (and related operations); [5595/OC-RG](#): “Strengthening private sector development through innovation in the Eastern Caribbean OECS Member Countries”; [5414/OC-RG](#): “Program for Building Disaster and Climate Change Resilience in the OECS Countries”; and project completion reports for [3824/BL-GY](#): “Enhancing the National Quality Infrastructure for Economic Diversification and Trade Promotion”; and [5594/OC-GY](#): “Enhancing the National Quality Infrastructure for Competitiveness”: Reformulation and Additional Financing. It will also inform the design of Compete Caribbean+: promoting climate action and social inclusion through innovation. Moreover, the IDB has relied on these datasets to

¹⁰ [Harmonized Latin American Innovation Surveys Database \(LAIS\): Firm-Level Microdata for the Study of Innovation \(iadb.org\)](#)

develop its country strategy documents and feed into knowledge products for the 7 IDB member countries.

- 2.10 **Strategic Alignment.** This TC is aligned with the development challenge of Productivity and Innovation the Second Update to the Institutional Strategy 2020-2023, by understanding businesses approach to adopting technology and undertaking innovation, including green innovation, and being able to develop IDB programs accordingly. It is also aligned with the cross-cutting theme of Institutional Capacity and Rule of Law by understanding how the existing institutional capacity and rule of law in their current environment impacts the performance of these businesses. The TC is also aligned with the priority areas of Effective, Efficient and Transparent Institutions of the Ordinary Capital Strategic Development Program (GN-2819-14) by providing crucial information not available elsewhere that will strengthen institutional and policy quality as well as service delivery and policy implementation to promote private sector development. The program is consistent with the priorities defined in the Innovation, Science and Technology Sector Framework Document (GN-2791-13), by identifying the quantum of Caribbean business investment in innovation, thus being able to prepare evidence-based policies and programs to support their innovation activities and reduce the gap between the region and advanced economies. The project is also aligned with the priorities of the “Proposal for the Establishment of the Compete Caribbean Partnership Facility” (GN-2851), whose specific objectives are to support firms to grow, innovate and enter new sectors and markets, and to promote an environment that enables innovation and growth.

III. Description of components and budget

- 3.1 **Component 1. Implementation of the PROTEGIC Survey (US\$410,000).** This component will finance a consultancy to review and implement a survey instrument that targets a statistically representative sample of firms across the Caribbean region. The consultancy will: (i) review the previous IFPG survey instrument for adequacy considering the upcoming World Bank Enterprise Survey instrument and review the survey sample frame utilized during IFPG. The sample will include a longitudinal sub-sample of the firms that were interviewed in the previous rounds, which represent a broad spectrum of industries across the private sector; and (ii) the same consultancy will implement the survey instrument across the 13 beneficiary countries and collect, clean, and process the data. The survey methodology will use traditional methods to review the frame population (including business registries and information on tax revenues where applicable) and incorporate recent methodological advances on data mining and analytics (open online data) and Big Data tools.
- 3.2 **Component 2. Dissemination of Results (US\$20,000).** This component will finance an online data visualizer to be shared with public and private stakeholders, which will enable visualization of the data by non-econometrists and non-statisticians. Attention will be given to the use of modern visualization methods, including geographical and spatial visualization. The visualizer will include changes over time in certain important variables (for example, access to finance), given the existence of the longitudinal panel.¹¹
- 3.3 **Budget.** The total budget for this TC is US\$430,000, US\$300,000 to be financed with resources of the Ordinary Capital Strategic Development Program for Institutions

¹¹ Because the data collected will not change over time, once the visualizer is developed and published to a website (for example the IDB's or Compete Caribbean's), it will not require maintenance for utilization.

(W2C) and US\$130,000 to be financed by the Compete Caribbean Partnership Facility (CCPF).

Indicative Budget (US\$)

Activity/Component	Description	W2C	CCPF	Total Funding
Component 1	Implementation of the PROTEGIC Survey	300,000.00	110,000.00	410,000.00
Component 2	Dissemination of Results	-	20,000.00	20,000.00
Total		300,000.00	130,000.00	430,000.00

IV. Executing agency and execution structure

- 4.1 The execution of this TC will be carried out by the Bank through the IFD/CTI division in coordination with the Caribbean Country Department (CCB) with support from the Compete Caribbean Partnership Facility Coordination Unit (FCU) of the CC PF based in Barbados.
- 4.2 Project output indicators will be monitored following the Monitoring and Evaluation (M&E) framework of the Compete Caribbean Partnership Facility.
- 4.3 The execution and disbursement period will be 24 months and the UDR will be IFD/CTI. All the activities to be executed under this TC are included in the Procurement Plan (Annex III) and will be contracted in accordance with Bank policies as follows: (a) AM-650 for Individual consultants; (b) GN-2765-4 and Guidelines OP-1155-4 for Consulting Firms for services of an intellectual nature; and (c) GN-2303-28 for logistics and other related services. Before this TC executes activities in beneficiary countries, the Bank will obtain non objection letters from the respective official liaison of each country.
- 4.4 The Compete Caribbean Partnership Facility (CCPF), approved under GN-2851, was jointly designed with donors to be a Bank-executed Program. Given the expertise and experience already in place by the execution of the first phase of the CC PF's FCU will build on the unit already established in COF Barbados. Additionally, the CTI team has strong experience in design and implementation of national and regional innovation survey instruments. The Bank has demonstrated its ability to coordinate and motivate action across diverse stakeholders at both the national and regional levels.
- 4.5 The knowledge products generated within this technical cooperation will be the property of the Bank and may be made available to the public under a creative commons license. However, at the request of a beneficiary, in accordance with the provisions of AM-331, the intellectual property of said products may also be licensed to one or more beneficiaries through specific contractual commitments that shall be prepared with the advice of the Legal Department.

V. Major issues

- 5.1 There is the risk of response rates as respondents increasingly become reluctant to allocate time to data collectors. The risk will be minimized by omitting from the PROTEGIC survey instrument questions related to the business climate, which are adequately covered by the World Bank upcoming Enterprise Survey exercise, thus

significantly diminishing the time to complete the questionnaire. In addition, the team will explore the use of new technological advances for Data Mining and facilitate coordination with other stakeholders such as Business Registries and tax revenue officers to facilitate the sample frame and data collection exercise.

VI. Exceptions to Bank policy

- 6.1 No exceptions to Bank policy are envisioned.

VII. Environmental and Social Strategy

- 7.1 This TC will not finance feasibility or pre-feasibility studies of investment projects with associated environmental and social studies; therefore, it is excluded from the scope of the Bank's Environmental and Social Policy Framework (ESPF).

Required Annexes:

[Results Matrix - RG-T4278](#)

[Terms of Reference - RG-T4278](#)

[Procurement Plan - RG-T4278](#)