

NOT JUST TAXES

Revenue, Economic Growth, and Inequality in the Caribbean



Authors

Gerardo Reyes-Tagle / Inder J. Ruprah / Jorge F. Baca Campodónico

Editor

Gerardo Reyes-Tagle



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**Cataloging-in-Publication data provided by the
Inter-American Development Bank
Felipe Herrera Library**

Not just taxes: revenue, economic growth, and inequality in the Caribbean / Gerardo Reyes-Tagle, Inder J. Ruprah, Jorge F. Baca Campodónico; editor, Gerardo Reyes-Tagle.

p. cm.

978-1-59782-551-1 (Paperback)

978-1-59782-550-4 (Digital)

Includes bibliographical references.

1. Tax revenue estimating-Caribbean Area. 2. Taxation-Caribbean Area. 3. Tax expenditures-Caribbean Area. I. Reyes-Tagle, Gerardo. II. Ruprah, Inder. III. Baca Campodónico, Jorge F. IV. Inter-American Development Bank. Fiscal Management Division. V. Series.

HJ 2351.4 .N68 2024

IDB-BK-276

JEL Codes: E61, E65, H21, H26

Keywords: tax expenditures, taxation, tax revenue

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Inter-American Development Bank
1300 New York Avenue, N.W.
Washington, D.C. 20577
www.iadb.org

The Institutions for Development Sector was responsible for the production of this publication.

External vendors:

Production Editor: Sarah E. Schineller (A&S Information Partners, LLC)

Editor: Amy Scott (Nomad Editorial)

Design: The Word Express, Inc.

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Preface

Our goal for this book is to appeal to all readers interested in economic development in the Caribbean. The region is diverse with significant economic potential and growth opportunities, but like any other region in the world, the Caribbean faces myriad challenges. The economic situation in many Caribbean countries is complex, marked by slowing growth, rising inflation, fiscal imbalances, high debt levels, and volatility in international markets.

The work presented here is the result of more than 15 years of studying, assisting, innovating, and implementing ideas and solutions that can help governments tackle fiscal issues in the Caribbean. We support our analysis and findings by implementing a dynamic computable general equilibrium model (DCGEM) that helps in designing tax reforms by simulating the impact—both direct and indirect—of changes in tax policy on revenue and on other main macroeconomic variables of policy interest.

This book compiles various pieces of research into a consistent and coherent story that answers key questions regarding the elusive quest for growth in the Caribbean. A fundamental part of this puzzle is understanding the economy-wide consequences of tax incentives that have been extensively used by governments to attract investments in the region, but with mixed results. While a country's tax policy is one of the many factors considered by multinational corporations when deciding where to invest, we argue that a more sustainable and productive approach to increasing foreign direct investment is for a country to improve its overall investment climate through efforts such as promoting macroeconomic stability, adequacy of public infrastructure, and institutional capacity.

Gerardo Reyes-Tagle

Acronyms

AEOI	Automatic exchange of information
BERT	Barbados Economic Recovery and Transformation
BEPS	Base erosion and profit shifting
Bds\$	Barbados dollars
BRA	Barbados Revenue Authority
B\$	Bahamas dollars
CARICOM	Caribbean Community
CCB6	The Bahamas, Barbados, Guyana, Jamaica, Suriname, and Trinidad and Tobago
CET	Common External Tariff
CIAT	Inter-American Center of Tax Administrations
CIF	Cost plus insurance plus freight
CIT	Corporate income tax
CPI	Consumer price index
CRS	Common Reporting Standard (for financial institutions, developed by the OECD)
DCGEM	Dynamic computable general equilibrium model
DTA	Double tax treaty or agreement
ET	Excise tax
ETC	Employment Tax Credit (Jamaica)
EFF	Extended Fund Facility (of the IMF)
EOIR	Exchange of information on request
EU	European Union
FATCA	Foreign Account Tax Compliance Act (of the U.S. government)
FATF	Financial Action Task Force

FDI	Foreign direct investment
GCT	General consumption tax (Jamaica)
GMT	Global Minimum Tax (agreement)
GRA	Guyana Revenue Authority
GY\$	Guyanese dollars
IBC	International business company
IDB	Inter-American Development Bank
IMF	International Monetary Fund
IRD	Inland Revenue Division (Trinidad and Tobago), Inland Revenue Department (Jamaica)
IT	Information technology
JCA	Jamaica Customs Agency
JLP	Jamaica Labour Party
J\$	Jamaican dollars
LAC	Latin America and the Caribbean
MNE	Multinational enterprise
NIS	National Insurance Scheme (Barbados, Guyana, and Jamaica)
NSRL	National Social Responsibility Levy (Barbados)
OECD	Organisation for Economic Co-operation and Development
OFC	Offshore financial center
OIL	Omnibus Incentive Legislation (Jamaica)
PATH	Program of Advancement through Health and Education (Jamaica)
PAYE	Pay as you earn tax
PBL	Policy-based loan (IDB)
PetroCaribe	A Venezuelan-sponsored subsidized oil export program benefiting several Caribbean countries
PIR	Productive Inputs Relief
PIT	Personal income tax
PPP	Purchasing power parity
ROSE	Rest of the small economies
ROSE-C	ROSE countries with commodity-based economies
ROSE-T	ROSE countries with tourism-based economies
ROW	Rest of the world
SARA	Semi-autonomous revenue agency
SBA	Stand-By Arrangement (of the IMF)
SCT	Special consumption tax (Jamaica)
SEZ	Special economic zone
SME	Small and medium-sized enterprise
SOE	State-owned enterprise

SSC	Social security contributions
Sr\$	Surinamese dollars
SWF	Sovereign wealth fund
TAAD	Taxpayer Audit and Assessment Department (Jamaica)
TADAT	Tax Administration Diagnostic Assessment Tool
TAJ	Tax Administration Jamaica
TASD	Tax Administration Services Department (Jamaica)
TFP	Total factor productivity
TIEA	Tax information exchange agreement
TT\$	Trinidad and Tobago dollars
US\$	United States dollars
VAT	Valued added tax
WTO	World Trade Organization

Acknowledgments

The authors, Gerardo Reyes-Tagle, Inderjit Ruprah, and Jorge Baca Campodónico, coordinated this project. Ana María Ibanez and Emilio Pineda provided invaluable input and guidance in the elaboration of the knowledge product. Gerardo Reyes-Tagle oversaw the editorial and publication process with the assistance of editors Sarah Schineller and Amy Scott.

The authors are grateful to several Inter-American Development Bank (IDB) staff members and consultants, as well as analysts, researchers, and public and private officials across the six Caribbean countries, for providing input, statistical data, and documentary sources that have greatly enriched this publication.

The authors and the IDB would like to especially highlight the contributions and expertise of Laura Ospina and Claudio Karl in the elaboration and review of all chapters, as well as the Korea Public Capacity Building Fund for its financial and technical support toward the realization of the final product.

Executive Summary

Complex and wide-ranging distortions in tax policy have long been a concern of the Caribbean. At the center of these concerns are the tax expenditures (i.e., deductions, exemptions, and preferential tax rates) that represent a major driver of tax inequality. These distortions have been advertised as a “costless” means to promote investment but, when used competitively between countries, they have led to a “race to the bottom” in terms of tax collection. This book provides an original comprehensive analysis of these distortions that tackles for the first time the relationship between tax policy, economic growth, and the sectoral composition of the economy in the Caribbean.

This book presents the common inherent problems and factors that influence tax system design and even hinder reform initiatives. This is followed by analysis of a wide gamut of tax policy and administration issues such as the adverse economic consequences of external shocks, overly generous and misdirected tax expenditures, tax administration challenges (including the digital economy), and recent developments in international taxation such as Pillar Two of the OECD/G20 Inclusive Framework on BEPS (Base Erosion and Profit Shifting). The latter addresses the codification of global minimum tax rules with the objective of ensuring that business income is subjected to at least an agreed minimum tax rate regardless of where it is earned.

Moreover, the authors emphasize the pernicious effects of tax expenditures—a common feature of tax policy throughout the region—that degrade the horizontal and vertical equity of the tax system, erode the tax base, add complexity, and decrease transparency, making tax administration more difficult. Therefore, one of the most important messages of this book is the need to rationalize the use of tax expenditures, considering their combined and simultaneous

effects in all sectors. This is central to any tax reform process in the region, which should also include measures to broaden the tax base, reduce statutory rates and tariffs, and strengthen tax administration.

The arguments made in this book are illustrated by country case studies of tax reform using a dynamic computable general equilibrium model (DCGEM). These models can demonstrate the effect of tax policy and tax expenditure reforms on multiple sectors and their combined effects over time. The DCGEM analysis enables policymakers to quantify and thereby evaluate the relative benefits of each reform measure or package of measures in terms of their impact on achieving objectives of improved growth and income distribution as well as reduced inflation, unemployment, and public indebtedness. The DCGEM analysis answers the “what if” questions fundamental to any comprehensive tax reform initiative.

The first case study considers Jamaica’s 2013 tax reform. To date, this initiative constitutes one of the region’s most comprehensive stabilization and structural tax reform initiatives. The Inter-American Development Bank (IDB) assisted the authorities in the design and implementation of the Fiscal Incentives Act and the Income Tax Relief Act that aimed at curtailing the disproportionate amount of tax incentives embedded in the then-existing tax laws. The two acts contain reforms of corporate tax including the introduction of an Employment Tax Credit, changes to the capital allowance regime, and revision of provisions governing the utilization of tax losses. The acts also deal with grandfathering and transitional arrangements for the conversion from the old to the new incentives regime.

The second case study assesses the potential impact on the Barbadian economy of removing tax expenditures through a comprehensive tax reform. This is achieved by measuring the direct impact on revenue of the 2018 tax reform and the phasing out of tax incentives and waivers schemes. In addition, we estimate the indirect impact of the tax reform on economic growth, inflation, tax revenue, public debt, poverty, employment, and the distribution of income.

The third case study examines the introduction of the 2015 value added tax (VAT) law in the Bahamas in line with the country’s request in 2018 to accede to the World Trade Organization (WTO) agreement. In this case, the model was intended to guide the government in selecting macroeconomic and fiscal policy measures most appropriate to shape its response to WTO requirements. The model simulated the various scenarios that served as an essential tool in guiding the government during trade negotiations and annual budget exercises.

The fourth case study is a simulation of the direct and indirect effects of implementing a VAT as part of a comprehensive tax reform in Suriname during the aftermath of the COVID-19 pandemic. Just as in many other countries,

Suriname had systemic macroeconomic imbalances due to many years of economic mismanagement. The COVID-19 pandemic accentuated these imbalances, including substantial fiscal and external current account deficits, unsustainable public debt, an economic downturn, and high inflation. In 2021, the authorities embarked on a comprehensive economic reform program. Fiscal consolidation was a critical ingredient of the program. The reforms included eliminating electricity price subsidies and introducing a VAT to replace the sales tax. The model proposed by the IDB helped the authorities to determine the VAT rate and the level of the threshold. The model results pinpointed the need for eliminating the generous list of exemptions associated with the previous sales tax and emphasized enhancing the social safety net to mitigate the adverse effects on the vulnerable.

As noted, this book's central focus is a comprehensive discussion of tax policy and the need for tax reform in the cash-strapped governments of Caribbean countries. We dig deeper into the “whats and whys” of the Caribbean's tax system, often characterized by low tax collection, high evasion, and weak administration. Further, we argue that tax reform must increase tax revenue and place the region on a more sustainable and equitable growth path. Caribbean countries must design pro-growth tax reforms in line with a sustainable fiscal approach.

Consistent with the aim of this book, the analysis not only focuses on the effect of the reform measures on revenue and fiscal sustainability; it also addresses the indirect impacts of tax reform on economic growth, inflation, tax revenue, public debt, poverty, employment, and income distribution. To the best of our knowledge, no other publication provides such a detailed analysis of the direct and indirect effects of tax expenditures in the Caribbean. The book aims to assist governments in designing sustainable, equitable, and pro-growth tax reforms while achieving and maintaining the primary fiscal balances required to reduce public debt.

Introduction

A book on tax policy may seem inappropriate in the aftermath of the COVID-19 outbreak, given the Knightian uncertainty it generated (Okamoto, 2020). However, the fundamental problems of an inadequate level and composition of tax revenue and the perverse effects of tax expenditures that affect the Caribbean remain and were only accentuated by the pandemic. The region's fiscal deficits rose as revenues fell and expenditures increased to contain the fallout of the pandemic, implying an increase in public debt. Tackling the consequences of the external economic shock and the immediate policy priorities of COVID-19 to provide critical relief and promote economic recovery required a fiscal adjustment, including tax reform. Fiscal reform was already on the agenda before the COVID-19 outbreak and remains a key policy priority even as the pandemic has subsided.

Benjamin Franklin once wrote, “in this world, nothing is certain except death and taxes.” However, this statement is perhaps less accurate today due to increasing tax competition between jurisdictions worldwide. Business taxation plays a significant role in shaping fiscal policy, and tax competition is an inevitable component of this process. This framework usually has two potential outcomes: good competition and harmful competition. The former presupposes jurisdictions abiding by clear rules and regulations. If so, it should promote a balanced tax system—or at least one that protects against severe imbalances—that can foster growth and productivity while maintaining low tax rates.¹

¹ Not all tax expenditures are bad. The research and development (R&D) sector is a good example of where they can do good. When properly designed and administered, tax credits in R&D can generate positive gains for the economy (Dechezleprêtre et al., 2016; Nirupama, 2016). Another example is employment tax credits aimed at fostering productivity and growth (Zidar, 2019).

However, business taxation can lead to harmful competition when it is developed in a chaotic environment characterized by significant asymmetric information and arbitrage opportunities that can cause jurisdictions to reduce reliance on certain taxes relative to others, lower top marginal income tax rates, and force income taxes to become less progressive. At its worst, it can result in a “race to the bottom,” or what we like to call a “race to depletion,” which can jeopardize a country’s fiscal stance due to insufficient revenues. The results may create an unstable environment for public finances of low revenue and high debt. Furthermore, they can endanger the government’s commitment to providing quality public services for its citizens. COVID-19 gravely accentuated those choices and laid bare the structural factors underlying the imperfect competition that characterizes Caribbean tax dynamics.

The most common form of tax competition among countries is in the granting of tax expenditures, often rationalized as tax incentives. Stanley S. Surrey, former Assistant Secretary for Tax Policy in the U.S. Department of the Treasury, was the first economist to use the term “tax expenditures” in late 1967. Surrey pointed out that “those provisions of federal income tax law containing special exemptions, exclusions, deductions, and other tax benefits were really methods of providing governmental financial assistance. These special provisions were not part of the structure required for the income tax itself but were Government expenditures made through the tax system. They were similar in purpose, therefore, to the direct expenditures listed in the regular budget” (Surrey, 1973). As such, because they provided their assistance through tax reduction rather than direct aid, Surrey called them tax expenditures. His research originated the first Tax Expenditure Budget, published in the Annual Report of the Secretary of the Treasury in 1968.

Nowadays, as discussed below, virtually all countries worldwide use tax expenditures, ostensibly to attract investment and for other purposes, such as to provide benefits to low-income households and reduce costs for key economic activities (e.g., agriculture, mining, and transportation). As the topic gains traction among policymakers, many multilateral institutions and governments have introduced definitions of tax expenditure and how to measure it.² This book uses the Surrey definition of a tax expenditure (i.e., any special tax provision

² There is a vivid debate among fiscal economists on whether tax expenditures result in “forgone revenue” for governments. Advocates claim that tax breaks are a kind of expenditure simply because governments forgo revenues by granting concessions that are not part of the regular tax system. Meanwhile, critics claim that the counterfactual cannot be established as investment decisions from private investors may have never materialized in the absence of such incentive. Our view is in line with the first claim. Tax expenditures do result in “potential forgone revenue.” In that regard, we attempt to compare the amount of revenues actually collected with the amount of revenues that would have been

granted to qualified individuals, qualified investment projects, or firms that provides a favorable deviation from the general tax code). Tax expenditures can take several forms, such as tax holidays (complete exemption for a limited duration); preferential tax rates in certain regions, sectors, asset types, or targeted allowances (tax deductions or tax credits) for certain investment expenditures; and partial or complete remission of import duty or excises. In other words, a tax expenditure is a favorable deviation from the general tax treatment imposed on all taxpayers in the country. They are often rationalized as tax incentives to protect or promote a business sector or subsidize a specific consumer group.

Measuring tax expenditures is quite complex and not exempt from controversy. According to the Organisation for Economic Co-operation and Development (OECD), some tax measures may not be readily classified as part of the benchmark tax structure or an exception. The problem is rooted in the definition of “basic tax structure.” Many tax experts agree that some structural elements of a tax system should be omitted from the definition and registry of tax expenditures (e.g., the tax treatment of foreign embassies and consulates). However, there is no consensus regarding other types of tax expenditures, such as special allowances for handicapped persons, exceptional health costs, and educational costs of children, among others. This lack of agreement is rooted in the interpretation of what composes the normative tax base (i.e., the monetary sum of private households’ income and wealth to be affected by a tax), as approved by legislators and tax authorities.

Furthermore, while tax expenditures may appear necessary to promote socioeconomic outcomes, attract investment, and boost the economies, there is no consensus concerning their benefits. Perhaps the most compelling argument against the use of tax incentives lies in tax fairness. Tax fairness is usually discussed in terms of horizontal and vertical equity. Horizontal equity means providing the same treatment to people in an identical situation (i.e., no preferential treatment for specific individuals/firms within a group). Vertical equity refers to the redistributive dimension of the tax system, implying that individuals/firms with higher income should pay more tax. Tax incentives affect both horizontal and vertical equity (Beach, 2005). A measure that grants a tax break to one person is equivalent to a diner sending part or his entire bill to another diner (or group of diners) in a restaurant.

As shown in this book, cases like these are the rule throughout the Caribbean rather than the exception. The region has had a history of unjustified, uncontrolled, and harmful tax incentives that, besides altering the equity of the tax

collected in the absence of the measure, accounting for any changes in income-tested entitlements and assuming all else is unchanged. For a discussion see Villela, Lemgruber, and Jorratt (2010).

system, have eroded the tax base and may have contributed to the low growth and high debt across the region.

The generalized use of tax expenditures has led many economists to link tax reform to the concept of tax expenditures. Raising tax revenue and restoring the fairness of a tax system cannot be done just by resorting to adjusting the rates of traditional tax types or creating new ones. Comprehensive tax reforms require modification of tax expenditures to be included among the options available to the policymaker. Not all tax expenditures are bad, and they should be evaluated with other tax measures. In this regard, all countries should estimate and publish tax expenditure budgets. Direct and indirect impact analysis of tax expenditures and other tax measures should be an integral part of the analysis.

A unique feature of the book is that it illustrates the need for and use of a dynamic computable general equilibrium model (DCGEM) in designing a tax reform by simulating the impacts of reform on revenue—direct and indirect—and other main macroeconomic variables of policy interest.³ DCGEMs have been used for more than 50 years. They are currently used in numerous countries to provide insights on a variety of policy questions including (i) the effects on the macro, industry, regional, labor markets, distributional, and environment variables and (ii) changes in taxes, public consumption, environmental policies, technologies, commodity prices, interest rates, wage-setting arrangements, infrastructure, and major-project expenditures among other policy issues (Shome, 1995).

We use DCGEMs to quantify the counterfactuals and estimate tax reforms' impact in Jamaica, the Bahamas, Barbados, and Suriname. These models are used to answer “what if” questions both *ex ante* (what if such tax reform were enacted?) and *ex post* (what was the role of tax reform in the performance of the economy?).

The findings reveal interesting results. Tax incentive competition in the Caribbean includes countries involved in a bidding contest against each other to attract specific, identifiable businesses, which are almost invariably large firms. Governments usually bid with tax concessions, tax breaks, and other arrangements (land deals, provision of public facilities, etc.). In these bidding contests, information asymmetries often prevail. Private investors and businesses hold their cards close to the vest, while the countries' cards are generally face-up on the table. This situation frequently leads the government to raise the offer.

The book's outline is as follows: Chapter 2 first discusses the Caribbean's evolution and structural problems, telling the story that accounts for the region's stagnation in economic growth. That stagnation involves the interaction—or feedback loops—between large adverse external shocks, both natural and

³ Shoven and Whalley (1984) describe and survey the use of these models in the analysis of tax and trade policies.

economic, and domestic macroeconomic imbalances combined with severe structural economic constraints, including taxation.

Chapter 3 discusses the standard features and problems of taxation in the region. Every country in the Caribbean is different, but there are several common problems with the tax systems in the region. Specifically, this chapter discusses the shadow economy, the perverse effects of tax expenditures, the inadequacy of tax administration, the role of tax amnesties, and emerging international tax issues. These common problems are critical in the negative feedback loops discussed in Chapter 2.

Chapter 4 delves deeper into tax revenue structure and discusses individual taxes. Specifically, the chapter discusses the structure of taxes and the characteristics of the economies that influence these structures. It also explores the design of the individual taxes, both indirect (VAT, international trade tariffs [ITT], and property tax [PT]) and direct (corporate income taxes [CIT], personal income tax [PIT], and social security contributions [SSC]). Chapter 5 discusses the role of taxes, their structure, and the function of tourism, as well as tax havens and non-renewable resources in revenues.

Chapters 6, 7, and 8 present three case studies that illustrate the usefulness of DCGEMs for evaluating tax reform, both *ex post* and *ex ante*. Chapter 6 discusses the case of Jamaica and demonstrates the dynamic equilibrium model in an *ex-post* analysis that isolates the contribution of a comprehensive tax reform on the economy. Chapter 7 offers the case of Barbados and shows the usefulness of the DCGEM in designing an *ex-ante* simulation of a tax reform in the context of comprehensive macroeconomic stabilization and structural reform. Chapter 8 simulates the impact of the Bahamas acceding to the World Trade Organization (WTO).

Chapter 9 describes the implications of COVID-19 for the Caribbean in general, followed by two country case studies using the DCGEM to assess the impact of the pandemic while undergoing fiscal reforms. The first study examines how the collapse in tourism in Barbados due to the pandemic affected the implementation of its Barbados Economic Recovery Transformation (BERT) plan. The second country case study assesses the impact of COVID-19 while implementing VAT in Suriname.

Chapter 10 considers how the Caribbean could leapfrog the inherited and emerging tax problems in the Caribbean, emphasizing the opportunities represented by digitalization. It also concludes that a DCGEM would assist in designing a tax reform. Chapter 11 summarizes the previous chapters' main findings, conclusions, and recommendations. Annex A provides an overview of the specification of the DCGEM and the steps required for its estimation, while Annex B provides supplementary text and tables.

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Caribbean Overview: All That Glitters Is Not Gold

Caribbean economies are small by conventional standards, ranging from micro-states to mid-range countries. Small economies have common intrinsic characteristics that can be traced to the combination of diseconomies of scale, indivisible fixed costs, and security issues. These characteristics can hinder economic growth and development.⁴

However, when looking at critical socioeconomic indicators, Caribbean economies have overcome the impediments of small size to become success stories. They have achieved a high- or middle-income status with relatively good socioeconomic indicators, as evidenced by their ranking on the UN's Human Development Index (UNDP, 2018).⁵ This success was cemented through a development model in which, since independence, the countries pursued policies to shift from agricultural economies to ones based on tourism and international services (essentially tax havens) or to develop the exploitation of their natural resources. Early integration allowed Caribbean countries to achieve a high economic and social development level despite inefficiencies associated with their size, status, and policies that promoted economic distortions, including an import substitution policy.

⁴ There is no universal definition of a small country. We follow Ruprah, Melgarejo, and Sierra (2014) and define small countries as those with populations of less than 3 million. For example, Alesina, Spolaore, and Wacziarg (2005) find that a 10-point increase in population is associated with a 0.33 percent increase in economic growth.

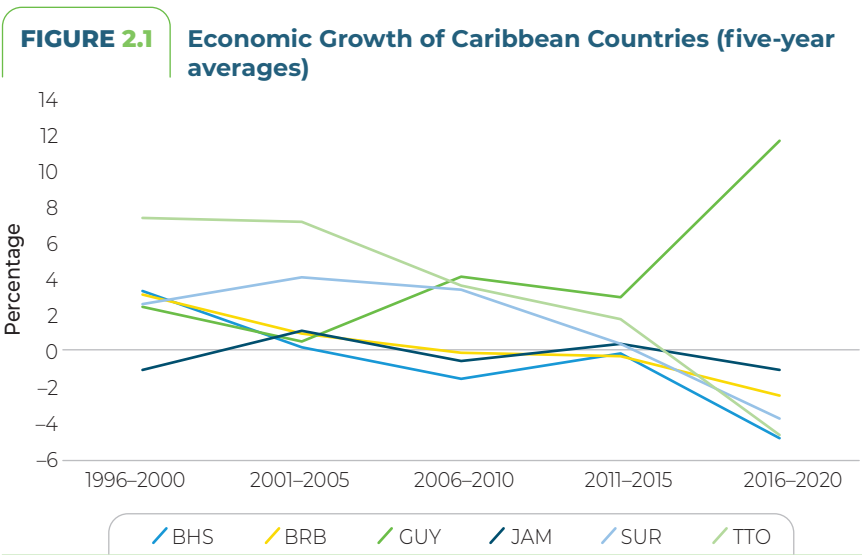
⁵ The Bahamas and Barbados are classified in the Very High category, Trinidad and Tobago, Suriname, and Jamaica are in the High category, and Guyana is in the Medium category of the Human Development Index.

However, these trends no longer characterize Caribbean countries' development. For some time now, visible cracks and deteriorating economic performance have cast doubts on the economic model's continuity and could undermine socioeconomic progress.⁶

Withering Economic Performance

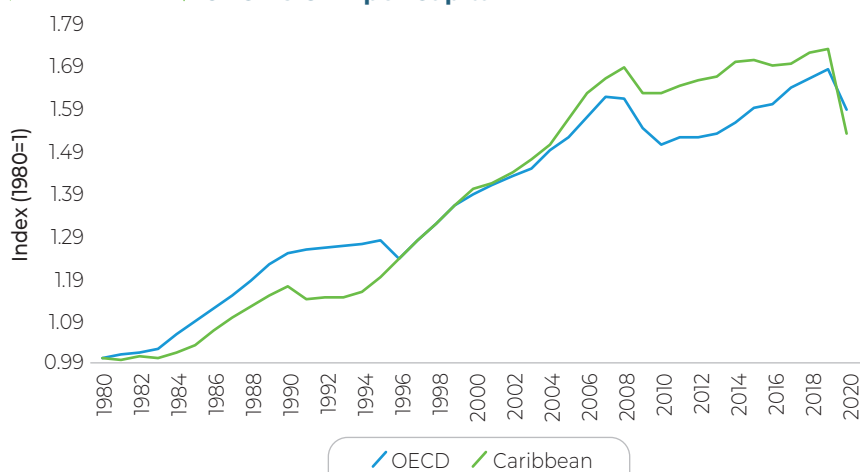
Evidence shows that economic performance has steadily worsened because the early post-independence economic development model of tourism and tax havens as motors of growth is no longer delivering. An evident sign of a fundamental flaw in the Caribbean's economic model is that economic growth performance over the last 30 years has been low (1.9 percent real average growth per annum). Existing policies have delivered economic growth that has steadily fallen (see Figure 2.1, which shows five-year economic growth averages). Although growth began to increase in 2016–20, it was cut short due to the COVID-19 pandemic shock.

These countries' per capita incomes—measured at purchasing power parity (PPP)—stopped converging toward those of advanced economies. Up to the



Source: Authors' elaboration based on IMF (2020).

⁶ For an analysis of and policy recommendations for the region see Acevedo, Cebotari, and Turner-Jones (2013), Ruprah, Melgarejo, and Sierra (2014), Alleyne et al. (2017), and Beuermann and Schwartz (2018).

FIGURE 2.2**Caribbean's Convergence with and Divergence from OECD's GDP per Capita**

Source: Authors' elaboration based on IMF (2020).

Note: GDP per capita at constant prices of PPP.

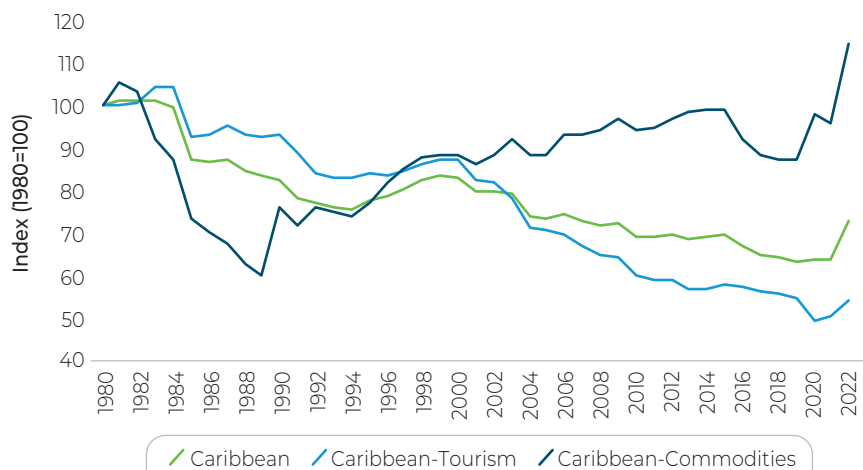
mid-1990s, there was convergence and stagnation; after 2009, the region began to diverge from the average GDP per capita of the Organisation for Economic Co-operation and Development (OECD) (Figure 2.2). The rest of the small economies (ROSE) also leave them behind on average (Figure 2.3).⁷ Commodity-driven economies diverge from the downward trend.

Take Trinidad and Tobago, which is among the biggest countries in the Caribbean in terms of GDP.⁸ The economy heavily relies on mineral fuels (oil and natural gas exports are about 20.8 percent of total exports) and chemicals (37.3 percent of total exports).⁹ Since 2018, the country has had a negative average growth rate of 1.3 percent per annum. A fiscal balance to GDP ratio declined from -4.7 percent to -11 percent as commodity revenue fell from a high of 11.16 percent in 2013 and a low of 3.18 in 2017. The ratio then recovered to 8.20 percent in 2019. Gross foreign reserves have remained below the three-month import

⁷ We define a small economy as one with a population of less than 3 million. Given the constraints on small economies we often compare Caribbean performance with the rest of the small economies (ROSE) in the world. See the annex in Ruprah, Melgarejo, and Sierra (2014) for a list of ROSE countries.

⁸ In terms of nominal GDP in billions of US\$ in 2019, Trinidad and Tobago's was 24.1, Jamaica 16.5, the Bahamas 12.8, Barbados 5.2, Guyana 4.3, and Suriname 4.

⁹ In 2021 the top exports of Trinidad and Tobago were petroleum and gas (20.8 percent total exports), anhydrous ammonia (19.6 percent), methanol (17.8 percent), and ferrous products (9.2 percent), exporting mostly to the United States (41.6 percent), Guyana (6.7 percent), Mexico (4.3 percent), France (3.7 percent), and Belgium (3.6 percent) (WITS, 2021).

FIGURE 2.3**Falling Behind: Caribbean Economic Growth Relative to ROSE**

Source: Authors' elaboration based on IMF (2020).

Notes: Here ROSE (rest of the small economies) refers to countries with a population of less than 3 million. Caribbean-Tourism refers to the tourism-based countries (the Bahamas, Barbados, and Jamaica). Caribbean-Commodities refers to the commodity-export-based countries (Guyana, Suriname, and Trinidad and Tobago). The index is the ratio between the average growth rates of the Caribbean countries and the average growth rates of the ROSE countries.

coverage benchmark, but the government had the possibility of drawing upon the country's saving-stabilization fund, the Heritage and Stabilisation Fund (see Box B.4 in Annex B).

Two Caribbean countries that had low external buffers were Suriname and Barbados, whose economic meltdowns forced them to sign stabilization programs with the International Monetary Fund (IMF) in 2017 and 2018, respectively.

In the early 2020s Suriname weathered a severe macroeconomic crisis that took a significant toll on economic growth. Over a five-year span (2019–23), the country reported a negative 2.5 percent average growth rate of GDP. The country had also been subject to high GDP volatility, which can be traced back to the end of the commodities super cycle (2000–14). Economic growth contracted in 2015 (3.4 percent) and 2016 (4.9 percent) as unfavorable international developments unfolded and the country failed to implement countercyclical policy measures. Growth resumed in the period 2017–19 (2.6 percent on average), following a mild recovery of gold prices, but in 2020, as COVID-19 hit worldwide, the economy contracted by 16 percent and by 2.4 percent in 2021. Inflation hit fast and hard, increasing from a rate of 4.2 percent in 2019 to 59.1 percent in 2021 due to: (i) the impact of a large exchange rate devaluation, (ii) the establishment of a market-determined exchange rate regime in 2021, and (iii) the high dependence on imports.

In the absence of a structural adjustment, lower revenues and higher expenditures fueled large fiscal deficits, which were partially covered through Central Bank financing. This process led to high inflation and a significant exchange rate depreciation, contributing to the debt spiral. Debt levels skyrocketed between 2015 and 2020 (from 41 percent of GDP to 146 percent). The 356 percent increase in Suriname's debt (as percent of GDP) was the highest recorded in the same period of any country in Latin America and the Caribbean (LAC). Debt service squeezed government revenues as payments to honor the public debt increased from 1.1 percent of GDP in 2015 to 4.1 percent in 2020.

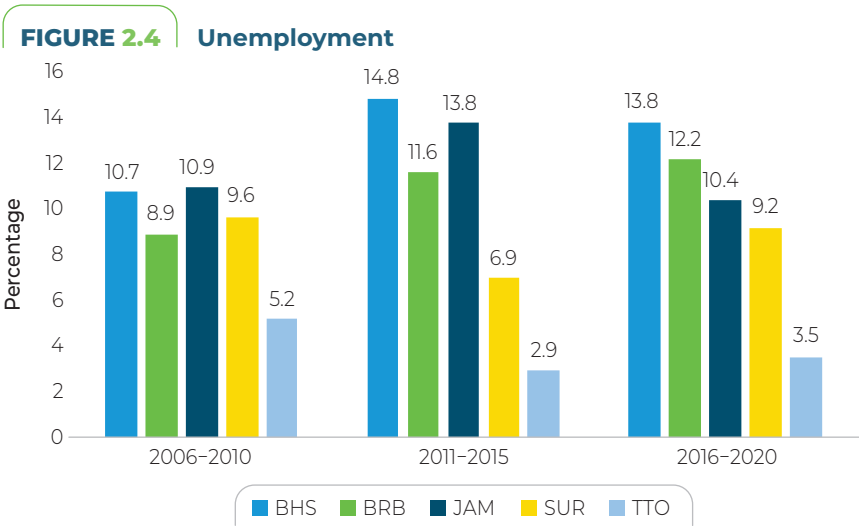
With support from international financial institutions, GDP growth resumed in 2022 and 2023 (2.4 percent and 2.1 percent, respectively), inflation rates receded, and the country is slowly returning to a fiscal sustainability path. These recent macroeconomic developments have been the product of a comprehensive economic recovery plan designed by the national authorities, with support from the Inter-American Development Bank (IDB) and the IMF.

Barbados is a tourism-based economy. Over 15 years (2006–20), tourism represented 72 percent of total exports; in the same period the country was caught in a vicious cycle of low or negative growth and increasing debt, with public debt doubling to almost 160 percent of GDP. By the end of May 2018, international reserves had dropped to about US\$220 million, or 1.5 months of import coverage. Belatedly, with a new government, the country embarked on consecutive IMF programs that included a comprehensive government plan to restore fiscal and debt sustainability, address falling reserves, and increase growth. The plan had a target to be maintained over the medium term of a primary fiscal balance of 6 percent of GDP and domestic debt restructuring, and the country committed to adopting a fiscal rule in mid-2021. Due to COVID-19, the primary balance target for FY 2020/21 was reduced to 1 percent, and the fiscal adjustment was paused to mitigate the impact of the socioeconomic crisis. As part of the IMF package, Barbados updated its government plan along with expanding an ambitious climate policy agenda and engaged in a subsequent three-year IMF Extended Fund Facility (EFF) arrangement (2022–25), accompanied by a Resilience and Sustainability Facility (RSF) arrangement aimed to introduce significant climate-related policy reforms. Since then, Barbados rebounded with real GDP growth of 4.4 percent in 2023, improved public finances, a fiscal primary balance that was expected to reach 3.4 percent of GDP in FY 2023/24, and public debt expected to decline to pre-pandemic levels in FY 2023/24. The authorities' focus has remained on reducing debt through higher primary surpluses while maintaining social and capital expenditure.

With tourism representing 75 percent of total exports, Jamaica is another example of structural economic stagnation. The country has been characterized

by weak economic performance and repeated bouts of economic recession. In particular, the mid-1990s exhibited a combination of a domestic financial crisis, a decline in the long-run growth rate of exports, an expansionary debt path, and a deterioration of the fiscal governance framework. The global financial crisis in 2007–9 hit Jamaica hard: tourism exports fell by 8.5 percent in 2010 and 2011, and reserves in months of imports fell below the three-month coverage benchmark in 2009. This trend was only reversed through a successful fiscal adjustment program supported by the IDB and the IMF from 2013 to 2019. Since then, Jamaica has successfully reduced public debt, anchored inflation, and strengthened its external position. It has built a strong track record of investing in institutions and prioritizing macroeconomic stability. This allowed Jamaica's response to recent global shocks to be prudent, agile, and supportive of growth. Public debt fell to 77 percent of GDP at end-FY 2022/23, more than 30 percentage points of GDP below FY 2020/21. Direct tax collections have been buoyant due to higher corporate profits and the impact of the public-sector compensation reform, which increased incomes and incorporated allowances into the base salary, moving public employees into higher tax brackets.

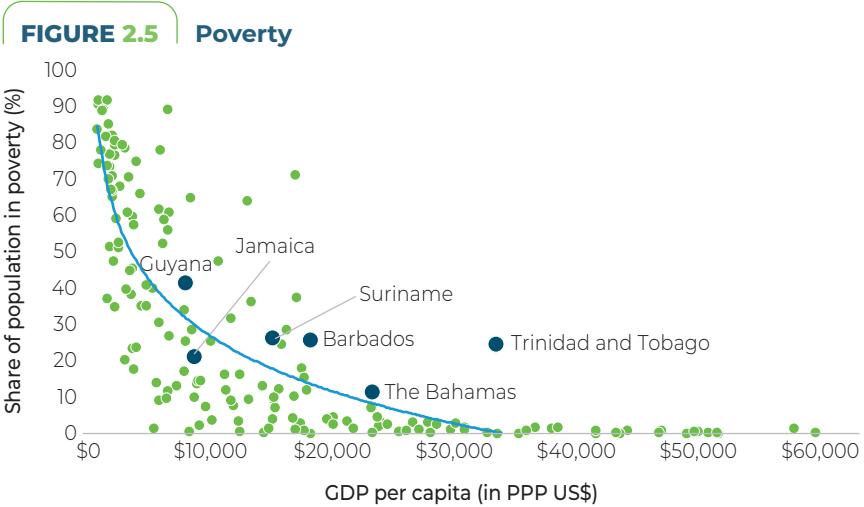
Unemployment in the region shot up during the previous recession of 2007–8; for most countries it had just returned to about pre-crisis levels (Figure 2.4) by 2017 before the COVID-19 shock of 2020. The situation was worse for the youth afflicted by a structural problem. With low employment-to-output elasticity combined with high crime rates among males, there is a real possibility that the future labor force will suffer from a significant proportion of “unemployables.” However, caution is needed when interpreting unemployment numbers. They do not include



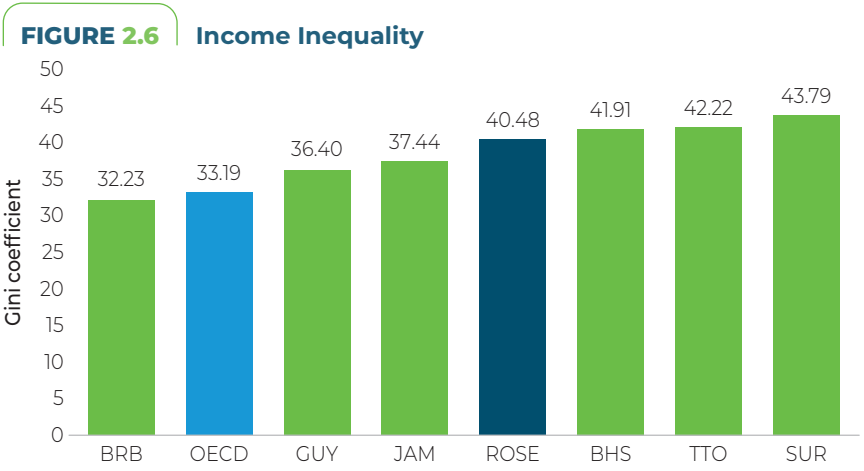
Source: Authors' elaboration based on IMF (2020).

the informal market, which is between 30 and 40 percent in the Caribbean. The continuous economic decline in Trinidad and Tobago understates the unemployment rate due to the government directly hiring the unemployed, a feature of its unemployment program. These beneficiaries are not classified as unemployed.

The proportion of the Caribbean population in poverty is higher than that implied by their countries' GDP per capita (Figure 2.5). The latter suggests that little economic growth has been pro-poor and that the region's social safety nets are inadequate. Income inequality levels are generally higher than in the OECD (Figure 2.6). Infant mortality and life expectancy are two other performance

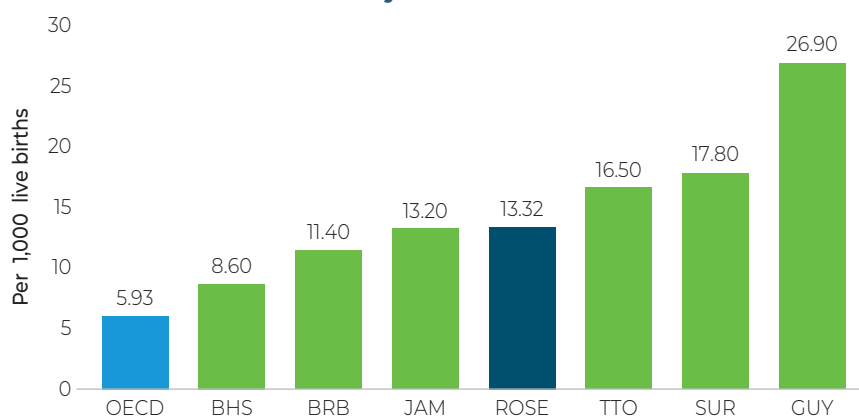


Source: Authors' estimation based on World Bank (n.d., "WDI").
 Note: Each dot is a country poverty rate.



Source: Beuermann and Schwartz (2018).

FIGURE 2.7 Infant Mortality



Source: Authors' elaboration based on IMF (2020).

indicators often used to reveal problems in economic development, living conditions, social well-being, and the quality of the environment. Infant mortality (Figure 2.7) measures the number of deaths of children under one year per 1,000 live births in the same year; in the Caribbean it is much higher than the OECD average. Still, only Trinidad and Tobago, Suriname, and Guyana have rates higher than the average of ROSE. Life expectancy—that is, years expected to live at birth—is below the OECD average in all cases, and only Barbados, the Bahamas, and Jamaica are above the average for ROSE (Figure 2.8).

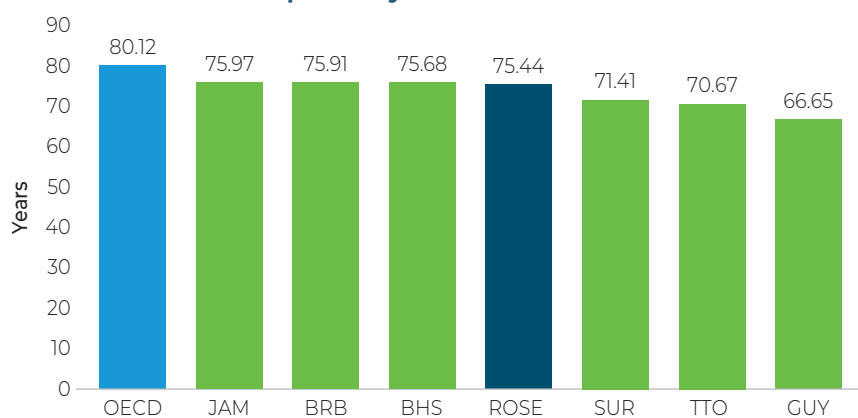
The lack of vertical equity in the tax system accentuates the problems of poverty and income inequality. The increasing dependence on regressive taxes (value added, sales, excise, property, and international tariffs) implies that taxes take a higher percentage of income from low-income taxpayers than from high-income taxpayers. For tourism countries, indirect taxes are more than 60 percent of total tax revenue; the extreme example is the Bahamas, which does not have an income tax (personal or corporate) but instead has a complicated system of licenses and fees.

Downward Feedback Loops

At the risk of papering over the differences between the countries, most analysts have attributed the chronic low economic growth and low-to-declining potential growth¹⁰ to a loss of competitiveness and an inadequate rate of gross

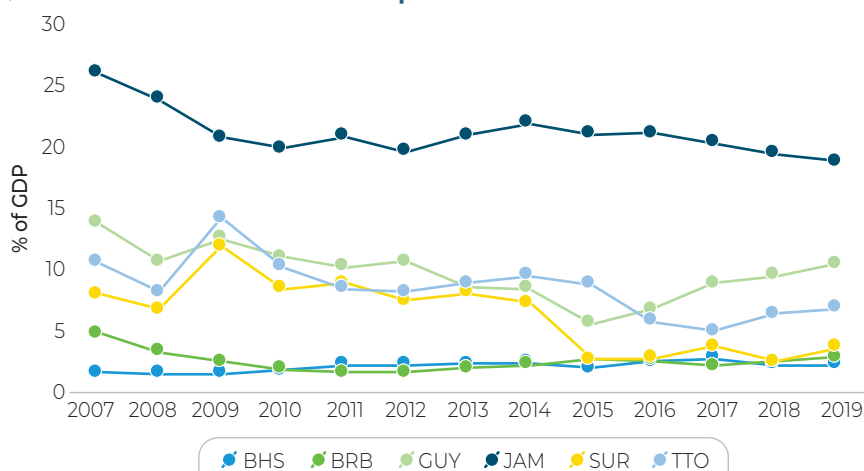
¹⁰ Potential economic growth is the economic growth that could be achieved if the country were operating at full capacity—usually meaning what the country can produce with a low rate of unemployment. Actual output could be higher or lower than potential output.

FIGURE 2.8 Life Expectancy



Source: Beuermann and Schwartz (2018).

FIGURE 2.9 Public Gross Capital Formation



Source: Authors' elaboration based on IMF (2020).

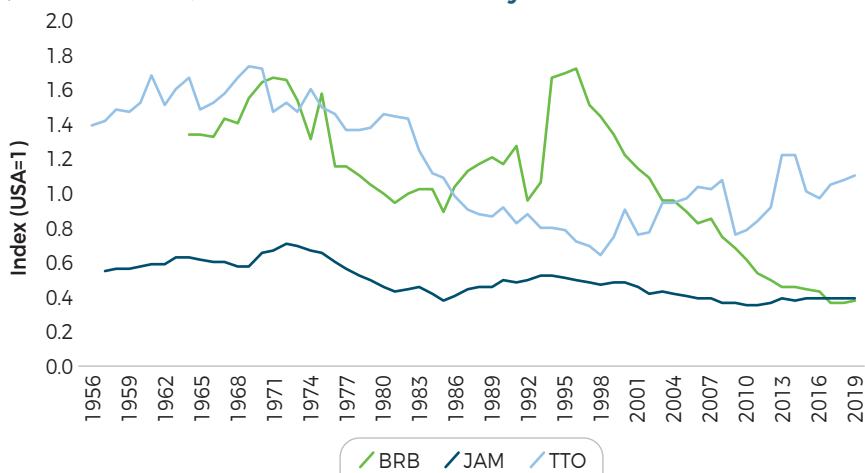
Note: Values for 2019 are estimated.

capital formation (Figure 2.9 shows the decline in public gross capital formation as a percent of GDP) combined with a low-to-falling total factor productivity (TFP, Figure 2.10).¹¹ However, no single factor has been identified in the literature as the primary cause of this relative stagnation of growth and productivity.

The classic story that accounts for this stagnation of economic growth involves the interaction or feedback loops between large adverse external

¹¹ The growth accounting exercise reveals that most of the decline in real GDP in the Caribbean is explained by the fall in TFP.

FIGURE 2.10 Total Factor Productivity



Source: Authors' elaboration based on Feenstra, Inklaar, and Timmer (2015).

Note: There are no available data on TFP in the Bahamas, Guyana, and Suriname.

shocks—natural and economic—and domestic macroeconomic imbalances combined with severe structural economic constraints. These feedback loops have hurt growth, hindering these economies from benefiting from globalization and technological progress. Adverse external shocks include the loss of preferential trade access to European markets, the decline of bilateral and multilateral official aid, and increasingly frequent and more intense natural disasters and economic shocks from the world economy. The aftermath of the 2007–9 global financial crisis is still perceptible more than a decade later. Caribbean economies have not been able to fully insulate themselves from such shocks. This situation is partially due to their large chronic macroeconomic imbalances (the twin deficits of the fiscal balance and the current account) and high public debt burdens that combined have constrained these economies' ability to successfully pursue a countercyclical fiscal policy in response to shocks.

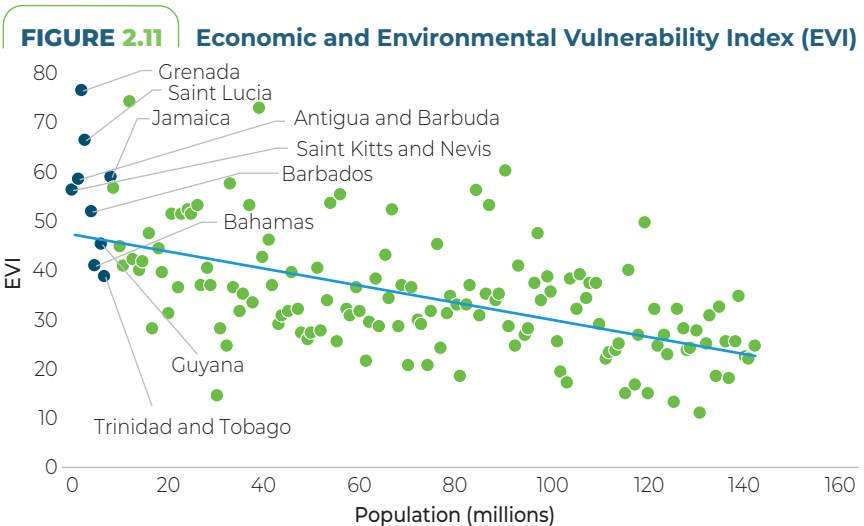
In general, Caribbean countries have low policy buffers, both domestic and external, to mitigate the economic shocks. Simultaneously, these limitations have reduced spending on infrastructure, impeding private sector activity. However, not just macroeconomic imbalances hinder a response but also weak political and economic institutions. The former leads to a “wait and see” policy response, and the latter leads to inadequate implementation issues. Among the underlying structural factors, often listed to account for economic stagnation and the economies' high volatility, has been an inadequately diversified economic structure (i.e., high concentration in few exports and export markets). This lack of diversification has been exacerbated by tax expenditure policies

that have locked the countries into concentrated economic structures and an unfriendly business environment that prevents a dynamic private sector from being formed. The rest of this chapter considers the links in the feedback loops in more detail.

Adverse External Shocks: Lack of Diversification

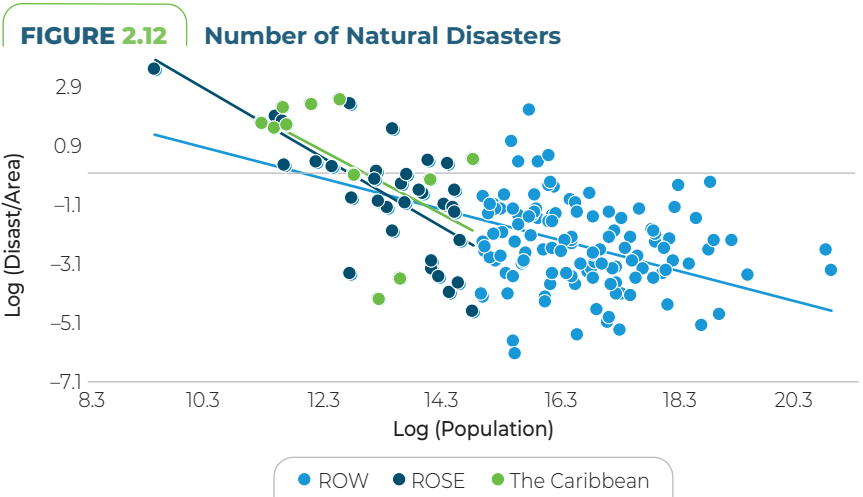
A crucial part of the feedback loop narrative of the Caribbean is external shocks (economic and natural disasters) interacting with the small size of the economies, the lack of diversification of their economic base, and their geographical and economic location. Discussions typically revolve around three dimensions: the exposure to shocks, the size and frequency of the shocks, and the capacity to respond to the shocks.

The United Nations' composite Economic and Environmental Vulnerability Index combines these three dimensions for economic and environmental shocks to measure the vulnerability of the world's least developed countries. The smaller a country's population, the greater its vulnerability. The Caribbean countries are highly vulnerable as they lie on hurricanes' paths. The lack of a large hinterland and the predominance of low-elevation topography, in addition to the fact that a high proportion of the population and economic activity is concentrated in coastal areas, makes these countries highly susceptible to damage (Figure 2.11).

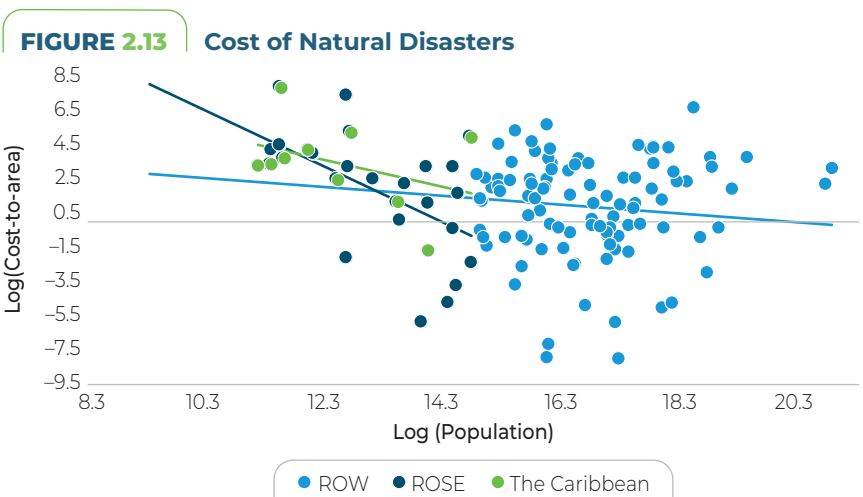


Source: Authors' elaboration with data (2002–17 time series estimates of the least developed country criteria) from United Nations Department of Economic and Social Affairs (n.d.).

Concerning the size and frequency of the shocks, hurricanes are the leading cause of natural disasters in the Caribbean. On average, 12 storms pass through the region each year, of which about half reach hurricane-force winds. The moderate destruction of hurricanes in the area is equivalent to 2.5 percent of GDP every year (Acevedo, 2016). In Figure 2.12, Caribbean countries stand out as the most disaster-prone countries globally, and Figure 2.13 shows the high cost of these natural disasters for Caribbean nations in terms of area (as measured in



Source: CRED (n.d.).
 Note: ROW: rest of the world.

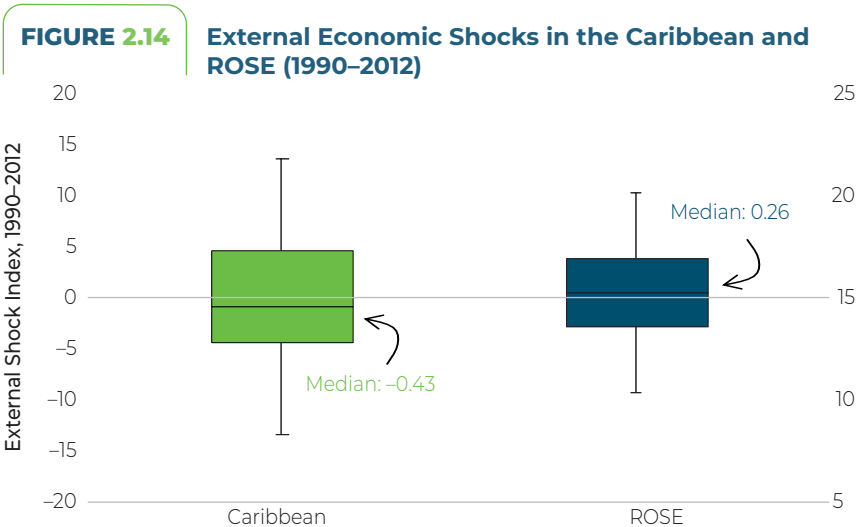


Source: CRED (n.d.).
 Notes: ROW: rest of the world. The cost-to-area ratio is the average of the ratio during the period 2000–12.

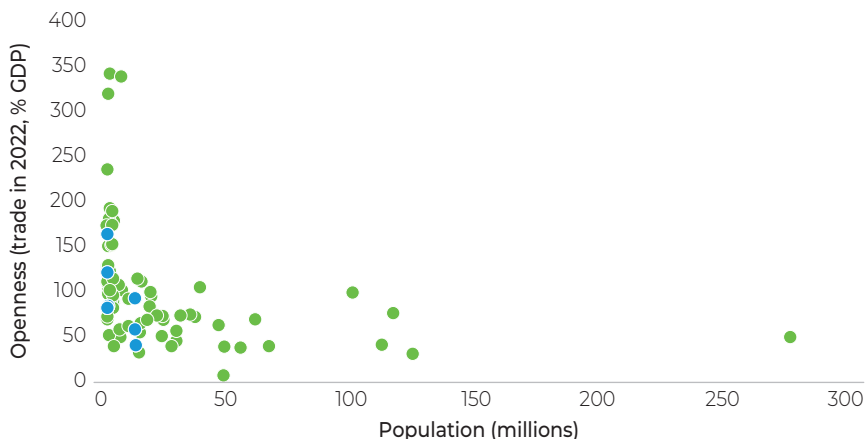
price per square mile). When it comes to climate change and predicted sea-level rise, the Bahamas and Trinidad and Tobago are expected to be the most affected because at least 80 percent of their total land is below sea level.

A country's exposure to economic shocks, both positive and negative, is dependent on the degree of openness (ratio of exports plus imports of goods and non-factor services to GDP) of the economy combined with the level of dependence on few commodities or services (tourism) and few—relatively low performing—export markets and tourist source countries. Figure 2.14 summarizes the median size and distribution of economic shocks, an index of the combined effects of contemporaneous shocks to trade, remittances, foreign direct investment (FDIs), and service exports. The median shock is negative for the Caribbean, while it is positive for ROSE. The external shocks are skewed toward the negative zone for the Caribbean, indicating a generally more adverse world economic environment than ROSE's.

The exposure to external economic shocks is the most fundamental indicator of economic integration with the world economy. The trade openness ratio indicates the dependence of domestic producers on foreign demand and of domestic consumers and producers on foreign supply. Like all small economies, the balance is relatively high for the Caribbean. The ratio for small economies is an average of 72 percent, as they depend on imports for most consumer and capital goods (Figure 2.15), and 64.2 percent for Caribbean countries. The high percentage is due to higher imports than exports, a common feature of small economies (excluding commodity-dependent ones). Further, the Caribbean



Source: Authors' calculations using IMF (2020).

FIGURE 2.15**Trade Openness in the Caribbean and ROSE
(percent of GDP, 2022)**

Source: Authors' calculations using World Bank (n.d., "WDI").

Note: Blue dots correspond to Caribbean countries; green dots correspond to ROSE countries.

faces increasing “de-globalization” as the region’s share of world merchandise exports has been declining steadily, along with the region’s share of tourism.

In addition, the high dependence on a few export items plays a role in sensitivity to external economic shocks. The countries’ trading partners also matter for their economic growth. For example, after controlling for other growth determinants, Arora and Vamvakidis (2005) find that a country’s economic growth is positively influenced by both the growth rate and the relative income level of its trading partners. Specifically, they estimate that an increase of 1 percentage point in economic growth among a country’s trading partners (keeping all else equal) is correlated with an increase in domestic growth of 0.8 percentage points. For Caribbean tourism-dependent economies, their tourist source countries grew 2.2 percent yearly in the 1980s and 1990s compared with 3.3 percent yearly for Pacific Island tourism-dependent economies. For Caribbean commodity-dependent economies, taking the two most important exports, their markets grew less (2.5 percent yearly vs. 4.2 percent yearly). They also had higher volatility measured as the standard deviation (2.6 vs. 2.1) compared to ROSE commodity exports’ markets.

These external shocks contribute to a fall in revenue and increased expenditure, putting pressure on the fiscal balance and public debt. Alejos (2017) finds, based on a study of 168 countries over the period 2000–15, that the occurrence of at least one extreme weather event is associated with an increase in the budget deficit between 0.4 percent and 0.9 percent of GDP. That impact comes primarily from an immediate reduction in government revenues as a

TABLE 2.1 GDP Growth Volatility (1980–2019)

Country	SD	Mean
The Bahamas	5.73	1.95
Barbados	3.85	0.74
Guyana	12.13	4.65
Jamaica	3.10	1.19
Suriname	5.99	0.83
Trinidad and Tobago	5.75	2.18
Avg for the Caribbean	6.09	1.92
ROSE (avg)	1.72	3.37

Source: Authors' elaboration based on IMF (2020).

Note: SD is the standard deviation.

percentage of GDP, with a lagged effect on public expenditure two years after the event.

The indirect effect of increased economic volatility can be added to this direct effect. Growth volatility, given external shocks, is higher for small economies. Since the study by Ramey and Ramey (1995), a consensus has emerged that the higher the volatility of economic growth, the lower the mean economic growth. Table 2.1 shows that Caribbean countries have higher volatility, measured by the standard deviation of the percentage change, in real GDP growth and a lower mean than ROSE. Commodity-exporting countries (Guyana, Suriname, Trinidad and Tobago) have higher volatility than tourism-dependent countries (the Bahamas, Barbados, and Jamaica). Table 2.2 shows that revenue-to-GDP volatility is higher for the Caribbean, except in Barbados, than the volatility's mean value for ROSE. Government revenue volatility is higher for commodity-dependent countries than tourism-dependent ones.¹²

The transmission mechanisms of external shocks differ between commodity- and tourism-dependent economies. They commonly depend on income from “exporting people” (i.e., remittances); see Figure 2.16.

Therefore, economic diversification holds great potential to increase the region's resilience and contribute to achieving and sustaining long-term economic growth and development. According to the extensive literature on the relationship between economic diversification and growth, broadly based economies—active in a wide range of sectors and diversified in terms of markets—are better able to generate robust and sustainable development. In the case of many countries in the Caribbean, a more diversified economy would

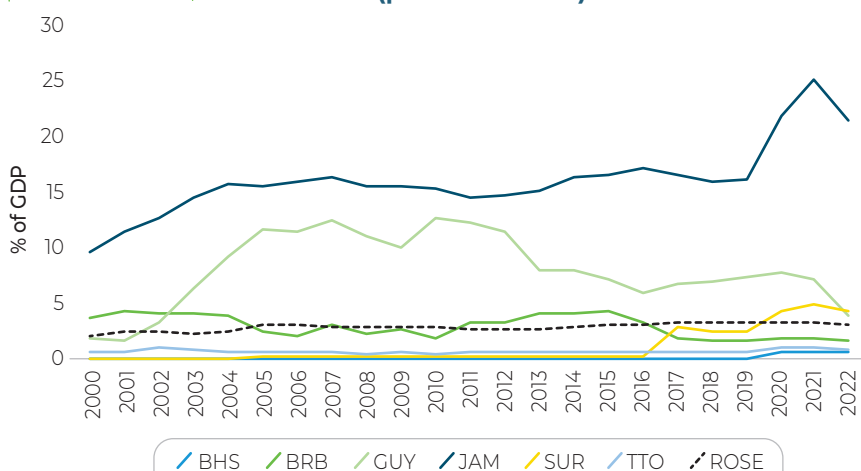
¹² For the impact of revenue volatility, see Talvi and Végh (2005).

TABLE 2.2 Volatility of Revenue to GDP (1980–2019)

Country	SD	Mean
The Bahamas	3.02	13.12
Barbados	1.58	27.20
Guyana	2.40	20.76
Jamaica	2.62	26.09
Suriname	3.45	21.25
Trinidad and Tobago	3.09	27.13
Avg for the Caribbean	2.69	22.59
ROSE (avg)	2.09	26.16

Source: Authors' elaboration based on IMF (2020).

Note: SD is the standard deviation.

FIGURE 2.16 Remittances (percent of GDP)

Source: Authors' elaboration based on data from Global Knowledge Partnership on Migration and Development (n.d.).

be expected to promote better economic performance. Still, tax incentive programs—tax expenditures—have actively harmed the creation of backward linkages from secondary and tertiary sectors (such as manufacturing and tourism, respectively) to primary (agriculture)¹³ and secondary sectors. Governments have often allowed full or partial customs exemptions or deferrals for imported goods used in export production and provided different exemptions to various industries. Similar tax exemptions were not provided to these same goods

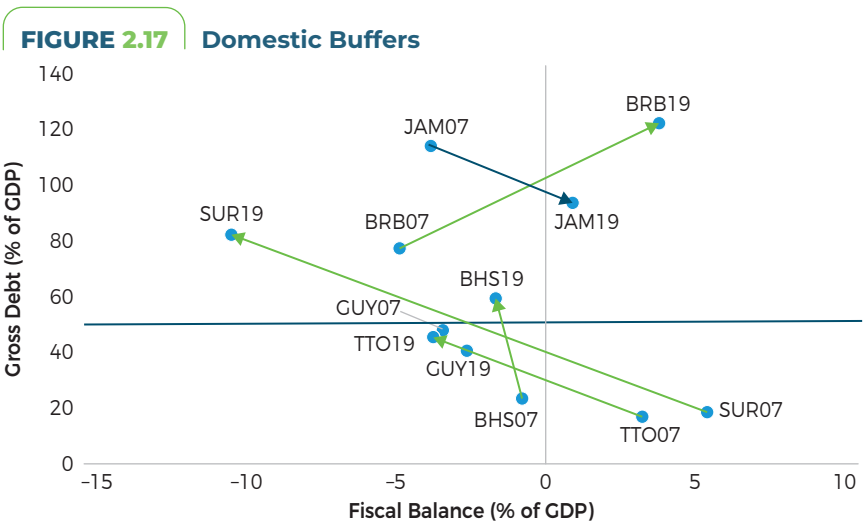
¹³ Failure to link agriculture and tourism in the Caribbean could have more pervasive effects beyond the failure to create forward and backward linkages; see Belisle (1984).

if they were domestically produced and used for export production, putting upstream domestic production at a severe competitive disadvantage compared to imports. These exemptions on imported inputs have been standardized across industries under a productive inputs relief (PIR) regime. Still, these PIRs do not afford domestically sourced inputs the same sets of exemptions, making it more difficult for domestic industries to compete for domestic market share. The reliance on a narrow set of declining industries has made Caribbean countries vulnerable to changing world market conditions.

Macroeconomic Imbalances

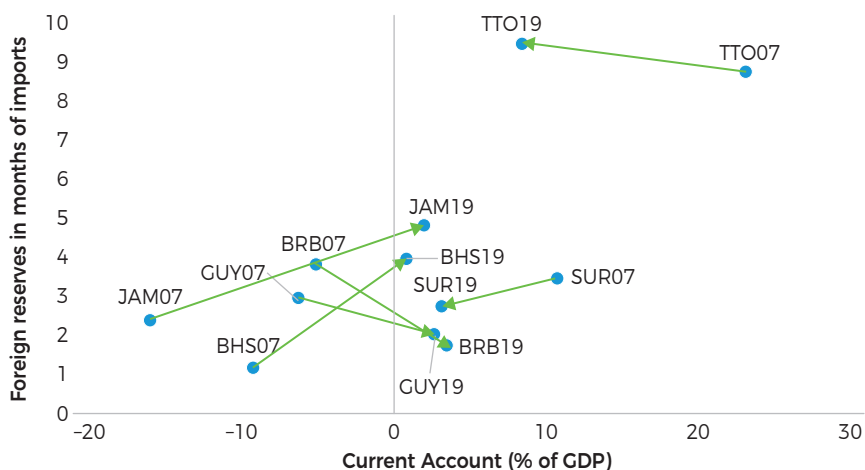
The feedback loop narrative asserts that the Caribbean countries' limited ability to mitigate external shocks stems from the large macroeconomic imbalances that hamper them. Policy buffers—both internal (fiscal balance and gross debt) and external (current account and foreign reserves)—were low before the global financial crisis of 2007–9 and, except for Jamaica, have worsened. Expansionary fiscal policy is constrained by high levels of public debt and high fiscal deficits, plus a combination of low fiscal multipliers and near to or below unity tax buoyancy (the measure of how tax revenues fluctuate with changes in output). Underlying this buoyancy is an inadequate level and structure of taxes, resulting in perverse incentives—through tax expenditures—that also hinder economic growth.

Domestic fiscal buffers were bad at the onset of the global financial crisis and have worsened since 2008. Figure 2.17 shows the evolution of the budgetary



Sources: Authors' elaboration based on IMF (2020) and World Bank (n.d., "WDI").

FIGURE 2.18 External Buffers



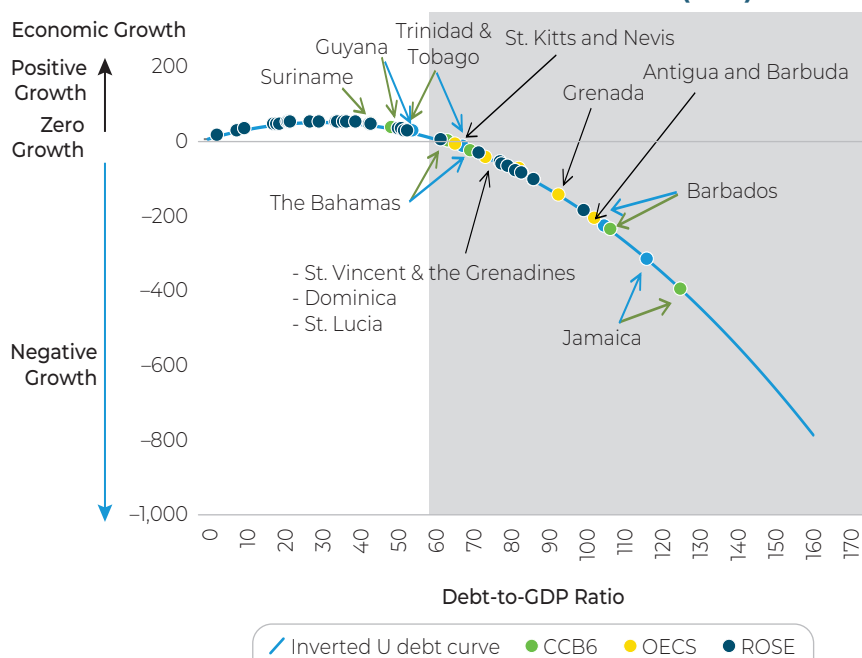
Sources: Authors' elaboration based on IMF (2020) and World Bank (n.d., "WDI").

balance and gross public debt, while Figure 2.18 shows the evolution of the current account of the balance of payments and foreign reserves. By 2019, they generally worsened relative to the values of 2007, moving deeper into the northeast quadrant. The exception is Jamaica, where both external and domestic buffers have improved. Low buffers have implied a lower ability to respond to the COVID-19 outbreak.

The Caribbean is excessively indebted, and a high debt-to-GDP ratio is a drag on economic growth (Figure 2.19). The "dark side" is when debt to GDP exceeds 60 percent (Greenidge et al., 2012; Khadan and Ruprah, 2016); rates above 60 percent imply that debt negatively affects economic growth (average and marginal). Traditionally, tourism-dependent countries were on the dark side of the debt-economic growth relation. However, in the 2020s, they have been joined by the commodity countries as commodity-based revenue has fallen contemporaneously with the demise of the international commodity boom. Governments did not embark on fiscal retrenchment to compensate for the fall in revenue but instead turned to deficit financing. Being on the dark side of the debt-economic growth relation has implied a loss of GDP growth in four of the CCB6 countries (as shown in Figure 2.20).

As expenditures have increased beyond tax revenue, the fiscal deficit has been a significant factor in the rise in public debt (Wright, Grenade, and Scott-Joseph, 2017). Two indicators suggest the inadequacy of tax revenue. The average tax-to-expenditure ratio fell from 0.93—almost covering public expenditure—in 2000–10 to 0.84 in 2011–21 (i.e., nearly 15 percent had to be financed

FIGURE 2.19 Debt: The Dark Side in the Caribbean (2017)



Sources: Authors' calculations using IMF (2020) and estimated relation in Greenidge et al. (2012). Notes: CCB6 refers to the Bahamas, Barbados, Guyana, Jamaica, Suriname, and Trinidad and Tobago; OECS refers to the Organization of Eastern Caribbean States; ROSE refers to the rest of the small economies. Green dots correspond to debt ratio in 2015; blue dots correspond to debt ratio in 2017.

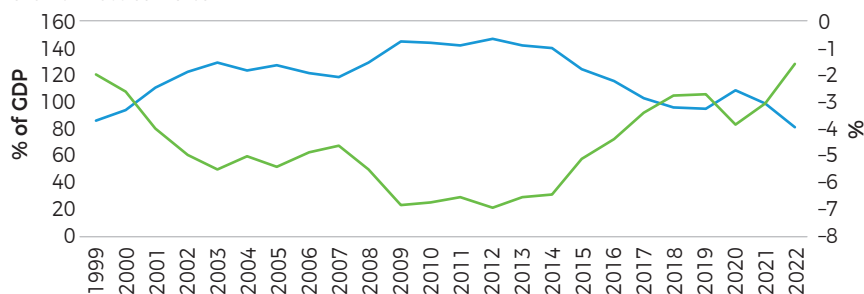
from other revenue and debt financing); see Figure 2.21. Another indicator of the inadequacy of tax revenue and public debt burden is the ratio of tax to debt service (i.e., interest and amortization payments). These rose from an average of 26 percent in 2000–10 to 31 percent in 2011–21 (Figure 2.22). Only in Trinidad and Tobago, Guyana, and Barbados has there been a reversal of the rise in the debt ratio.

The debt overhang is partly the result of past attempts to boost economic growth through expansionary fiscal policy as economic growth declined. These attempts have not worked as expected in the Caribbean. Demand-led growth has not worked through fiscal expansion due to a low-negative fiscal multiplier combined with a lower-than-unity tax buoyancy and a tax structure that lowers GDP potential growth.

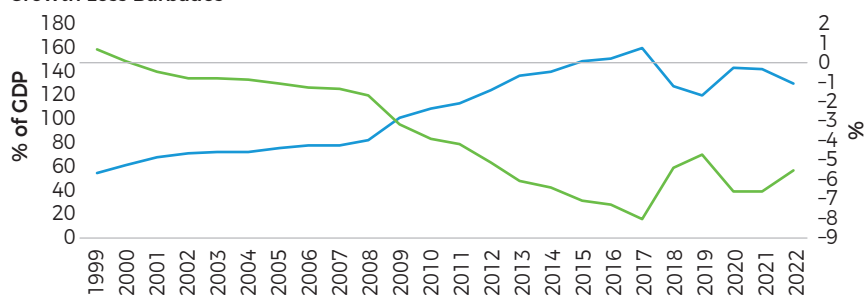
The first problem is that the region's fiscal multipliers are low to negative. The multiplier effect is how additional government spending affects income levels in the country. The higher the multiplier, the more significant the boost to GDP. However, most multiplier estimates in the region's countries suggest that they

FIGURE 2.20 Cumulative GDP Loss in Selected Countries

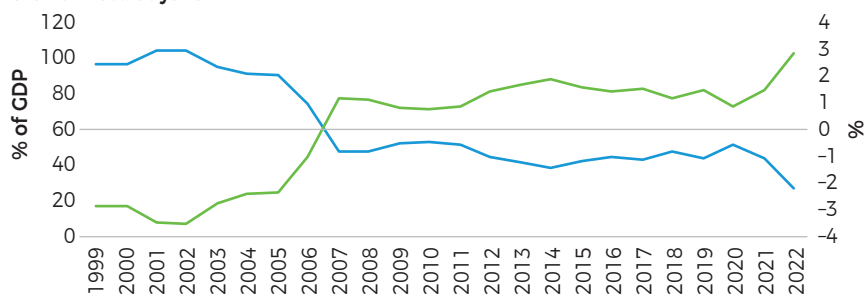
Growth Loss Jamaica



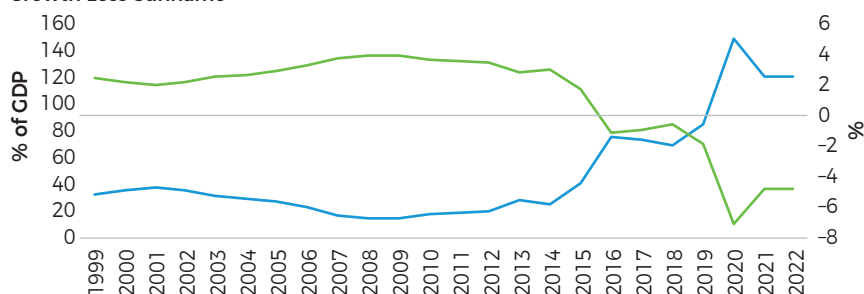
Growth Loss Barbados



Growth Loss Guyana



Growth Loss Suriname



— Debt — Growth Loss (rhs)

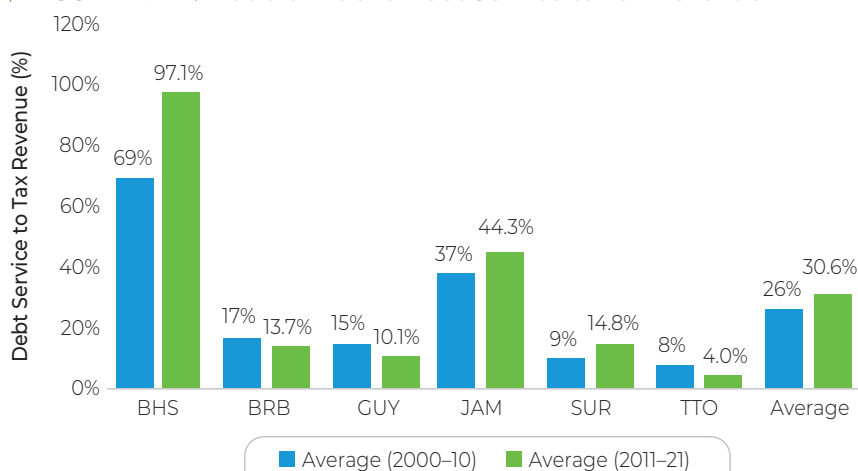
Source: Authors' elaboration based on IMF (2020).

FIGURE 2.21 Ratio of Taxes to Expenditure



Source: Authors' elaboration based on IMF (2020).

FIGURE 2.22 Ratio of Public Debt Service to Tax Revenue



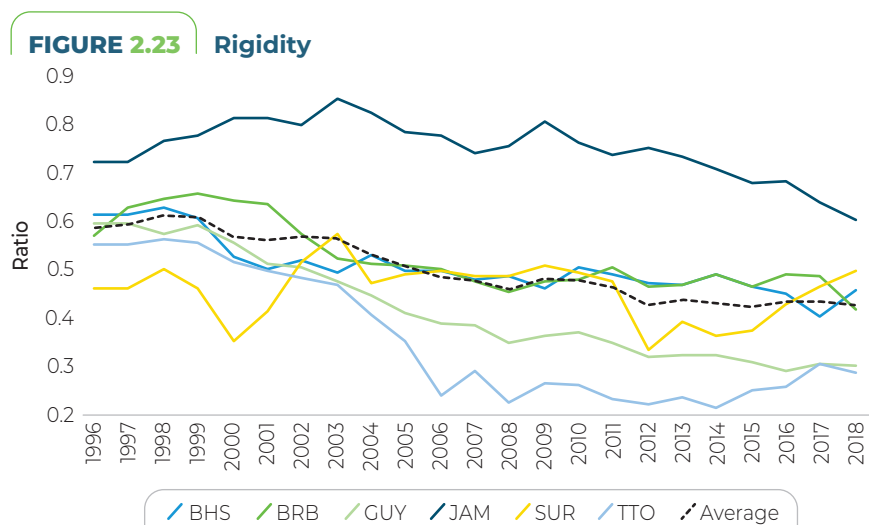
Source: Authors' elaboration based on IMF (2020).

are small to negative. According to Ilzetzi, Mendoza, and Végh (2013), when the central government's outstanding debt is high (exceeding 60 percent of GDP), as in most Caribbean countries, the impact fiscal multiplier was not statistically different from zero. In the long run, it was negative (statistically different from zero).

The multipliers in the Caribbean have fallen partly due to a change in public expenditure composition. The case of Trinidad and Tobago illustrates this. A fiscal expansion did not translate to higher economic growth during the last oil

boom. Underlying that failure was a change in public expenditure, with investment falling and increasing current expenditure due to increased transfers. In Khadan (2016), the results suggest that capital and current expenditure similarly affect GDP growth. However, a shock to expenditure on transfers and subsidies positively affects growth only in the immediate period while negatively affecting growth in the first year after the shock. Specifically, a positive shock to (increase in) expenditure on transfers and subsidies leads to an immediate increase in growth by 1.2 percentage points. Still, this effect quickly turns negative, and by the third year after the shock it reduces growth by as much as 1.3 percentage points. A positive shock to capital expenditure raises growth by 0.8 percentage points, and this effect remains largely positive after that. An IMF estimate of multipliers in Suriname concluded that current expenditure has a zero impact and a negative long-run effect on growth. In contrast, investment expenditure has a positive and more significant long-term effect (IMF, 2018).

The composition of public expenditures affects fiscal multipliers and budget rigidities that increase the probability of countries getting into budgetary distress and reduce the probability of governments making budgetary adjustments. The composition of current expenditure—the public wage bill plus interest payments as a proportion of total expenditure—captures the lower bound of the degree of downward expenditure rigidity (Monez and Olaberria, 2019), making the fiscal adjustment, other than capital expenditures, politically tricky. Figure 2.23 shows this rigidity ratio for the Caribbean countries. The average has fallen from 61 percent in 1997 to 45 percent in 2018. The fall was mainly due to the



Source: Authors' elaboration based on IMF (2020).

Note: Rigidity is the ratio of the public wage bill plus interest to total expenditure.

decline in Jamaica, where it fell from 86 percent in 2002 to 65 percent in 2018. Nonetheless, rigidity remains high; in 2018, rigid expenditure for the Bahamas was at 46 percent, Barbados 42 percent, Guyana 31 percent, Suriname 50 percent, and Trinidad and Tobago 25 percent for the total public expenditure.

The second problem with the effectiveness of fiscal expansion is that tax buoyancy is low.¹⁴ Khadan (2020) finds that long-run and short-run tax buoyancies for total tax revenues exceed one (1991–2017) but differ over pre- and post-crisis periods. Long-run tax buoyancy in the pre-crisis period was significantly more than one but declined to below one in the post-crisis period. However, the short-run tax buoyancy was statistically insignificant from zero in the pre-crisis period but became statistically significant with a tax buoyancy exceeding one. The components of the taxes also revealed other buoyancy estimates. Indirect taxes, which account for most tax revenues, showed long-run tax buoyancies significantly less than one, while long-run buoyancies for direct taxes were substantially larger than unity.

Underlying low tax buoyancies are tax expenditures and their concentration in specific sectors. For example, the concentration of tax expenditures in the tourism sector implies that if that sector recovers, tax revenue will recover to a lesser degree. A key role in reducing tax buoyancy could be tax expenditures. Still, it is difficult to incorporate this into an econometric estimation to empirically determine its importance, given the lack of a sufficiently long time series on tax expenditures. However, some idea of the negative relationship can be obtained from the relation between tax buoyancy estimates and tax expenditure to GDP (Figure 2.24).

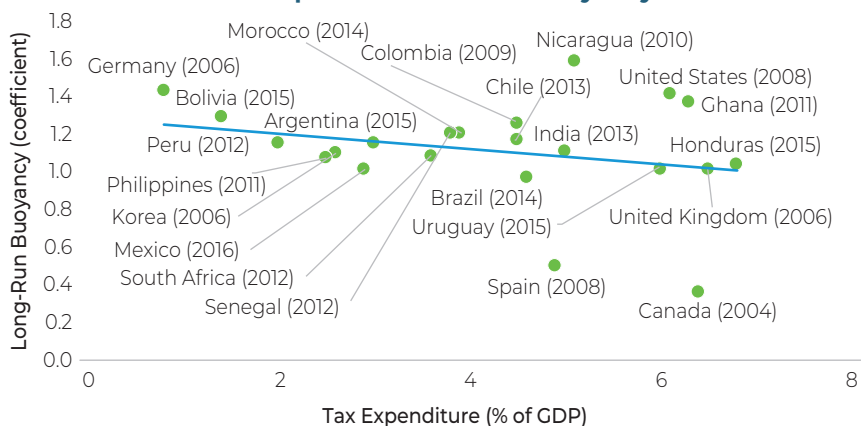
A policy implication of these findings is that to avoid further deterioration of the budget, any increase in the tax-to-expenditure ratio that is not sufficiently growth-enhancing and self-financing would need to be accompanied by tax reform measures to support the mobilization of fiscal revenues.

Public Institutions: Wait and See or Confront Powerful Interests

Most analyses place the public sector and public policy at the root of the problematic “loop” dynamics or include their reform as part of the solution to

¹⁴ A buoyancy of unity holds when an extra 1 percent of GDP increases tax revenue by 1 percent, thus leaving the tax-to-GDP ratio unchanged. When tax buoyancy exceeds one (or is below one), tax revenue increases (decreases) more than GDP, which could potentially lead to reductions (increases) in the deficit ratio. The tax revenue buoyancy reflects both the effect of automatic stabilizers and of discretionary policy changes. To the extent that the latter are systematically driven by a reaction function, short-run buoyancy estimates may be biased and hence may not necessarily be interpreted as reflecting only the effect of automatic stabilizers. For a recent study see Khadan (2020).

FIGURE 2.24 Tax Expenditure and Tax Buoyancy



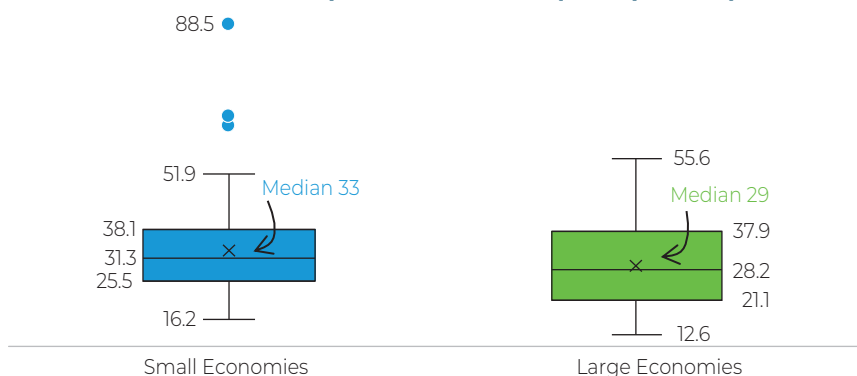
Source: Dudine and Jalles (2017).

Note: Tax expenditures in the Caribbean are out of the scope of this figure because they are significantly higher.

breaking the loop. Like most small economies, the Caribbean public sector is extensive. Figure 2.25 shows the median public expenditure-to-GDP values for small and large economies in 2019. The median value for small economies is 31.3, with a range of 25.5 and 38.1 between the first and third quartile, compared to the median value of 28.2 and a range between 21.1 and 37.9 for large economies.

The problem, however, is not just size but a weak institutional structure. Also, institutions in the region do not seem to be geared toward the public interest: “most Caribbean institutions that shape economic policy do not necessarily do so in the public interest and instead favor special interest groups or

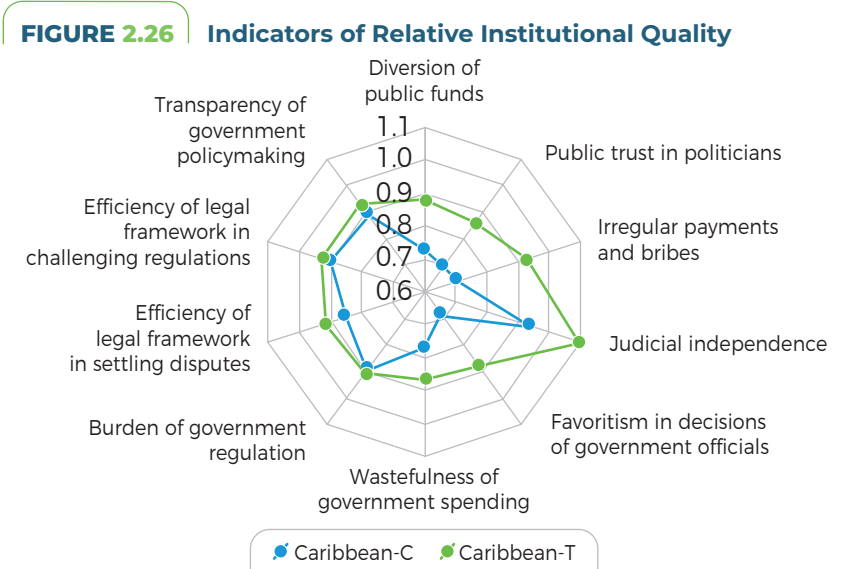
FIGURE 2.25 Public Expenditure to GDP (2019, percent)



Source: Authors' elaboration based on IMF (2020).

members of the elite” (Beuermann and Schwartz, 2018, 172). Fajgenbaum and Loser’s chapter in the same book argues that the weakness in fiscal policies, governance, and institutional rules underlies poor budgetary performance. “In addition to fiscal over-expansion (reflecting the absence of a political consensus regarding fiscal discipline), deficits and public debt have grown due to poor public-sector governance (particularly checks and balances, accountability, and the rule of law), lack of sound budgetary institutions, and the absence of binding fiscal rules aimed at preserving fiscal discipline. These vulnerabilities were compounded by weaknesses in planning capacity, program budgeting and control over spending, financial management processes, and inadequate availability or use of evidence to base sound decision-making and evaluation. The absence of independent fiscal institutions may have been an additional factor” (Fajgenbaum and Loser, 2018, 219).¹⁵

Evidence suggests that relative to other small economies, the Caribbean countries do worse in practically all dimensions of institutional capacity as measured by the World Economic Forum (Figure 2.26). Compared to ROSE (differentiated by tourism-dependent and commodity exporters), in the Caribbean



Source: Authors' elaboration based on Schwab (2013).
 Notes: Caribbean-C refers to the commodity-export-based countries (Guyana, Suriname, and Trinidad and Tobago) and Caribbean-T refers to the tourism-based countries (the Bahamas, Barbados, and Jamaica). Index values are expressed as ratios between Caribbean and ROSE values.

¹⁵ Examples of independent fiscal institutions are independent fiscal councils and fiscal responsibility frameworks and fiscal rules.

countries there is a lower level of public trust in politicians, more unproductive rent-seeking, and a greater degree of wastefulness of government spending. Government officials divert public funds to show more significant favoritism, and Caribbean businesses have to make more irregular payments and bribes. Therefore, it is unsurprising that lower trust and more unproductive rent-seeking are associated with lower economic growth (Beugelsdijk, 2006).

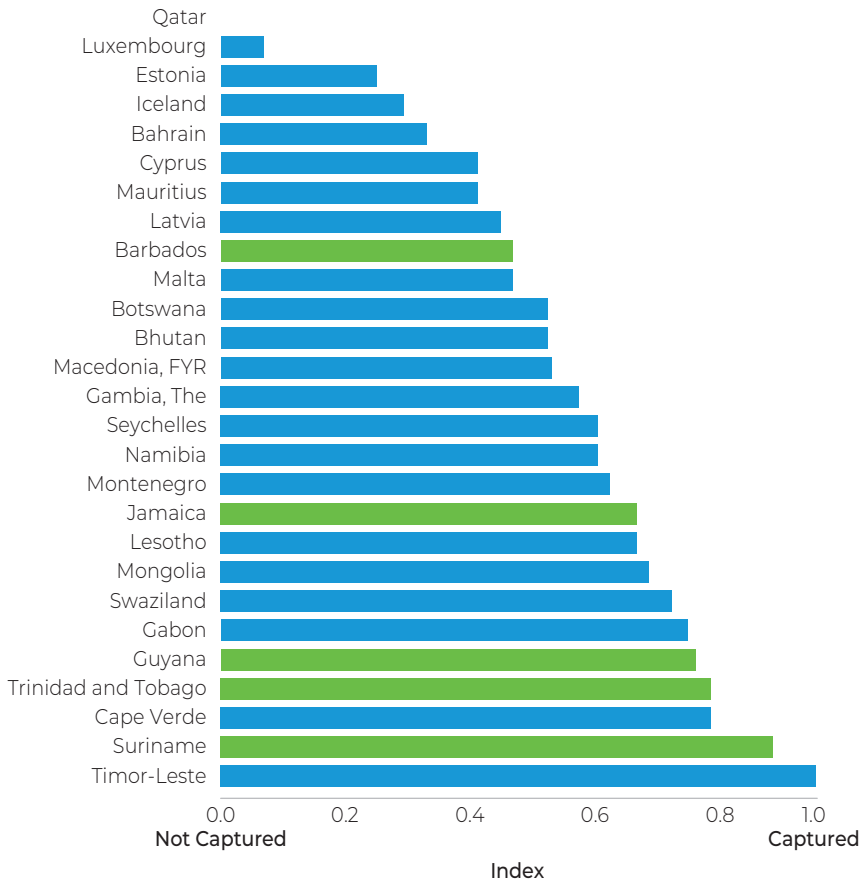
“Rents” are rewards above the level that effort and productivity imply. When economic agents engage in rent-seeking, they distort good governance practices, engage in bribery and corruption, and transform potential entrepreneurs into rent-seekers, thus lowering productivity and constraining sustainable economic growth (Tullock, 1980). The state also becomes involved in rent-seeking by interacting with the private sector. If the business environment is unfavorable, rent-seeking can occur if the state administers legal restraints, regulations, subsidies, taxes, tariffs, import quotas, or award contracts through public procurement. For their part, private actors are incentivized to influence the decisions of public officials in their favor, usually at the expense of others, including through tax reform.

The latter point raises Olson’s concept of “institutional sclerosis.” Olson (1982) hypothesized that special interest groups will accumulate over time in politically stable societies—like the Caribbean governments—and eventually reduce the economic efficiency of the economy in which they operate. As Heckelman (2007) explained, Olson argued that incentives work against forming pro-growth groups. Instead, groups that advocate excludable redistribution will obtain considerable benefits for themselves while imposing costs on the broader society. Consequently, groups encouraging redistribution are more likely to form successfully than groups advocating growth. Further, since it takes time for small groups to overcome their collective action problems,¹⁶ more special interest groups are expected to form and engage in redistributive activities. As these groups include more participants, their impact will serve to divert scarce economic resources away from technological advances and other growth-enhancing activities that are non-excludable and toward redistributive activities.

Small groups would be more likely to form than large groups because it is easier to monitor a smaller group. Hence, Olson’s arguments are more pertinent to countries with a small population. Thus, the same feature that the Caribbean is rightly proud of—namely its political stability—may have been conducive to forming small groups and sustaining their alliance against growth by employing

¹⁶ A collective action problem is a situation in which all individuals would be better off cooperating but fail to do so because of conflicting interest between individuals that discourages joint action.

FIGURE 2.27 State Capture Index: ROSE and Caribbean Countries



Source: Authors' elaboration based on Schwab (2013).

state capture (Figure 2.27).¹⁷ One mechanism through which rents are extracted is through tax expenditures.

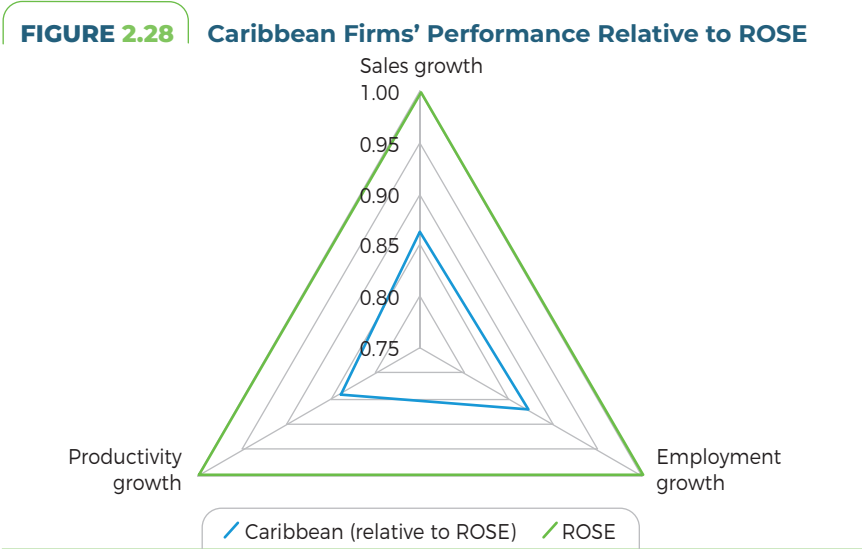
Dookeran and Jantzen (2012) raise the problem of an “anti-growth alliance” as a significant factor hindering higher economic growth in the Caribbean and causing policy inertia. Such state capture would result in status quo rents that can only be reduced through raising effective tax rates by reducing tax expenditures. However, the examples of Barbados and Jamaica suggest that these factors are not necessarily iron-clad constraints. The cases of Suriname and Trinidad and Tobago indicate that maybe they are.

¹⁷ The State Capture Index, which ranges from zero (no capture) to unity (full capture), is constructed from three pillars of the World Economic Forum's Global Competitiveness Index: institutions, labor market efficiency, and goods market efficiency (Schwab, 2013).

The Private Sector to the Rescue?

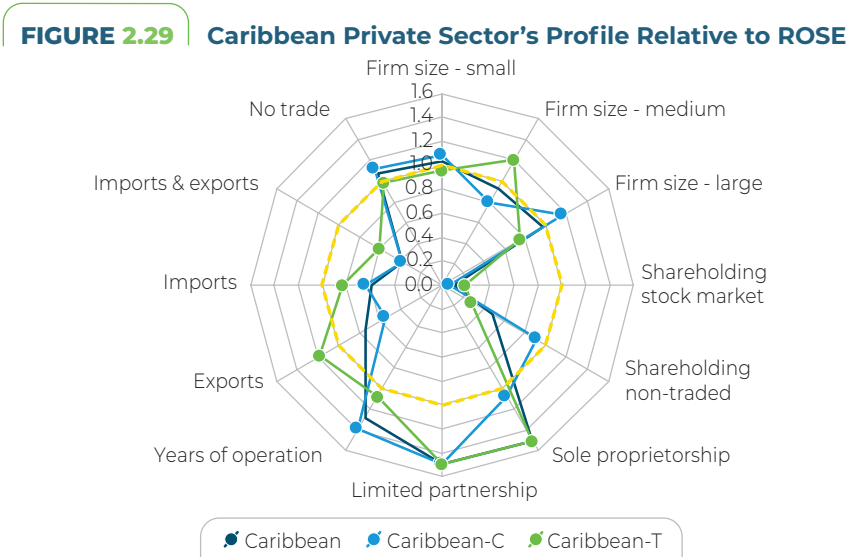
An analysis of the private sector is not often explicitly included in the narrative of the negative economic growth dynamics of the Caribbean. However, it is a crucial part of economic activity and a source of revenue for the public sector. Supply-side policy reforms typically recommend increasing potential economic growth. They often are directed at improving the country's business climate by improving the functioning of the capital, labor, and product markets.

Without reforming these markets, Caribbean governments—given their limited fiscal space for maneuver—are increasingly urging the private sector to become the growth engine. However, it is doubtful that the private sector can step up to the plate without anything else changing. Caribbean businesses are far from being the dynamic, innovative, and exporting sectors required to be a motor of growth (Ruprah and Sierra, 2016). There is a significant performance gap (as measured by the lower sales growth, employment generation, and productivity) between the private sectors of the Caribbean and ROSE (Figure 2.28). Caribbean performance has worsened; the proportion of stagnating firms (zero sales growth over three years) increased from 50 percent in 2010 to 87 percent in 2014. Caribbean businesses are typically smaller, older, less open to international trade, and predominantly locally owned; they primarily have as their legal basis sole ownership (i.e., mainly family businesses) or limited partnership compared with ROSE (Figure 2.29). Characteristics, when combined, suggest non-dynamic firms.

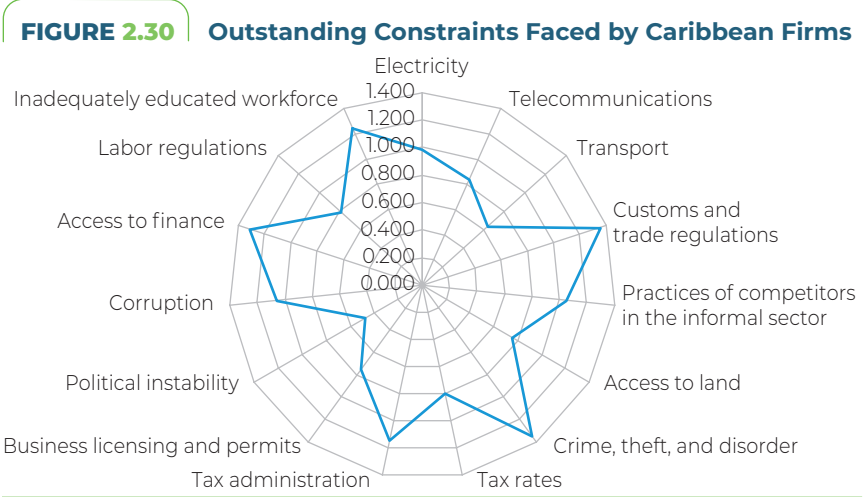


Source: Authors' elaboration using World Bank (2014).
Note: For the fiscal year prior to the survey. Growth rates calculated using fiscal year t-3.

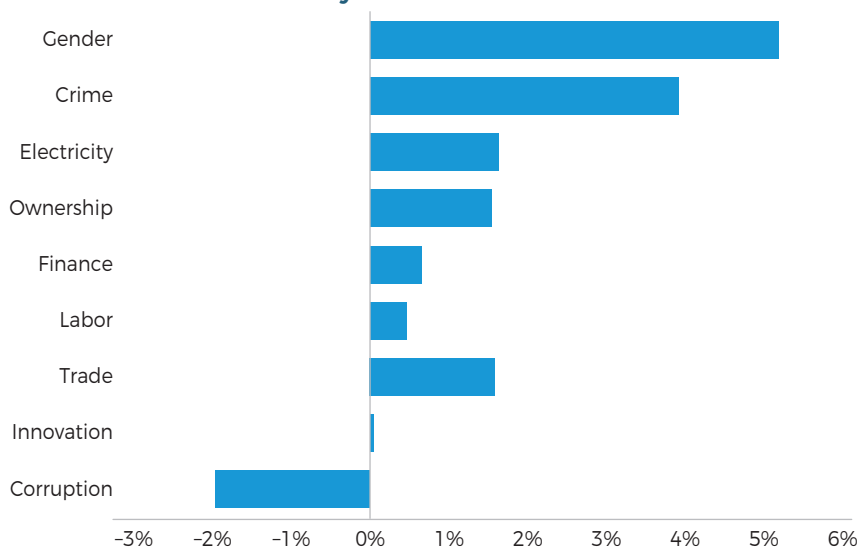
Furthermore, of the microeconomic concerns identified by ROSE firms, the most pressing for Caribbean businesses are tax administration; customs and trade regulations; informal sector competition; corruption; access to finance; crime, theft, and disorder; and an inadequately educated workforce (Figure 2.30).



Source: Authors' elaboration using World Bank (n.d., "WBES").
Notes: Caribbean-C refers to the commodity-export-based countries (Guyana, Suriname, and Trinidad and Tobago) and Caribbean-T refers to the tourism-based countries (the Bahamas, Barbados, and Jamaica). For limited partnership, the figure is 6.8 for Caribbean-C, 16 for Caribbean-T, and 8 for the Caribbean. For sole proprietorship, the figure is 3.3 for Caribbean-T and 2.1 for the Caribbean.



Source: Authors' elaboration based on World Bank (2014).
Note: Caribbean values are normalized to ROSE values.

FIGURE 2.31**Sales Growth Relative to Reduction in Constraints:
Commodity-Based Economies**

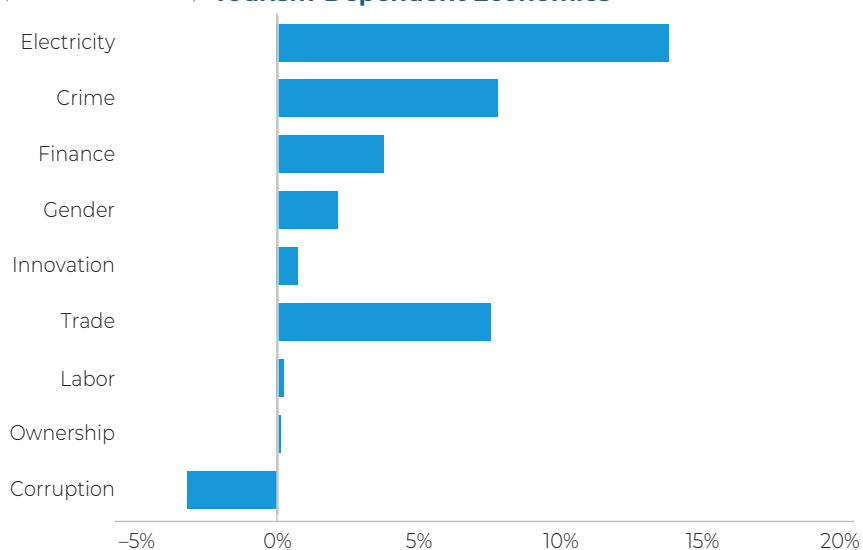
Source: Authors' elaboration using World Bank (n.d., "WBES").

Note: The commodity-based economies represented here are Guyana, Suriname, and Trinidad and Tobago.

Corruption was discussed earlier in this chapter, and the problems of tax administration, customs and trade regulations, and informal sector competition will be addressed in the next chapter.

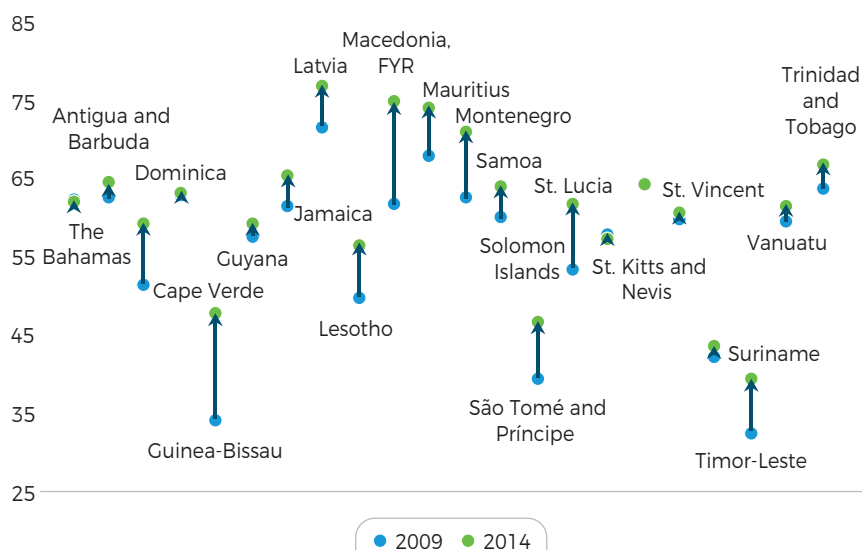
In Chapter 14 of Ruprah and Sierra (2016), they simulate the effect on firm performance of a 10 percent reduction in each constraint where sales growth is used as the performance indicator. Caribbean countries are separated into two groups: commodity-dependent (Guyana, Suriname, and Trinidad and Tobago, Figure 2.31) and tourism-dependent (the Bahamas, Barbados, and Jamaica, Figure 2.32). The simulation exercise indicates that tackling crime yields the second-largest improvement in sales growth compared with other constraints. A 10 percent reduction in crime is associated with an 8 percent increase in sales growth for tourism-dependent firms and a 4 percent increase in sales growth in commodity-dependent countries. This result reinforces the argument that economy-wide reforms will lead to greater growth of firms than will firm- or sector-level subsidies through tax expenditures. Economy-wide reforms are in contrast with existing policies favoring specific firms, including tax expenditures, as practiced today.

The concerns of Caribbean businesses are significant, yet relatively little has been done by governments to ease these constraints and the region is being left behind as other countries reform their business environment (Figure 2.33).

FIGURE 2.32**Sales Growth Relative to Reduction in Constraints:
Tourism-Dependent Economies**

Source: Authors' elaboration based on World Bank (2014).

Note: The tourism-dependent economies represented here are the Bahamas, Barbados, and Jamaica.

FIGURE 2.33**Distance to Frontier of Doing Business**

Source: Authors' elaboration based on World Bank (2014).

Note: The distance from the frontier ranges from 0 (i.e., the lowest performance) to 100 (the best performance).

This reality suggests higher potential returns are gained by reforming economy-wide factors and replacing the current policies that mainly use tax expenditures, which result in unfair competition. Unfair competition undermines competitive forces and implies that existing policies are suitable for some businesses/individuals but are not good for business in general (as they weaken horizontal equity).

Conclusions

Tax policies and other factors contributing to the Caribbean's poor economic performance intertwine into a downward negative loop such that the region's countries are caught in a low-growth, high-debt situation. Adverse external shocks buffet the countries, which are made all the more vulnerable by their macroeconomic imbalances (the twin deficits of the fiscal and current account of the balance of payments) and high public debt burdens. These result in low policy buffers to mitigate the shocks. The downward feedback loops between these factors have hurt growth and hindered these economies from benefiting from globalization and technological progress. Underlying the structural factors contributing to the stagnation and high volatility are the countries' inadequately diversified economies (i.e., high concentration in few exports and export markets). Tax expenditure policies have exacerbated this lack of diversification, locking the countries into concentrated economic structures and unfriendly business environments that prevent a dynamic private sector from forming. Weak institutional structures seem aligned not with the public interest but with special interest groups and elite members of society, often granting them favorable tax incentives.

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Taxes: Common Problems

Every country in the Caribbean is different. There are, however, several common problems with the tax systems in the region. This chapter discusses the interplay between tax policy and tax administration, in particular, the shadow economy, the perverse effects of tax expenditures, the inadequacy of tax administration, amnesties, and international tax issues. These common problems play a critical role in the negative feedback loops discussed previously.¹⁸ Some of their interaction effects are discussed before exploring each topic in detail.

“The rate at which tax revenues increase over time depends on the tax structure, the quality and capacity of tax administration, and the pace and nature of the country’s economic growth” (Bird and Wilkie, 2012, 5). There is an interplay between tax policy and tax administration. But how important is tax administration for the tax system as a whole? The literature on tax issues highlights the interaction between tax policy and tax administration. Traditionally, this interaction has been viewed as a hierarchical model of tax compliance in which policy-makers design tax policies and delegate the responsibility of collecting them to the tax authority. Under this approach, constraints to taxation focus on the limits imposed by incentive constraints—asymmetric information, unclearly drafted laws, or politics. Traditionally, higher tax revenue has rarely been linked in the literature to the administrative capacity of the state (Besley and Persson, 2014). However, this approach has been increasingly challenged by a greater recognition that tax systems depend as much on tax administration as they do on tax policy (de la Feria and Schoeman, 2019).

¹⁸ Another characteristic, the Common External Tariff (CET) of the Caribbean Community (CARICOM), also plays a role and is discussed in Chapter 4.

Tax administrations with serious institutional challenges will find it more difficult or impracticable to implement tax policy reforms, making these efforts futile. Ineffective tax administration will most likely distort competition, favoring those activities for which paying taxes can be avoided (Tanzi and Casanegra de Jantscher, 1987). Thus, in practice, and beyond what tax laws may prescribe, taxpayers engaged in income activities that are difficult to hide (e.g., salary earners) will be penalized because they will pay a larger-than-intended share of taxes (Beuermann and Pecha, 2018).

Any attempt to identify tax compliance issues requires an evaluation of the capacity of the revenue administration but also an overall analysis of the tax system. Unfortunately, the evaluation almost certainly will find that, in the case of tax policy, tax reforms raise important issues for tax administrations (Aaron and Slemrod, 2004). These issues are intrinsically related to the complexity of the tax system and the lack of robust institutional capacity.

According to U.S. law, but applicable elsewhere, tax expenditures are “revenue losses attributable to provisions of the tax laws which allow a special exclusion, exemption, or deduction from gross income or which provide a special credit, a preferential rate of tax, or a deferral of tax liability.”¹⁹ These provisions in the law may be viewed as an alternative to other policy instruments, such as spending or regulatory programs. Although recorded in the budget as revenue reductions (thereby making the government appear smaller), tax expenditures can be designed to have the same effects on income distribution and the allocation of resources among economic activities as equivalent spending programs (Bradford, 2003; Burman and Phaup, 2012; Marron, 2011). A full measure of government size should treat these preferences as spending rather than revenue reductions.

However, simply counting all tax expenditures as substitutes for spending would overstate the amount of the expenditure through the tax code. Tax expenditures are exceptions to a modified version of a comprehensive income tax that recognizes that some exceptions will exist for administration and political feasibility reasons. Because the definition of this normative tax base against which tax expenditures are measured is subjective, some authors (Fiekowsky, 1980; Kleinbard, 2010; Shaviro, 2004; Toder, 2005; Marron, 2011; Marron and Toder, 2011) have suggested distinguishing between those tax expenditures that represent disguised spending and those that represent structural departures from a comprehensive income base but do not replace any direct spending program.

Improving the effectiveness of a revenue administration includes empowering it legally and politically. Revenue bodies in many countries operate under

¹⁹ U.S. Budget Act (Public Law 93-344-July 12, 1974), section 3, item (a), subitem (3).

outdated institutional frameworks that need new laws and tax codes that could speed up the process of enforcing tax collection without risking taxpayers' rights. Legal reforms that allow the administration to use modern technologies (which taxpayers are already taking advantage of) are also highly desirable. Moreover, most countries, including developed ones, have their legal framework for taxation spread across a series of tax laws with provisions for the revenue bodies, usually supplemented by numerous regulations. The latter can cause difficulties for tax administrations and taxpayers who are typically caught amid inconsistencies and contradictions. Instead of different tax laws for each tax type, the international best practice is to enact a single comprehensive and coherent tax code that incorporates all legal aspects of taxation into one piece of legislation. The tax code should include all national taxes, social insurance contributions, and specific taxes on the processors of minerals and other commodities (Jacobs et al., 2013).

This rationalization and codification of the legal framework governing revenue administration aims to improve the performance of the tax system. It also powerfully conveys that an independent authority can commit to a fairer and less discretionary collection process. A commissioner, director-general, or oversight management board oversees a semi-autonomous revenue agency's administration and support functions and approves internal policies and strategic plans to ensure that objectives are met according to the rule of law, integrity, and professionalism. Board decisions include funding and human resource policies, accountability rules, and rules for interpreting tax laws and the issuance of regulations (Crandall and Kidd, 2010). There has been a slight increase in the number of tax administrations that have chosen to implement management boards in recent years. Management boards seem driven by the broader concern about public-sector accountability (OECD, 2019b).

Caribbean tax administrations need to be more transparent by regularly producing and publishing information on operational performance. When released, these reports need to be available to the public, updated, and audited by the auditor-general. Tax expenditure budgets should be prepared yearly as part of the budget process. Tax administrations must establish provisions for adopting transfer pricing rules (currently available in Jamaica) under the existing legal framework. Staff must be trained on transfer pricing, and specialists must be hired. Also, consideration should be given to establishing and training a small group devoted to evaluating the problem of base erosion and profit shifting (BEPS) and identifying the legal loopholes that allow maneuvers to reduce the tax burden of firms or individuals. Trinidad and Tobago should increase their international cooperation in tax matters and sign more tax information exchange agreements (TIEAs).

Ghosts and Icebergs: The Shadow Economy

Although legally liable to do so, many firms and individuals do not pay taxes. Noncompliance takes the form of “ghosts” (firms and individuals who should register for tax purposes but do not and therefore remain unknown to authorities) or “icebergs” (taxpayers who are registered with tax authorities but underpay). The extension of tax enforcement to cover them is a potential revenue source for the cash-strapped governments in the Caribbean.

Many phrases describe the phenomena of tax noncompliance, such as the shadow economy, underground economy, black economy, cash economy, hard-to-tax economy, the unofficial economy, and hidden economy. The Organisation for Economic Co-operation and Development (OECD) defines the shadow economy as “economic activities, whether legal or illegal, which are required by law to be fully reported to tax administration, but which are not reported, and which therefore go untaxed, unlike activities which are so reported” (OECD, 2017a, 9).

This definition encapsulates most of the descriptors. The shadow economy is typically associated with a mom-and-pop corner shop or a plumber working nights or weekends. However, as Keen (2012) points out, professionals—doctors, lawyers, architects, and the like—are responsible for many of the large underpayments of tax in terms of revenue loss and the damage to the fairness of the overall tax system. Furthermore, the shadow economy is much more than even this, and changes, including new economic activities, accentuate the problem. The following activities are included in the shadow economy: underreporting of business income, unreported sources of income, inflated costs, including the inflation of tax deductibles and false invoices, moonlighters, cross-border fraud, money laundering, distance selling, non-registered firms (i.e., firms not registered with the tax authority but that may be with other public agencies), and phoenix companies (i.e., firms created to become insolvent when taxes are due, not just a mom-and-pop corner shop) (OECD, 2017a).

The prevalence of many of these ghost and iceberg economic entities is higher in services, the largest and increasing sector of the Caribbean economy: personnel services, hospitality (restaurants, cafés, hotels), retail, tourism, real estate, internet, freelancers, and professionals. These are the very economic activities that dominate most Caribbean economies. This broadened definition of “shadow economy” facilitates the inclusion of novel economic activities that further undermine tax compliance, namely the increasing use of sophisticated technology (e.g., apps for false invoices), cross-border fraud, the rapid growth of the sharing economy (when individuals take advantage of underutilized assets they possess and rent them to people who need them without reporting the

income), and the gig economy (when individuals offer their services on a free-lance or part-time basis to individuals or firms).

The ramifications of the shadow economy include (i) the direct loss of tax revenue and the indirect loss (because it undermines trust in the tax system and the norms supporting voluntary tax compliance), (ii) the distortion of competition by the noncompliant firms enjoying lower costs compared to their registered counterparts, and (iii) the exploitation of workers due to lack of contractual protection. The extent of these problems for the Caribbean depends on the size of the shadow economy, estimates of which vary depending on the technique used. Table 3.1 summarizes estimates found in three empirical studies. Although there is a variation in size across countries and for individual countries depending on the estimation method used, approximately one-third of GDP comprises activities in the Caribbean's shadow economy. This number is not far from the average found by Medina and Schneider (2018), but it is far below the upper levels. Their study covers 158 countries all over the world between 1991 and 2015 and estimates the average size of the shadow economy to be 31.9 percent of GDP. The largest shadow economies are in Zimbabwe (60.6 percent of GDP) and Bolivia (62.3 percent of GDP), but the problems associated with the shadow economy could be accentuated in small economies dependent on a reduced set of economic activities.

Further, empirical estimates (Awasthi and Engelschalk, 2018) suggest that the higher the level of the shadow economy as a proportion of the official GDP, the lower the portion of tax revenue (tax revenue to GDP). The correlation coefficient is -0.278 —that is, a decrease of 1 percentage point in the shadow economy's size (shadow economy's GDP to official GDP) increases revenue (revenue to GDP) by 0.278 percent. The size of the shadow economy's GDP

TABLE 3.1 Estimates of the Shadow Economy in the Caribbean (percent of GDP)

Country	Medina and Schneider	Vuletin	Peters
The Bahamas	34	16	20–30
Barbados	n.a.	25	30–40
Guyana	32	37	29–33
Jamaica	33	35	35–44
Suriname	32	n.a.	35–45
Trinidad and Tobago	34	24	26–33

Sources: Authors' elaboration based on Medina and Schneider (2018), Vuletin (2008), and Peters (2017).

is related negatively to governance: regulatory quality and control of corruption. An increase of 1 percentage point in expenditures on regulatory quality and management of corruption reduces the size of the shadow economy's GDP by 0.6435 percent and 0.6763 percent, respectively. The direct effect on the ratio of tax revenue to GDP is 1.473 percent for regulatory quality and 2.8 percent for control of corruption.

These empirical relations from the above-mentioned estimates allow a simple “what if” calculation of the revenue gain if taxes were extended to the shadow economy. Such an analysis has to be taken with caution, however, because the simple arithmetic used does not consider agents' responses and the capacity of tax administration. Hence, a calculation that assumes the same effective tax rates as in the formal economy is a bounded estimate at best. Given the size of the non-official GDP (Table 3.2), instead of the relatively high tax-to-official-GDP ratio of 21 percent, the numbers used in the rest of this book are based on the lower tax-to-total-GDP (official plus shadow economy's GDP) ratio of 16 percent, which takes the shadow economy into account as noted. For the countries in the sample, the average tax revenue loss is 33 percent of official tax revenue. Tax to public expenditure increases from 68 percent to 91 percent when tax lost is added to tax revenue.

The problem associated with the shadow economy is not just revenue loss (Box 3.1). Governments get a distorted view of actual economic activity, and there is less money to spend on current programs and to invest in social programs. For individuals, the shadow economy may imply unfavorable working conditions, difficulty integrating into the formal economy, difficulty obtaining

TABLE 3.2 Potential Revenue Increases from Extension of Taxes to the Shadow Economy (ratios)

Country	Tax to Official GDP	Tax to Official plus Shadow GDP	Tax Loss to Tax Revenue	Tax to Public Expenditure	Tax plus Tax Loss to Public Expenditure
The Bahamas	0.16	0.12	0.34	0.67	0.90
Barbados	0.28	0.21	0.35	0.83	1.11
Guyana	0.22	0.17	0.32	0.65	0.86
Jamaica	0.27	0.2	0.33	0.89	1.15
Suriname	0.12	0.29	0.32	0.47	0.62
Trinidad and Tobago	0.2	0.15	0.34	0.98	0.77
Average	0.21	0.16	0.33	0.68	0.91

Sources: Authors' elaboration.

BOX 3.1

ADVERSE EFFECTS OF THE SHADOW ECONOMY

Individuals	Businesses	Governments
Unfavorable working conditions, including lower wages, exploitation, and unfair treatment with little to no recourse.	Unfair competition as a result of the considerable advantages for informal businesses, including no taxes, a lighter administrative burden, and a lower-cost workforce.	Lower tax revenue from businesses (no corporate employee contributions) and individuals (no personal income tax, sales tax, or duties).
Difficulty integrating into the formal economy with no formal track record of employment history and no documented job skills.	Degrading effects on the economy when formal businesses are forced to turn to the informal economy to stay competitive and survive.	Distorted view of actual economic activity could lead to uninformed decisions for policy making.
Difficulty obtaining credit at financial institutions because of a lack of formal employment, regular pay, and credit history.		Less money to invest in programs, including infrastructure, healthcare, education, and security, which benefit all citizens.
No quality guarantees for services purchased in the informal economy and no legal way to enforce claims about quality or delivery.		Lower investments in social programs lead to sustained—or even higher—levels of poverty and inequality.

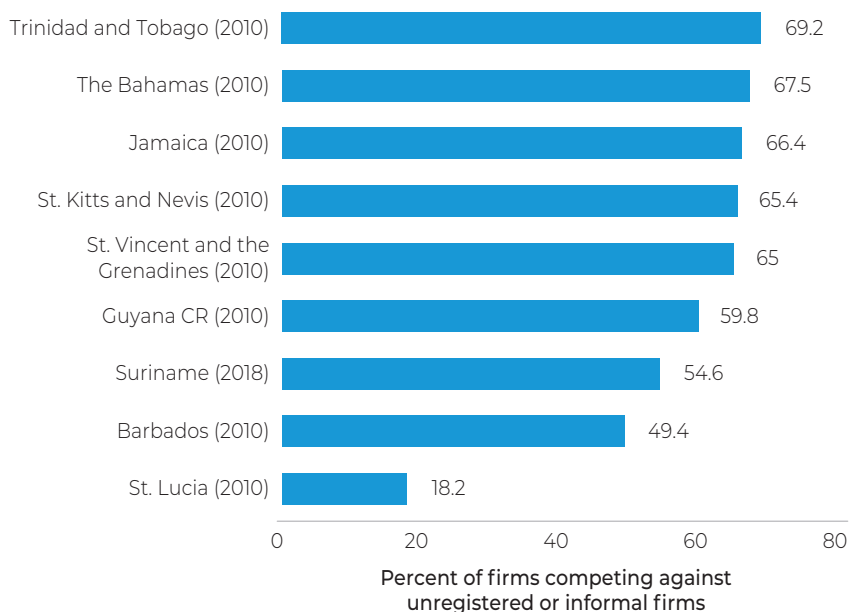
Source: Kearney (2018, Figure 7).

credit at financial institutions, and no quality guarantees for services or goods purchased in the informal economy. The shadow economy also distorts competition. Of the firms interviewed in the World Bank Enterprise Surveys (World Bank, n.d.), 57 percent report competing against unregistered firms (Figure 3.1), and 24 percent identify practices of competitors in the informal economy as a significant constraint on their business (Figure 3.2).

The shadow economy plays a critical role in the negative feedback loops in Caribbean countries.²⁰ When revenue increases are urgently needed due to an external shock, the authorities respond by implementing rapid tax policy changes that do not solve the structural problems but raise revenue in the short term while simultaneously perpetuating a perverse vicious cycle. The response is typically to increase tax rates and introduce distortionary taxes, increasing the tax burden on taxpayers. The latter gives them an additional impetus to fly under the tax authorities' radar; hence the informal economy grows, consequently

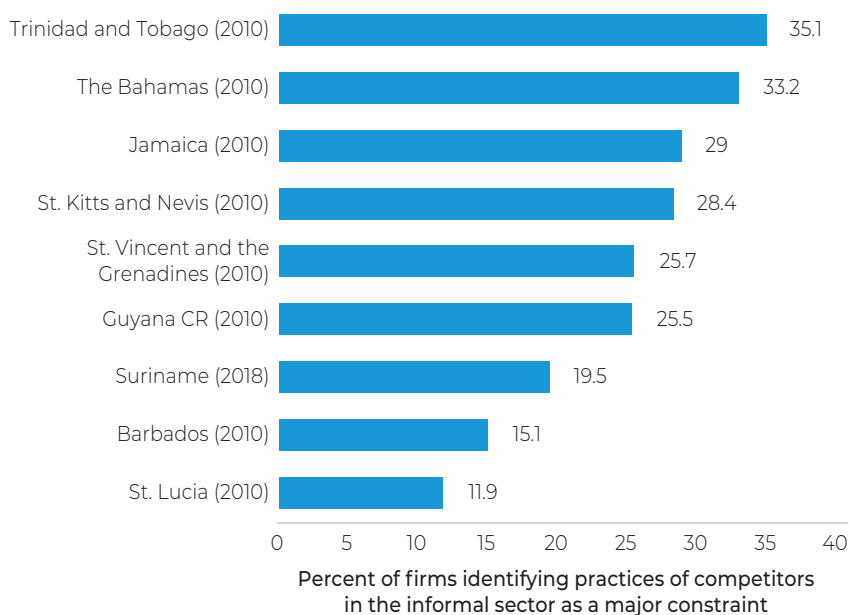
²⁰ Negative feedback loops are related to low productivity. See Banerjee and Duflo (2011) for a discussion on traps as related to poverty.

FIGURE 3.1 Competition from Informal Firms



Source: Authors' elaboration based on World Bank (n.d.).

FIGURE 3.2 Constraints from Informal Firms



Source: Authors' elaboration based on World Bank (n.d.).

reducing tax revenue, increasing rates for taxpayers, and reducing government revenue, a shortfall that lowers the quality of public services and slows economic growth (Elgin and Birinci, 2016).

Tax Expenditure: The Race to the Bottom

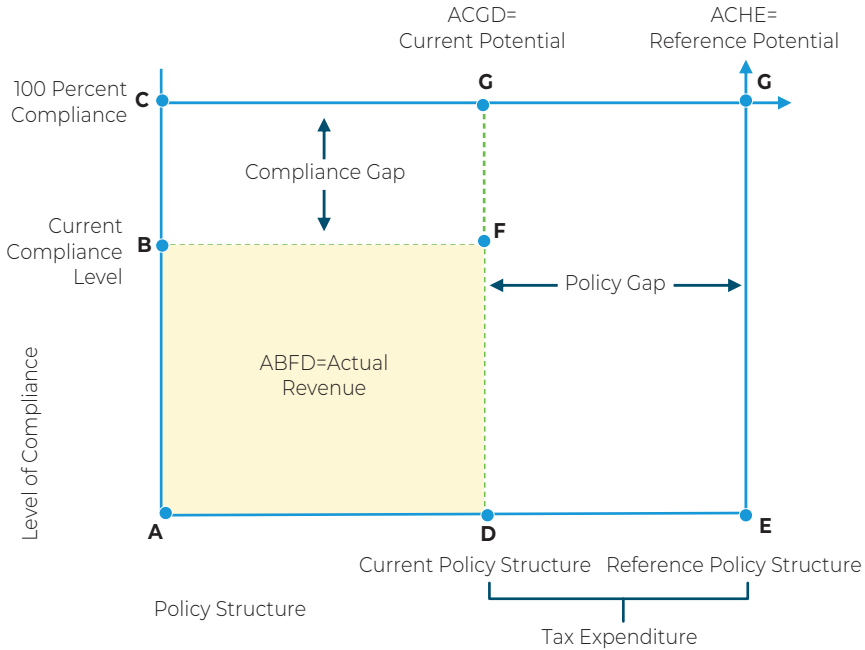
Caribbean governments widely use tax expenditures. Tax expenditures can be defined as tax revenue forgone—those losses to government tax revenue authorized by legislation and practices that reduce or defer taxes for some taxpayers—however, this definition papers over the considerable debate about tax expenditures, particularly in determining their size. Ostensibly, tax expenditures are one of the tools governments use to finance their public policies and pursue objectives similar to those obtained using regular spending (the latter suggests political reasons for choosing tax expenditures instead of direct expenditures). However, the concern is that tax expenditures negatively affect tax revenue and the budget and tax policies, adversely affecting the fiscal systems' transparency, efficiency, and equality without the expected positive effect on the economy. They also make the tax system less transparent and more difficult to administer. Further, particularly in the Caribbean, they are often directed at stagnant sectors, thereby locking in low economic growth in the region.

Governments use both tax expenditures and direct spending to pursue their development policies. Direct spending occurs when the government gives revenue to selected persons or companies for a specific purpose. Tax expenditures, in contrast, transfer money by lowering taxes for some individuals or companies instead of giving them money. Consider the following example. The government wants to encourage investment in tourism by offering 1 million dollars. The government can transfer the funds in three ways: (i) write a check for 1 million dollars, (ii) create a tax expenditure (e.g., a refundable tax credit or exemption from import duties with an upper cap of 1 million dollars), or (iii) offer a combination of tax expenditure and direct subsidy. These methods differ in two crucial ways. First, tax expenditures do not appear in the annual budgetary appropriation process; hence, they are not as scrutinized by parliament and citizens as direct expenditures. Second, tax expenditures appear to be tax cuts rather than spending because they transfer funds through a tax subsidy; as a result, it is politically easier to spend through tax expenditures, particularly in the Caribbean, because some can be authorized at the ministerial level.

A convenient, simple framework for understanding tax expenditures in terms of revenue forgone was provided by Hutton (2017). In Figure 3.3, the y axis is the level of compliance, and the x axis is the policy structure. It shows the actual revenue (Box ABFD), the increased revenue if compliance was perfect (Box BCGF),

FIGURE 3.3

Framework of Revenue Forgone due to Tax Expenditures



Source: Hutton (2017).

and the increased revenue if there were no tax expenditures (Box DGHE). Actual income can also be compared to potential revenue (Box ACHE).

Putting this framework into practice, however, is not straightforward. The first practical problem is determining the reference policy structure and therefore the size of the policy gap. Only once the reference potential revenue is estimated can the gap be calculated. Three general approaches (conceptual, legal, and analogous subsidy) to estimate potential revenue are related in that they focus on the tax base to define the reference benchmark (Villela, Lemgruber, and Jorratt, 2010). The conceptual approach used, for example, by Canada and Finland, is based on the Haig-Simon definition of income: a person's annual income is the value of what she could consume in that year while keeping her wealth constant.²¹ Under this approach, a tax expenditure occurs every time a tax is not applied to this income concept or a lesser amount. The legal approach, used by Austria and France, takes legislation as the basis for defining the tax

²¹ "A person's income is defined as the variation that his or her net worth undergoes between two fixed points in time, plus the consumption undertaken in that period" (Villela, Lemgruber, and Jorratt, 2010, 20, footnote 5).

base. The analogous subsidy approach, used by the United Kingdom and Germany, establishes a tax expenditure only for those tax concessions that are clearly comparable to a direct expenditure subsidy.

Another issue is whether a tax concession should only be considered a tax expenditure if it benefits a particular industry or group of individuals. If so, a tax provision that deviates from the benchmark but is applied equally to all taxpayers is not a tax expenditure. This approach is taken by, for example, Argentina and South Korea, but is not without its complications. A VAT exemption for essential goods could be considered to not be a tax expenditure because all households consume that basket. However, the exemption favors those households where the food basket represents a more significant proportion of their total consumption; hence, it is a tax expenditure.

There are three estimation methods for quantifying the costs of tax expenditures: (i) forgone revenue, (ii) earned revenue, and (iii) equivalent direct expenditure. The forgone revenue method, best defined as an accounting approach, is the amount by which tax revenue is reduced (increased) due to the introduction (abolition) of a tax expenditure. This method does not consider that removing a tax expenditure may result in some taxpayers moving into a higher marginal tax bracket under a progressive income tax system. The forgone revenue method does not consider any changes in taxpayers' behavior associated with the removal or addition of tax expenditures. With the second (earned revenue) method, the expenditure is defined as the estimated amount by which tax revenue would be reduced (increased) as a consequence of the introduction (abolition) of a tax expenditure, taking into account the change in behavior and the effects on revenues from other taxes as a consequence of the introduction (abolition) of a tax expenditure. Thus, unlike the forgone revenue method, the earned revenue method estimates include both the direct and indirect (i.e., taking into account behavioral changes) loss of revenue. This approach needs forecasts of supply and demand elasticities of the incomes of those taxpayers favored by the tax expenditure and their changes in tax avoidance. The country studies in this book apply this method using a dynamic computable general equilibrium model (DCGEM). Finally, the last method (equivalent direct expenditure) estimates the equivalent amount of direct expenditures that would be required, in pre-tax dollars, to achieve the same after-tax dollar benefit if a tax expenditure were replaced by a direct transfer program (Box 3.2).

Continuing with the framework presented in Figure 3.3, tax compliance appears to be relatively more straightforward to calculate. The compliance gap is estimated as the potential revenue constructed using the current statutory framework versus actual revenue. IMF (2015) points out that two basic approaches are “bottom up” and “top down”: Bottom-up approaches start with audit results

BOX 3.2

THREE METHODS FOR QUANTIFYING THE COSTS OF TAX EXPENDITURES

	Forgone Revenue	Earned Revenue	Equivalent Direct Expenditure
Basic definition	An ex post measurement: the amount by which tax revenue is reduced (increased) due to the introduction (abolition) of a tax expenditure.	An ex ante measurement: the estimated amount by which tax revenue can be reduced (increased) as a consequence of the introduction (abolition) of a tax expenditure, taking into account the change in behavior and the effects on revenues from other taxes as a consequence of the introduction (abolition) of a tax expenditure.	In pre-tax dollars, the equivalent amount of direct expenditures would be required to achieve the same after-tax dollar benefit if a tax expenditure were replaced by the corresponding direct transfer program.
Advantages and limitations	Does not account for the effect of removing a tax expenditure that may result in some taxpayers moving into a higher marginal tax bracket under a progressive income tax system or changes in taxpayers' behavior.	Estimates include both the direct and indirect (taking into account behavioral changes) loss of revenue.	Very sensitive to how well the corresponding direct expenditure program is targeted.
Additional information required for computation	Estimation of the direct effect and information from a partial equilibrium model.	Estimates of supply and demand elasticities of the incomes of those taxpayers favored by the tax expenditure and their changes in tax evasion.	Estimation of a general equilibrium model. Therefore, it uses both input and output information.

Source: Authors' elaboration.

and extrapolate up from there. The audits could be randomly intended to identify the full range of noncompliant behavior or from sub-populations suspected to be problematic. Top-down approaches use national accounts to model the tax base and estimate revenue under perfect compliance. Typically, the bottom-up approach is used for income tax gap estimates and the top-down approach for consumption tax estimates. An alternative method, developed and applied in the Revenue Administration Gap Analysis Program (RA-GAP) of the International Monetary Fund (IMF, 2015), uses supply-use tables from national accounts to estimate noncompliance. This approach further decomposed into an assessment gap (the difference between the total amount of tax assessed

and the potential tax) and a collections gap (the difference between the amount of tax assessed and that collected); this distinction facilitates the administration of the measures needed to address the gaps (Hutton, 2017).

The two gaps illustrated in Figure 3.3—the compliance gap and the policy gap—are not independent. Tax expenditures increase the complexity of the tax system. They raise tax administration costs, reduce tax compliance, and increase tax evasion opportunities. Thus, the more tax expenditures there are, the more complex the tax system will be and the more noncompliance and tax evasion there will be.

Finally, the total tax expenditure is not the sum of its parts—that is, tax expenditures estimated for individual taxes cannot be added up to a total because of the interaction between different tax expenditures. Therefore, summing individual tax expenditures provides a sense of the existing size but does not consider their interactions. If all tax expenditures were repealed, the resulting change in revenue could differ from an accounting-based total of the forgone revenues of each one when repealed separately. Eliminating a tax expenditure has incentive effects that alter economic behavior. These incentives can affect the resulting size of the economic activity (i.e., either affecting the supply or demand of a product) or other tax provisions. For example, realized capital gains are highly sensitive to tax rates (i.e., negatively correlated). However, behavioral effects are not incorporated in the accounting estimates; if they were, the magnitude and the sign could differ.

Further, tax expenditures are interdependent even without incentive effects. Repeal of a tax expenditure provision could increase or decrease the tax revenues associated with other provisions. For example, even if taxpayer behavior does not change and if two provisions were repealed simultaneously, tax liability could be greater or less than the sum of the two separate tax expenditures because each is estimated assuming the other remains in force. Tax reductions and/or exemptions granted to VAT levied on imports can be misleading because VAT paid on imports is used, in general, as a credit against domestic VAT debits. In this case, net revenue could be the same, but the VAT base would be distorted, opening the way for noncompliance. Therefore, estimates of total tax expenditures—as a sum of tax expenditures of different taxes—need to be interpreted as approximations.

Tax expenditures can take different forms; some are described in Box 3.3. For example, exemptions may be revenue or transactions excluded from the tax base, reducing gross income for selected taxpayers. Legal regulations governing these exemptions are encountered under various headings. Deductions are amounts that can be deducted from the tax base (i.e., gross income). A rate relief refers to a situation where taxpayers will face a lower tax rate than that

BOX 3.3

TAX EXPENDITURE CATEGORIES

Tax expenditures for each tax can be divided into seven categories: Exemptions, Deductions and Allowances, Reduced Rates, Tax Credits, Incentives, Discretionary Waivers and Reimbursements, and Waivers on Tax Arrears, Penalties, and Interest. This categorization is based on the reporting method for each tax according to the tax filing forms used by taxpayers and Eric Hutton's study of several Caribbean countries (Ministry of Finance and the Public Service [Jamaica], 2011).

1. Exemptions includes provisions that allow for exempting certain categories of income from taxable income. Most of the exemptions included in this category are statutory because they are included as provisions in the legislation specifying each tax.

2. Deductions and Allowances includes any deductions from gross income over and above those allowances that are considered standard in the generation of that income, including any special capital cost allowance provisions.

3. Reduced Rates includes any provisions that tax any particular source of income at a rate below the standard rate, or that taxes income for any specific category of taxpayer at a tax rate below the standard rate. This category includes some income tax exemptions that are required to be reported as income taxed at a zero rate and the revenue forgone in the case of VAT-reduced rates for tourism and zero rates for others.

4. Tax Credits includes any measures that allow for a reduction in gross tax liabilities but excluding credits for taxes already paid. They are linked mainly to tax holidays granted to large projects.

5. Incentives includes provisions to promote given economic sectors and can affect different tax types simultaneously. Accurate estimates of tax incentives are intrinsically difficult to obtain. At one extreme, if incentives apply only to investments that would not have taken place otherwise, the actual cost in terms of direct revenue forgone would be zero. At the other extreme, if incentives are purely redundant and have no effect on investment, then the entire tax revenue waived makes up the revenue lost. In practice, the true amount of direct revenues lost is likely to be between these two extremes. However, indirect effects also need to be considered.

6. Discretionary Waivers and Reimbursements includes any reductions in tax payable allowed through a direct waiver from the Ministry of Finance. These waivers are mainly used to reduce import tariffs. Most of these discretionary waivers are, to a certain extent, system induced due to high import tariff rates (in some cases extremely high), and they cannot be removed at once without risking economic stability. In particular, there is conflict with the Common External Tariff (CET) of the Caribbean Community (CARICOM) and some waivers have been granted to resolve these cases. However, there has also been extensive use of these discretionary waivers that are not justified on economic or technical grounds.

7. Waivers on Tax Arrears, Penalties, and Interest includes any reductions in tax payable already due and that are granted through a direct waiver from the Ministry of Finance. These waivers are camouflaged tax amnesties given to individual taxpayers. They go against accepted tax administration international practice, create "moral hazard" among taxpayers, and undermine efforts of the tax administration to collect tax arrears.

Source: Authors' elaboration.

generally applied. Credits are amounts that can be removed from the tax liability (i.e., reductions in tax liability dollar for dollar, where credits could be refundable). Deferral is the postponement or delay of the tax payment to future years by delaying recognition of income using rules of financial accountancy or deductions, such as accelerated tax depreciation schemes. Another type of tax expenditure is the creation of special economic zones (SEZs).

Tax expenditures are relatively common in the world; Table 3.3 shows the prevalence of various forms of tax expenditures worldwide. In Latin America and the Caribbean (LAC), the most prevalent are tax holidays or exemptions, special economic and free zones, and VAT exemptions or reduced rates.

In the Caribbean, tax expenditures are directed at a few sectors, mainly tourism and manufacturing (Van Parys and James, 2010). Many Caribbean countries also grant offshore banking and insurance companies corporate income tax (CIT) exemptions. The formal *raison d'être* for promoting these sectors is to influence companies' decisions on the country in which they will locate their operations. Typically, a package of incentives is given including CIT holidays and exemptions from VAT and customs duties. Tax holidays of 5–25 years are typical. In the case of the Bahamas, where there are no corporate or personal income taxes for local and foreign taxpayers, offshore companies that incorporate there receive an automatic 0 percent income tax rate with no tax expenditures.

Most Caribbean countries are members of the Caribbean Community (CARICOM), a customs union. Unlike most customs unions worldwide, CARICOM allows member countries to offer taxpayers in their respective jurisdictions import duty relief from the union's Common External Tariff (CET). These tax exemptions—which can be up to 100 percent—allow particular investors to not pay customs tariffs and VAT. In addition, tourism-related services have reduced rates applied to tour operators and restaurants. Employment credits and property tax exemptions are also frequently used.

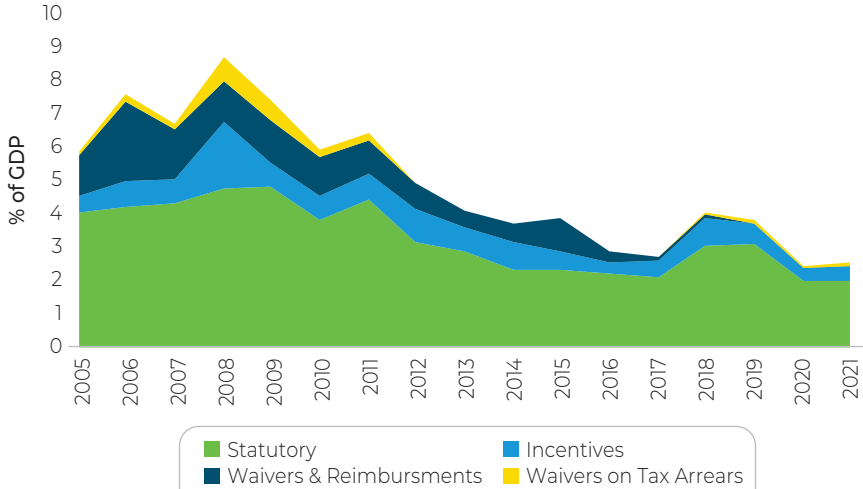
As McIntyre (2017) notes, since the 1970s, the cabinet or individual ministries of almost all Caribbean countries had the authority to grant tax expenditures and, *de facto*, they had complete discretion in all aspects of the decision (i.e., whether to grant the concession and what the terms would be). These types of tax expenditures are called discretionary waivers.

However, the legal framework typically does not provide specific criteria for granting concessions or detailed procedural rules for such decisions. The case-by-case decision process has several negative consequences. First, it leaves many investors who are not beneficiaries of the concession troubled about unequal treatment. Second, the non-transparent cabinet decisions are subject to accusations of favoritism. Third, it weakens the government's ability *vis-à-vis* powerful interest groups or companies in negotiating the concession terms.

TABLE 3.3 Prevalence of Tax Incentives around the World (number of cases)

Region	Number of countries surveyed	Tax holiday or exemption	Reduced rates	Investment allowances or tax credit	VAT exemption or reduced rate	R&D incentive	Super deduction	SEZs, free zones, freeport	Discretionary process
East Asia and the Pacific	12	92	92	75	75	83	8	83	25
Eastern Europe and Central Asia	16	75	31	19	94	31	0	94	28
Latin America and the Caribbean	24	75	29	46	58	13	4	75	29
South Asia	7	100	43	71	100	29	57	71	14
OECD	33	21	30	61	79	76	18	67	27

Source: Authors' elaboration based on Vale Columbia Center (2013).

FIGURE 3.4**Jamaica: Composition of Tax Expenditures
(percent of GDP)**

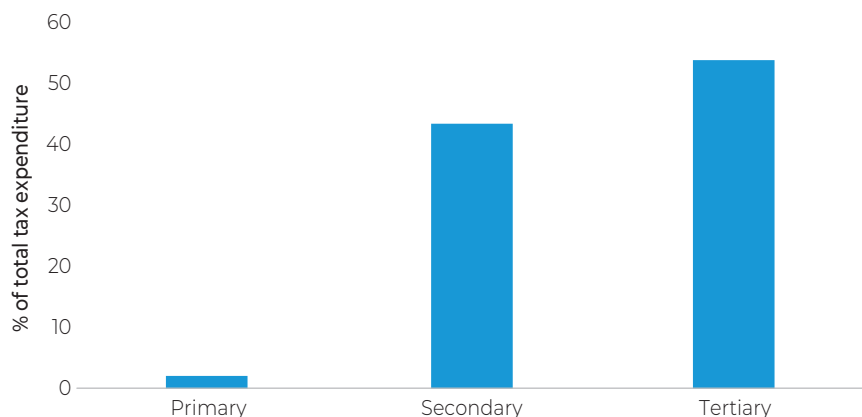
Sources: Authors' elaboration based on tax expenditure statements by the Ministry of Finance and the Public Service (Jamaica) (2010–2023), data from the Taxpayer Audit and Assessment Department (Jamaica) (2010–2023), and Hutton (2010).

A worldwide study by Vale Columbia Center (2013) concluded that any tax expenditure could be measured in terms of the cost of government tax revenue forgone per job created. Tax expenditures have proven to have effects on FDI, although less significant than the impacts from improving the quality of institutions (Chai and Goyal, 2008). Alternatives could have been less expensive.²²

Jamaica's tax reforms are an example of tax reforms that included reducing tax expenditures. In Figure 3.4, the tax expenditures are decomposed into statutory, incentives, waivers and reimbursements, and waivers on tax arrears; Figure 3.5 is disaggregated into economic sectors. The largest share of tax expenditures in 2007 benefited the tertiary sector. Total tax expenditures decreased from 6.5 percent of GDP in 2011 to 2.5 percent in 2021. Discretionary waivers ("waivers and reimbursements" in the figure) fell from 1.0 percent of GDP in 2011 to 0.02 percent in 2021 as the Omnibus Incentive Legislation (OIL,

²² Chai and Goyal (2008) show that despite tax expenditures (e.g., tax holidays), the Caribbean's share of worldwide foreign direct investments (FDIs) has declined. Thus, even if tax incentives are effective in attracting investment to individual countries within the region, they are ineffective in attracting investment to the region as a whole. FDI is determined more by nontax characteristics. Thus, total FDI is corporate income tax (CIT) inelastic, which implies that tax harmonization could lead to higher taxation of corporate income without negatively affecting FDI in the region.

FIGURE 3.5 Jamaica: Tax Expenditure by Sector



Sources: Authors' elaboration based on tax expenditure statements by the Ministry of Finance and the Public Service (Jamaica) (2010–2023), data from the Taxpayer Audit and Assessment Department (Jamaica) (2010–2023), and Hutton (2010).

effective January 1, 2014) phased out most old incentive acts (except those for bauxite, petroleum, and urban renewal). Discretionary waivers were capped at J\$10 million per month. The Charities Act converted previous discretionary waivers granted to charities into new statutory waivers by creating a new register of approved charities.

With the passage of the OIL, the Jamaican government drastically reduced the incidence of discretionary waivers (a discretionary waiver permits the Minister of Finance to use his discretion to waive all or a portion of duties and taxes imposed on a taxpayer). The government has implemented a Tax Relief Unit to process applications for relief across the various tax types. The unit also processes applications for the 20 percent duty concession available to officers in the public service when they purchase vehicles and must use them for official business (one of the few waivers remaining, per the Customs and General Consumption Tax [GCT] Acts). The curtailment of these waivers has been mainly achieved by the approval of the Charities Act and the Fiscal Incentives Act. Discretionary waivers now account for a minor revenue loss. The country also began to publish a yearly tax expenditure report in 2008, one of the first Caribbean countries to do so.

At the cusp of tax reform, Barbados had tax expenditures that were 338 percent of tax revenue and represented 87 percent of GDP in 2018²³

²³ This figure is driven by offshore financial companies prior to the reforms of 2018 only paying a flat 0.5 percent corporate income tax (CIT) and all other offshore companies paying 5.0 percent CIT, while domestic firms were paying 25 percent CIT. Major adjustments to these rates were made as part of the tax reform of 2018.

TABLE 3.4 Barbados: Tax Expenditure Composition (percent of GDP)

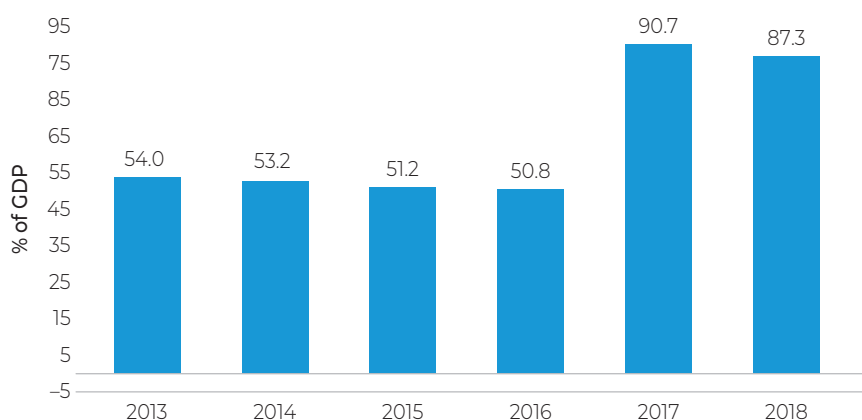
Type	2018
Statutory	83.3
Of which reduced rates	67.4
Of which deductions and allowances	13.2
Incentives	3.0
Discretionary Waivers	1.0
Waivers on Tax Arrears	—
Total Tax Expenditures	87.3
Total without Reduced Rates	19.9

Source: Authors' elaboration based on internal reports from Barbados Ministry of Finance, Economic Affairs and Investment (MFEI).

(see Table 3.4 for the composition of tax expenditures and Figure 3.6 for tax expenditures to GDP). As discussed in Chapter 7, the tax reforms introduced in the mini-budget of 2018 reduced these tax expenditures by around 66 per-cent of GDP.

In its present form, Suriname's system of tax incentives is very costly in terms of revenue forgone and generally ineffective in terms of the new economic activity it generates (Table 3.5). Tax incentives seriously complicate the tax system and increase compliance and administrative costs, straining an

FIGURE 3.6 Barbados: Tax Expenditure (percent of GDP)



Source: Authors' elaboration based on internal reports from Barbados Ministry of Finance, Economic Affairs and Investment (MFEI).

TABLE 3.5 Suriname: Tax Expenditures

Type of Tax Expenditure	2015	2016	2017	2018	2019	2020	2021
millions of Sr\$							
Total Direct Taxes	296.4	242.1	287.9	279.3	173.4	87.2	46.6
Total Indirect Taxes	1,046.9	1,022.0	1,479.3	1,745.1	1,983.4	2,173.8	3,859.0
Total	1,343.3	1,264.1	1,767.2	2,024.4	2,156.8	2,261.0	3,905.6
% of GDP							
Total Direct Taxes	1.69	1.17	1.07	0.94	0.55	0.23	0.08
Total Indirect Taxes	5.98	4.95	5.50	5.85	6.30	5.67	6.77
Total	7.67	6.12	6.57	6.79	6.85	5.90	6.85
Current GDP	17,515.0	20,663.0	26,893.0	29,822.0	31,483.0	38,353.0	56,985.0

Source: Authors' elaboration based on data provided by Suriname Ministry of Finance, Customs, and Directorate of Taxes.

already challenged tax administration. They also contribute to a pervasive culture of noncompliance. The estimate of total tax expenditures is more than 6.85 percent of GDP in 2019 and again in 2021. This level is higher than most of the region's countries and highlights the importance of considering tax expenditure reduction in the design of eventual tax reform. A high level of tax expenditures distorts the tax system and makes tax administration more difficult. Total tax expenditures exhibit a clear upward trend. Discretionary waivers constitute an essential share of tax expenditures, and they have been trending upward in recent years as well.

Tax expenditures on import duties and sales tax encompass the most significant shares of tax expenditures in Suriname, amounting to 44.8 percent, and have been growing. Import duty tax expenditures for 2015 amounted to Sr\$524.6 million, equivalent to 3.18 percent of GDP. In 2017, this category of tax expenditure reached Sr\$858.0 million, equal to 3.45 percent of GDP. The tax expenditures on sales tax are similar to the import duties tax expenditures. In 2015, they amounted to Sr\$553.2 million, equivalent to 3.35 percent of GDP. In 2017, they reached Sr\$834.5 million, which is 3.45 percent of GDP. Tax expenditures on direct taxes are lower than tax expenditures on indirect taxes. However, actual figures on direct taxes tax expenditures could be much higher than the figures reported in this book. In particular, data on corporate

income tax (CIT) tax expenditures does not include tax expenditures associated with public (state-owned) enterprises. Given the lack of information on the tax returns of public enterprises, an estimate of tax expenditures for this category is not possible.²⁴

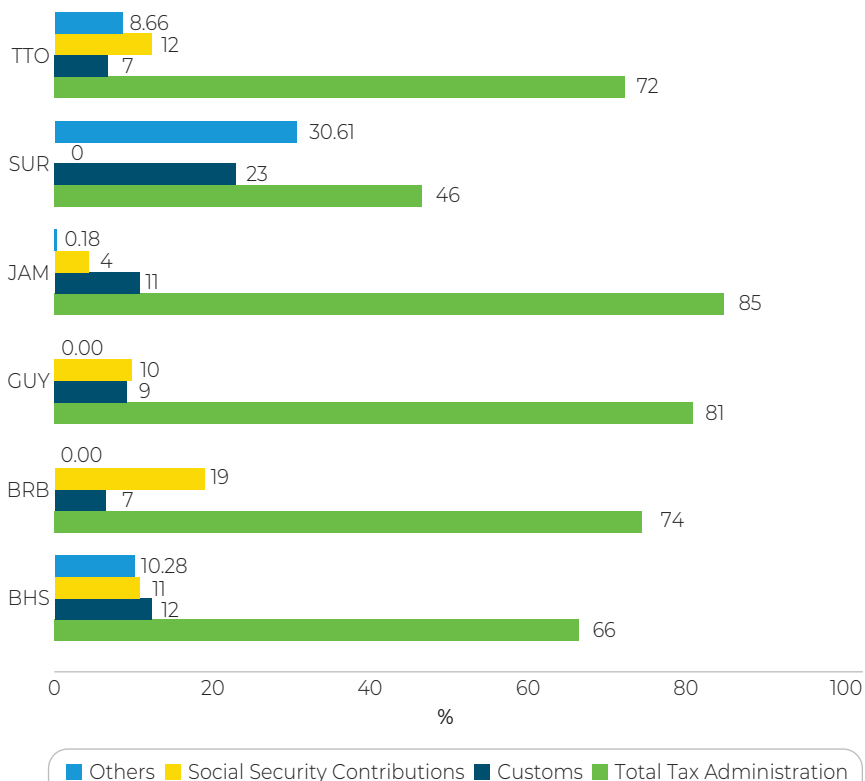
One significant advantage for policymakers of tax expenditures over direct subsidy is that tax expenditures are not subject to review by parliament nor citizens. They are not transparent and can often be granted at the administration's discretion.

In summary, tax expenditures have six main drawbacks (Gupta, 2018). First, they reduce the tax base. The Caribbean tax base is already compressed, given the large informal sector. Second, tax expenditures are less transparent than direct subsidy programs. The latter are explicitly specified in parliament-approved budgets, while the former are not. Tax expenditures thus allow spending that is outside of the parliament-approved budget. Third, tax expenditures encourage corruption because discretionary waivers allow government officials to grant exemptions in exchange for a bribe. Fourth, tax expenditures create horizontal inequities across taxpayers as taxpayers with similar levels of income pay different levels of taxes. For example, tax expenditures, particularly those applied to indirect taxes, accrue disproportionately to middle-income households, worsening income inequality. Furthermore, they reduce revenue, limiting the government's ability to finance programs to reduce poverty and inequality. Fifth, tax expenditures reduce domestic competition, giving the privileged firms an unfair advantage. Sixth, tax expenditures are not necessarily an instrument to attract foreign direct investments (FDIs), as many firms report that tax incentives are not a crucial variable in their decision to relocate. These six disadvantages also highlight the role that tax expenditures play in the negative feedback loops that characterize the development of Caribbean economies.

Tax Misadministration

How a tax system is administered affects its yield, incidence upon individuals and firms, and tax efficiency. In that sense, "tax administration is tax policy" (Casanegra de Jantscher, 1990, 179). Thus, when reforming the tax structure, it is critical to guarantee that "changes in tax policy are compatible with administrative capacity" (Shalizi, 1991). This is not a trivial point given the proportion of total government revenue administered by the Caribbean tax administrations (Figure 3.7).

²⁴ For structure and evolution of state-owned enterprises (SOEs) in the Caribbean, see Reyes-Tagle et al. (2022).

FIGURE 3.7**Average Share of Total Revenues Collected by Revenue Agencies in the Caribbean (2017–21)**

Sources: Authors' elaboration using IDB-CIAT (n.d.), Suriname Ministry of Finance reports, and Reyes-Tagle, Silvani, and Ospina (2021).

Note: Data for Suriname corresponds to 2017–2018.

While a detailed review of the main components of the Caribbean tax system is presented in Chapter 4, this section focuses on the central issues of the constraints of the tax administration in the region. Reyes-Tagle, Silvani, and Ospina (2021) offers a more detailed subject analysis.

Radian (1980) distinguishes between the extent to which tax revenue is attributable to enforcement (i.e., the active intervention of the administration) rather than compliance (i.e., the relatively passive role of the tax administration as the recipient of revenues generated by mainly voluntary societal compliance with the law). That is, the latter occurs when tax administrations tend to be passive recipients of funds rather than active collectors (i.e., “telling” instead of “collecting”). To a large extent, Caribbean tax administrations are generally more akin to “tellers” than “collectors.” This is explained in part by a lack of capacity of Caribbean tax administrations to take a more proactive role due to various

limitations: an environment of mistrust in public institutions, outdated and complex legal frameworks, and institutional arrangements within the administrations. For many years, these factors have delayed necessary reforms and hindered the efficient fulfillment of tax functions.

The first limitation on the effectiveness of the Caribbean tax administration is an environment of mistrust. Anderson (2017) shows that lower trust in government institutions decreases the willingness to pay taxes for public goods and services. Carrillo, Castro, and Scartascini (2021) show that durable and visible public goods that are neglected (such as poorly maintained sidewalks or roads) negatively affect tax payment compliance. Therefore, the lack of trust in political institutions can initiate a vicious cycle of citizens' decreasing tax payment compliance and the government having less tax revenue to pour back into serving citizens. If the government invests these taxes in wasteful expenditure, tax non-compliance is reinforced in the case of the Caribbean.²⁵

Now, despite this distrust that causes taxpayers to avoid paying taxes they are legally bound to pay, tax authorities are duty-bound to enforce compliance with tax codes. Furthermore, tax laws do not make it easier for taxpayers or tax administrations to meet their obligations in the Caribbean. Additionally, the efficiency and effectiveness of tax administration in Caribbean countries have been weakened by the complexity and instability of their tax structures. Under these conditions, any low-capacity tax administration can be overloaded with excessively complex tasks.

The second limitation on tax administrations and a common feature of the region's legal framework is that taxes and their procedures are disseminated across different and out-of-date laws (income tax, property tax, etc.). Complex tax laws reflect a complex tax structure (see Chapter 4). Tax systems in the region are distinguished by high statutory tax rates and the proliferation of exemptions, incentives, deductions, allowances and discretionary waivers, concessions, reduced rates, and zero rates (other than the standard VAT feature of zero-rating exports). As a result, Caribbean countries exhibit the high tax expenditures noted previously, which affect revenue, increase taxpayers' compliance

²⁵ According to the World Economic Forum's (WEF) Global Competitiveness Index (Schwab, 2013), Caribbean governments are perceived by their business communities as worse than the governments of the rest of the small economies (ROSE) for practically every indicator, with the exception of judicial independence. This gap is larger for commodity-dependent countries than for tourism-dependent countries. Thus, although the Caribbean gap for transparency of government policymaking is 15 percent, the trust gap involving Caribbean politicians is 32 percent. The latter follows from a gap of 33 percent in favoritism in decisions of government officials, a 30 percent gap in irregular payments and bribes, a 30 percent gap in diversion of public funds, and a 29 percent gap in wastefulness of government spending.

costs, and significantly complicate enforcement activities. Likewise, outdated legal frameworks limit the powers of tax administrations to efficiently perform functions such as restricting the procurement of goods and services, recruiting personnel, and reacting to external changes such as new technologies.

The third limitation is the organizational framework of tax administration. Caribbean tax authorities generally have a low degree of autonomy (Reyes-Tagle, Silvani, and Ospina, 2021), yet the literature has widely extolled the relevance of autonomy to tax administration (Crandall and Kidd, 2010; Chan, Lo, and Mo, 2006; Devas, Delay, and Hubbard, 2001). This is because tax administrations with limited autonomy typically face administrative limitations that affect their operations and flexibility. The restrictions include a lack of budgetary autonomy and control over staffing, limits on procurement, and constraints on the capacity to adopt and acquire technological systems and implement reforms and operational policies. Therefore, there is a growing trend worldwide to shift away from frameworks under which revenue bodies are within a department, directorate, or unit within the Ministry of Finance and replace them with unified semi-autonomous bodies. Such semi-autonomous revenue agencies (SARAs) have a board, personnel systems outside civil service purview, and self-financing mechanisms (often a given percentage of revenue collections) (Taliercio, 2004).

The Caribbean has also partially followed this trend. Barbados, Guyana, and Jamaica have established SARAs,²⁶ with the Guyana Revenue Authority (GRA) being the oldest. The Bahamas, Suriname, and Trinidad and Tobago continue to have regular tax departments within their finance ministries (Table 3.6). For Jamaica, the conversion of the Tax Administration Jamaica (TAJ) into a SARA has resulted in a more flexible organization that is better staffed by more qualified employees and able to react to operational needs rapidly. However, in Barbados and Guyana, establishing bodies with a high degree of autonomy has not been enough to strengthen the core functions and undertake urgent reforms such as automation, modernization of information technology (IT) systems, and advancement in digitalization (see Chapter 9 and Weil, Reyes-Tagle, and Eun Heo, 2020). As seen in other developing countries, establishing more autonomous revenue agencies has not proven to be a quick-fix-panacea (Mann, 2004).

²⁶ These SARAs remain directly accountable to the minister of finance and the government. They exist outside the regular public service and can recruit, discipline, evaluate, and, in some cases, fire staff. They are allocated a budget and there is no appropriation funding. The management board (including external members) has specific responsibilities and oversight functions. They are subject to external audits by the auditor general (AG). Apart from Barbados, Guyana, and Jamaica, Caribbean countries generally do not have SARAs.

TABLE 3.6 Governance Structure of Caribbean Tax Administrations

Country	Type	Name	Year Established	Integrated Tax and Customs Administration	Customs Administration	Act
Bahamas	Revenue department (Central Revenue Authority – CRA)	Department of Inland Revenue (DIR) – Central Revenue Administration		No	Customs Department – Ministry of Finance	n.a.
Barbados	SARA	Barbados Revenue Authority (BRA)	2014	No	Barbados Customs and Excise Department (BCED)	Barbados Revenue Authority Act, 2014-1
Guyana	SARA	Guyana Revenue Authority (GRA)	2000	Yes	n.a.	Revenue Authority Act No. 13 of 1996
Jamaica	SARA	Tax Administration Jamaica (TAJ)	2011	No	Jamaica Customs Agency (JCA) – Executive Agency	Revenue Administration (Amendment) Act 2011
Trinidad and Tobago	Revenue department	Inland Revenue Division (IRD) – Ministry of Finance		No	Customs and Excise Division – Ministry of Finance	n.a.
Suriname	Other	Directorate of Direct Taxes and Inspectorate of Turnover-Sales (i.e., Indirect) Taxes		No	Inspectorate of Customs (IoC)	n.a.

Source: Reyes-Tagle, Silvani, and Ospina (2021, Table 2.3).

Tax administrations in the Bahamas, Suriname, and Trinidad and Tobago have budget constraints. Further, they are still bound by civil service laws, which limit their ability to hire and retain professional staff because they cannot pay the equivalent of private sector wages. As a result, staff shortages and lack of skills remain two significant weaknesses for Caribbean tax administrations. They are also bound to public procurement practices for purchasing and maintaining software and equipment.

Another example of necessary reforms is adopting a strategic management framework, an increasingly common practice of tax administrations. This management approach provides organizations with a proper set of organizational and individual performance indicators to measure progress and achievements at the and set pathways for further structural reforms and comprehensive improvement programs. Also, the strategic planning section of the tax authority is responsible for the design of procedures and the preparation of their corresponding manuals and instructions. In recent years, Caribbean tax administrations have made significant progress toward introducing a more strategic management approach. Jamaica and Barbados have established multi-year strategic plans that provide targets and indicators in a structured manner. Despite being the oldest SARA in the region, Guyana has not achieved the same progress. On the other hand, despite being within the finance ministries, the revenue departments of the Bahamas, Suriname, and Trinidad and Tobago have carried out essential transformations in their organizations and operations to enhance performance. However, since they do not have the same level of flexibility as SARAs, the scope of such reforms has been limited.

Beyond the duality of governance models explained above, the organization of tax administrations in Caribbean countries is currently a combination of function and tax types.²⁷ Except for the Bahamas and Suriname, which only have a tax-type structure, all tax administrations in the Caribbean have integrated direct and indirect tax operations and moved toward a functional organizational structure.²⁸ They have also adopted a taxpayer segmentation approach

²⁷ Under an administration organized by tax type, each department conducts all administrative functions related to a specific tax. This organizational model is highly segregated and as such it is hard to justify despite the size of the country—typically small and micro economies—or the number of taxpayers. By contrast, under a function-based administration separate departments are responsible for carrying out tax administration functions such as registration, collection, and audit appeals. For all taxes, different departments carry out support functions such as strategic planning, IT, legal, general administration, finance, internal audit, and human resources management (Reyes-Tagle, Silvani, and Ospina, 2021).

²⁸ The largest administrations, such as Guyana, Jamaica, and Trinidad and Tobago, have established separate headquarters (HQ) functions with two subdivisions: (i) operations

by establishing a Large Taxpayer Office (Table 3.7).²⁹ According to Schlotterbeck (2017), large and medium taxpayers are a tiny proportion of taxpayers (often less than 10 percent, sometimes just a few percent) that generate 70–80 percent of revenues and 95–97 percent of the VAT. Therefore, there is a high benefit to applying segmentation principles to gain better control over the primary sources of government revenue by improving compliance from those few taxpayers. Another segmentation practice is establishing units or programs for high-net-worth (or high-wealth) taxpayers. Currently, Jamaica is the only country where attention is given to this group of taxpayers through a dedicated team.

How have the factors mentioned above impacted tax administration performance in the Caribbean? In general, there is little recent information available to determine the current performance of tax administrations in the Caribbean, primarily due to the restriction of publicly available information (resulting from the absence of practices such as the systematic publication of annual plans and results) as well as the lack of capacity within the tax administrations themselves to generate this type of indicators (i.e., on-time payment and filing rates, arrears situation, on-time return rates, staff performance indicators).

TABLE 3.7 **Organizational Structure and Taxpayer Segmentation Practices in the Caribbean**

Country	Integrated Direct and Indirect Taxes	Function-Based Organization	Segmentation by Taxpayer Type
The Bahamas	Yes	n.a.	n.a.
Barbados	Yes	In progress	Large Taxpayer Office
Guyana	Yes	Yes	Large Taxpayer Office (in progress)
Jamaica	Yes	Yes	Large Taxpayer Office
Trinidad and Tobago	Yes	Yes	Petroleum and Large Taxpayers Business Unit
Suriname	No	No (tax type-based)	

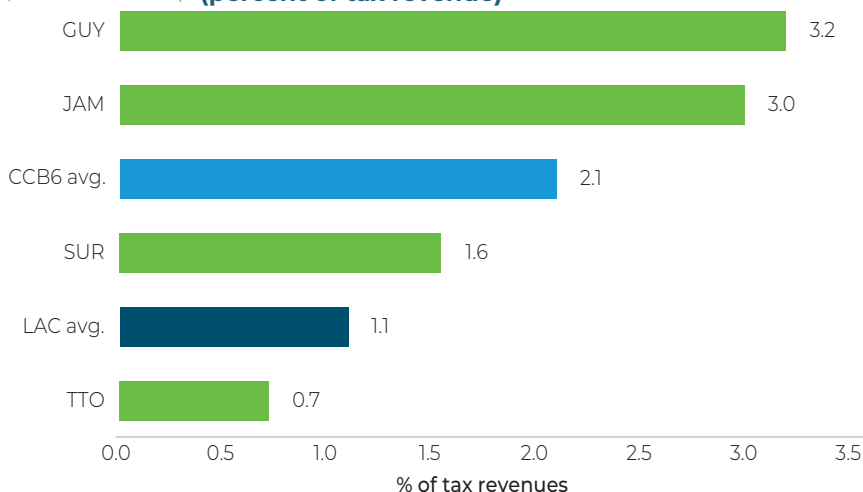
Source: Reyes-Tagle, Silvani, and Ospina (2021, Table 2.4).

Note: Because the Bahamas does not levy direct taxes, function-based type of organization is not relevant.

(including taxpayer service, audit, collection enforcement, and appeal) and (ii) corporate services (including HR, finance, IT). Barbados has started the process of strengthening their HQ functions with mixed progress.

²⁹ For further information on tax administration organizational structures and common segmentation practices, see Reyes-Tagle, Silvani, and Ospina (2021), Schlotterbeck (2017), and Jacobs et al. (2013).

FIGURE 3.8 Total Revenue Administration Expenses
(percent of tax revenue)



Source: Reyes-Tagle, Silvani, and Ospina (2021, Figure 2.3).

Note: For Suriname, the data is from 2015–16; for the rest of the countries and the averages it is from 2007–11.

Moreover, information about the tax gap³⁰—one of the most common measures of the effectiveness of tax administration and tax systems—is unavailable in the Caribbean region.

Nonetheless, a proxy for the efficiency of tax administration could be the ratio between the administrative cost of collection and the revenue collected. Figure 3.8 shows the data as of 2021 on expenses as a percentage in LAC. The Caribbean average is above Latin America, with Trinidad and Tobago being the only country below. Meanwhile, Jamaica and Guyana are above the Caribbean average. This feature could be considered *prima facie* evidence implying inefficient and ineffective tax administrations. However, given fixed costs, this could also be partly due to the unavoidable effect of the countries' small size. For example, software and equipment costs are the same regardless of the number of taxpayers.

Another way of assessing the performance of tax administration is by analyzing the on-time filing and payment rates. On-time filing rates vary across Caribbean countries and tax types (Table 3.8). According to the Tax Administration Diagnostic Assessment Tool (TADAT),³¹ 50 percent and 90 percent minimum

³⁰ The tax gap is the ratio between the revenue effectively collected and the potential revenue that would be collected with perfect tax compliance.

³¹ TADAT is a tool designed by the IMF to measure the performance of tax administrations on nine performance outcome areas including on-time filing.

TABLE 3.8 On-Time Filing and Payment Rates (2021, percent)

Country	On-Time Filing Rates			On-Time Payment Rates		
	Corporate Income Tax	Personal Income Tax	Value Added Tax/ Goods and Services Tax	Corporate Income Tax	Personal Income Tax	Value Added Tax/ Goods and Services Tax
Barbados	53.5	37.7	42.6	98.5	51.8	80.3
Guyana	19.8	28.7	41.7	91	88.7	74.6
Jamaica	44.4	25.8	77.9	94.3	43.1	98.3
Suriname	75.7	72.3	n.d.	18.3	7.6	n.d.
Trinidad and Tobago	47.6	27.5	34.4	88.7	5.8	41.7
Average	48.2	38.4	49.15	78.16	39.4	73.72

Source: Authors' elaboration based on CIAT-IMF-IOTA-OECD (n.d.).

standards are considered good practice. Only Barbados and Suriname have on-time filing rates above 50 percent for CIT, and for PIT Suriname is the only country with those rate levels. Jamaica has a relatively high percentage of on-time filing in the VAT segment, but lower in the CIT AND PIT segments. Guyana and Trinidad and Tobago have relatively lower on-time filing rates compared to the rest of the Caribbean. Regarding the on-time payment rates, Suriname and Trinidad and Tobago have the lowest rates in the PIT segment, and Suriname's rates are the lowest in the CIT segment.

Meanwhile, due to low payments and high rates of late filing coupled with a meager collection capacity, the delinquency situation in the Caribbean is concerning. Table 3.9 shows that the value of accumulated tax arrears compared to the total tax collected in 2021 was significantly high. For instance, in Trinidad and Tobago, the value of accrued tax arrears compared to the total annual tax collected was 177.5 percent; in Barbados it was 128 percent. "A low collection of tax arrears has terrible knock-on effects: an inefficient collection of arrears creates an incentive to postpone payment of taxes, particularly when sanctions are not significantly higher than inflation and interest rates on loans combined" (Reyes-Tagle, Silvani, and Ospina, 2021, 69).

These indicators reveal three crucial aspects of their core functions that Caribbean tax administrations need to improve: (i) registration, (ii) support for voluntary compliance, and (iii) audits and verification programs.

Registration: Caribbean countries suffer from poor data integrity, which negatively impacts the accuracy of the taxpayer database and is one of the main

TABLE 3.9 Value of Tax Arrears in the Caribbean (2021)

Country	Closing stock of arrears at year-end as percentage of total tax collection*	Closing stock of collectible arrears as percentage of closing stock of arrears
Barbados	128	98.4
Guyana	34.8	1.7
Jamaica	34.6	55.9
Suriname	n.d	n.d
TTO	177.5	99.8
Average	93.73	63.95

Source: Authors' elaboration based on CIAT-IMF-IOTA-OECD (n.d.).

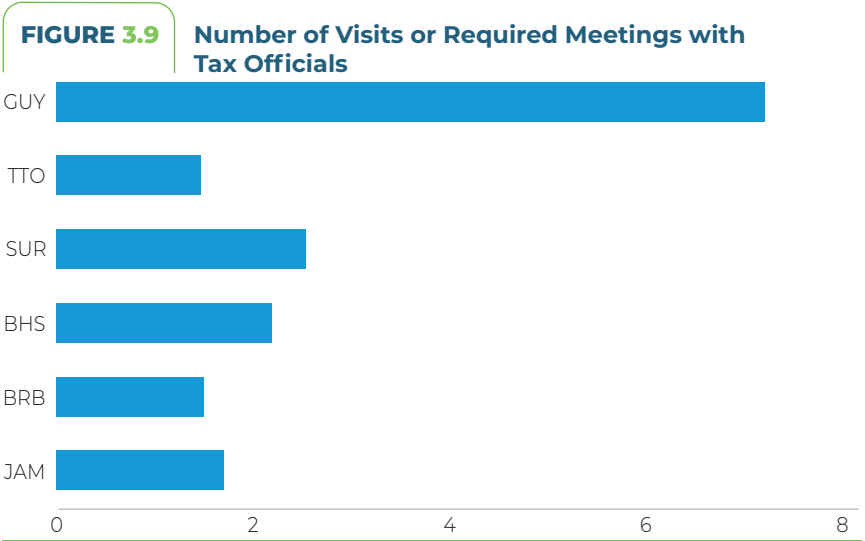
* Excluding VAT on imports for comparability.

obstacles to automation. This situation is associated with a flawed initial process of identification and registration of taxpayers, constraints in the handling and storing of information about individuals, limitations in IT systems, and deficiencies in procedures to maintain databases.

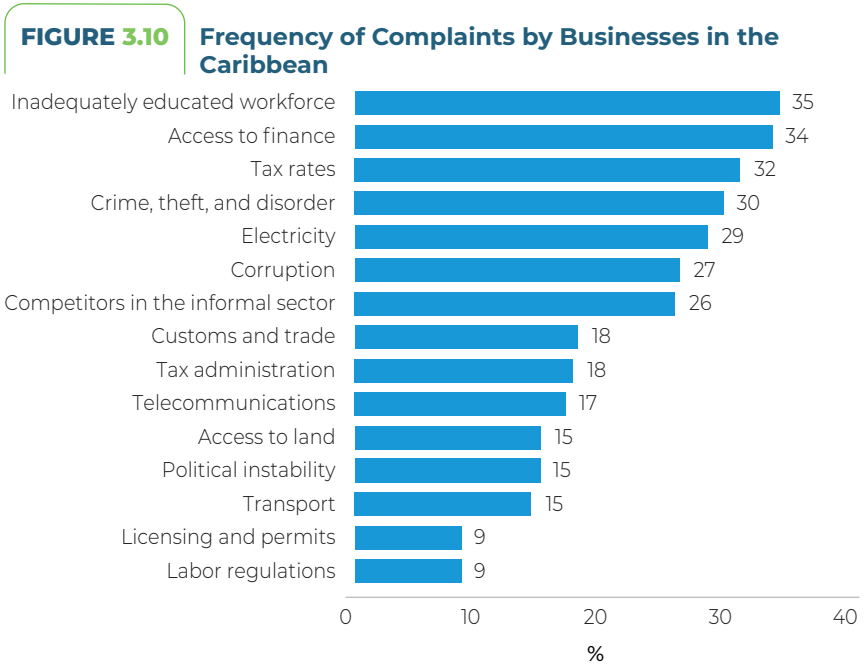
Support for voluntary compliance: Caribbean tax administrations are not taxpayer-friendly, and voluntary compliance is still weak. Tax rates, tax administration, and customs are among the top 10 complaints by businesses, which also report many visits to meet tax officials (Figures 3.9 and 3.10). However, Caribbean tax administrations (except for Suriname) have started to adopt taxpayer service approaches in the last few years.³² They have rolled out outreach education programs and improved their IT systems to allow the development of tax services such as managing tax accounts and e-filing. Unfortunately, the tax administrations of Guyana, Suriname, and Trinidad and Tobago do not have the legal power to order mandatory e-filing. Even in Jamaica, where TAJ has aggressively rolled out an e-filing compulsory program to improve filing, compliance and penetration are still low, partially reflecting the need for further simplification of the tax code. In some countries in the Caribbean, e-notifications and emails are not considered legal for tax purposes; only paper communications are legally accepted.

³² Tax administrations should be client oriented. Adequate service—that is, treating the taxpayers as clients—in the form of information, pamphlets, forms, advice agencies, payment facilities, telephone and electronic filing, and so on must be provided to taxpayers to facilitate and make taxpayer compliance as easy as possible. According to Bird (1989, 315), “services to taxpayers that facilitate reporting, filing and paying taxes, or that impart education or information among citizens about their obligations under the tax laws, may in many circumstances constitute a more cost-effective method of securing compliance than measures designed to counter noncompliance.”

Also, although e-invoicing is spreading in private sector transactions, Barbados, Guyana, and Trinidad and Tobago do not have the legal power to mandate e-invoicing (Barreix and Zambrano, 2018).



Source: Authors' elaboration based on World Bank (n.d.).



Source: Authors' elaboration based on World Bank (n.d.).

Audits and Verification Programs: In the Caribbean, audit practices differ depending on the administration's capacity. However, in general, the scope of the audit process in the region is usually constrained by staff capacity (i.e., insufficient number of staff available to undertake audits or a lack of expertise and training for auditing all types of taxes) and other limitations associated with poor data integrity and shortcomings in IT systems. Because the annual audit programs often set audit targets based on available resources, these targets are typically not very ambitious.

Risk-based approaches to audit case selection only began in the late 2010s. This move has led these administrations to lean heavily toward auditing the large taxpayer segment rather than performing issue-oriented audits. In some cases, industry experts manually select taxpayer audit cases. Barbados and Jamaica have audit units and even audit selection committees. However, they may be poorly targeted and selected without a systematic approach. Most audits follow the traditional method of visiting and auditing taxpayers at their premises and developing “comprehensive” audits covering various periods and taxes; this usually involves reviewing large volumes of paper documents.

Standard practices in other tax administrations, such as using third-party information for cross-checking, are not performed regularly in the Caribbean. This shortfall is partly due to the lack of capacity to carry out these procedures. In some cases, the legal framework limits access to third-party information even when these administrations could conduct cross-checking or even decide to benefit from advanced standards of data analytics practices used in more modern tax administrations (see Chapter 9 and Reyes-Tagle, Silvani, and Ospina, 2021). Poor data quality, lack of automation, and technical limitations remain pervasive constraints.

Like the race to the bottom regarding tax expenditures where countries compete with other countries to attract foreign investment, weak tax administrations also play a critical role in another vicious cycle for Caribbean nations. When there is an urgent need for revenue, the authorities respond by making quick tax policy changes that do not solve the structural problems but raise revenue in the short term while simultaneously perpetuating the cycle. Because the administration is weak, the tax changes are often imperfectly implemented, increasing the tax administration's operating load and stressing its capabilities. Any tax reform must include tax and customs administration reform to break this vicious cycle. The road to improvement is relatively straightforward, from improving the connection between policy and administration to simplifying and strengthening institutional structures and operational functions.³³ Chapter 10 of this book discusses how leapfrogging over the inherited and emerging challenges of the tax

³³ For a complete road map, see Reyes-Tagle, Silvani, and Ospina (2021).

system toward digitalization could be the most effective way to overcome most of the current and emerging challenges of tax administrations.

Tax Amnesties: Double-Edged Swords

Tax amnesties are one tax issue encompassing all the elements introduced in the previous sections (i.e., shadow economy, tax expenditures, and tax misadministration). A tax amnesty is an exceptional and temporary opportunity to regularize taxpayers' undeclared assets and unpaid taxes (from one or more previous fiscal periods) in exchange for a reduction in the outstanding principal, interest, or penalties. Typically, they include waiving any criminal and civil proceedings (Baer and Le Borgne, 2008; Marchese, 2014).

It sounds good: an opportunity for the government to collect outstanding principal sums to fund budgetary expenditures and for taxpayers to become fully tax-compliant at a discounted cost. Unfortunately, this type of program can become a double-edged sword. This section shows how, as in other developing countries, tax amnesties have been used by some Caribbean countries as a way to address shortcomings in revenue. These are mainly caused by low compliance, exacerbated by the prevalence of weak tax policy, shadow economy, and lack of enforcement associated with ineffective tax administration.

Different tax amnesties include different arrangements and features. For instance, they might consist of all or some groups of taxpayers and all or some core taxes (even social security contributions³⁴). They can even be granted by different levels of authority (e.g., parliament, ministers, revenue commissioners). They can also range according to the type of tax and amount waived (only interest and penalties, primary tax liability, or a combination). Note that different amnesties give rise to various incentives and, therefore, lead to varying outcomes, as will be explained. Table 3.10 summarizes the most common features of tax amnesties.

Though there can be different types of tax amnesties, in practice, they seem to have something in common: they are usually presented as a once-in-a-lifetime opportunity, and they come with promises of greater enforcement. However, these measures have a long history worldwide and are far from exceptional, as they have been used on multiple occasions by a number of countries.³⁵

³⁴ See, for example, Government of the Dominican Republic (2020).

³⁵ Austria (1982, 1993), Belgium (1984), Finland (1982, 1984), France (1982, 1986), Indonesia (2016), India (1965–1997), Ireland (1988, 1993), Italy (1982, 1984, 2001, 2009), Netherlands (1934, 1940, 1945, 1955), Portugal (1981, 1982, 1986, 1988), Spain (1977, 2012), Turkey (2003, 2005, 2016, 2019). In Latin America: Argentina (1987, 2004, 2016), Chile (2014), Colombia (1987, 2015), Costa Rica (2018–2019), Guatemala (2019), Mexico (2017), Panama (1974, 2019), and Peru (2017). For a review and analysis of tax amnesties, see Baer and Le Borgne (2008).

TABLE 3.10 Different Design Features of Tax Amnesties

Who is targeted	What taxes are covered	What is forgiven	Accompanied by	Other
Unregistered taxpayers	Personal taxes	Interest	Increased enforcement	Duration:
Nonfilers	Business taxes	Tax penalties	Increased audit	– One-time
Delinquent taxpayers:	Property taxes	Criminal prosecution:	Tax reform:	– Permanent
– unpaid tax liabilities	Other	– Civil penalties	– General	Basis:
Evaders:		– Imprisonment	– Designed, in part, to address noncompliance	– Legislative
– Non-reported tax liabilities		Tax liabilities:		– Administrative decree
– Underreported tax liabilities		– Small amounts		Level of authority:
		– Any amount		– Parliament
				– Ministries
				– Revenue commissioners

Source: Baer and Le Borgne (2008, Table 1).

Caribbean countries have also granted multiple and consecutive tax amnesties (an overview is provided in Table 3.11). Some LAC countries launched amnesties in 2020 to confront the COVID-19 emergency (Reyes-Tagle and Ospina, 2020).

Among the most common purposes for applying tax amnesties are: (i) short-term needs to raise revenue (during a crisis or recession episodes when revenues are under pressure), (ii) regularizing “clean slate” tax status for taxpayers with a low or null compliance history (used as a way to remove barriers to voluntary compliance), (iii) promoting asset repatriation and transparency on the occasion of the signing of TIEAs or to incentivizing investment, (iv) mitigating acute currency devaluation episodes that require capital repatriation and generate local investment through asset repatriation programs, and (v) politically motivated (e.g., to favor particular groups or finance political platforms). Recent tax amnesty programs in the Caribbean primarily fall into the first two categories.

One type of amnesty that has gained popularity over the years is the asset repatriation program,³⁶ intended to encourage the transfer to the home jurisdiction of previously undisclosed assets held abroad. Often, these programs are introduced in response to a highly political decision based on the country’s immediate economic or fiscal situation (FATF, 2012). Recent “successful” (in terms of revenue collected) international experiences include Argentina

³⁶ Many tax amnesties include tax regularization of assets held abroad (also referred to as Offshore Voluntary Disclosure Programs).

TABLE 3.11 Overview of Caribbean Tax Amnesty Programs in the 2010s

	Year	Type/included taxes	Duration	Benefits	Fiscal years subject to amnesty
The Bahamas	2013	Real Property Tax	9 months	50% waiver on accounts with no more than three years of payment arrears if the payment was received within the next four months following the announcement (March 2013)	Any period
				After the deadline, there is only a 100% waiver on penalties if the total amount is paid by the end of the year	
				Waiver of penalties	
				Arrears of tax payment for any period were entitled to a waiver of 100% of the total surcharge payable on the assessed tax where 50% payment is made within the first six months and the rest in the last three months of the tax amnesty period.	
	2016	Real Property Tax	9 months	It did not apply to any property owner whose account as of July 1, 2016, was subject to a debt collection process	Any period
				Waiver of penalties	
Barbados				Property owners already current with their bills received a 5% rebate on their payments in 2013, 2014, and 2015	
	2016	VAT, Income Tax, and Land Tax	5 months	100% waiver of penalties and interests	n.a.
	2017	Land Tax, VAT, Income Tax, Corporation Tax, and PAYE	6 months	100% waiver of penalties and interests	n.a.

(continued on next page)

TABLE 3.11 Overview of Caribbean Tax Amnesty Programs in the 2010s (continued)

Year	Type/included taxes	Duration	Benefits	Fiscal years subject to amnesty
2018	Land Tax, VAT, Income Tax, Corporation Tax, and PAYE	6 months	100% waiver of penalties and interests	Jan. 1, 2001, to Dec. 31, 2017
Guyana	Income, Corporate, Property, Capital Gains, and Withholding Taxes	9 months	Installment agreements (keeping benefits)	Up to and including 2017
			100% waiver of all outstanding penalties and interests (during the first six months)	
			50% waiver (during the last three months)	
Trinidad and Tobago	Corporate Tax and Income Tax	9 months	Taxpayers who had been already subjected to completed audits were able to participate	n.a.
			Waiver of penalty and interest for late filing of tax returns and payment of tax arrears if brought up to date	
			All interest on outstanding taxes	
			Years up to 2009	
			Years up to 2009	
2010	Business Levy and Green Fund Levy	9 months	All interest on outstanding taxes	Years up to 2009
2016	Income Tax, Corporation Tax, Withholding Tax, Business Levy, Petroleum Tax, and VAT	2.5 months	Waiver of interest, penalties, and other liabilities	Years up to and including 2015
2019	All taxes	3 months	Waiver of interest, penalties, and subjected other liabilities	Years up to and including 2018

Sources: Authors' elaboration based on official announcements.

The Bahamas: Budgetary Proposal 2018. Official Gazette No. 6 of 2013. Real Property Act (Amendment) Act 2013. Real Property Tax (Amnesty) Order 2016. *Barbados:* Tax Amnesty 2016. National Budget 2016/2017. Expenditure Measures, Tax Amnesty 2017. National Budget 2017/2018. Expenditure Measures, Revenue Authority. Policy Note PPG No. 008/2018. Tax Amnesty 2018. *Guyana:* Minister Responsible for Finance. *Trinidad and Tobago:* National Budget Speech, November 27, 2017. Ministry of Finance Inland Revenue Division Act #13, 2016. Ministry of Finance Tax Amnesty for the Period 8th September 2010 to 31st May 2017, Question no. 7, December 14, 2010. Ministry of Finance 2008 Budget Memorandum.

Notes: PAYE is a "pay as you earn" tax in Barbados. Further tax amnesties have been granted in subsequent years in the Bahamas (Anderson-Bain, 2021) and Trinidad and Tobago (IRD, 2022).

(2016), Brazil (2016), Indonesia (2016), Italy (2009), and Spain (2012). The first two collected 1.7 and 1.1 percent of GDP, respectively, and the disclosure of assets valued at 40 and 20 percent of GDP, respectively. These and other experiences show that tax amnesty can lead to extraordinary revenue gains, which are particularly needed during a recession or financial crisis. Furthermore, if assets are returned to the country and are invested, they can boost economic activity. As with other types of amnesties, successful asset repatriation programs are the exception rather than the norm because, over time, net revenue collection and compliance may be negatively affected (Martin and Camarda, 2017).

Although there are different motivations for applying tax amnesties, they often cover more structural problems such as evasion and weak compliance. After all, revenue from amnesties would have been obtained with effective enforcement, a robust collection of arrears, and the capability to identify undetected income, such as undisclosed profits from other countries. In this sense, tax amnesties become tax expenditures: they are amounts that the tax authorities only receive by granting an exceptional tax treatment to benefit certain taxpayers.

Before analyzing the recent tax amnesties in the Caribbean, it is helpful to understand the effects of such programs. So, how do we study the results of tax amnesties? Extensive literature attempts to explain the use of amnesties and their impact on taxpayers, collection, and tax administration (Leonard and Zeckhauser, 1987; Alm and Beck, 1991; Malik and Schwab, 1991; Stella, 1991; Langenmayr, 2017; Baer and Le Borgne, 2008; Bayer, Oberhofer, and Hannes, 2015). While the theoretical approach varies, a standard transmission channel is found: behavioral channels. Typical models include an intertemporal optimization problem where taxpayers maximize their expected utility and choose the optimal degree of tax evasion/compliance that depends on, among other factors, the probability of being detected (related to credibility in tax administration or prior knowledge of its capacity to enforce), penalties for evasion, and idiosyncratic factors.

Given the tax rate, the government seeks to minimize the cost of revenue collection and enforcement, which is subject to a revenue target. Tax amnesties are usually analyzed in an intertemporal framework. Taxpayers carry out their optimization process by adapting their optimal strategies and, therefore, their behavior. They obtain more information and update their prior beliefs regarding the tax administration's capacity to detect evaders. An example of this approach can be found in Stella (1991).

Dynamic theoretical approaches help understand how the balance between the costs and benefits of tax amnesties is a matter of short versus

long run; this seems to be supported by empirical evidence. On the one hand, there is the potential for additional tax collection due to delinquent or nonfiling taxpayers' regularization in the short run. Also, these programs can help broaden the taxpayers' base in the medium term due to new data collected as more taxpayers normalize their situation, which ultimately should contribute to better enforcement. On the other hand, in the long run, frequent use of tax amnesties creates a moral hazard problem, as taxpayers that regularly honor their obligation can view the move as a reward to evaders, who are allowed to pay off their debts in more favorable terms and with only minor penalties. A credibility dilemma may lead taxpayers to conclude that the cost of evading is not high enough and that not paying taxes may be the best option. This situation creates pervasive disincentives for tax compliance, harming fiscal revenues in the long run. Furthermore, tax amnesties also affect fiscal efforts and tax equity to the detriment of taxpayers who regularly comply with their payments and feel shortchanged.

Econometric evaluations of tax amnesties' revenue and compliance effects are challenging because, in practice, tax amnesties are always combined with other types of measures (such as enhanced enforcement) or short-term policy measures (such as changes in statutory rates). Therefore, statistical identification of each effect rather than the combined effect is difficult (Baer and Le Borgne, 2008). Many available econometric studies have been conducted in U.S. states, where data availability is more comprehensive (Luitel and Sobel, 2007; Alm and Beck, 1993; Le Borgne, 2006). Time-series methods are frequently used: simple ordinary least squares time trend models, autoregressive-integrated moving average, and regression analysis operating panel with fixed effects. The authors mentioned above found a common outcome: over time, tax amnesties often negatively affect net revenue collection and compliance.

Likewise, studies of developing countries found that tax amnesties have little short- or long-term impact on revenues, even when using a wide range of alternative specifications (Alm, Martinez-Vazquez, and Wallace, 2009; Sanchez, 2017; Bayer, Oberhofer, and Hannes, 2015). However, these papers emphasize the difficulty and challenges of finding data available for analysis.³⁷

As for other types of tax expenditure discussed earlier in this chapter, a DCGEM could be an ideal framework for analyzing tax amnesties and their

³⁷ For example, Alm, Martinez-Vazquez, and Wallace (2009) test (using multivariate models) for the impact on tax revenues of multiple tax amnesties in the Russian Federation in 1990, using monthly data. The authors point out that while identifying payments separately from the tax amnesty would be ideal, the lack of quality data on total collections and the lack of disclosure of post-amnesty enforcement procedures or expenditures limit such analysis.

interrelated effects. However, DCGEM models rely heavily on data quality, and other studies have found that the available data on amnesties are deficient. In particular, the Caribbean does not report the collection yield from amnesty programs in a standardized way; most of the information is announced through press releases by commissioners or ministers. Furthermore, the amounts collected by tax type are not reported, which is a significant problem in generalized amnesties such as Trinidad and Tobago's in 2018 and creates a substantial obstacle to the general equilibrium model. It is essential to catalog the origin (by tax) of the type of expenditure because, in this way, it is possible to relate the specific channels of transmission—known as “tax incidence”—to the behavior of individuals and thus be able to control the interaction with other measures.

Evidence suggests that the abuse of amnesties undermines their impact over time because their regular use may lead taxpayers to adapt their expectations and behavior and always wait for new forgiveness programs (which, in many cases, turns out to be rewarded). These dynamics weaken the tax system by exposing tax authorities' limited capacity to detect and punish noncompliance and enforce rules (Das-Gupta and Mookherjee, 1996). Until structural problems are solved, amnesties will always create the need for more, thus generating an endless vicious cycle.

In some cases, the announcement of greater enforcement associated with tax amnesties reduces the incentives to participate in the programs. Rational taxpayers are more likely to understand that participating in an amnesty reveals them as tax evaders, subjecting them to frequent audits. Such announcements lead governments to offer special incentives, such as exemption from audits.³⁸ For example, the government's offer might be that the taxpayer will be free from audits in the following years if the amount paid increases or is maintained. The government might further stipulate that the taxpayer's returns for earlier tax periods will not be audited if the most recent tax return is correct (Graetz and Wilde, 1993; Baer and Le Borgne, 2008).

Furthermore, a statute of limitations³⁹ or prescriptive periods may give rise to an implicit amnesty by incentivizing taxpayers to wait until the statute of limitations expires. For example, in the United States, the period is three years. In the Caribbean, several countries have such a statute, including Barbados (five years), Guyana (seven years), and Jamaica (six years).

³⁸ See the case of Portugal in 1986 in Baer and Le Borgne (2008).

³⁹ A statute limiting the maximum period within which a specific legal action may be taken such as the collection of tax or appeal of a decision of the tax authorities or lower court.

Given all the factors mentioned above interacting with each other, a key lesson is that the success of an amnesty cannot be measured by the amount of revenue collected during the program. This is because serious tax compliance problems may arise later, as a portion of expected revenue is forfeited to future noncompliance (Stella, 1991). Meanwhile, different circumstances can lead to different results in the medium term. For example, profound legal reforms in fiscal policy and tax administration have been cataloged as determinants of the positive effects brought about by Ireland's 1989 amnesty, which allowed the tax administration to regularize all its arrears that year without compromising tax compliance in the following years (Baer and Le Borgne, 2008). In many other cases, the costs seem to outweigh the benefits by providing a gain of positive gross income in the short run but a negative net income gain in the medium run due to the income lost by reduced tax compliance in the future.

An analysis of the features and conditions offered by the recent tax amnesty programs in some Caribbean countries shows that the main characteristics of these programs have been significantly distorted. First, countries like Barbados have implemented tax amnesties for three consecutive years: 2016, 2017, and 2018. Paradoxically, the first in this series was announced as the last amnesty to be offered for a while.

Other countries like the Bahamas and Trinidad and Tobago waited three to four years to implement additional amnesty programs. In addition, some of them extended the deadline for application at taxpayers' request. The average duration of these measures was six months; the longest period (nine months) was seen in the Bahamas in 2013, Barbados in 2016, Guyana in 2018, and Trinidad and Tobago in 2011. Thus, the exceptional and temporary nature of the amnesty has been distorted. Given this scenario, it is clear that Caribbean taxpayers have reasons to believe that no amnesty will be the last one. They will always have the opportunity to be granted better conditions for paying their obligations.

Likewise, in some cases, the objective of collecting short-term income quickly, which is one of the main appeals of a tax amnesty program, was replaced by deferred payment arrangements in installments beyond the amnesty deadline, as in Barbados in 2018. Similarly, the amnesty on real property tax in the Bahamas in 2013 offered a 100 percent waiver on penalties for accounts in arrears exceeding three years with accumulated surcharges if the total amount was paid by the end of the year. These conditions have reinforced the message that amnesty is probably not a one-off event and could lead taxpayers to surmise that a weakness in the tax administration is reflected in a low capacity to detect evaders and follow through on enforcement.

TABLE 3.12**Caribbean Tax Amnesty Programs: Revenue Collected (percent of GDP)**

Country	Year	Target	Revenue collected
The Bahamas	2013	0.09%	0.17%
	2016	n.a.	n.a.
Barbados	2016	0.08%	0.36%
	2017	0.25%	n.a.
Guyana	2018	n.a.	0.90%
Trinidad and Tobago	2009	n.a.	0.33%
	2010	n.a.	0.70%
	2016	0.35%	0.52%
	2019	0.52%	1.59%

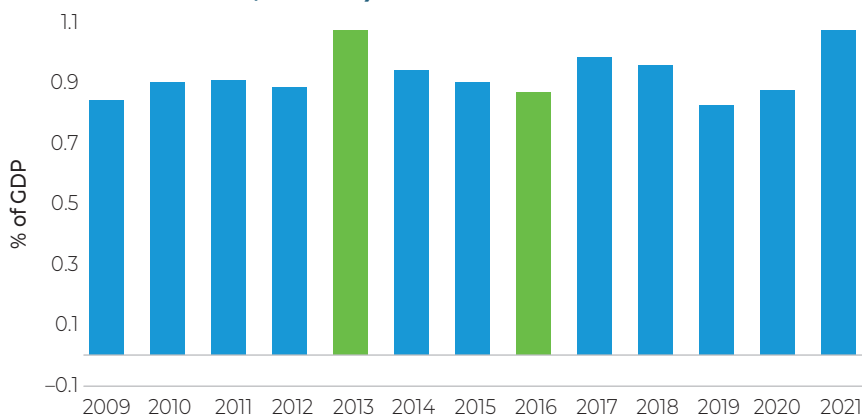
Source: Authors' elaboration based on official announcements.

Although the data on collection yield are not fully available for every amnesty program, some are shown in Table 3.12. The data are expressed in gross collections as a percent of GDP. Unsurprisingly, the most “successful” ones have been the most “generous,” namely the Bahamas (2013), Guyana (2019), and Trinidad and Tobago (2019). The Trinidad and Tobago case was the most successful in the country’s history and among the regional programs. This tax amnesty included all taxes, including the petroleum tax, an essential source of revenue for the government.⁴⁰ Indeed, the most significant amount was collected from oil companies (TT\$750 million in the three months).

The real property tax amnesty in the Bahamas in 2013 offered substantial savings to taxpayers by waiving 50 percent of the amount owed on accounts that had no more than three years of payments in arrears. Furthermore, the payment had to be made before the deadline. Additionally, to encourage the disclosure of information and self-registration, owners of residential and commercial properties who were not on the assessment list were exempted from paying taxes for the years before 2013. The exemption was granted provided they registered their properties with the Business License/Real Property Tax (Valuation Unit) of the Ministry of Finance. While this did not imply additional income for the government, it represented a generous incentive to register, thereby reducing future opportunities for evasion.

Even though many elements may interact, a simple analysis of targeted tax revenue performance allows some preliminary trends to be observed. In

⁴⁰ The state oil company owed three years of taxes to the country’s government in 2018.

FIGURE 3.11**The Bahamas: Property Tax Collection (percent of GDP, 2009–21)**

Source: Authors' elaboration based on IDB-CIAT (n.d.).

Note: The green bars represent the years when tax amnesties were offered.

the Bahamas, for example, although revenues increased in the year of the first amnesty—as expected, given the extraordinary incomes—they had a negative trend in the following three years (Figure 3.11). They did not recover until after the next amnesty in 2016. Although the 2013 tax regularization program included more than 1,000 new taxpayers who registered their properties, revenue did not increase in subsequent years.

The amnesty in the Bahamas in 2016 introduced a provision to mitigate moral hazard problems by announcing a 5 percent rebate of taxes paid in the preceding years (2013, 2014, and 2015) by residential homeowners who were current and stayed current over each of these years. This mitigation rebate could be seen as a reward for compliant taxpayers but also resulted in a net income loss. Higher revenue for property taxes would require significant policy adjustments in rates, reduced exemptions, the tax-free threshold, and a cap on tax liabilities for high-value properties.

Tax amnesties were implemented in the 2010s in Barbados, where a decrease in revenues from some of the targeted taxes, such as income and land taxes, can be seen in subsequent years. On the other hand, there has been an increase in corporate tax collection since 2016 (Figures 3.12 and 3.13). In Trinidad and Tobago, because amnesty included almost all taxes, it is more difficult to establish its effects on collection. However, revenue dropped after the 2009 and 2016 amnesties (Figure 3.14).

Finally, among all the possible lessons drawn from tax amnesties (Reyes-Tagle and Ospina, 2020), in the case of the Caribbean, a key takeaway is that the region needs to learn from its past experiences. To this end, data on other collections

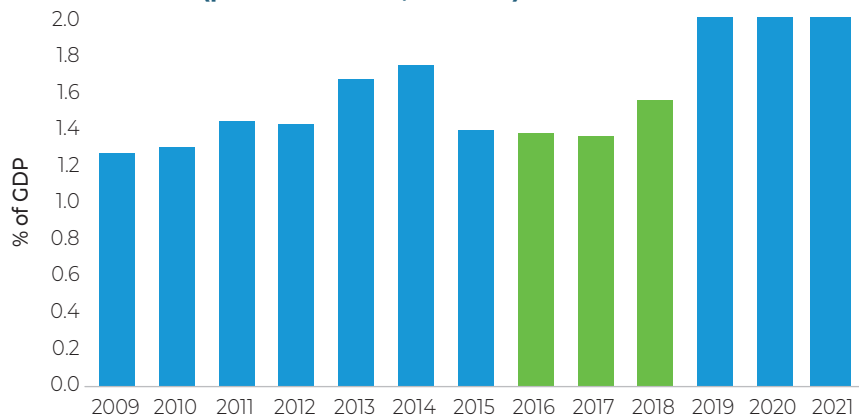
FIGURE 3.12 Barbados: Income Tax Collection (percent of GDP, 2009–21)



Source: Authors' elaboration based on IDB-CIAT (n.d.).

Note: The dark blue bars represent the years when tax amnesties were offered.

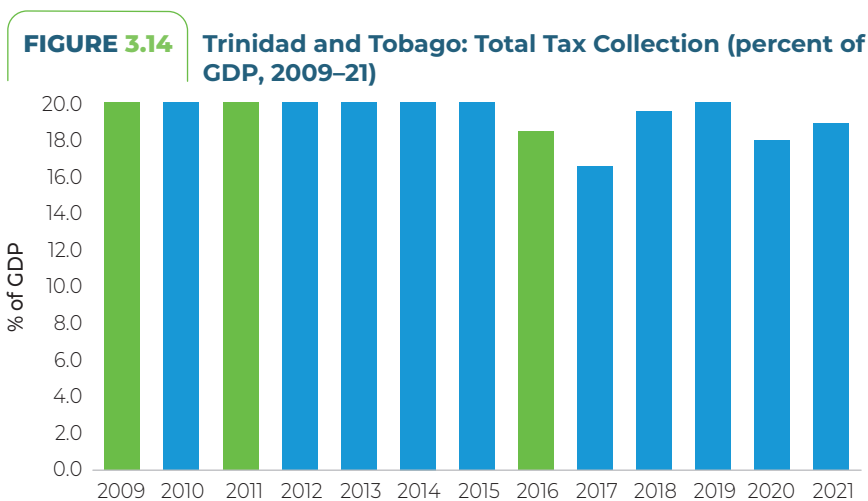
FIGURE 3.13 Barbados: Land Tax Collection (percent of GDP, 2009–21)



Source: Authors' elaboration based on IDB-CIAT (n.d.).

Note: The green bars represent the years when tax amnesties were offered.

arising from tax amnesties must be gathered and disclosed separately from the total collection. The data should be disaggregated by tax type, and the related costs of implementing the measure should be provided. Moreover, the implementation of tax amnesty programs should come after a thorough analysis of the situation of the tax arrears. Evaluating the short- and long-term needs is crucial, considering the magnitude of the net revenue losses versus the probability of



Source: Authors' elaboration based on IDB-CIAT (n.d.).

Note: The green bars represent the years when tax amnesties were offered.

total loss. Otherwise, the recurrent and indiscriminate use of tax amnesties could undermine the system's trustworthiness, revenues, and institutional capabilities.

International Taxation Issues

Tax issues have not been spared the accelerated pace at which globalization has taken place in recent decades, favoring capital flows between jurisdictions and the consequent interaction of domestic tax systems, making monitoring and tracking more difficult. Taxation is challenging as tax systems and administrations develop and reach different degrees of maturity. This environment opened possibilities for individuals and companies to operate in other jurisdictions, exposing two significant challenges: (i) there is the need to avoid double taxation and not burden taxpayers unnecessarily and (ii) this global environment has given rise to opportunities for problematic practices such as avoidance, money laundering, tax evasion, and tax base erosion.

Caribbean countries have not been oblivious to these dynamics, nor have other developing countries. However, although Caribbean countries have been significant beneficiaries of capacity building and technical assistance, the region's lack of reforms has favored these practices. Therefore, the international community has closely monitored Caribbean countries' compliance with international standards, putting their institutional capacities (tax system, revenue administration, and government willingness) under pressure. Box 3.4 offers an overview of the main developments in international information exchange related to taxation.

BOX 3.4

EFFORTS AND DEVELOPMENTS IN THE INTERNATIONAL INFORMATION EXCHANGE

The international community increased transparency and the exchange of information for tax purposes as the world became increasingly globalized in the early 21st century. In 2001, the September 11 terrorist attacks triggered the global effort against money laundering and the financing of terrorism (ML/FT), followed by the strengthening of the Financial Action Task Force (FATF) established in 1989 (Barreix and Zambrano, 2018). With the publication of the FATF's list of Non-Cooperative Countries or Territories in 2000, some serious systemic problems with anti-money laundering laws were identified in some jurisdictions, including five Caribbean nations such as the Bahamas^a (FATF, 2000). This triggered actions by these countries to address those problems and be removed from this "blacklist."

Meanwhile, OECD countries and international financial institutions committed to establishing international standards on tax transparency and the exchange of information to fight tax evasion; this gave rise to the Global Forum on Transparency and Exchange of Information for Tax Purposes (also known as the Global Forum), an international body working to implement these standards.

Ten years later, following a rise in tax scandals that exposed the abuse of banking and company secrecy laws and the outbreak of the 2007–9 global financial crisis, the United States launched the Foreign Account Tax Compliance Act (FATCA), which put in place a new standard for the automatic exchange of financial accounts information between the United States and signatory countries. FATCA introduces a reporting regime for foreign financial institutions (FFIs) regarding assets held in foreign accounts by U.S. taxpayers or by foreign entities in which U.S. taxpayers have a substantial ownership interest. It also requires U.S. financial institutions to withhold a portion of certain payments made to FFIs that do not agree to identify and report information on U.S. account holders (Ahrends and Bothner, 2019); 113 jurisdictions have complied so far.

Since restructuring, the Global Forum has become the premier multilateral organization in this field, growing from 80 to 160 adhered jurisdictions (of which 80 are developing countries), and has set standards to increase voluntary disclosure of information, made offshore investigations more effective, and fostered tax transparency through changes in legal provisions and enforcement practices (OECD, 2019b). It developed two common standards for the exchange of information:

- **Exchange of information on request (EOIR):** A tax authority can request a particular amount of information to begin a tax investigation. This standard requires tax administrations to access banking information to exchange information, strict regulations on the confidentiality of taxpayer information, and stringent requirements concerning access to this information and the purposes for which it can be used.
- **Automatic exchange of information (AEOI):** A predefined set of data on financial accounts held by non-residents is automatically exchanged yearly. This exchange is underpinned by ensuring the information is kept confidential and adequately safeguarded, and jurisdictions must confirm this.

The **Common Reporting Standard (CRS)** was developed by the OECD to facilitate both types of exchange. It sets out the financial account information to be exchanged, the financial institutions that must report, the types of accounts and taxpayers covered, and the typical due diligence procedures institutions must follow. To meet these standards, the Global Forum has focused on three key issues: (i) eliminating bank secrecy regulations, (ii) stopping the issuance of bearer shares and establishing mechanisms to identify their owners, and (iii) addressing deficiencies in the availability of accounting records and the gaps in the regulatory framework.

Source: Authors' elaboration.

^a The Bahamas was included in the FATF's blacklist (Group 3: "non-cooperative countries or territories") in 2000 and was removed in 2001 (after complying with 40 recommendations relating to the fight against international money laundering). Following the Bahamas' delisting by the FATF, both the United States and Canada removed their financial advisories on the jurisdiction.

TABLE 3.13 Adherence to FATCA by CCB6 Countries

Country	Year of agreement	Year of implementation (in force)
The Bahamas	2014	2015
Barbados	2014	2015
Guyana	2014	2017
Jamaica	2014	2015
Suriname	n.a.	n.a.
Trinidad and Tobago	2016	2017

Source: Authors' elaboration with information from U.S. Department of the Treasury (n.d.).

Of the CCB6 countries (the Bahamas, Barbados, Guyana, Jamaica, Suriname, and Trinidad and Tobago), all except for Suriname signed agreements at about the same time to implement the Foreign Account Tax Compliance Act (FATCA, see Box 3.4), and it has been the primary medium through which the automatic exchange of information (AEOI) between the United States and these countries has taken place (Table 3.13).

For four of these countries (the Bahamas, Barbados, Jamaica, and Trinidad and Tobago), it took about one year from the signing of reciprocal intergovernmental agreements (IGAs) between the Caribbean governments and the United States for FATCA to take effect. This is because implementing the necessary internal arrangements for the AEOI posed some challenges: (i) developing the capacity to allow the AEOI with the required security standards and (ii) adapting legal frameworks for the implementation of the agreements.

In Jamaica, due to statutory and common-law confidentiality requirements such as the Banking Act, the Financial Institutions Act, and the Building Societies Act, customers' information is confidential, and sharing such data is an offense. To overcome this obstacle, the Revenue Administration Act was amended. The most relevant change was the broadening of the term "taxpayer," which had been limited to a person liable to tax in Jamaica and was expanded to include any person who "is of relevance to a treaty partner in respect of an international tax agreement" (Government of Jamaica, 2013). The act also gave the commissioner the power to require any person to furnish returns, including information regarding any other person (whether identified or not) who may be of interest to the commissioner. Other countries like Trinidad and Tobago had difficulty getting sufficient parliamentary support to adopt the necessary legislation to comply with FATCA.

TIEAs have also been a crucial bilateral mechanism for exchanging information. These were part of double tax treaties or agreements (DTAs), which typically

incorporated an article dedicated to administrative cooperation. However, following the release of the Model TIEAs developed by the OECD in 2002, these special-purpose agreements grew in popularity (OECD, 2019b). The Bahamas and Barbados have followed this model; other countries, like Guyana and Trinidad and Tobago, have established agreements with the United States using their own models. For its part, Jamaica is still using DTAs as its preferred approach to exchange information. Table 3.14 summarizes the current TIEAs by Caribbean country, and Table 3.15 displays the current DTAs.

Suriname is not a party to any tax or fiscal information–sharing agreements (i.e., tax treaties) with any other country. And because the Bahamas does not levy direct taxes, it has no double tax treaties with other countries/jurisdictions (KPMG, 2024). As CARICOM member states, Guyana, Jamaica, and Trinidad and Tobago benefit from having signed a 1994 treaty for the avoidance of double taxation and the prevention of fiscal evasion concerning taxes on income, profits or gains, and capital gains, as well as for the encouragement of regional trade and investment among CARICOM members (CARICOM, 1994). In contrast, despite

TABLE 3.14

Summary of TIEAs Signed by Caribbean Countries

Jurisdictions with which TIEAs Signed		
Country	Signed	Waiting for signature/ratification as of September 2024
The Bahamas	Argentina, Australia, Canada, China, Czech Republic, Denmark, Faroe Islands, Finland, France, Georgia, Germany, Greenland, Iceland, Indonesia, Japan, Mexico, Monaco, Netherlands, New Zealand, Norway, San Marino, Spain, Sweden, United Kingdom, United States	None
Barbados	Denmark, Faroe Islands, Greenland, South Africa, United States	Colombia, France, Germany
Guyana	United States	None
Jamaica	United States	None
Suriname	None	None
Trinidad and Tobago	United States	None

Sources: Authors' elaboration based on Government of the Bahamas (n.d.), Government of Barbados (n.d., "Tax Information Exchange Agreements"), and U.S. Department of the Treasury (n.d.).
 Note: Jamaica has DTAs with some jurisdictions (see Table 3.15) that sometimes include information exchange clauses.

TABLE 3.15**Double Tax Treaties or Agreements (DTAs) Signed by Caribbean Countries**

Country	DTA in force	DTA waiting for ratification or signature as of August 2024	Signed CARICOM DTA
The Bahamas	None	None	No
Barbados	Austria, Bahrain, Botswana, Canada, China, Cuba, Cyprus, Czech Republic, Finland, Iceland, Netherlands, Panama, Portugal, Mexico, Qatar, San Marino, Seychelles, Singapore, Spain, Sweden, UAE	Pending ratification: Ghana, Kenya Protocol awaiting ratification: Botswana Awaiting signature: Malaysia, Belgium, Vietnam	No
Guyana	Canada, United Kingdom	Kuwait	Yes
Jamaica	Canada, China, Denmark, France, Germany, Israel, Italy, Japan, Mexico, Norway, Spain, Sweden, Switzerland, UAE, United Kingdom, United States	None	Yes
Suriname	Indonesia, Netherlands, United Arab Emirates	None	No
Trinidad and Tobago	Brazil, Canada, China, Denmark, France, Germany, India, Italy, Luxembourg, Norway, Spain, Sweden, Switzerland, United Kingdom, United States of America, and Venezuela	None	Yes

Sources: Authors' elaboration based on Government of the Bahamas (n.d.), Government of Barbados (n.d., "Double Taxation Agreements"), Guyana Revenue Authority (n.d.), Government of Trinidad and Tobago (n.d.), and OECD (2023b) .

being members of CARICOM, the Bahamas, Barbados, and Suriname are not signatories to this agreement.

All CCB6 countries except Suriname are members of the Global Forum on Transparency and Exchange of Information for Tax Purposes (Table 3.16), and some have been assessed in the first and second rounds (on request, the Global Forum assesses the worldwide implementation of these standards and conducts peer reviews to ensure they are being implemented effectively).

TABLE 3.16**Status of Caribbean Countries in Implementing Global Forum Standards on Transparency and Exchange of Information for Tax Purposes as of 2024**

Country	Member of Global Forum	EOIR	AEOI	Mutual Administrative Assistance Convention
The Bahamas	Yes	Round 1: Largely Compliant	Commitment 2018	In force
		Round 2: Largely Compliant	Commitment to AEOI (CRS) Yes	
Barbados	Yes	Round 1: Largely Compliant	Commitment 2018	In force
		Round 2: Largely Compliant	Commitment to AEOI (CRS) Yes	
Guyana	Yes	Round 1: Not reviewed	Not committed to a specific date	No
		Round 2: Phase 1: scheduled 2023; Phase 2: not yet scheduled	(CRS) n.a.	
Jamaica	Yes	Round 1: Largely Compliant	Commitment 2022	In force
		Round 2: Largely Compliant	Commitment to AEOI (CRS) Yes	
Suriname	No			
Trinidad and Tobago	Yes	Round 1: Not Compliant	Commitment in 2018	Requested to join
		Round 2: Scheduled Q4 2023	n.a.	

Source: Authors' elaboration based on OECD (2020a).

Notes: EOIR (exchange of information on request) is rated on a scale of Compliant, Largely Compliant, Significantly Compliant, Partially Compliant, and Not Compliant. AEOI (automatic exchange of information) is measured according to commitment to the OECD's Common Reporting Standard (CRS). The Mutual Administrative Assistance Convention provides all possible forms of administrative cooperation between states in assessing and collecting taxes, such as exchanging information (including automatic exchanges) and recovering foreign tax claims.

Through the Multilateral Convention on Mutual Administrative Assistance in Tax Matters, it also delivers technical assistance to support members in implementing the measures. The first round of inspections in 2010–16 helped eliminate hundreds of loopholes in the reviewed jurisdictions' laws and practices, tackling various forms of secrecy surrounding tax affairs (OECD, 2019b). The second round has been ongoing since 2017 and seeks to further enhance the accuracy of information exchanged. Table 3.16 summarizes the results of

these assessments for Caribbean countries and their progress as of 2020 in both standards.

As can be seen, the Caribbean countries have actively participated in the forum, with mixed progress according to the review rounds. However, none has obtained a Compliant rating, which indicates that not all necessary arrangements are implemented and enforced in practice, so there is still progress to be made.

The cases of Barbados and Trinidad and Tobago stand out. In Round 2, the former was downgraded from Largely Compliant to Partially Compliant. This was mainly due to concerns about ensuring practical ownership and accounting information availability and the effective exchange of information with Barbados's EOIR partners (OECD, 2020a). As for Trinidad and Tobago, the first review identified deficiencies including, among other things, limited powers of the Inland Revenue Division (IRD) to access banking information (the country's tax act included banking secrecy provisions). The review also found that the country's tax laws limited the power to gather information and a limited number of TIEAs. The government committed to removing these barriers by amending tax laws when necessary and enacting new ones for the second round of reviews (IMF, 2017). For example, in 2020, Trinidad and Tobago passed Act No. 5 of 2020 to introduce provisions for implementing agreements with other states, providing for the exchange of information on taxation.

Finally, other problems associated with international taxation do not necessarily arise from information asymmetries across jurisdictions but rather from information that is, to a great extent, public but differs across countries' tax laws. The awareness and understanding of the differences between tax jurisdictions make it possible for some taxpayers to identify and exploit legal arbitrage opportunities to minimize their tax burden through a practice known as BEPS (Box 3.5).

With the expansion of multinational enterprises (MNEs), which dominate supply chains and centralize several functions at a regional or global level, opportunities for BEPS and corporate tax avoidance have increased. The shifting of income to low-tax jurisdictions, also known as "tax havens,"⁴¹ has led to tax competition⁴² and caused, in part, a decline in the de facto global corporate tax rate. Between 1985 and 2018, the global average statutory corporate tax rate fell by about half, from 40 percent to 23.79 percent (Asen, 2019).

⁴¹ Tax havens are low-tax jurisdictions that offer businesses and individuals opportunities for tax avoidance. Tax haven countries are usually small, affluent, and generally well governed with a stable economic and political climate (Hines, 2008). For further discussion on tax havens, see Chapter 5 in this book.

⁴² See Keen and Konrad (2013) for a comprehensive literature review on tax competition.

BOX 3.5

BASE EROSION AND PROFIT SHIFTING (BEPS)

BEPS refers to tax planning strategies that exploit gaps and mismatches in tax rules that enable businesses to artificially shift profits to low-tax or no-tax locations or erode tax bases through deductible payments such as interest or royalties. Although some of these practices are illegal, most are not (OECD, n.d., “BEPS Key Messages”). The main issue behind BEPS is that it diminishes the fairness and integrity of tax systems when used by businesses that operate across borders, such as multinational enterprises (MNEs), to minimize their tax burden. Because this avoidance is not necessarily illegal, it creates a moral hazard problem in which some taxpayers may perceive it as unfair and reduce their voluntary compliance.

Among the strategies to minimize the tax burden, the literature has focused on three primary practices or schemes for profit shifting:

- **Strategic transfer pricing** refers to prices and other conditions for transferring goods, services, and assets between affiliated companies in different tax jurisdictions (Ping and Silberstein, 2007). In this way, MNEs can allocate profits by manipulating the prices charged on intra-group (within related legal entities) cross-border transactions to maximize taxable earnings in low-tax jurisdictions and minimize such gains in high-tax countries (Jacobs et al., 2013).
- **Debt shifting** is a scheme whereby an MNE based in a high-tax jurisdiction borrows money from related entities in low-tax jurisdictions. In this way, the lender company increases its income by receiving interest payments and the borrower company can deduct the interest payments from its gross revenue to decrease the taxable profit and reduce its tax burden (Robles, 2018).
- In **intellectual property shifting**, an MNE transfers its ownership of intellectual property (i.e., copyright and trademarks) to an affiliated company in a low-tax jurisdiction and pays royalties to that entity for the use of those assets, registering them as a cost (Griffith, Miller, and O’Connell, 2014).

Over the last decades, many countries have attempted to mitigate international corporate tax avoidance at the national level by adopting various anti-avoidance regulations such as increasingly detailed transfer pricing regulations, thin capitalization rules, controlled foreign corporations (CFC) rules, or a general anti-avoidance rule (GAAR) (Klemm and Liu, 2019).

However, given the scale of the problem, an international response was needed. In 2013, the OECD/G20 Inclusive Framework on BEPS proposed 15 actions (OECD, n.d., “BEPS Actions”) to equip governments with domestic and international instruments to tackle tax avoidance.

Actions 5, 6, 13, and 14 are the four minimum standards that countries must comply with to improve the coherence of international tax rules and ensure a more transparent tax environment. Action 5 focuses on determining whether the regimes could harm the tax base of other jurisdictions. Action 6 identifies tax policy considerations that jurisdictions should address before entering into a tax agreement to avoid tax treaty abuse and so-called treaty-shopping arrangements. Under Action 13, MNEs must prepare a country-by-country (CbC) report displaying aggregate data on the global allocation of income, profit, taxes paid, and economic activity among tax jurisdictions in which it operates. Finally, Action 14 seeks to improve the resolution of tax-related disputes between jurisdictions.

The main goal of these actions is to ensure that profits are taxed where economic activities generating the profits are performed and where value is created. These actions have been reinforced by the Outcome Statement on the Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalisation of the Economy (OECD, 2023a), signed by 142 members of the OECD/G20 Inclusive Framework on BEPS as of May 28, 2024.^a

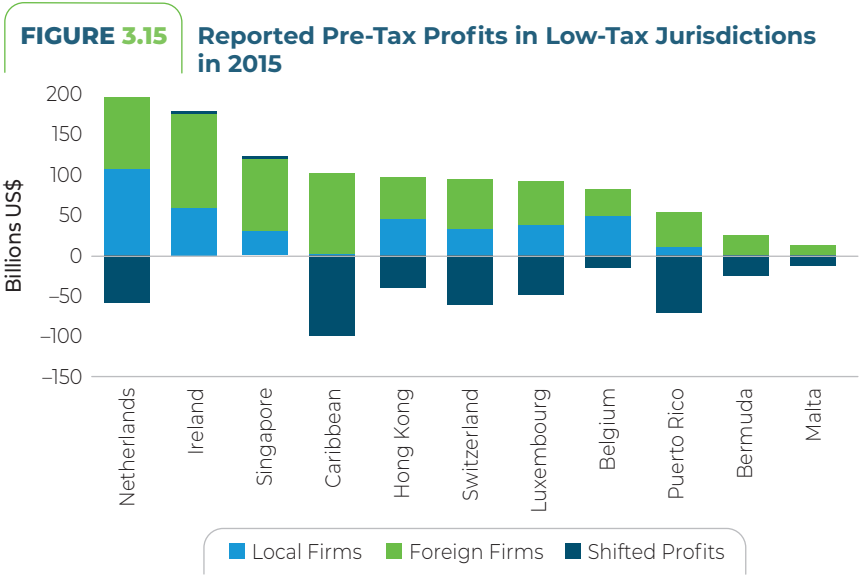
Source: Authors’ elaboration.

^a As of May 2024, among the CCB6 countries, the Bahamas, Barbados, Jamaica, and Trinidad and Tobago had approved the Outcome Statement. Guyana and Suriname had not yet approved it.

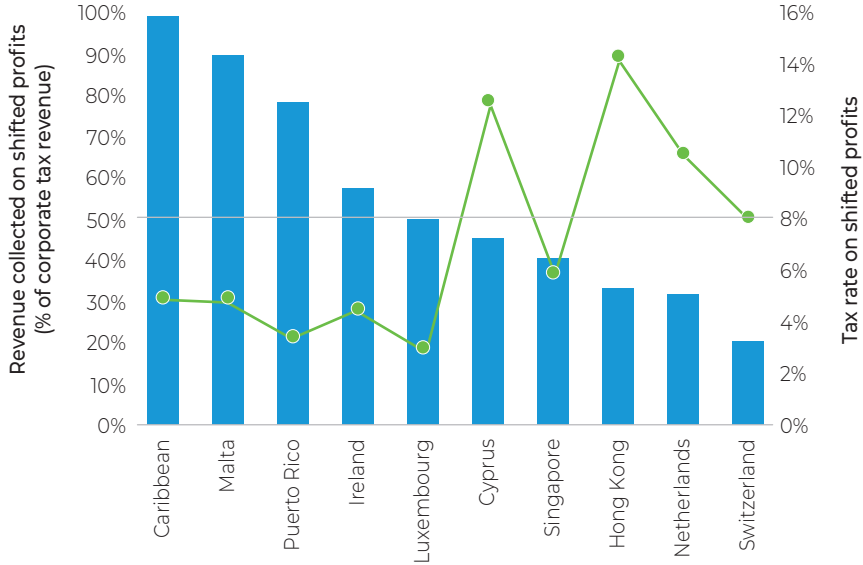
There is also evidence in the literature that MNEs increasingly take aggressive tax positions to minimize their tax burden. For instance, Tørsløv, Wier, and Zucman (2023) suggest that nearly 40 percent of multinational profits are shifted to tax havens globally. Wier and Reynolds (2018) estimate that 10 percent of the world's largest international firms are responsible for 98 percent of this practice. For its part, the OECD estimates that BEPS practices cost countries US\$100–240 billion in lost revenue annually, which is equivalent to 4–10 percent of the global corporate income tax (CIT) revenue (OECD, 2019a). Cobham and Jansky (2018) estimate global revenue losses of up to US\$500 billion annually.

Figures 3.15 and 3.16 show estimates of the profit shifted to tax havens. It has been difficult to make empirical estimates because some Caribbean countries have not published sufficiently comprehensive data since the early 2020s. However, Tørsløv, Wier, and Zucman (2023) present data for 2015 that show that for Caribbean tax havens, 100 percent of the CIT comes from shifted profits, which are subject to a 4.9 percent rate—this is lower than other jurisdictions and due to most of these countries not having a corporate or personal income tax. When looking at the profits declared by companies, it is particularly noteworthy that a large percentage comes from foreign companies in the Caribbean. Hence, the net shifted income of these economies is negative because they are net recipients.

Many Caribbean countries and financial centers, such as Barbados, the Bahamas, and Curaçao, have been perceived as low-tax jurisdictions. In the



Source: Authors' elaboration with data from Tørsløv, Wier, and Zucman (2023).

FIGURE 3.16**Revenue Collected from Shifted Profits versus Tax Rates**

Source: Authors' elaboration with data from Tørsløv, Wier, and Zucman (2023).

case of the Bahamas, the lack of income tax, capital gains tax, and inheritance tax or company tax will be discussed in Chapter 4. In the early stages of the modern international tax reform and the global project to tackle tax evasion, many Caribbean countries watched quietly from the sidelines to determine how changing international tax principles could affect their tax regimes (KPMG, 2016).

In 2000, the Bahamas and other Caribbean countries were included in the “blacklist” of Non-Cooperative Countries or Territories published by the Financial Action Task Force (FATF). This publication identified “serious systemic problems” in the Bahamas with the anti-money laundering laws and, in particular, the lack of information about beneficial ownership of trusts and international business companies (IBCs), which were allowed to issue bearer shares (FATF, 2000). The latter was somewhat encouraged by legislation passed by the Bahamian government in the 1990s that allowed offshore and international business corporations without requiring significant accounting records (the International Business Companies Act of January 1990). The country committed to following recommendations and enacted legal reforms to address the weak points identified. Accordingly, it was removed from the list in 2001. However, by 2020, the Bahamas was included on the list of jurisdictions under increased monitoring, as well as Barbados and Jamaica (FATF, 2020).

Some Caribbean countries are still recurrently appearing on other “black-lists,” such as the Common EU List of Third Country Jurisdictions for Tax Purposes, first published in 2017. Since then, the Bahamas, Barbados, and Trinidad and Tobago have been listed and delisted numerous times. By the late 2010s, they had been engaged in dialogues with the EU and were committed to making changes. As of 2024, only Trinidad and Tobago was included (European Commission, 2024), primarily because significant transparency concerns remain related to the exchange of requested information. The persistent presence of Caribbean countries on lists of non-cooperative countries for tax purposes shows that concerns remain about money laundering and tax evasion in the region. More significant and effective efforts are needed.

Similar to the Global Forum, the Inclusive Framework on BEPS (Box 3.5) actively monitors its implementation and reports annually to the G20 on this progress. In 2016, Jamaica became the first country in the Caribbean region to join the framework and implement the four minimum standards. In 2017, the Bahamas, Barbados, and Trinidad and Tobago joined the framework. These countries have benefited from the review and capacity-building support such as e-learning and training seminars, tax audit capacity building and toolkits, and direct support on BEPS implementation. Table 3.17 shows the results reported as of 2023 from reviews of these four countries.

Despite significant progress in implementing the four minimum standards, the region is still lagging in actions to regulate transactions between related parties and mitigate profit shifting through transfer pricing, one of the main strategies used by MNEs to avoid taxes. In line with best practices, countries are encouraged to enact provisions in tax legislation, issue regulations, and adopt prescribed methodologies for tax administrations to establish transfer pricing rules.⁴³ Only Jamaica has transfer pricing legislation after introducing transfer pricing rules through anti-avoidance provisions in its Income Tax Act 2015.

Upcoming Challenges and Proposals in International Taxation

Since the mid-2010s, Caribbean countries have been caught in the middle of their delayed tax reforms, pressure from the international community to increase transparency, and their intention to maintain favorable tax conditions

⁴³ Since transactions occur in different jurisdictions, it is necessary to follow a common approach. In this sense, many countries have adopted the so-called arm’s-length principle proposed by the OECD Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations (OECD, 2017b). This principle states that the transfer price must not be influenced by the relationship between the parties, or it must be set up in the same way as if the parties were not related.

TABLE 3.17

Results of BEPS Country Monitoring in the Caribbean as of 2023

BEPS Action	The Bahamas	Barbados	Guyana	Jamaica	Suriname	Trinidad and Tobago
Member of Inclusive Framework on BEPS	Yes	Yes	No	Yes	No	Yes
Existence of harmful tax regimes (Action 5)	not harmful (no or only nominal tax jurisdiction)	not harmful (no or only nominal tax jurisdiction)		not harmful (no harmful regime exists)		actually harmful
Exchange of information on tax rulings (Action 5)	no review (no-tax jurisdiction)	reviewed/no recommendations		reviewed/no recommendations		reviewed/no recommendations
Preventing treaty abuse (Action 6)	2022 review completed; no comprehensive tax agreements in force	2022 review completed		2022 review completed		2022 review completed
CbC – Domestic law (Action 13)	legal framework in place	legal framework in place		update on status pending		update on status pending
CbC – Information exchange network (Action 13)	activated	activated		CbC MCAA not signed		CbC MCAA not signed
Effective dispute resolution (Action 14)	stage 1 reviewed and recommendations made	stage 1 reviewed and recommendations made		review to be scheduled/deferred		stage 1 reviewed and recommendations made
Multilateral instrument (Action 15)	n.a.	signed		signed		n.a.

Sources: Authors' elaboration based on OECD (n.d., "Tax Co-operation"; 2024).

Notes: The numbered actions refer to some of the 15 actions identified by the Inclusive Framework on BEPS. "CbC MCAA" refers to a Country-by-Country Multilateral Competent Authority Agreement.

for investment. In 2020, the OECD/G20 Inclusive Framework on BEPS proposed a two-pillar approach for the taxation of the digital economy and to improve the fight against tax evasion. It means a fundamental change in corporate taxation, primarily based on physical presence, as well as bilateral tax treaties and additional regulatory changes that would require the Caribbean region to “catch up.”

To a large extent, the OECD’s initiative attempts to prevent practices that favor BEPS. The initiative includes rules regarding the tax challenges of the digitalization of the economy (referred to as the Global Anti-Base Erosion Rules, or GloBE). The GloBE Rules provide for a coordinated system of taxation on large multinational enterprises that imposes a top-up tax on profits arising in a jurisdiction whenever the effective tax rate, determined on a jurisdictional basis, is below a minimum rate (15 percent). By the end of 2024, 138 jurisdictions had joined efforts to update the international tax system.

However, the framework has not been able to curtail international tax evasion effectively. Consequently, some countries have developed their own unilateral solutions,⁴⁴ thus complementing the consensual framework. Box 3.6 describes the two-pillar approach and its critical elements in a nutshell. Readers are encouraged to see the source document (OECD, 2020b) for detailed information about the proposal.

Reaching a multilateral agreement and a multilaterally agreed formula remains a big challenge. If a global consensus is reached, the framework would be implemented by changing domestic law and tax treaties, implying imminent changes for all countries, including those in the Caribbean. Therefore, as current initiatives are undertaken, an inclusive approach should be adopted to consider the perspective of market jurisdictions, including developing countries and their legal frameworks (González and González de Frutos, 2020).

Conclusions

Numerous deficiencies in tax policy and tax administration plague the Caribbean. Revenue bodies in many of the region’s countries operate under outdated institutional frameworks that need new laws and tax codes. These lead to noncompliance in the form of “ghosts” (i.e., firms and individuals who should register for tax purposes but do not and therefore remain unknown to authorities) or “icebergs” (i.e., taxpayers who are registered with tax authorities but underpay). These two groups compose a large portion of the shadow economy,

⁴⁴ For example, the Diverted Profits Tax in the United Kingdom in 2015, Australia’s Diverted Profit Tax in 2017, and, most recently, the Erosion Anti Abuse Tax (BEAT) in the United States in 2018.

BOX 3.6

OECD'S PROPOSAL TO ADDRESS THE CHALLENGES OF THE DIGITAL ECONOMY AND BEPS

Pillar One: Unified approach for allocation of taxing rights for new business models.

Pillar One addresses the allocation of taxing rights between jurisdictions and profit allocation and nexus rules based on the concepts of "significant economic presence" and the exploitation of "user participation" and "marketing intangibles" in a market jurisdiction. In this way, taxing rights can apply irrespective of the existence of physical presence.

It encompasses three types of taxable profit (with different scope) that may be allocated to a market jurisdiction:

- **Amount A:** The New Taxing Right is the share of residual profit allocated to market jurisdictions using a formulaic approach applied at an MNE group (or business line) level.
- **Amount B:** A fixed remuneration based on the arm's-length principle for defined baseline distribution and marketing functions that take place in the market jurisdiction.
- **Amount C:** Covers any additional profit where in-country functions exceed the baseline activity compensated under Amount B.
- To be defined:
 - Scope and nexus of the new taxing right: not based on physical presence
 - Gross revenue thresholds (large MNEs and small business).
 - Tax base determinations based on financial accounts.
 - Quantum: formula for the calculation of Amount A.
 - Allocation key: how to allocate Amount A between jurisdictions.
 - Elimination of double taxation
 - Tax certainty: dispute prevention and resolution
 - Administrative implementation

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Pillar Two: Global Anti-Base Erosion Proposal (GloBE) ensuring a minimum level of taxation.

Pillar Two seeks to ensure that the profits of internationally operating businesses are subject to a minimum rate of tax to reduce the incentives for profit shifting.

Four coordinated sets of rules would apply in different situations:

Income-inclusion rule: Would tax the income of a foreign branch or a controlled entity if their income were subject to an effective tax rate below a minimum rate.

Undertaxed-payments rule: Would deny deductions or impositions of source-based taxation (including withholding tax) for a payment to a related party if that payment were not subject to tax at or above a minimum rate.

Switch-over rule: To be introduced into tax treaties that would permit a residence jurisdiction to switch from an exemption to a credit method where the profits attributable to a permanent establishment (PE) or derived from immovable property are subject to an effective rate below the minimum rate.

Subject-to-tax rule: Would complement the undertaxed-payments rule by subjecting a payment to withholding or other taxes at source and adjusting eligibility for treaty benefits on certain items of income where the payment is not subject to tax at a minimum rate.

Source: Authors' elaboration based on OECD (2020b).

accounting for approximately one-third of the total GDP in each country. This shadow economy exacerbates negative feedback loops when adverse external shocks confront the countries. The typical response to a shock is to increase tax rates and introduce distortionary taxes, increasing the tax burden on taxpayers. This increased tax burden provides an additional impetus for firms and individuals to fly under the radar; hence, the informal economy grows.

Tax expenditures adversely affect the fiscal systems' transparency, efficiency, and equality without the expected positive effect on the economy. They also make the tax system less transparent and more difficult to administer. Further, particularly in the Caribbean, they are often directed at stagnant sectors, thereby locking in low economic growth in the region.

Tax administration affects yield, incidence, and efficiency; thus, "tax administration is tax policy" (Casanegra de Jantscher, 1990, 179). Most Caribbean countries' tax administrations have integrated direct and indirect tax operations and have moved toward a functional organizational structure. They have also adopted a taxpayer segmentation approach by establishing a Large Taxpayer Office, enabling them to gain better control over the primary sources of government revenue by improving compliance from a few taxpayers.

Tax amnesties are a double-edged sword. The implementation of tax amnesty programs should come after a thorough analysis of the specific situation of the tax arrears. Evaluating the short- and long-term needs is crucial, considering the magnitude of the net revenue losses versus the probability of total loss.

Regarding international taxation, many Caribbean countries, such as the Bahamas, Barbados, and Curaçao, have been perceived as low-tax jurisdictions, making the region a common destination for BEPS. The region is still lagging in regulating transactions between related parties and mitigating BEPS through transfer pricing. Countries are encouraged to enact provisions in tax legislation, issue regulations, and adopt prescribed methodologies for tax administrations to establish transfer pricing rules. The new legislation and regulations must be designed and implemented in the context of the provisions for a global minimum tax as agreed in the Outcome Statement on the Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalisation of the Economy (OECD, 2023a).

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Taxes, What Taxes?

In this chapter, we discuss the structure of taxes and the design of the individual taxes, both indirect (value added tax [VAT], international trade tariffs [ITT], and property tax [PT]) and direct (corporate income taxes [CIT] and personal income tax [PIT], and, although not treated as tax revenue, social security contributions [SSC]).

Tax Revenue Structure

The tax structure is measured by each tax type's share of total tax revenue.⁴⁵ The composition of the tax structure matters, in part, because of how different taxes affect economic growth differently.⁴⁶ The common wisdom (at least as held by the International Monetary Fund [IMF] in its adjustment programs) is that there is a hierarchy of taxes from bad to less bad. Concerning a tax's effect on economic growth, IMF (2013, 2) states, "corporate income taxes have the most negative effect, followed by labor income taxes, consumption taxes, and property taxes." In line with this growth hierarchy, "a revenue-neutral rebalancing that reduces income taxes while increasing consumption and property taxes is associated with faster long-term growth" (IMF, 2013, 2).⁴⁷ However, Xing (2011) finds that the

⁴⁵ In addition to social security contributions other sources of non-tax revenue include royalties, state-owned enterprise (SOE) dividends, etc.

⁴⁶ In addition to its effect on volatility, tax buoyancy, and automatic stabilizers discussed previously, the composition of taxes can create other issues. Tanzi and Zee (2001) argue that these issues involve both efficiencies (i.e., whether the tax enhances or diminishes the overall welfare of those who are taxed) and equity (i.e., whether the tax is fair to everybody).

⁴⁷ This statement is supported by evidence in Acosta-Ormaechea and Yoo (2012).

“tax and growth ranking’ is not robust under different assumptions about heterogeneity across countries, hence [the questionable validity] of the long-run and short-run coefficients in the underlying econometric model. Evidence for significant tax structure effects depends on long-run parameter homogeneity restrictions, underlying pooled mean group estimation, which is found to be invalid.” A similar caution concerning the IMF’s orthodoxy is supported by McNabb (2018).

The tax structure also matters in terms of the volatility of tax revenue. Different taxes have different volatilities within the general observation that volatility is high in the Caribbean due to a narrow tax base reflecting an undiversified economy, as discussed in Chapter 2. Higher volatility is often associated with a lower mean revenue-to-GDP ratio value. Further, revenue volatility exacerbates the limited capacity of the Ministry of Finance and tax authorities to generate reliable forecasts, hence contributing to fiscal instability as revenue outcomes differ from those of programmed ones. Table 4.1 shows volatility, measured by the size of one standard deviation for the period 1990 to 2018, of selected revenue items in selected Caribbean countries and the rest of the small economies (ROSE): VAT has higher volatility than CIT except in the case of Trinidad and Tobago and, generally, SSC has the lowest volatility.

A related concept is the number of taxes and their relative importance in total tax revenue. A greater number of distinct taxes is associated with the expanding complexity of the tax system, which implies a heavier burden on tax administrations. Reyes-Tagle, Silvani, and Ospina (2021) argue that this is particularly important when comparing tax revenue composition among Caribbean economies. Their estimates of the number of taxes by country in the Caribbean from 2007 to 2011 are presented in Table 4.2.

A convenient benchmark to compare the revenue composition in the Caribbean is the changing tax revenue structure in Organisation for Economic

TABLE 4.1 Volatility of Selected Revenue Items (1990–2020, standard deviation)

	SSC	CIT	VAT
The Bahamas	0.39	n.a.	2.55
Barbados	1.03	1.14	3.58
Guyana	0.45	0.74	1.05
Jamaica	0.22	0.52	0.49
Trinidad and Tobago	0.80	4.97	1.59
ROSE	0.41	1.11	1.01

Sources: Authors’ elaboration using data from OECD (n.d.).

TABLE 4.2 Estimation of the Number of Taxes by Caribbean Country (2007–11)

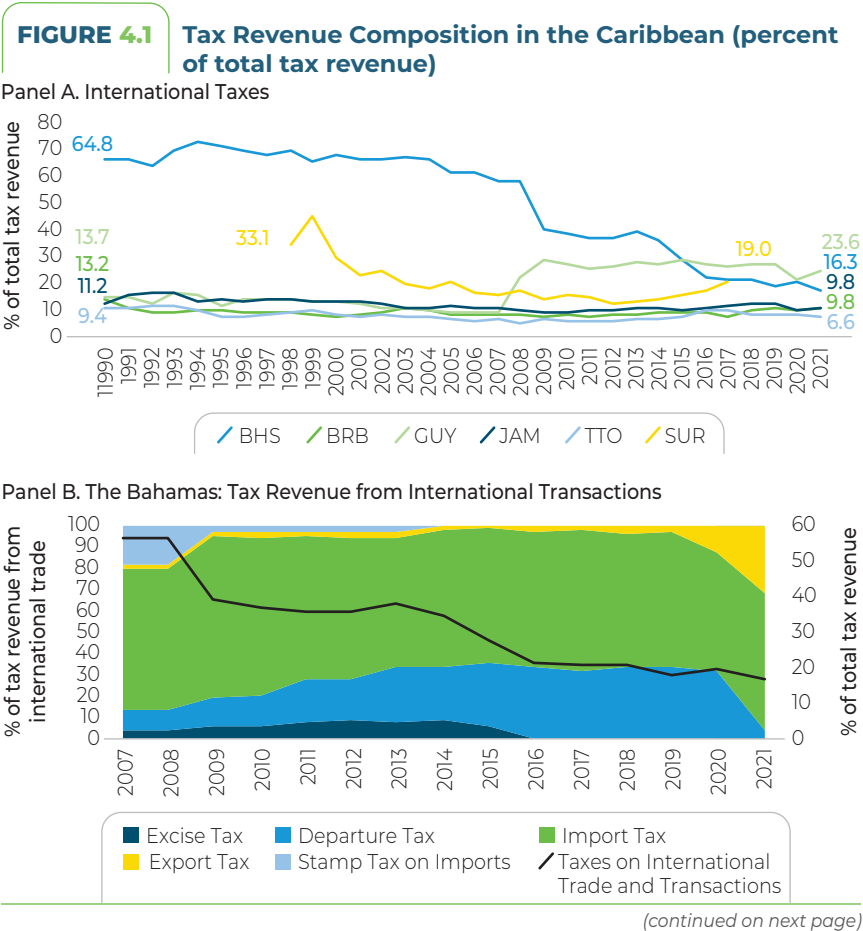
Tax Type	The Bahamas	Barbados	Guyana	Jamaica	Suriname	Trinidad and Tobago
1. Income	0	4	7	7	5	6
1.1. PIT	0	1	2	2	2	3
1.2. CIT	0	1	1	2	1	3
1.3. Other	0	2	4	3	2	0
2. Property	1	4	1	2	2	1
3. Goods and Services	6	8	2	9	12	11
3.1. VAT	1	1	1	1	1	1
3.2. Specific	5	7	1	8	11	10
4. Trade	2	1	3	4	2	2
5. Others	0	0	4	2	1	4
Total	9	17	17	24	22	24
Specific Taxes on Tourism and Commodities						
Tourism	3	2	2	3	3	3
Commodity	0	0	2	2	1	4
Total	3	2	4	5	4	7

Source: Reyes-Tagle, Silvani, and Ospina (2021, Table 2.1).

Co-operation and Development (OECD) countries. According to OECD (2023b), tax revenue to GDP rose from 31.5 percent in 2009 to 34.2 percent in 2021. On average, OECD countries collected 33.3 percent of their tax revenues from taxes on income and profits (PIT and CIT taken together). Between 1965 and 2021, the share of property taxes fell from 8 percent to less than 6 percent of total tax revenues on average. Social security contributions as a share of total tax revenues were less than 26 percent in 2021. The percentage of taxes on consumption (general consumption taxes [GCT] plus specific consumption taxes) fell from 36 percent to 32 percent between 1965 and 2021. During this period, the composition of taxes on goods and services fundamentally changed. A rising revenue source has been GCT, especially the value added tax (VAT), in 34 of the 35 OECD countries. Simultaneously, the share of specific taxes on consumption (mostly on tobacco, alcoholic drinks, and fuels, including some newly introduced environment-related taxes) was more than halved. Taxes on imported goods were considerably reduced everywhere, reflecting a global trend to remove trade barriers.

The Caribbean's dependence on indirect taxes has already been noted. Tourism-based countries often depend upon international taxes and commodity-exporting countries rely on corporate taxes on a few large commodity companies. The reality, however, is more complex. The tax structure for commodity-exporting countries and tourism-based countries differs and has not evolved uniformly (see Figure 4.1).

The average for indirect taxes in the region has remained over half of the total tax revenue: 52 percent in 1990 and 55 percent in 2017. During this period in the Bahamas, it rose from 75 percent to 76 percent, in Guyana from 44 percent to 58 percent, and in Jamaica from 48 percent to 65 percent. It fell from 43 percent to 38 percent in Trinidad and Tobago and in Suriname from 58 percent (in 1998) to 48 percent. The high proportion of total tax revenue derived from indirect taxes implies that the regressive nature of the tax



system—compounded by tax expenditures—is high. The generalized tax on goods and services—mainly VAT—is the most significant component of indirect taxes for most countries. VAT revenue has risen over time for all Caribbean countries except Guyana.

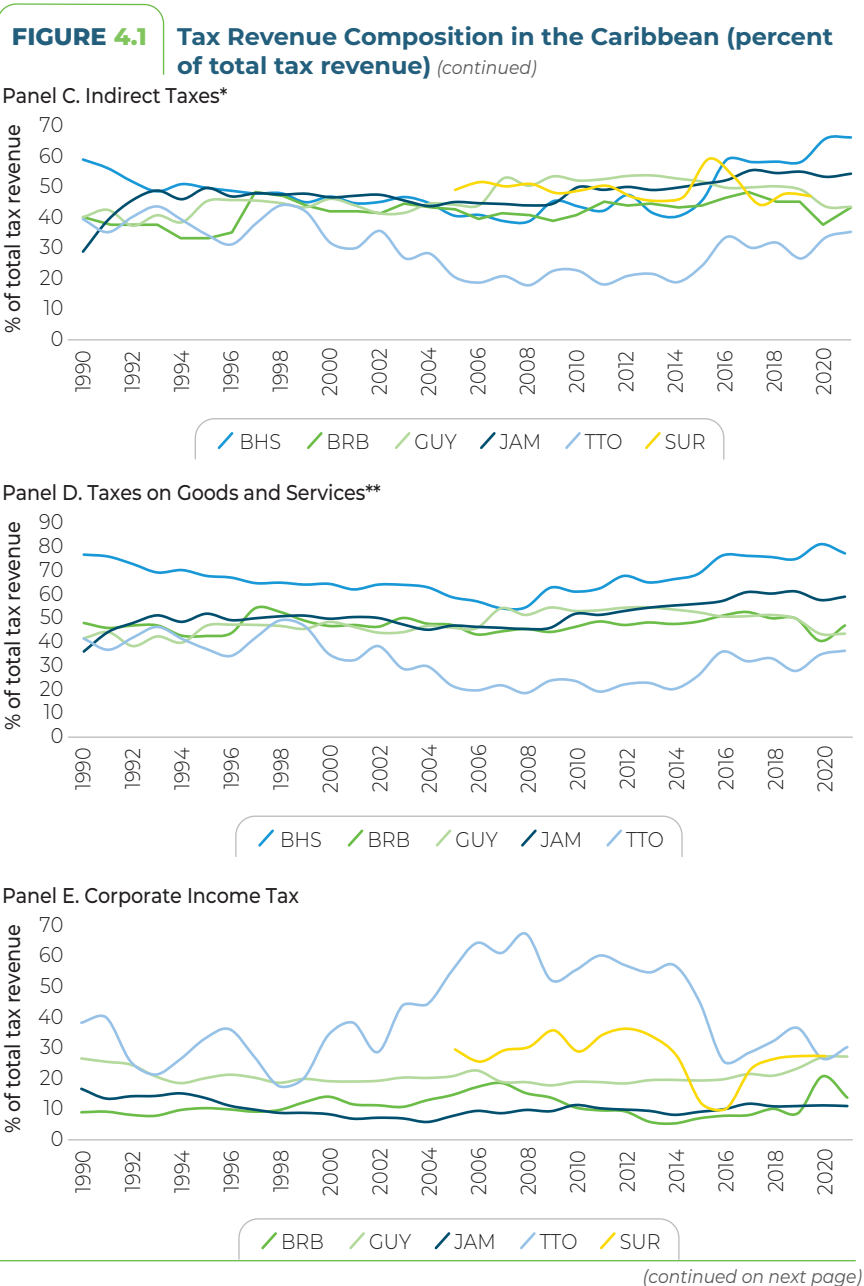
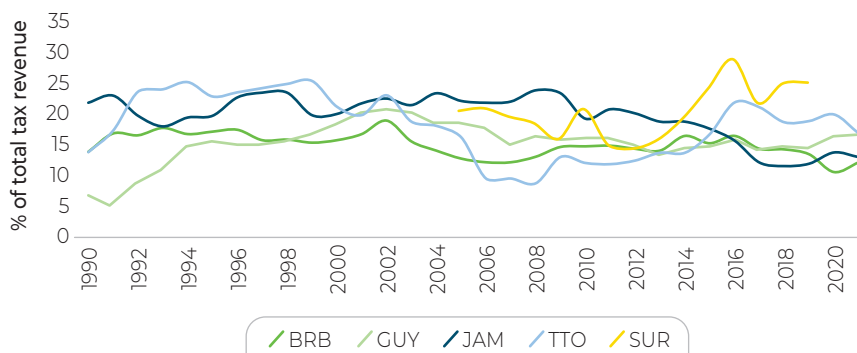


FIGURE 4.1 Tax Revenue Composition in the Caribbean (percent of total tax revenue) *(continued)*

Panel F. Personal Income Tax



Source: Authors' elaboration based on OECD (n.d.), IDB-CIAT (n.d.), and IMF (2020).

* In Panel C, indirect taxes include trade taxes and general taxes on goods and services.

** In Panel D, there is no data available for Suriname.

Regarding international trade tariffs, the average proportion collected fell from 22 percent in 1990 to 13 percent by 2021. The most significant reduction has been for the Bahamas, where tax revenue from international transactions decreased from 65 percent to 16 percent for the same years (Figure 4.1, Panel B), followed by Barbados, from 13 percent in 1990 to 9 percent in 2021. Collection in Suriname fell from 43 percent in 1999 to 19 percent in 2017.

Excluding the Bahamas, which has no income tax (neither corporate nor personal),⁴⁸ the most important source of tax revenue in the region is taxes on income, profits, and capital gains. Of note are the countries whose tax revenue primarily comes from commodity-engaged companies: Trinidad and Tobago in 2019 collected the most, 30 percent, down from a peak of 63 percent in 2008. Suriname had 27 percent in 2021, down from a peak of 35 percent in 2009. By contrast, Guyana's tax revenue from commodity companies was 27 percent in 2021, up from a valley of 19 percent. In regard to tourism countries during these years, Jamaica's revenue remained at the same levels (32 percent), while in Barbados, revenue remained at 13 percent.

Therefore, to a large extent, the Caribbean has followed the pattern of the changing tax structure in the OECD: international taxes have been reduced, CIT has fallen, and indirect taxes, notably VAT, have increased.⁴⁹

⁴⁸ The Bahamas has a complex structure of licenses that are used as a substitute for income tax.

⁴⁹ The role of a country's economic structure (tourism vs. commodity dependent) in tax design is discussed in Chapter 5.

Indirect Taxes (VAT, International, and Property Taxes)

This section reviews VAT, international tariffs, and property taxes individually.

Value added tax

Value added tax, or VAT, was introduced by France in 1954. By 2023, 175 countries had followed suit (Caragher, 2023). Trinidad and Tobago was the first Caribbean country to introduce VAT in 1990, followed by Jamaica in 1991, Barbados in 1997, Guyana in 2007, and the Bahamas in 2015. Suriname implemented a VAT on January 1, 2023, replacing the sales tax.⁵⁰

For many Caribbean countries, implementing VAT was a response to declining import duty revenues, as VAT revenue is unaffected by Common External Tariff (CET) and Caribbean Community (CARICOM) agreements. Simultaneously, countries used VAT to replace many existing taxes, including sales tax.⁵¹ For example, Guyana introduced an excise tax (ET) in 2005 on motor vehicles, petroleum, tobacco products, and alcohol, and a VAT in 2007. VAT and ET replaced six existing taxes, including the consumption tax. In 2007, when the Bahamas introduced VAT, the authorities eliminated the 10 percent hotel room tax and reduced import tariffs on several items. They adjusted several domestic tax rates, including property tax rates, business licenses, and stamp duties.

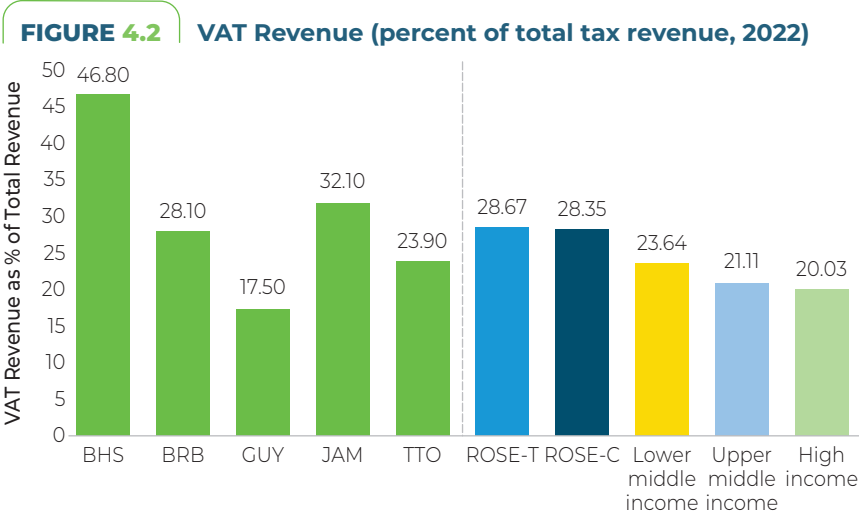
VAT differs from sales tax. Sales tax is a single-phase tax applied at every phase of the production and distribution process and it suffers from the cascading effect. The cascading tax effect is also termed “tax on tax”; it is when a good is taxed at every production and distribution stage until sold to the consumer. A sales tax is applied to each sale of a good and it includes the taxes charged prior to the last sale. As a result, the final consumer bears the burden of the various taxes imposed at every stage of production and distribution. This problem is avoided by VAT because all sellers collect it at each step in the supply chain and it includes a mechanism that gives sellers credit for the tax they have paid on their purchases of goods and services (input tax) against the taxes collected on their sales of goods and services (output tax).

VAT has become a vital source and a cornerstone of tax revenue. Figure 4.2 shows VAT as a percentage of total tax revenue, and Figure 4.3 shows VAT revenue as a percentage of GDP. Potential VAT revenue depends on (i) tax rates,

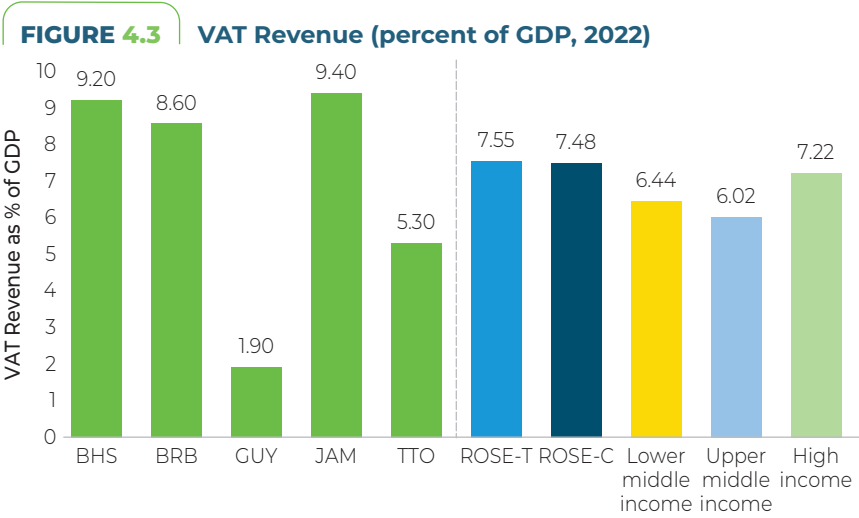
⁵⁰ Suriname had a sales tax set at 10 percent (with supply of services at 8 percent and luxury goods at 25 percent).

⁵¹ Taxes may coexist, however; for example, in India, VAT is collected by the states, while a service tax is collected by the federal government.

(ii) the breadth of the tax base, (iii) the structure of the economy (particularly the proportion of consumption in GDP), and (iv) the level of tax evasion.



Source: Authors' elaboration based on OECD (n.d.).
 Notes: ROSE-T: ROSE countries with tourism-based economies, ROSE-C: ROSE countries with commodity-based economies. Lower middle-income economies are those with a GNI per capita between \$1,136 and \$4,465 in 2022, upper middle-income economies are those with a GNI per capita between \$4,466 and \$13,845 in 2022, and high-income economies are those with a GNI per capita of \$13,846 or more in 2022.

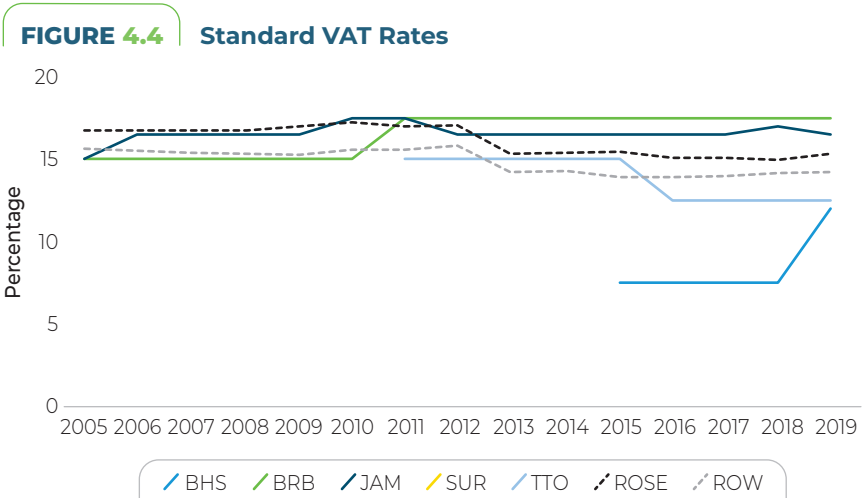


Source: Authors' elaboration based on OECD (n.d.).
 Notes: ROSE-T: ROSE countries with tourism-based economies, ROSE-C: ROSE countries with commodity-based economies. Lower middle-income economies are those with a GNI per capita between \$1,136 and \$4,465 in 2022, upper middle-income economies are those with a GNI per capita between \$4,466 and \$13,845 in 2022, and high-income economies are those with a GNI per capita of \$13,846 or more in 2022.

Figure 4.4 shows standard (or general) VAT rates in Caribbean countries and averages in the comparators. In 2020, the statutory VAT rates were 12 percent in the Bahamas, 17.5 percent in Barbados, 14 percent in Guyana, 16.5 percent in Jamaica, 12.5 percent in Trinidad and Tobago, 16.7 percent in the rest of the small economies (ROSE), and 15.8 percent in the rest of the world. Figure 4.5 shows that VAT thresholds as a percentage of GDP per capita are low in the Caribbean compared to other groups, a consequence of generous policies.

A key determinant of the tax base is the VAT threshold.⁵² Most countries have thresholds based on turnover—the value of goods and services a business provides in a year—below which companies do not need to register for VAT. There are adverse effects of a nonzero threshold, however. First, it results in small traders paying unrecoverable VAT on their taxable purchases but not being allowed to charge VAT on their sales. Second, it results in bunching below the threshold as firms avoid being caught in the VAT net, hence creating artificial segregation.

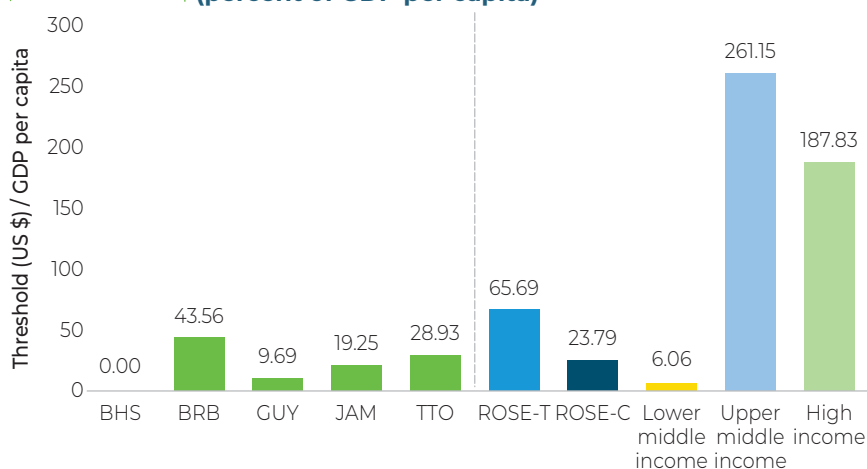
Modern VAT laws include rules for registering branches, groups of companies, and private corporations set up by families to mitigate this type of avoidance. However, although adopting a registration threshold reduces the tax base and introduces economic distortions, those problems are small relative to the savings in tax administration and business compliance costs. This is because small businesses, although large in number, generate low aggregate levels of revenue.



Source: Authors' elaboration using IMF (n.d.).
 Notes: ROW: rest of the world. Suriname is not included because it only instituted the VAT in 2023.

⁵² Not all countries have nonzero VAT thresholds. For example, Malta, Spain, and Turkey have VAT registration thresholds set at zero.

FIGURE 4.5 VAT Thresholds as of the early 2020s
(percent of GDP per capita)



Sources: Authors' elaboration using EY (2019) and KPMG (n.d., "Indirect Tax Rates").

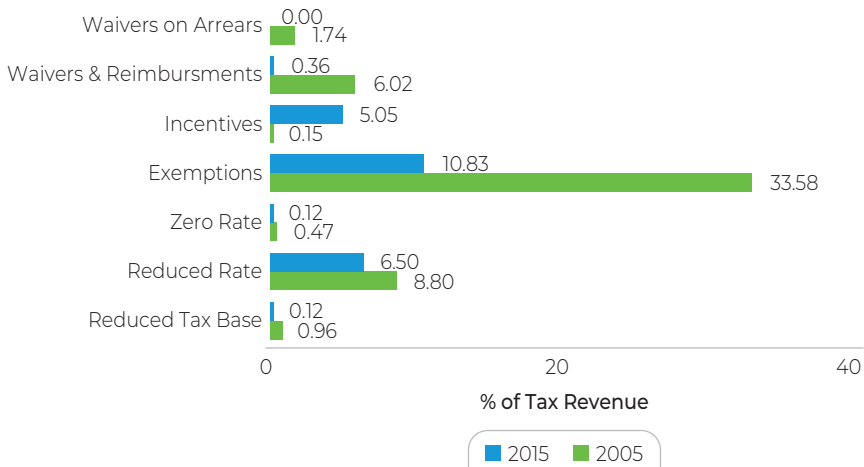
Notes: ROSE-T: ROSE countries with tourism-based economies, ROSE-C: ROSE countries with commodity-based economies. Lower middle-income economies are those with a GNI per capita between \$1,136 and \$4,465 in 2022, upper middle-income economies are those with a GNI per capita between \$4,466 and \$13,845 in 2022, and high-income economies are those with a GNI per capita of \$13,846 or more in 2022.

One solution some countries adopt is allowing voluntary VAT registration of companies that fall below the threshold. Voluntary registration can mitigate competitive distortions and avoid inequities between taxable and non-taxable entities. However, in some countries, including in the Caribbean, VAT laws specify a minimum threshold below which voluntary registration is not allowed.

Another determinant of the tax base is tax expenditures. Typically, to address equity concerns, Caribbean governments identify goods and services considered to be of social interest and apply zero and reduced rates, exemptions, and incentives waivers (sometimes at the minister's discretion rather than based on law). These exemptions are in addition to standard items of final consumption that are exempt from the VAT base: nonmarket services provided by governments, housing rent, financial services, and exports. Figure 4.6 shows examples of tax expenditures applied to VAT in Jamaica as a percentage of tax revenues and how they changed between 2005 and 2015. Tax expenditures implied a revenue loss of 52 percent in 2005. By 2015, after the reform, they had fallen to 23 percent. Figure 4.7 shows the composition of VAT tax expenditures in Barbados, which accounted for 4.96 percent of the GDP.

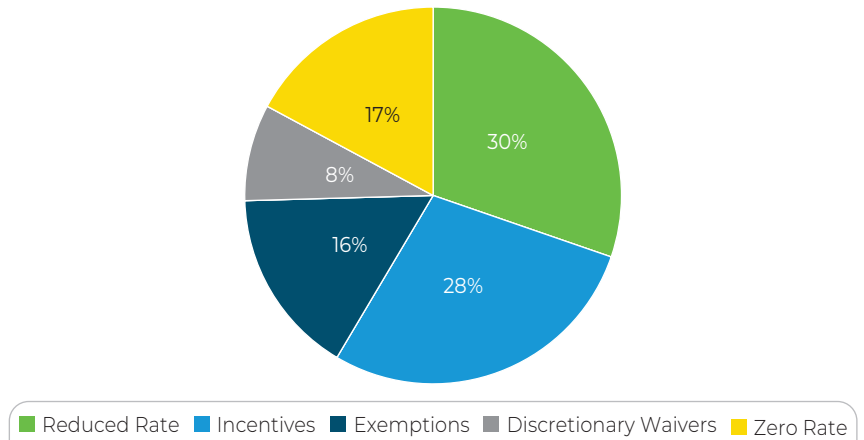
Regarding the relative performance of VAT, in addition to the revenue it brings in as a percentage of GDP, there are two other indicators: productivity and C-efficiency (Ueda, 2017). VAT productivity is a starting point for calculating

FIGURE 4.6 Jamaica: VAT Tax Expenditures



Sources: Authors' elaboration based on Jamaica's Ministry of Finance and the Public Service (2018) and 2005 raw data provided by the same ministry.

FIGURE 4.7 Barbados: Composition of VAT Tax Expenditures in 2018

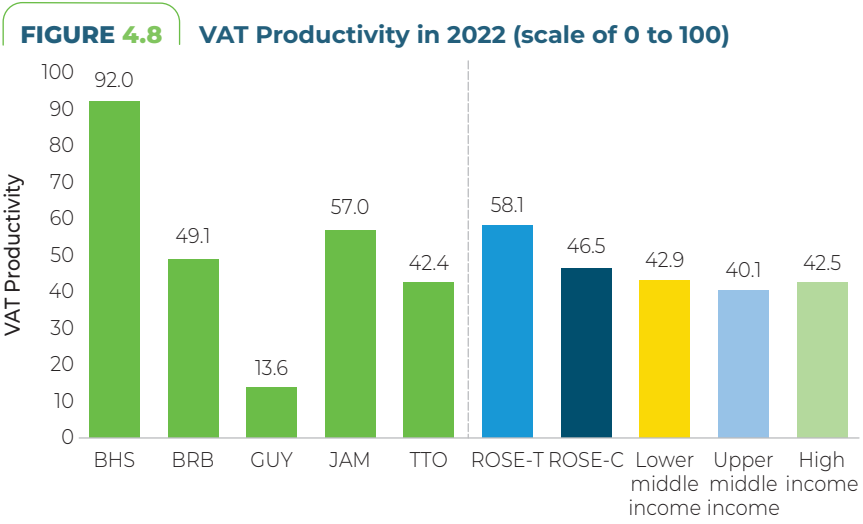


Sources: Authors' elaboration based on internal reports from Barbados's Ministry of Finance, Economic Affairs and Investment.

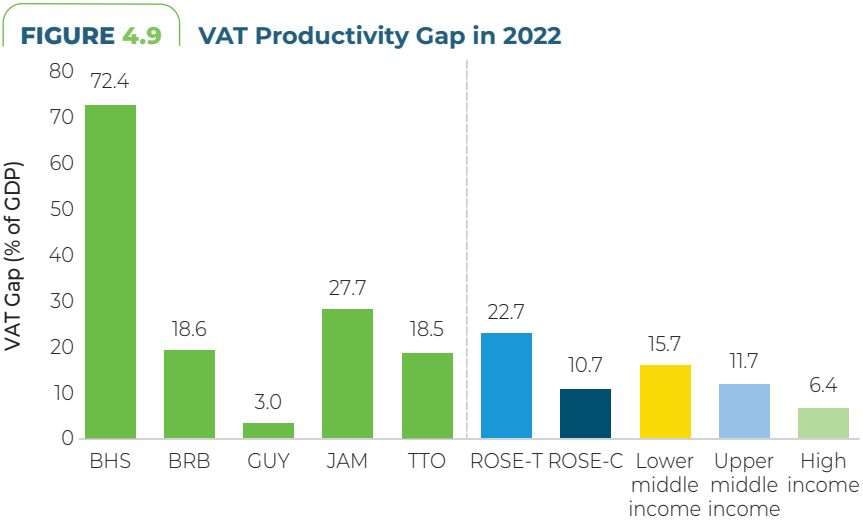
its potential revenue.⁵³ The VAT productivity index measures the revenue raised as a percentage of GDP for each VAT rate percentage point. The productivity index values range from 0 to 100; the latter value indicates maximum productivity. For example, if the VAT rate is 15 percent and VAT revenue is \$15 billion in an

⁵³ VAT productivity is equal to VAT revenue as a percentage of GDP) / VAT statutory rate.

economy of \$100 billion, the productivity index would be 100. Figure 4.8 shows VAT productivity and Figure 4.9 shows the VAT productivity gap (i.e., productivity minus the actual revenue) of individual Caribbean countries and comparators.⁵⁴



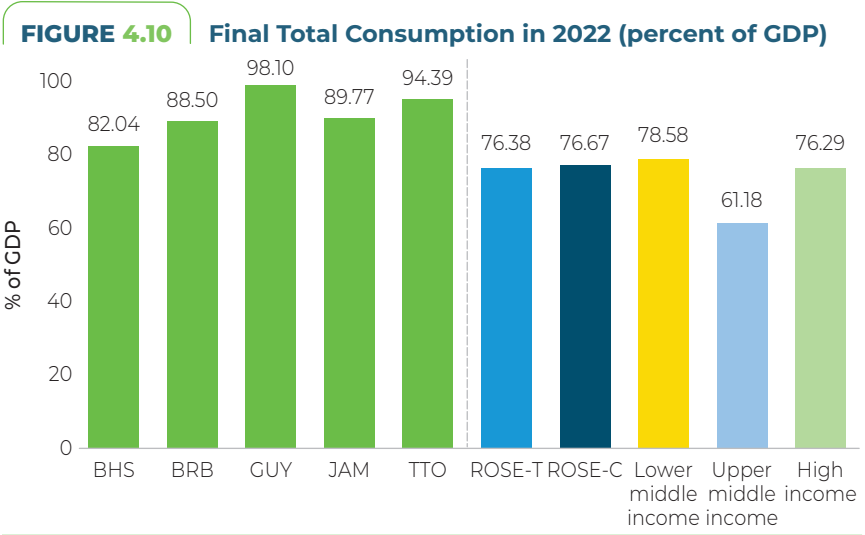
Source: Authors' elaboration using OECD (n.d.).
 Note: As defined, VAT productivity is calculated as follows: VAT productivity = VAT revenue as a percentage of GDP/VAT statutory rate. As such, GDP is assumed to be the tax base. This implies that exports and investments are subject to VAT in these countries.



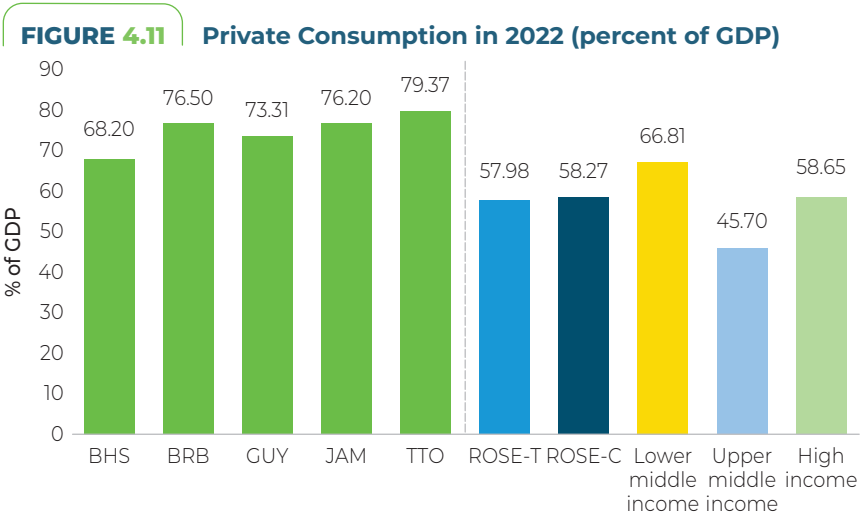
Source: Authors' elaboration using OECD (n.d.).

⁵⁴ An alternative definition of the VAT productivity gap found in the literature is the difference between the theoretical VAT liability and accrued VAT receipts in a respective state and year, which can be expressed as an absolute amount or as percentage of GDP (Žídková, 2014).

However, the productivity measure may be misleading. It should be used to compare countries or groups only when the comparator has the same consumption proportion to GDP. Further, it also depends on the private and public consumption ratios, as the latter are often not subject to VAT. Figure 4.10 shows the variation in final consumption (public and private) as a percentage of GDP between Caribbean countries and the comparators. Figure 4.11 shows the

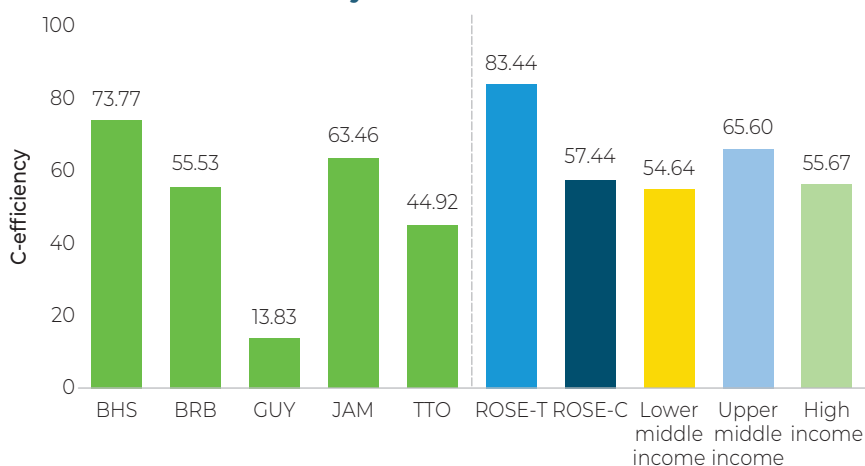


Source: Authors' elaboration based on World Bank (n.d.).
Note: Data for Guyana and Trinidad and Tobago correspond to 2019.



Source: Authors' elaboration based on World Bank (n.d.).
Note: Data for Guyana and Trinidad and Tobago correspond to 2019.

FIGURE 4.12 C-Efficiency in 2022



Source: Authors' elaboration using OECD (n.d.).

Note: Data for Guyana and Trinidad and Tobago correspond to 2019.

variation in private consumption as a percentage of GDP in Caribbean countries and the comparators.

C-efficiency (Figure 4.12) avoids the problems of VAT productivity.⁵⁵ It is the ratio of actual revenues to theoretical revenues from a perfectly enforced tax levied at a uniform rate on all consumption—a value of 10. For example, a C-efficiency of 50 implies that the country earns 5 dollars for every 10 dollars of potential revenue.

Equity, neutrality, and simplicity are the impossible trinity regarding consumption taxes in general and VAT in particular (Ainsworth, 2006). Eliminating different rates and exemptions to move toward the textbook version of VAT would raise revenue, simplify the tax structure, and enhance neutrality, but the idea often faces resistance from policymakers due to their equity concerns about VAT.

The IMF, the Inter-American Development Bank (IDB), and other multilateral development banks (MDBs) advise that the best practice for VAT reform is as follows: (a) a single rate instead of multiple rates; (b) a single, relatively high VAT registration threshold (a broad base with minimal exemptions avoids distortion of purchase [input] decisions); (c) use of the destination principle, whereby exports are zero rated and imports are taxed; and (d) use of the invoice credit method, where output VAT remitted is reduced by input VAT paid on purchases and imports (i.e., the provision of input credits for purchasing goods and

⁵⁵ C-efficiency = VAT revenue as a percent of consumption / VAT statutory rate.

services). In an IMF program, such advice is often enshrined in the program's policy indicators (Ebril et al., 2001).

A policy option that coincides with VAT reforms, including the IMF's, IDB's, and other MDBs' recommendations, is to identify and target a specific population of concern (e.g., the poor). That population will no longer be exempt from paying VAT for the socially defined basket of goods and services but instead will be monetarily compensated for VAT payments. This option relaxes the impossibility of the trinity by incorporating equity concerns, but it raises the specter of administration problems (Ainsworth, 2006; Barreix, Bes, and Roca, 2012).

International taxes

CARICOM plays a critical role in international taxes in the Caribbean.⁵⁶ Caribbean countries established CARICOM in 1973 to facilitate economic integration, functional cooperation, and member-state foreign policy coordination. The regional body developed the Caribbean Single Market and Economy (CSME) in 2006, further strengthening the integration movement by allowing the free movement of factors of production as well as goods and services among member states. However, the group has had limited success in improving intra-regional merchandise trade among its members; since CARICOM's formation, intra-regional commerce has not risen significantly.

Despite the significant reductions in tariff rates at a multilateral level, the trend worldwide has been a significant increase in trade liberalization among bilateral trading partners. For example, while the average applied tariff rate for trade within CARICOM is 0 percent (except for items on the excluded list), the average rate applied to imports from third-party states is approximately 12 percent (Hudson and Stennett, 2003). The rates used among CARICOM member states and the tariff rate applied to third-party states are both below the average bound rates of the World Trade Organization (WTO). Under the General Agreement on Tariffs and Trade (GATT)/WTO, a bound rate is a commitment by a country not to raise the tariff on an item above a specified level.

CET is a single tariff rate schedule agreed to by all members of CARICOM for imports of a product from outside CARICOM. Goods imported from third countries are subject to the duties listed in the CET. Goods imported by CARICOM countries that are certified to be of CARICOM origin do not generally attract these import duties, hence enjoying duty-free status.

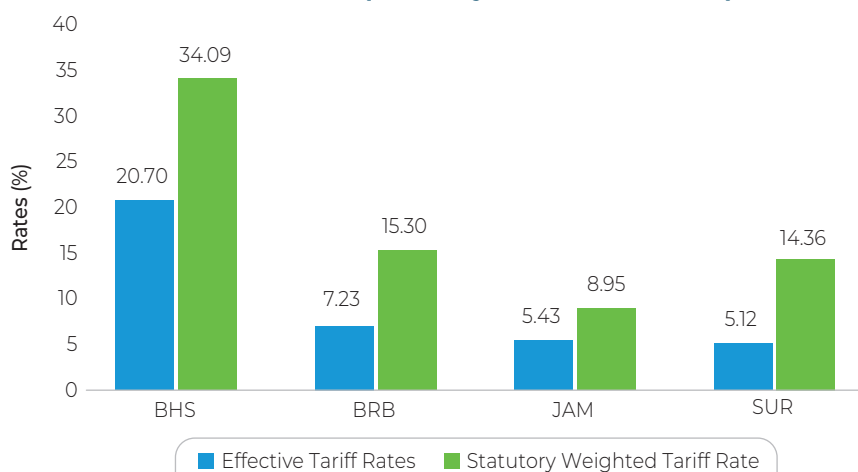
⁵⁶ Full CARICOM members are Antigua and Barbuda, Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, and Trinidad and Tobago. Costa Rica, Colombia, Cuba, the Dominican Republic, and Haiti are countries with which CARICOM has entered into free trade.

However, the two principles of duty-free intra-CARICOM trade and the CET are porous. Each member can impose import duties on scheduled products from other members of CARICOM, suspend CET for certain imports, and de facto reduce CET rates through tax expenditures. CARICOM also allows suspension from CET, provided it is approved by its council. In late 2018 and the beginning of 2019, Trinidad and Tobago, through the Ministry of Trade and Industry, obtained approval for renewing the CET breaks to reduce import duties on a variety of products. CARICOM granted the country permission to apply a zero-rate duty (no taxes) on commonly used consumer items such as dried salted pollock, cheddar cheese, black tea, corned beef, canned fish, apple juice, active yeast, baby food, sulfuric acid, ear plugs/muffs, wellington boots, safety goggles, non-alloy steel, audio compact discs, closed-circuit TV cameras, compact fluorescent lamps, motor spirit (gasoline), lubricating oil base stock, and hydraulic brake fluids. Approval was granted to apply a 20 percent rate of duty on sunflower seed/safflower (soybean) oil and a 5 percent duty rate on frozen french fries.⁵⁷

However, such exemptions require the approval of all member states. For greater flexibility, CARICOM members resort to tax expenditures on imports from non-CARICOM members as a way to bypass the requirements and obtain an edge over the non-members in favor of the preferred domestic activities/businesses. Exemptions have implied a significant gap between weighted statutory and effective tariff rates. Figure 4.13 summarizes the difference between weighted statutory tariff rates and effective tariff rates. The former is estimated by multiplying the value of goods imported at each tariff rate by the individual rate to derive tariff payments earned at each level, adding up all these payments, and dividing the total by the total value of imports to obtain the weighted average rate. Thus, despite countries having the same standard external tariffs, weighted statutory rates will differ between countries due to the different composition of their imports. The effective rate is the difference between the duty payable and the duty paid (due to the tax expenditure associated with a given tariff code). Effective tariff rates are calculated by dividing the duty paid by the import value of each tariff code. The higher the tax expenditure, the lower the effective tariff rate. Effective rates as a proportion of weighted statutory tariff rates are as follows: the Bahamas 0.6, Barbados 0.47, Jamaica 0.6, and Suriname 0.35. The effective rates imply a significant revenue loss (shown in Figure 4.14).

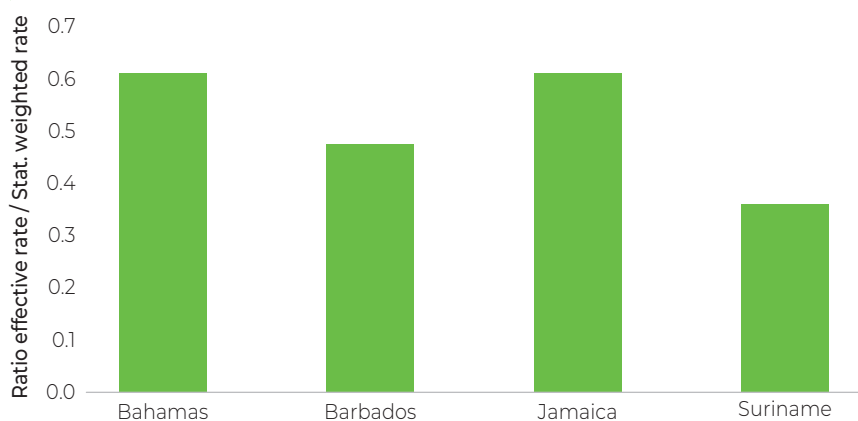
⁵⁷ The approval was granted by the Forty-Seventh Meeting of the CARICOM Council for Trade and Economic Development (COTED) for the suspension of the CET on the above-mentioned items. Renewed CET breaks were implemented in the country via Legal Notices Nos. 201–206 dated December 31, 2018, and Nos. 16–17 dated January 17, 2019. For further information, see <https://tradeind.gov.tt/common-external-tariff/>.

FIGURE 4.13 Tariff Rates (statutory and effective, 2015)



Source: Authors' elaboration based on Baca Campodónico (2018).

FIGURE 4.14 Revenue Loss in 2015



Source: Authors' elaboration based on Baca Campodónico (2018).

These losses in tax revenue point to a race to the bottom in which many Caribbean countries seek to boost competitiveness and diversify their economies by granting tax incentives and import duties exemptions to attract foreign direct investments (FDIs) in tourism, manufacturing, agro-industries, offshore banking, and insurance (McIntyre, 2017). Every government feels compelled to “race to the bottom” (the lowest tax rates) and give in to the demands of existing and potential investors as they face the threat that a company or potential investment will move to or choose another Caribbean country. This threat is not necessarily baseless: the offer and acceptance of incentives has become

the norm rather than the exception, and in this high-cost location foreign investors play the governments against each other to obtain the most significant tax relief. Policymakers find it politically easier to reduce costs to investors via tax expenditures than to engage in supply-side policies to improve the productivity and competitiveness of the economy. Therefore, tax expenditures to reduce effective tariffs are part of extensive packages that also include tax expenditures related to domestic taxes upon FDI activities.⁵⁸

An egregious example may have further lowered the “bottom” in Barbados, where in 2015 the government gave a tax concession to Sandals Resorts.⁵⁹ For 25 years, the government would exempt Sandals from paying all import duties and taxes, including VAT and levies of any nature on the importation or local purchase of all capital goods needed for the equipping, operation, and promotion of the hotel, including all food and beverages. When that tax holiday period is over, Sandals will only be required to pay half of the “applicable rates and taxes prevailing” for the following 15 years. Facing high unemployment, the government argued that the direct and indirect employment generated by the project outweighed its cost to the government. However, the tax expenditures reduce the incentives for backward linkages in the economy, casting doubt on the government’s cost/benefit calculation.

Tax expenditures can be viewed as a problem of collective action. Absent regional coordination, each Caribbean country pursues its own interests to attract investment, and this race to the bottom hurts everyone. Regional coordination to harmonize and streamline tax incentive regimes could provide mutual benefits and reduce the effects of adverse macroeconomic shocks and improve fiscal sustainability. Most countries in the Caribbean face a vicious cycle of high debt and low economic growth and many of them offer similar products. The discretionary nature of most incentives and the need to compete has led to larger and larger incentives and reluctance to reduce or eliminate them. While partially successful, such competition has resulted in tax rates that are too low and tax bases that are too narrow, worsening the region’s already limited fiscal space.

CARICOM is well placed to resolve this collective action problem. However, as Al Hassan et al. (2020) noted, efforts so far have failed. This failure occurred despite the decision by CARICOM states to harmonize their fiscal incentives by signing the Agreement on the Harmonized Scheme of Fiscal Incentives in the 1970s to avoid a race to the bottom. Despite multiple consultations and

⁵⁸ For the example of the use of tax expenditures in corporate taxes in the region, see Koffie (2008).

⁵⁹ For further details, see the Duties, Taxes and Other Payments (Exemption) (Sandals Casuarina) Order, 2015, issued by the Barbados Parliament.

revisions, the agreement has never been finalized for several reasons. First, individual countries have continued to believe in the benefit of deviating from an agreed framework. Second, efforts have been hampered by the absence of a regional institution with a clear political mandate to enforce such an agreement.

In contrast to the thus far limited progress in the Caribbean on tax coordination, the success in other regions such as the European Union (EU) reflects the necessary political commitment of each country to participate and support enforcement. As pointed out by Cebotari et al. (2013) successful tax coordination is possible in the Caribbean by examining regional agreements in the EU, Central America, and East Africa and following their lead. For example, those successful regional agreements included provisions to award tax incentives transparently to all investors. The stimuli were legislated instead of being awarded at the government's discretion. In addition, the agreements eliminated existing tax incentives but allowed companies that had already been awarded tax expenditures to retain them.

Al Hassan et al. (2020) suggest that the Caribbean make another attempt to solve the problem. First, the region should take stock of existing incentives and examine their cost to the individual economies. Transparent tax expenditure reporting could provide the impetus for reform and regional cooperation. Publication of tax expenditures would clarify their costs and provide the groundwork for enhancing a country's fiscal framework, thus leading to budgetary and debt sustainability. Second, an important step would be establishing an organizational home in a regional institution for developing and monitoring policy implementation on regional harmonization of tax incentives. Third, greater importance would be placed on implementing structural reforms to improve the domestic business and economic environment without endangering fiscal sustainability.

Initiatives under the aegis of the OECD/G20 Inclusive Framework on BEPS in the early 2020s show promise for addressing these issues and aligning the Caribbean region with the progress of other countries in implementing a Global Minimum Tax (GMT) under Pillar Two of the OECD's Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalisation of the Economy (OECD, 2020). In June 2023, CARICOM, in association with the OECD and the World Bank Group, sponsored the first Foundational Transfer Pricing Workshop for the Caribbean, which "aimed at building jurisdictions' transfer pricing knowledge following international standards and best practices and discussing countries' considerations in adopting transfer pricing rules" (OECD, 2023a). This and similar initiatives, such as the dissemination of the VAT Digital Toolkit for Latin America and the Caribbean (OECD, 2021), should help Caribbean countries move forward in implementing the provisions of the GMT agreement.

Property taxes

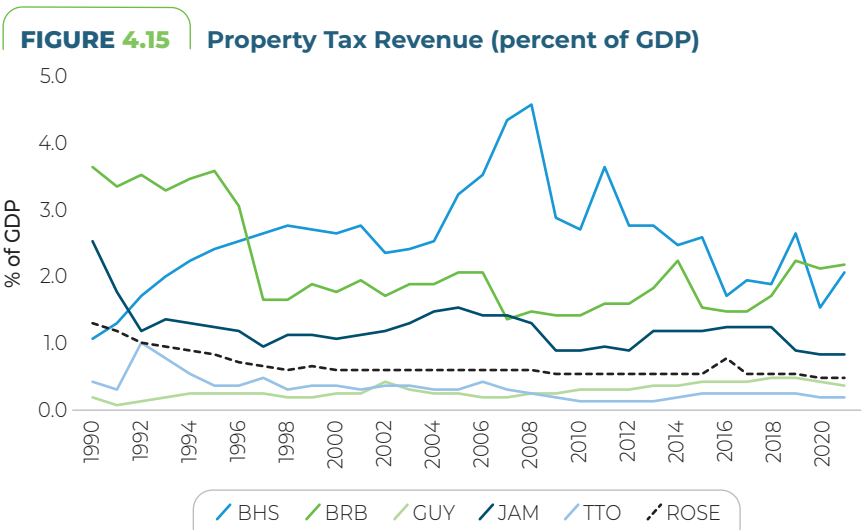
The OECD defines tax on property as recurrent and non-recurrent taxes on the use, ownership, or transfer of property, including taxes on immovable property or net wealth, taxes on the change of property ownership through inheritance or gift, and taxes on financial and capital transactions (OECD, 2024).

Practically all Caribbean countries have property taxes (PTs) and fees-stamp duty collected on the change of ownership. All countries considered in this analysis have VAT, excluding Jamaica; no Caribbean country has capital gains tax, estate duty, or donation tax. Non-resident real estate ownership is becoming a growth industry in many Caribbean countries, but property tax revenue is relatively low.⁶⁰

Figures 4.15 and 4.16 show the evolution of PT as a percentage of GDP and percentage of total revenue.

When considering property tax revenue, five factors inform the discussion: (i) the tax base, (ii) its valuation, (iii) the tax rate, (iv) coverage ratios, and (v) collection ratios. There are three key considerations regarding the tax rate: (i) who should determine rates, (ii) whether there should be a single rate or differentiation, and (iii) how high rates should be.

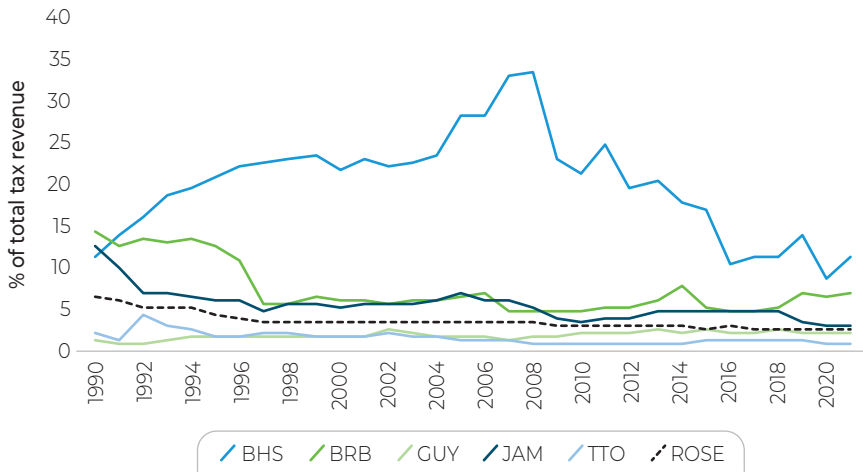
The property tax base is generally land value (Bahamas, Barbados, and Jamaica), but in Guyana it is the capital value (land and buildings) as assessed



Source: Authors' elaboration using OECD (n.d.).

⁶⁰ One of the major problems in the Caribbean is the infrequent updating of the cadastre, which results in outdated and distorted land valuations, thus affecting the efficiency and efficacy of property taxation.

FIGURE 4.16 Property Tax Revenue (percent of total tax revenue)



Source: Authors' elaboration using OECD (n.d.).

annually,⁶¹ and in Trinidad and Tobago it is 3 percent of the property's annual rental value (unfurnished). Valuation and rate-setting are generally the responsibility of the central government, except in Guyana, where it is the responsibility of the local governments. There is often a long lag in valuation. In Jamaica, the latest valuation was done in 2013. In Trinidad and Tobago, a revaluation was currently taking place in October 2024. In most countries, the revenue generated goes to the common fund, except in Guyana, where the local authorities receive the revenue. In Jamaica, revenue is earmarked to finance property-related services in communities throughout Jamaica.

The usual practice worldwide is for local governments to set the tax base and rates and accrue the revenue generated. The fact that this is typically centralized in the Caribbean implies less public support for property taxes because they are not linked to the tangible benefits such taxation typically provides, such as funding local services and infrastructure. As property tax revenue is less closely related to local public investments, these taxes become less legitimate.⁶²

⁶¹ If the net worth of a property is less than 40 million Guyana Dollars (G\$40,000,000), one is not required to pay property tax. However, 0.5 percent to 0.75 percent is charged on every dollar above this threshold.

⁶² The exceptions are Guyana and Jamaica. In Jamaica, property taxes represent the single most important source of revenue for the local authorities—about 30 percent of the budgets of parish councils, Kingston & St. Andrews Municipal Corporation (KSAC), and Portmore Municipal Council. They are used to fund a range of property-related services as well as to support the administration of the local authorities and for community development.

Most countries distinguish between residential, commercial, and industrial properties, with tourism-related properties enjoying special reduced rates. For example, in Barbados, land tax is imposed on non-residential properties at a flat rate of 0.95 percent on the improved value of the property, whereas it is set progressively from 0 to 1 percent on the improved value of property for residential purposes. However, it is possible for a hotel to get a 50 percent discount and rental villas to get a 25 percent discount, yielding a lower effective taxation than in residential areas. In general, the tax is based on the higher of the declared value or the valuation by the BRA. In Trinidad and Tobago, different rates are applied on the annual taxable value of land per acre, with the following rates: residential 3 percent, commercial 5 percent, industrial with building 6 percent (3 percent without building), and agricultural 1 percent.

However, there is a sharp difference between statutory and effective rates due to tax expenditures, often granted by discretion, that undermine the progressivity of property tax rates. Figure 4.17 shows the difference between the two for the Bahamas. Figure 4.18 shows the tax expenditures on property tax for Barbados, which accounted for up to 0.5 percent of GDP.

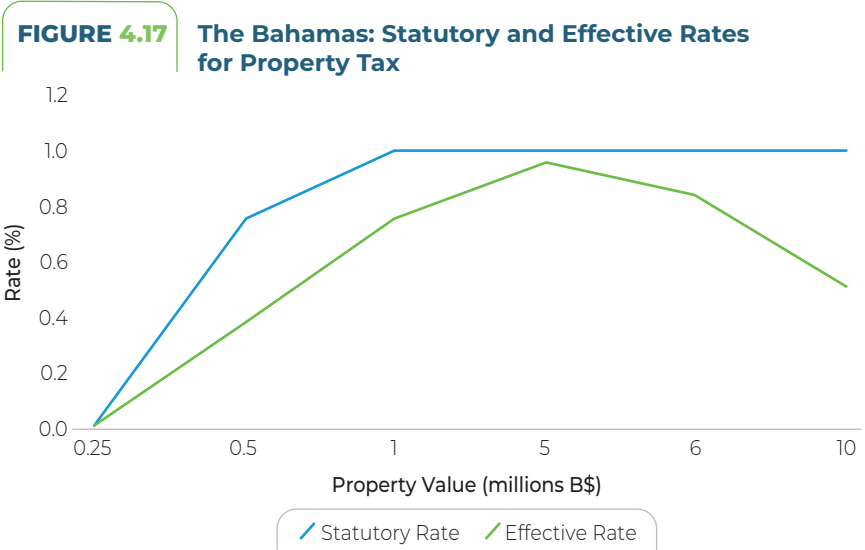
Most countries have a transfer tax. In Barbados, stamp duty is payable by the seller in situations including transfers of real estate and shares (1 percent), leases (1 percent), and mortgages (Bds\$5 on the first Bds\$500 and Bds\$3 on each subsequent Bds\$500). The rate of property transfer tax is 2.5 percent, with exemptions on the first Bds\$50,000 of share sales⁶³ and the first Bds\$150,000 of the sale of land and houses. In the Bahamas, graduated stamp duty (transfer duty) is imposed on the transfer or sale of immovable property. The sale of land connected to constructing a new dwelling house or a building, whether commercial or residential, constitutes a single taxable transaction for this act. Without an income tax, the graduated-rate stamp duty taxes progressively raise property conveyances.

On April 1, 2019, Jamaica reformed the transfer tax by reducing the rate of 5 percent of the gross consideration payable for the property to 2 percent. The estimated revenue loss from this measure was J\$3.431 billion for 2019/20.⁶⁴ The reduction in rates was combined with the abolition of ad valorem stamp duty. These two changes mean the transfers of real estate, which are currently subject to a combined charge of transfer tax and stamp duty of approximately 9 percent, have seen this rate fall to 2 percent (ignoring the J\$5,000 nominal

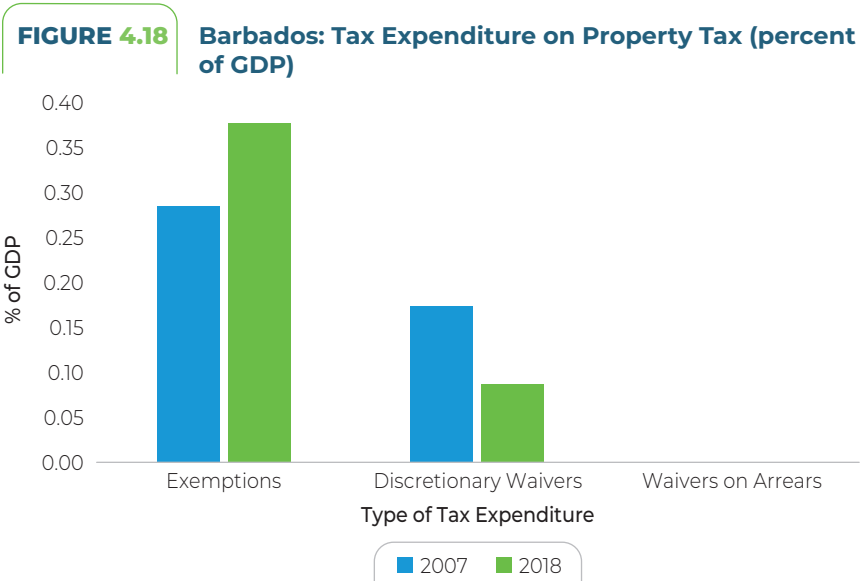
⁶³ Shares of companies listed on the Barbados Stock Exchange are exempted as well from property transfer tax.

⁶⁴ Additional fees include Real Estate Agent Fees (3–5 percent + GCT each) plus Attorney's Fees (1.5–3 percent + GCT each) plus Preparation of Sales Agreement (approximately 0.2 percent) plus Registration Fee (0.25 percent each).

stamp duty charged). Thus, the changes represent a 77 percent reduction in applicable taxes imposed. Transfer tax and stamp duties instead of the capital gains tax have effectively been applied to the above types of transactions in Jamaica. However, this places the income tax rates now imposed on personal income (up to 30 percent) and corporate profits (up to 33.33 percent) in



Source: Authors' elaboration based on data from the Bahamas' Ministry of Finance.



Source: Authors' elaboration based on data from Barbados's Ministry of Finance.
Note: No waivers on arrears related to property taxes were granted in 2007 and 2018.

sharp contrast and incentivizes arbitrage opportunities. The transfer tax on the estate of a deceased person was also reformed. After deductions and expenses, the current rate is 1.5 percent of the estate's value. Before the 2019 reform, the first J\$100,000 was not taxed. With the reform, the tax-free threshold for such transfers was increased to J\$10 million. The revenue loss from this measure was estimated to be J\$0.287 billion for 2019/20. The reforms represent an effort to promote the regularization of land titles. Persons living on such land who cannot demonstrate their ownership cannot provide the property as collateral for a loan to develop the property or fund a business start-up. The Land Administration and Management Program (LAMP) initiative has been making some inroads in resolving this problem.⁶⁵

Property taxes have the potential to be a more significant revenue source (Norregaard, 2013). Since most property tax bases are immobile, they are an efficient form of taxation. Simultaneously, property taxes can be progressive and useful distributional tools for horizontal or vertical equity. In contrast, property transfer tax (e.g., stamp duty) reduces property turnover and thus distorts the allocation of this capital component. A vital tenet of the literature on optimal tax structures is that taxes of this nature impose efficiency costs through resource misallocations.

In the Caribbean, the overall performance of several property tax systems is a matter of concern. The property tax needs reform to address valuation, assessment, collection, and enforcement issues. Franzsen and McCluskey (2005) note that there is a need to organize and implement regular and frequent revaluations per legislation; there is a requirement to provide appropriate upskilling and capacity development of valuers involved in the assessment process (this would require training in the application of computer-assisted mass appraisal [CAMA] and geographic information systems [GIS] techniques); collection and enforcement is a problem across many of the countries, with the result that several countries have significant arrears. Registration of deeds and titles requires land registration within a comprehensive titling system and tax rates adjusted in line with inflation so that the revenue from the property tax is not eroded in real terms. Slack and Bird (2015) discuss six significant obstacles to property tax reform and solutions. Table 4.3 presents a table from those authors that summarizes the issues they raise.

In Barbados, for example, the government could enact the following reforms: repeal authority for ministerial waivers of the Land Tax Act, end the Bds\$60,000 cap on residential land tax, repeal the exemption given to villas and

⁶⁵ This is a government collaborative effort involving LAMP, the Korea Cadastral Survey Corporation, and Geoland Title Limited (a private Jamaican-owned company) to provide a service to informal landholders operating with a common-law title or receipt to be able to get a title for their property. This is further discussed in Holden and Howell (2012).

tourism hotels, adjust the land tax rate structure and repeal the property transfer tax, stop providing amnesties for outstanding penalties and interest, and support the BRA in arrears collection.

TABLE 4.3 GDP Growth Volatility (1980–2019)

Issues and Problems	Promising Solutions	Less Promising Solutions
Salience: property tax is more noticeable than other taxes	Couple tax reform with improvements in local services, withhold tax at source, or provide different payment options Phase in changes	Set assessment limits Cap the property tax
Liquidity constraints: imperfect association between taxpayers' incomes and property taxes, especially for seniors	Offer tax deferrals for seniors Provide more payment options Phase in changes	Set assessment limits to cap the property tax
Perceived regressivity: taxes higher as a percent of income for low-income taxpayers	Offer property tax credits Offer tax deferrals Bundle with other tax reforms Package with expenditure changes Provide low-income housing exemptions	Implement banding Implement classified property tax rates Set progressive tax rates Set assessment limits Cap the property tax
Volatility: potentially large swings in taxes for some taxpayers	Conduct annual reassessments Index the tax base Provide taxpayer education Communicate in an understandable form Phase in changes	Set assessment limits Cap the property tax
Presumptive tax: tax base is inherently arbitrary	Provide taxpayer education Conduct public consultations Make the appeal process accessible Phase in changes	Allow self-assessment Implement classified property tax rates Set assessment limits Cap the property tax
Inelasticity (a problem for local governments, not for taxpayers): taxes do not increase with growth	Conduct annual reassessments Index the tax base Phase in changes	

Source: Slack and Bird (2015, Table 2).

Direct Taxes

Worldwide CIT maximum rates have fallen; in 1980, corporate tax rates averaged 40.38 percent and 46.67 percent when weighted by GDP. Since then, countries have recognized the impact of high corporate tax rates on business investment decisions, particularly in other countries. By 2019, the average had fallen to 24.18 percent and 26.30 percent when weighted by GDP (Asen, 2019). Today, most countries have maximum scheduled corporate tax rates below 30 percent.

Figures 4.19 and 4.20 show the evolution of CIT revenue as a percentage of GDP and as a percentage of tax revenue, respectively. For commodity-exporting countries (Guyana, Suriname, and Trinidad and Tobago), CIT is a significant source of income and follows the commodity cycle. In tourism-based economies, CIT revenue hovers around the ROSE average.

Figure 4.21 shows the distribution of CIT rates worldwide at two points (2003 and 2020). Figure 4.22 shows the evolution of the CIT rates in the Caribbean from 2003 to 2021.

However, the high rates are deceptive. The Caribbean countries have resorted to tax expenditures to reduce effective rates for preferred businesses instead of reducing maximum rates. Figures 4.23 and 4.24 show the CIT tax expenditures for Jamaica and for Barbados before the 2019 reform by type of instrument used.

SSCs are not usually considered taxes in the general sense used in most of this book.⁶⁶ The SSC is discussed here as a “tax wedge” component.⁶⁷ This measure is valuable for a country’s relative tax burden on labor and employment. Although not a settled issue, economic research has demonstrated a negative correlation between a country’s tax wedge and employment rates. The latter has led to calls for reform, a tax devaluation, and replacing SSCs with indirect taxes to boost employment growth (IMF, 2011); this is discussed near the end of this chapter.

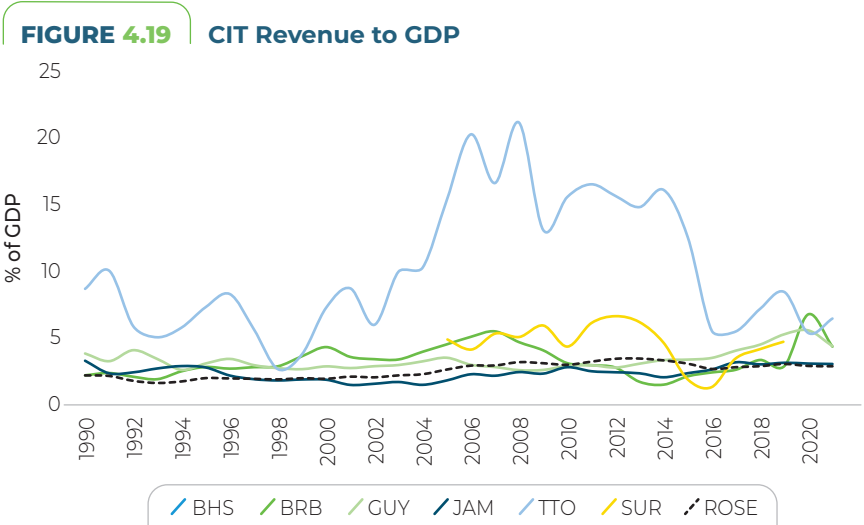
Regarding personal income tax, a foundational issue in PIT’s design is whether a single rate should be applied to the aggregate of different sources of income. The traditional global approach of using different rate schedules for various income sources treats labor and capital income differently. The latter approach has gained increasing traction due to capital mobility, while the global income approach has declined.

PIT is traditionally one of the main pillars of a country’s revenue and has the most redistributive power. For various reasons, the Caribbean falls far short of

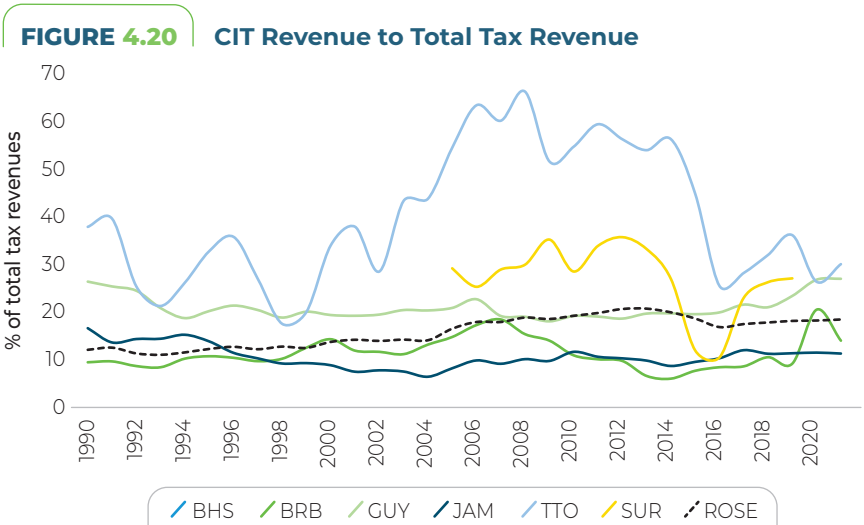
⁶⁶ In most of this book total tax revenue does not include social security contributions.

⁶⁷ The tax wedge on labor is the difference between the total labor costs and the net take-home pay of a single average worker, expressed as a percentage of the total labor costs.

its potential in terms of its revenue and redistributive power. PIT is a comprehensive income tax that is, in principle, applied to wage income and different types of income from capital such as dividends, interest, rents, royalties, and profits from sole proprietorships and partnerships.⁶⁸ However, in practice, the



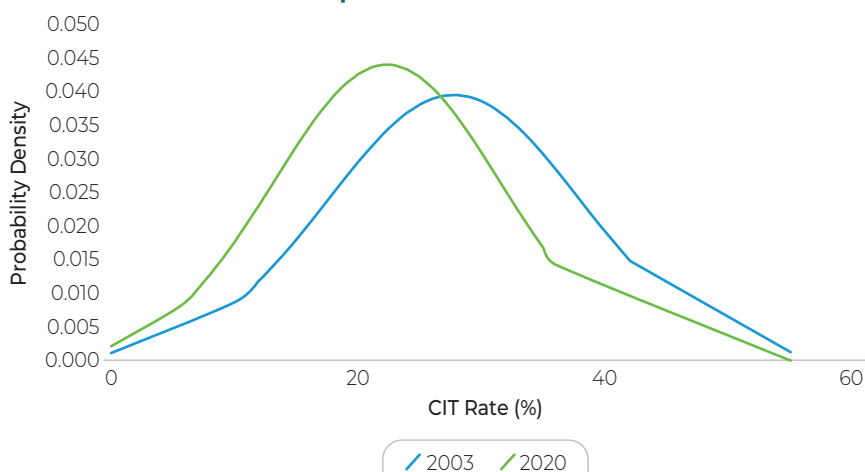
Sources: Authors' elaboration based on OECD (n.d.); Bahamas and Suriname data are based on official information.



Sources: Authors' elaboration based on OECD (n.d.); Bahamas and Suriname data are based on official information.

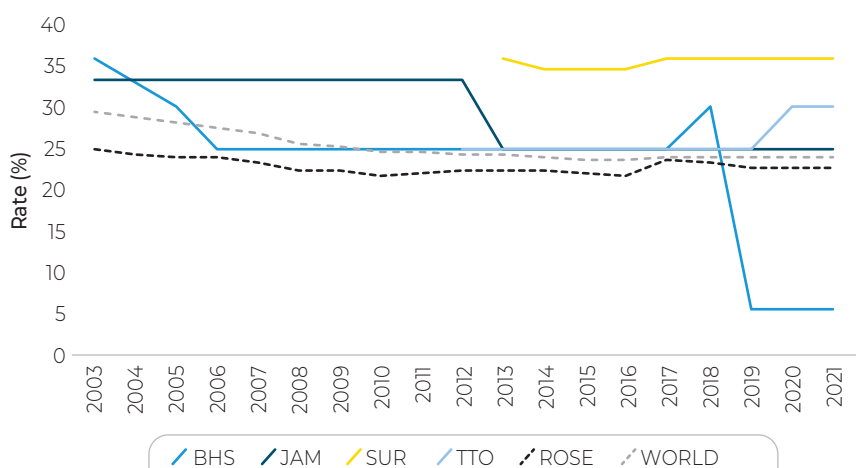
⁶⁸ For a good reference see Zee (2005); for a comprehensive comparison between countries see EY. 2020. Global Tax Guide 2019.

FIGURE 4.21 World Corporate Tax Rates Distribution



Source: Authors' elaboration based on KPMG (n.d., "Corporate Tax Rates").

FIGURE 4.22 Corporate Income Tax Rates in the Caribbean



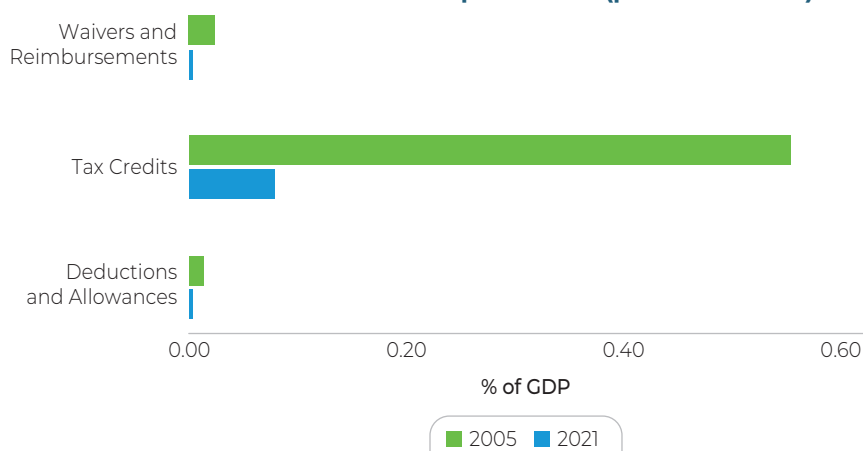
Source: Authors' elaboration based on KPMG (n.d., "Corporate Tax Rates").

comprehensive PIT paid by individuals is often a set of incomplete and sometimes inconsistent rules applicable to different types of income. Figures 4.25 and 4.26 show the importance of PIT in GDP and total revenue over time (OECD, n.d.).

Figures 4.27 and 4.28 show the evolution of the maximum PIT rate (percent) over time and the basic allowance (as a percentage of GDP per capita).

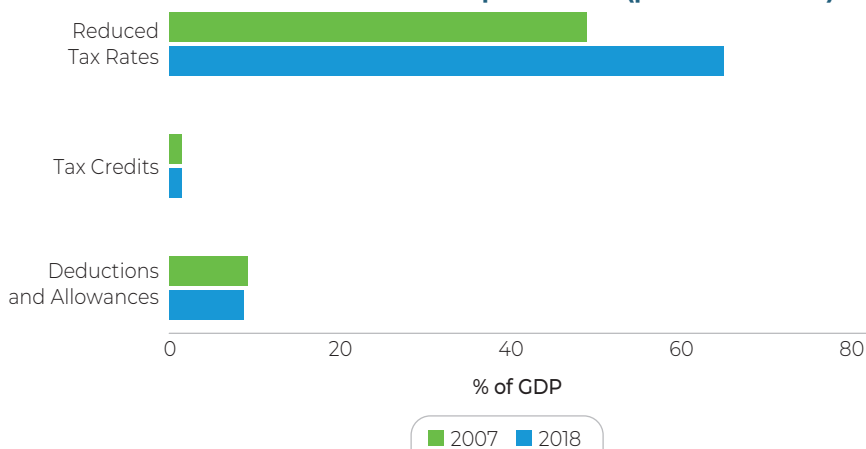
The Caribbean countries follow, in principle, the traditional global approach. However, several factors reduce the tax base. First is the treatment of capital gains,

FIGURE 4.23 Jamaica: CIT Tax Expenditures (percent of GDP)



Source: Authors' elaboration using country data.

FIGURE 4.24 Barbados: CIT Tax Expenditures (percent of GDP)

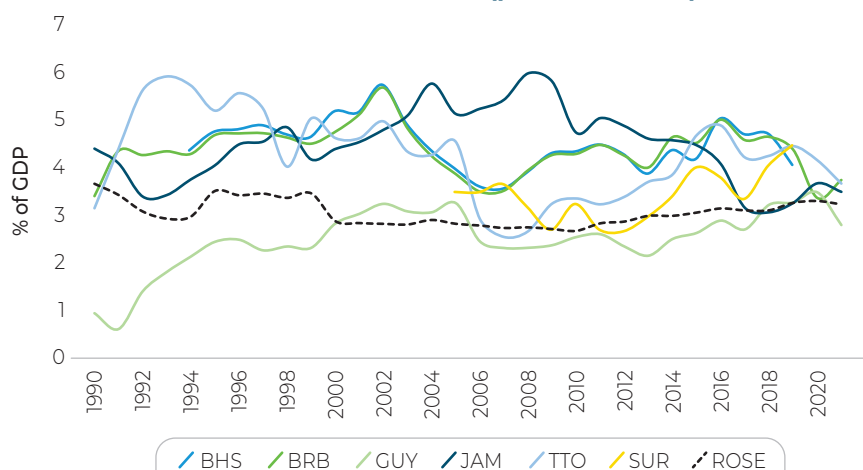


Source: Authors' elaboration using country data.

interest and dividends, and estate, which typically are not taxed (Table 4.4), thereby reducing the tax base and reducing the progressivity of PIT. Second, tax expenditures also reduce the tax base. Figures 4.29 and 4.30 show tax expenditures as a percentage of GDP and by instrument for Jamaica and Barbados, respectively.

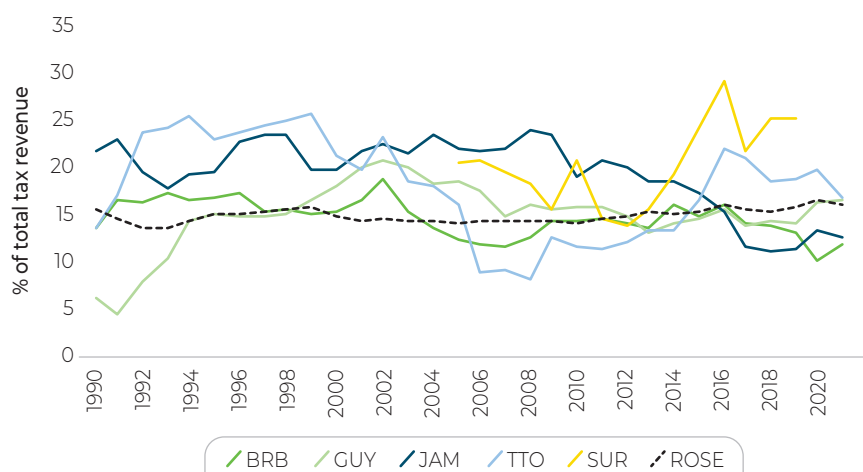
In designing and implementing a reform of PIT, governments face an income tax quadrilemma where they must decide which goal to sacrifice: progressivity, comprehensiveness, symmetry, or competitiveness (Ganghof, 2001). In a closed economy, the comprehensive income tax achieves all of the first

FIGURE 4.25 Personal Income Tax (percent of GDP)



Sources: Authors' elaboration based on OECD (n.d.); Suriname data are based on official information.

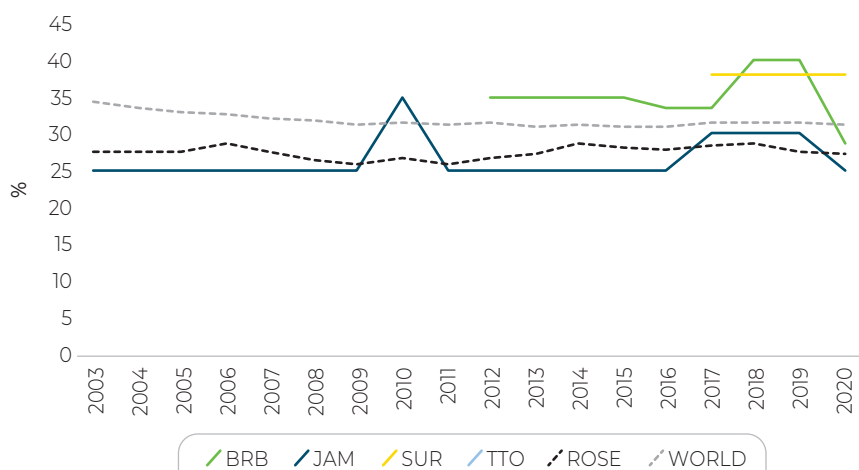
FIGURE 4.26 Personal Income Tax (percent of tax revenue)



Sources: Authors' elaboration based on OECD (n.d.); Suriname data are based on official information.

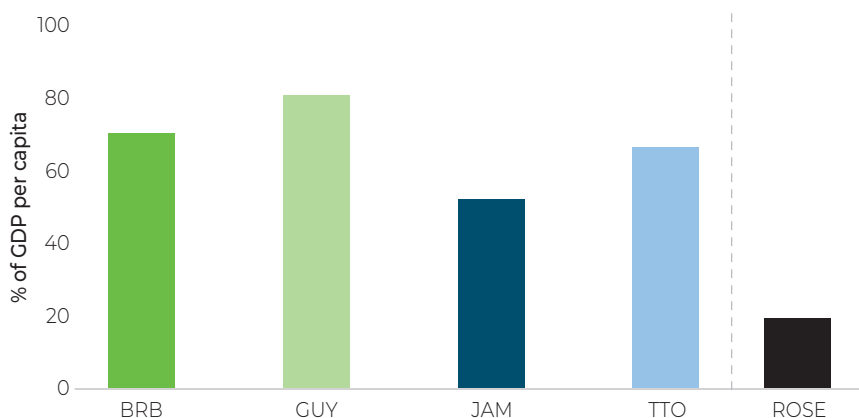
three goals by taxing income from all sources equally in a progressive manner according to a taxpayer's ability to pay. A taxpayer faces the same tax regime for different types of capital income. However, with the competitive pressures in an open economy, all three goals are rarely met. When policymakers add international competitiveness to the three domestic tax policy goals, governments may no longer satisfy all purposes, mainly because the cross-border mobility of capital varies between types of capital and countries.

FIGURE 4.27 Maximum Personal Income Tax Rates



Source: Authors' elaboration based on KPMG (n.d., "Individual Tax Rates").

FIGURE 4.28 Basic Allowances (percent of GDP per capita)



Sources: Authors' elaboration based on EY (2019) and IMF (2020).

Note: There is no data available for the Bahamas.

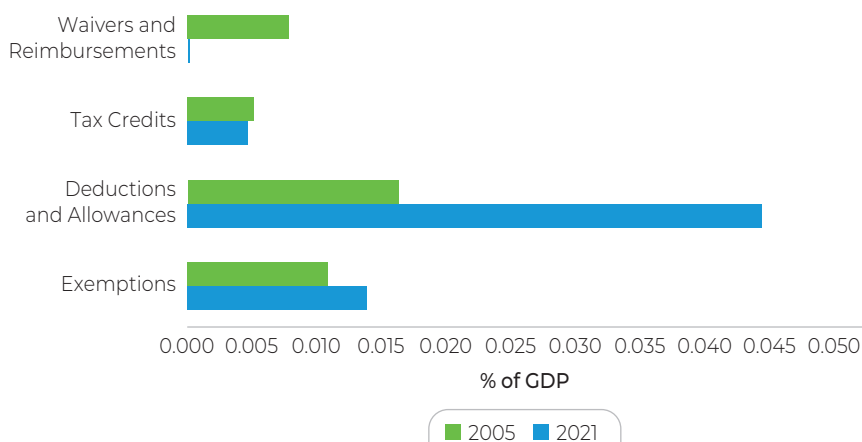
Reforms of PIT have taken two routes. One route consists of accepting the comprehensive income model but simplifying the tax system with lowered maximum marginal rates and broadening the tax base (i.e., improving the comprehensive income tax mode). As discussed below, other countries have replaced the comprehensive income model with either a flat rate or a Nordic-Dual PIT (Bird and Zolt, 2010; Sørensen, 2005).

The flat tax is an income tax system where everyone pays the same tax rate (Keen, Kim, and Varsano, 2006; Alm et al., 1991). Typically, a flat tax applies the

TABLE 4.4 Dividends, Capital Gains, and Estate Taxes

	Interest and Dividends	Capital Gains	Estate
The Bahamas	No	No	No
Barbados	12.50%	No	No
Guyana	No	No	n.a.
Jamaica	15%	No	No
Suriname	25%	No	n.a.
Trinidad and Tobago	No	n.a.	No

Source: Authors' elaboration based on EY (2019).

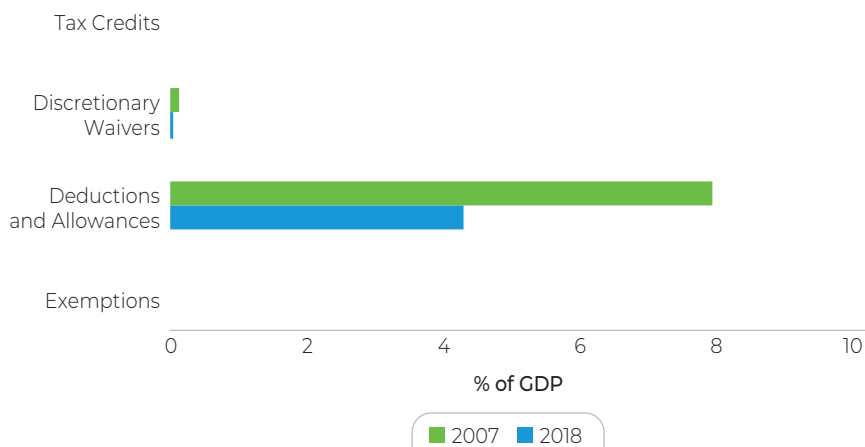
FIGURE 4.29 Jamaica: PIT Tax Expenditures

Source: Authors' elaboration based on raw tax expenditure data provided by Jamaica's Ministry of Finance and the Public Service.

same tax rate to all taxpayers above a zero-income bracket regardless of their income, with no deductions or exemptions allowed other than a zero rate. Thus, a flat tax system eliminates multiple marginal tax rates. Most flat tax systems or proposals do not tax income from dividends, distributions, capital gains, and other investments. Countries with flat rates include Russia, Ukraine, and several Central and Eastern European countries. In many countries, the introduction of the flat tax was part of a more comprehensive package of tax reforms, often including policies to improve tax administration.

In a review of flat tax outcomes, Keen, Kim, and Varsano (2006) point out a number of the results. First, there is no sign of Laffer-type behavioral responses (i.e., revenue increases from the tax cut). Second, there is evidence from Russia that compliance improved. Third, the distributional effects of the flat taxes are

FIGURE 4.30 Barbados: PIT Tax Expenditures



Source: Authors' elaboration based on official internal reports.

not unambiguously regressive. In some cases, they may have increased progressivity, including through the impact on compliance. Fourth, adopting the flat tax has not resolved common challenges in taxing capital income. Finally, it may have strengthened, not weakened, the automatic stabilizers.

Another option, the Nordic-Dual PIT, divides income into two categories and applies different rates. In this system, labor income is subject to a progressive structure, while capital income is subject to a flat rate. It seeks to tax wages and labor income attributable to sole proprietorships and partnerships, the two dominant legal forms of firms in the Caribbean, at progressive tax rates for labor income and tax capital income at a flat rate. However, in practice, they differ in the choice of the tax rate relative to the range of tax rates before the reform; the types of income subject to the single tax rate; the size of the zero-bracket amount; the treatment of interest, dividends, and capital gains; and the relationship of the PIT rate and CIT rates before and after the reform. They also differ concerning the interaction with other taxes on labor such as social security or payroll taxes.

The differences between dual income tax and flat tax systems, however, may be more or less significant depending on several factors, such as the zero-bracket amount and rate structure under the PIT, the tax rate differential between the PIT system and the CIT system, the integration of the individual and corporate tax systems, and the presence of payroll or social security tax on labor income.

Reforming PIT to a dual system could increase tax revenue and address tax competition concerns while maintaining a progressive tax on labor income.

Revenue gains from adopting a dual income tax would likely be more significant in countries where two conditions hold: (i) the prior tax treatment of income from capital was ineffective or non-existent (as in the Caribbean) and (ii) the change to a dual income tax might reduce the size of the informal economy (which is a fundamental problem in the Caribbean). Further, in countries like those in the Caribbean with relatively ineffective taxation of capital income, a dual income tax may produce some progressivity gains. Such gains occur if the reforms reduce taxes on the income of low-wage earners and increase taxes on the income of higher-wage earners and their capital income.

Barbados is an example where reform in one tax (CIT) harms another tax (PIT). The government passed new legislation for international businesses that created a new system where all companies were given access to a “regressive” rate structure that taxes income at rates decreasing from 5.5 percent for the first Bds\$1 million to 1 percent for income exceeding Bds\$30 million. The new CIT rate structure eliminates the differential treatment of domestic and most international manufacturing businesses versus other companies. This reform negatively affects PIT because a significant proportion of the PIT base could be shifted to the lower-taxed corporate tax, with a net loss of tax revenue.

Barbados PIT has a progressive rate structure and individual allowances to address redistributive objectives. A key element of progressivity is a tax credit paid to the working poor, the Reverse Tax Credit. PIT incorporates dual income tax design aspects, taxing certain types of investment income—interest, dividends, and residential rental income—at low flat rates. Further, wages and salaries are subject to flat-rate taxes, up to a ceiling, under the National Insurance Scheme (NIS).

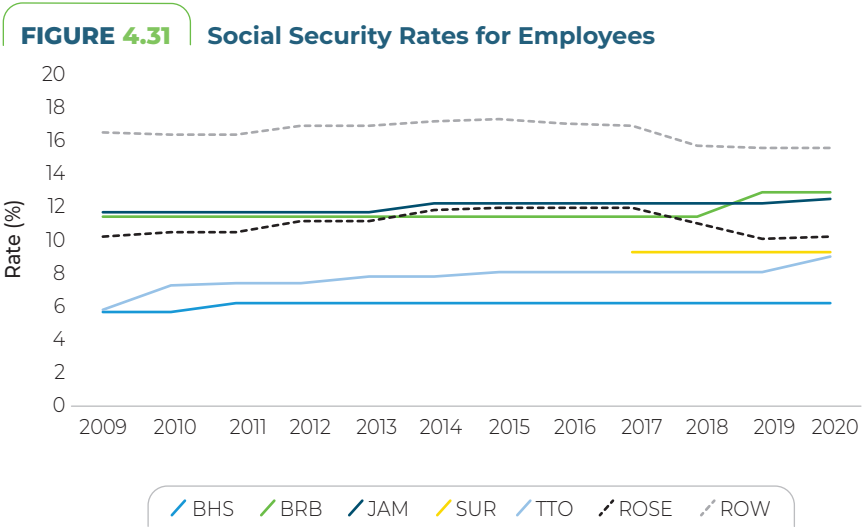
The introductory income tax rate as of 2020 was 12.5 percent, applied to the first Bds\$50,000 of taxable income. Over Bds\$50,000, the tax rate was 28.5 percent. The tax is levied on resident and domiciled individuals' worldwide income. The taxable income subject to the progressive rate structure includes wages, in-kind benefits, business income, pension income, and NIS benefits. However, separate flat-rate schedules are applied to capital income and generally taxed at the source. Interest and dividends from domestic sources have a flat 15 percent tax rate. Residential rental income is taxed at 15 percent. Under the progressive schedule, foreign interest, royalties, pensions, and dividends are taxable. Capital gains are not taxed. There is a Reverse Tax Credit, which is an attempt to partially offset VAT's regressive impact. Individuals with labor earnings less than Bds\$25,000 per year (value of the basic personal allowance) received a payment of Bds\$1,300 in 2018.

The CIT rate reduction generates incentives to transform unincorporated businesses and wage income into corporate profits, defer tax by retaining

profits, or avoid PIT by distributing profits as untaxed capital gains. Therefore, increasing the tax rate on dividends paid to individuals to 20 percent and making fundamental changes to interest income's income tax treatment are warranted. These changes require individuals to include interest income in their assessable income and convert the current distribution tax on interest into a creditable withholding tax against the total tax payable. Further actions are needed to limit the conversion of the employment income of owner-operators into capital gains. One step would be to tax the proceeds of disposition of the shares of owner-operated companies in the shareholder's hands as salary. Reform of one tax requires reform in another to avoid erosion of the base.

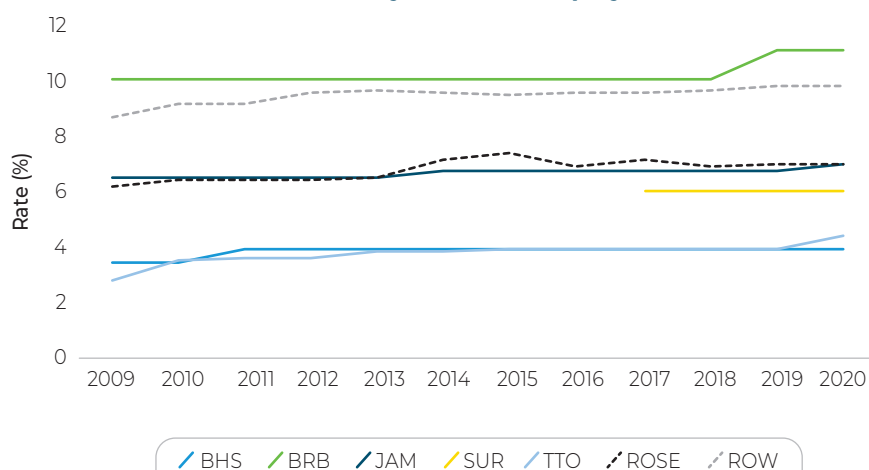
Payroll taxes are paid by employers, employees, or the self-employed as a proportion of payroll or a fixed amount per person. A specific form is social contributions to employment insurance, health and safety at work, disability, and contributions to the pension plan. Social contributions' costs are generally shared between the firm and the worker and vary according to the employee's salary, often with a cap. Still, they can also be paid only by the employer. Figures 4.31 and 4.32 show the social security rates for employees and employers, respectively.

For example, in Jamaica, employer social security has several components: NIS (2.5 percent, capped at an annual income of J\$1,500,000), National Housing Trust (3 percent uncapped), education tax (3.5 percent uncapped), and Human Employment and Resource Training Trust (HEART) contribution (3 percent uncapped). In Barbados, effective October 1, 2018, the government changed



Source: Authors' elaboration based on KPMG (n.d., "Employee Social Security Tax Rates").

FIGURE 4.32 Social Security Rates for Employers



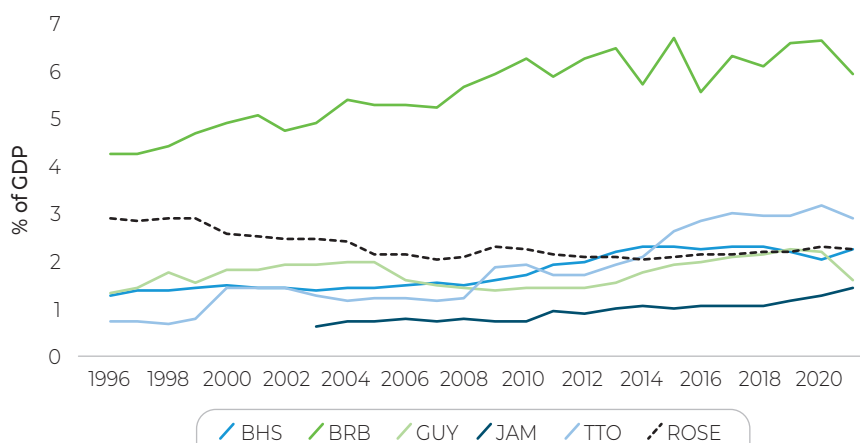
Source: Authors' elaboration based on KPMG (n.d., "Employer Social Security Tax Rates").

the social security rate from 11.10 percent to 12.75 percent. Further, on January 1, 2019, the maximum insurable earnings increased from Bds\$4,650 per month to Bds\$4,820 per month. In the Bahamas, there is a form of social security called National Insurance. The maximum rate for an employed person is 9.8 percent of salary. The maximum is B\$34,836 per annum, with 3.9 percent payable by the employee and 5.9 percent by the employer. Trinidad and Tobago has a national insurance program that provides pension, sickness, and maternity benefits. The employers' weekly required contributions for 2019 ranged from TT\$23.80 for employees earning less than TT\$1,472.99 per month to TT\$276.20 for employees earning TT\$13,600 or more per month. The employees' weekly required contributions range from TT\$11.90 to TT\$138.10. The following health surcharge tax is levied on every employed person who makes or is required to make contributions under the National Insurance Act and on individuals other than employed persons who must file income tax returns. Figures 4.33 and 4.34 show SSC as a percentage of GDP and tax revenue, respectively.

The weight of taxes (PIT plus SSC plus VAT) that falls on labor has increased over time in the Caribbean in contrast to ROSE. However, in ROSE the total tax on labor represents a higher proportion of total revenue and GDP (Figure 4.35).

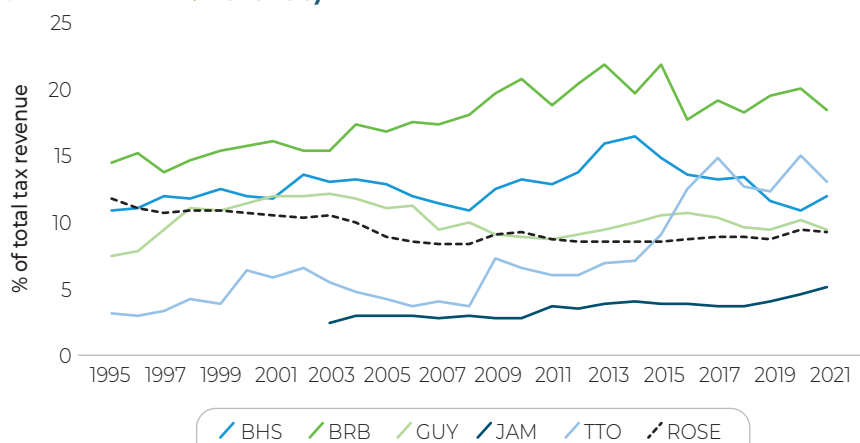
There are two main issues concerning SSCs. First is their impact on employment. Most discussions around SSCs revolve around the consequent tax wedge and its effect on employment. The abovementioned tax wedge is the amount between average labor costs and workers' take-home pay. Average labor costs are determined by combining the average worker's gross wage earnings with

FIGURE 4.33 Social Security Contributions (percent of GDP)



Source: Authors' elaboration based on OECD (n.d.).

FIGURE 4.34 Social Security Contributions (percent of total tax revenue)

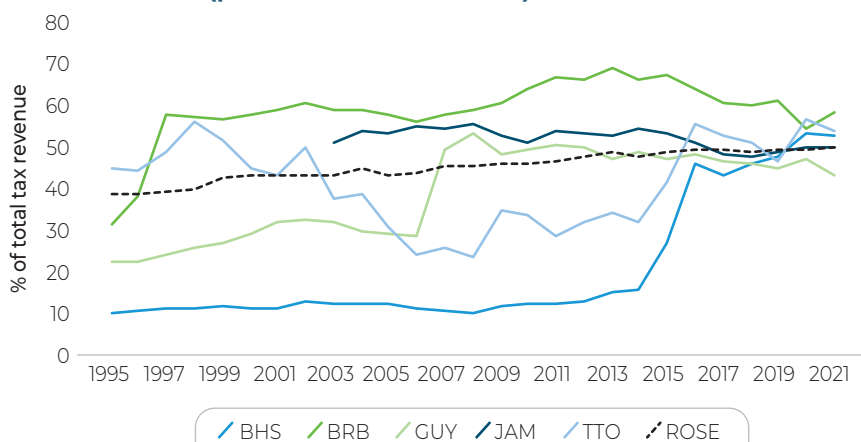


Source: Authors' elaboration based on OECD (n.d.).

employers' average payroll taxes and SSCs. The net take-home pay for an average worker is determined by subtracting the employee's income taxes and SSCs from their wage earnings plus any cash transfers or benefits the worker may have received from the government. The relevant economic research has generally demonstrated the negative relationship between the tax wedge and employment (Dolenc and Laporšek, 2010; Nickell, 2003).

The second issue concerning SSCs is the distinction between the various parties that ultimately bear the tax burden of the employer's contribution.

FIGURE 4.35 Total Taxation (PIT plus SSC plus VAT) on Labor (percent of total taxation)



Source: Authors' elaboration based on OECD (n.d.).

Employer social contributions can be borne by firms (reducing their after-tax profits), or they can be shifted back to employees (reducing net wages of their workforce) or shifted forward to consumers (increasing the price of their products) (Melguizo and González-Páramo, 2013). A meta-evaluation by Melguizo and González-Páramo (2013) on this issue finds that workers bear 70 percent of taxes in the long run and, in the short run, workers bear less than half of the tax burden.

A policy option to reduce the unemployment effect is a fiscal devaluation (i.e., a fiscal reform in which there is a change in tax composition with the immediate objective of lowering labor costs rather than wages as in an internal devaluation), increasing competitiveness and economic growth. Keynes first discussed this option in the context of the gold standard when countries could not devalue their currencies. This option is relevant for de facto fixed exchange rate regimes (e.g., the Bahamas and Barbados). In the late 2010s, a fiscal devaluation was proposed for countries that do not have the option to devalue. The modern version of this policy recommendation is to reduce payroll taxes and increase VATs. The argument is straightforward. With nominal wages fixed in the short run and a fixed nominal exchange rate, reducing payroll taxes will reduce unit labor costs. Thus, assuming a full pass-through of value added and payroll taxes into prices, the result is diminished producer and export prices. Because they rely not on exports but on domestic consumption, VATs will dampen imports. Thus, this policy option would reduce the current account deficit as foreign demand for exports increases and domestic demand for imports falls due to increased price competitiveness. Hence, economic growth would increase. The effect of the tax

switching on net exports will be more prominent because non-tradable goods are less labor-intensive than tradable goods.

Further, structural unemployment may fall if unemployment benefits are not adjusted to compensate for the price effect of the increased VATs and if payroll tax reductions are focused on the lower wage levels. An increase in competitiveness, more significant net exports, an enhancement of economic growth, and a decrease in unemployment, all without increasing the fiscal deficit, seems too good to be true. However, this is not the case according to the IMF (2011, 42), which concludes “from both theory and simulations that fiscal devaluation can have significant [beneficial] effects.”

Conclusions

Regarding their effect on economic growth, taxes range in a hierarchy from bad to less bad. CIT has the most negative impact, followed by labor income taxes, consumption taxes, and property taxes. The Caribbean primarily depends on indirect taxes, notably the VAT. The latter implies that the system—compounded by tax expenditures—is highly regressive.

Regarding international taxes, CARICOM's CET, while designed to foment intra-regional trade by diverting trade toward its members, in practice results in members trying to gain an advantage by using tax expenditures and selective import duty exemptions to bypass the CET. The Caribbean countries could harmonize and streamline their tax incentive regimes rather than pursue the harmful race to the bottom that results from these competitive grants of tax incentives and import duty exemptions to attract FDI.

The collection of property taxes by central governments implies less public support for property taxes in the Caribbean. Furthermore, there is a sharp difference between statutory and effective rates due to tax expenditures, often granted by discretion, that undermine the progressivity of property tax rates. The overall performance of the property tax systems is also a matter of concern, with several countries having significant arrears. Reforms are needed to address valuation, assessment, collection, and enforcement issues. Regular and frequent revaluations per legislation should be organized and implemented. Appropriate upskilling and capacity development of valuers involved in the assessment process should be provided. Registration of deeds and titles requiring land registration within a comprehensive titling system and periodic tax rate adjustments in line with inflation should be carried out so that the revenue from the property tax is not eroded in real terms.

CIT is an essential direct tax, accounting for roughly 20 percent of total tax revenue in the late 2010s. Statutory CIT rates in the Caribbean hovered around

25 percent, but these countries have resorted to tax expenditures to reduce effective rates for preferred businesses instead of reducing maximum nominal rates.

PIT is traditionally one of the main pillars of a country's revenue and has the most redistributive power. The comprehensive PIT individuals pay is often a set of incomplete and sometimes inconsistent rules applicable to different types of income. Several factors reduce the tax base. First is the treatment of capital gains, interest and dividends, and gifts and inheritance in the Caribbean countries, which typically are not taxed, thereby reducing PIT's tax base and progressivity. Second, tax expenditures also reduce the tax base. Reforms of PIT have taken two routes. One route consists of accepting the comprehensive income model but simplifying the tax system with lowered maximum marginal rates and broadening the tax base. The other route is replacing the comprehensive model with a flat rate or a Nordic-Dual PIT. Revenue gains from adopting a dual income tax would likely be more significant in countries such as those in the Caribbean, where prior tax treatment of income from capital was ineffective or non-existent and there is a large informal economy. Further, a dual income tax may produce some progressive gains. Such gains occur if the reforms reduce taxes on the income of low-wage earners and increase taxes on the income of higher-wage earners and their capital income.

SSCs, typically through payroll taxes paid by employers and workers, raise two main issues. First is the impact on employment of the "tax wedge," and second is the question of who bears the tax burden of the employer's contribution. A policy option to reduce the unemployment effect of SSC is a fiscal devaluation (i.e., a fiscal reform in which there is a change in tax composition with the immediate objective of lowering labor costs rather than wages as in an internal devaluation), increasing competitiveness and economic growth. The modern version of this policy recommendation is to reduce payroll taxes and increase VATs. If unemployment benefits are not adjusted to compensate for the price effect of the increased VATs, and if payroll tax reductions are focused on the lower wage levels, structural unemployment may fall.

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Taxes and the Role of Tourism, Tax Havens, and Non-Renewable Resources on Revenues

The previous two chapters reviewed common tax problems and features of the Caribbean. This chapter examines the specific issues of tourism- and commodity-dependent countries and the ramifications for their taxes and revenues.

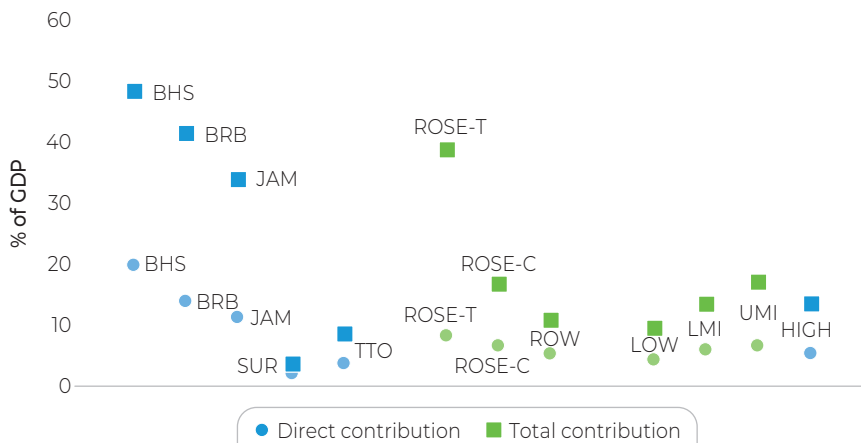
Tourism-Dependent Countries

As previously noted, many Caribbean countries heavily depend on GDP, employment, and exports and not so much on taxes from tourism. However, the different islands that offer similar services based on sun, beaches, and sea compete for investment in the sector and for tourists, resulting in a race to the bottom regarding taxes.

Figures 5.1 and 5.2 show the countries' dependency on tourism relative to GDP and employment. The Bahamas, Barbados, and, to a lesser extent, Jamaica stand out as heavily tourism-dependent countries in terms of these two indicators.

Tourism's contribution to economic output in the Caribbean exceeds that in other regions. Cannonier and Burke (2019), using panel data over three decades and data exclusively from the Caribbean islands, find that tourism has a positive and statistically significant effect on real economic growth. A 10 percent increase in tourism spending is found to increase economic growth from 0.3 percent to 1 percent, a finding that is consistent with similar studies. The

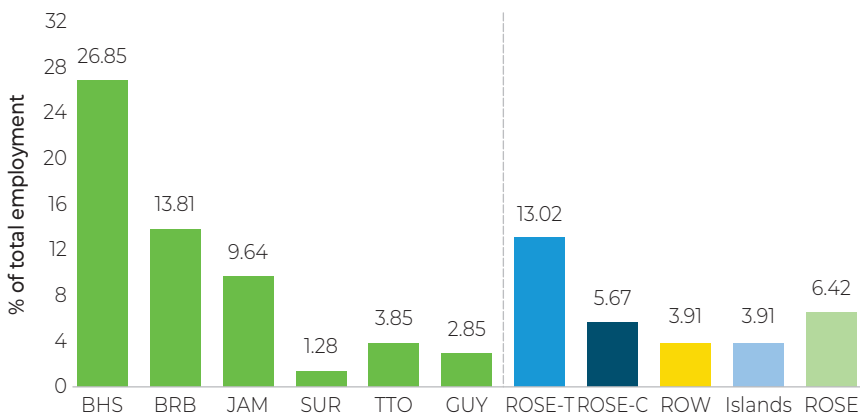
FIGURE 5.1 Tourism Contribution to GDP (direct and indirect)



Source: Authors' elaboration based on UNWTO (n.d.).

Notes: Blue: single country; green: group of countries. ROSE-T: ROSE countries with tourism-based economies, ROSE-C: ROSE countries with commodity-based economies, ROW: Rest of world, LOW: Low income, LMI: Lower middle income, UMI: Upper middle income, HIGH: High income.

FIGURE 5.2 Tourism Contribution to Employment (2018)



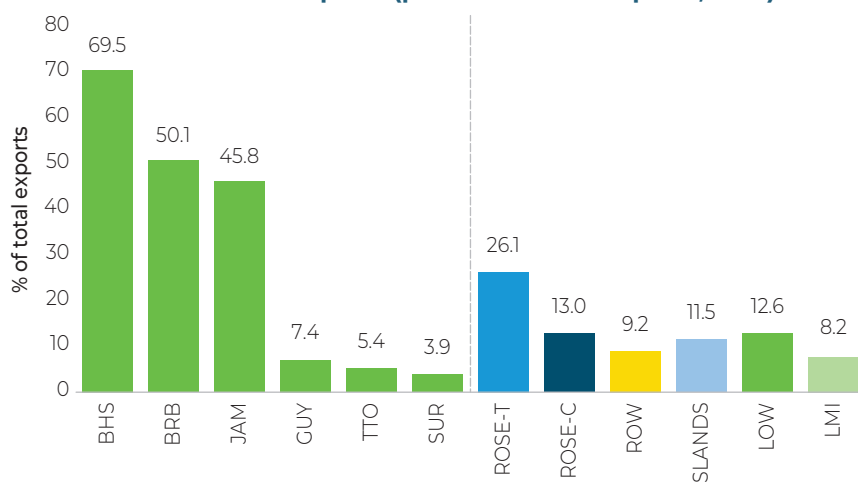
Source: Authors' elaboration based on UNWTO (n.d.).

Note: ROW: rest of the world, Islands: all island countries.

overall tourism multiplier is around 0.25, which is at the lower end of the results from previous studies.

Figures 5.3 and 5.4 show the dependency of the countries' exports on tourism. First, Figure 5.3 shows that in 2018 for the Bahamas, Barbados, and Jamaica, tourism-based exports were 70 percent, 50 percent, and 46 percent of total exports, respectively, and were higher than comparators; for example, the

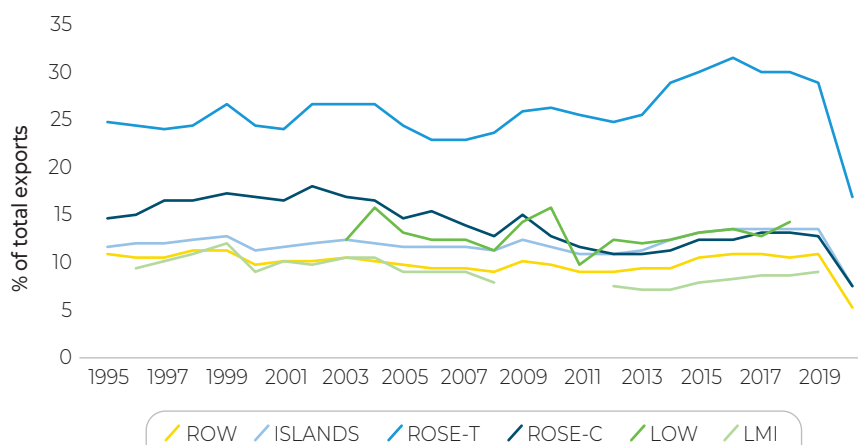
FIGURE 5.3 Visitor Exports (percent of total exports, 2018)



Source: Authors' elaboration based on World Bank (n.d.).

Note: "Visitor exports" refers to foreign spending by tourists while in the country.

FIGURE 5.4 Visitor Exports (percent of total exports, 1995–2020)



Source: Authors' elaboration based on World Bank (n.d.).

average for small tourism-based economies' (ROSE-T) is 26 percent. Figure 5.4 shows how the dependency has changed over time.

The peculiarity of tourism export services is that tourists consume them within the confines of the exporting country, unlike most exports consumed in the importer's home country. In principle, this feature of tourism provides opportunities for taxes. First, it implies tax exportability (i.e., redistributing the tax burden from residents to non-resident tourists). Second, regarding the efficiency

effects of taxation, policymakers can ignore the welfare of non-residents. Third, it improves equity because residents consuming these tourism-related local services come mainly from higher income levels. Therefore, taxing these services would disproportionately impact the country's higher-income citizens.

In practice, the sector is lightly taxed. Tourism is an industry of numerous subsectors; hence, defining what constitutes a tourism service and tax is complicated. The tourism value chain includes many actors including hotels, air carriers and transport companies, tour operators, travel agents, rental agencies, and suppliers from other sectors.

The difficulties in taxing the sector have led governments to rely on various instruments to capture some of the rents generated by tourism businesses (Table 5.1). These instruments include the widely used surcharge on hotel rooms, entry and exit taxes, and numerous other fees for hotel and tour licenses, airport

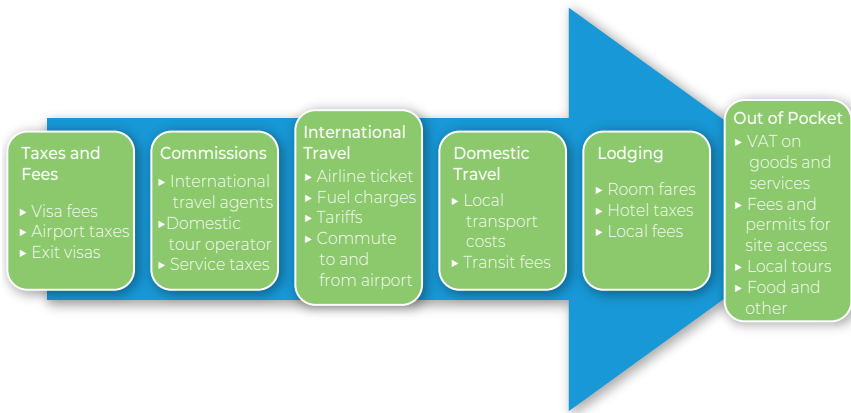
TABLE 5.1 Examples of Different Taxes Applied to Tourism

Country	Room Tax (%)	Departure Tax (US\$)	Casino (Gaming Tax) Fees*
The Bahamas	12.0	20.00	Effective January 1, 2019, all licensed gaming operators were to pay 15% on US\$0 to 24 million of revenue, and operators earning more than US\$24 million were to pay 17.5%.
Barbados	7.5	27.50	Effective May 1, 2019, a 20% withholding tax on gambling winnings and a 17.5% gambling tax on the net drop of all gaming establishments were to be imposed.
Guyana	10.0	17.00	n.a.
Jamaica	15.0	35.00	Levy a J\$10,000 annual tax per machine, an annual license fee of J\$2,500, and an annual disc fee of J\$500. Each Ten Cent machine undergoes a levy of J\$5,000 annually, an application fee of J\$2,500 per year, and an annual disc fee of J\$500.
Suriname	8.0	0.00	n.a.
Trinidad and Tobago	10	16.00	A 10% tax on players' lottery winnings. The US\$17,820 annual fee is levied on each electronic roulette machine; other amusement machines in bars are TT\$891. Slot machine fees doubled to TT\$24,000 per unit, while other gaming devices doubled to TT\$60,000 in 2020. The import tax on electronic gaming machines also rose from 20% to 40%. Gaming table fees depend on what game is offered.

Source: Authors' elaboration based on the tax legislation of the respective countries.

* Casino (gaming tax) fees are levied on casinos in tourism complexes; some countries also have gaming devices (slots, lotteries, etc.) in local retail establishments that serve primarily, if not exclusively, local and often lower-income residents. In some countries, such as Suriname, only tourists are allowed.

FIGURE 5.5 Types of Tourist Expenditure and Taxes



Source: Authors' elaboration based on Corthay and Loeprick (2010, Figure 1).

usage, security, beach and park admission, hunting and fishing permits, and so on (Tables 5.1 and Figure 5.5).

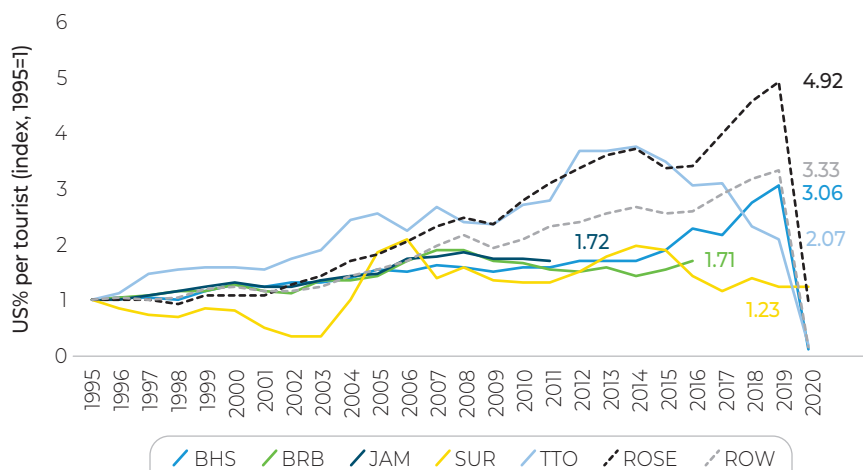
Determining tourist tax revenue is not straightforward. The World Tourism Organization (UNWTO) defines tourism taxes as those taxes that are “applicable specifically to tourists and the tourism industry or if not specific to the tourism industry, those which are applied differently in various countries” (UNWTO, 1998). The problem is that practically all goods and services consumed by tourists are also consumed, to some extent, by residents. Any fiscal measure applied to tourism activities will often affect non-tourists—further, the tourism sector benefits from tax expenditures, reducing tax revenue.

In addition, while the number of tourists has generally increased over time, the opposite has occurred regarding actual expenditure per tourist. The latter has stagnated or fallen in some Caribbean countries while it has risen in ROSE-T countries (Figures 5.6 and 5.7). This disparity could be due to several factors.

First, there could be a change in the composition of tourism, with cruise ship tourists representing an increase relative to stayover tourists, particularly in the Bahamas (Figure 5.8). Cruise ship tourists spend relatively less per capita in the country.

Second, the rise in all-inclusive resorts also contributes to the decrease, as tourists spend less outside the resort. Third, more tourists are taking advantage of the sharing economy by using apps like Airbnb, FlipKey, and Vrbo that represent a shift in the supply of accommodation, particularly at the lower end. Fourth, the maturity of the tourism sector in the Caribbean could also partially explain the decline in average spending per visitor. According to Butler (1980),

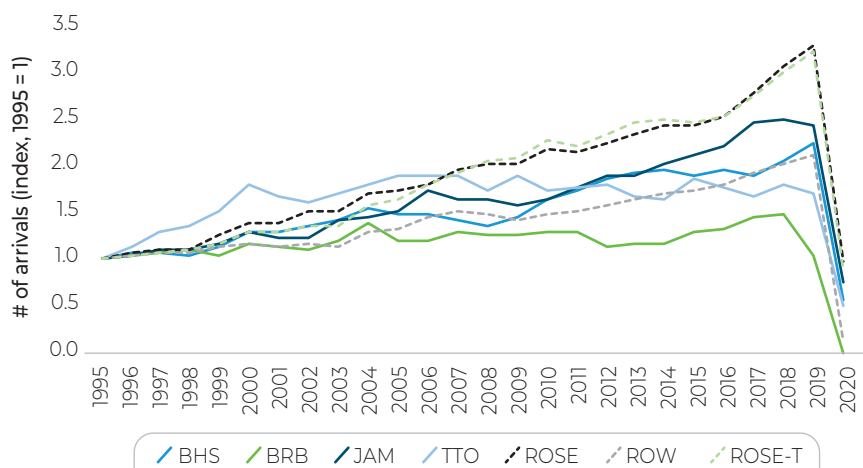
FIGURE 5.6 Real Expenditure per Tourist (1995–2020)



Source: Authors' elaboration based on World Bank (n.d.).

Note: Figures 5.6 and 5.7 are drawn as indexes with the base of unity in the year 1995; also included are the values of 2019 or the latest available.

FIGURE 5.7 International Tourist Arrivals (1995–2020)

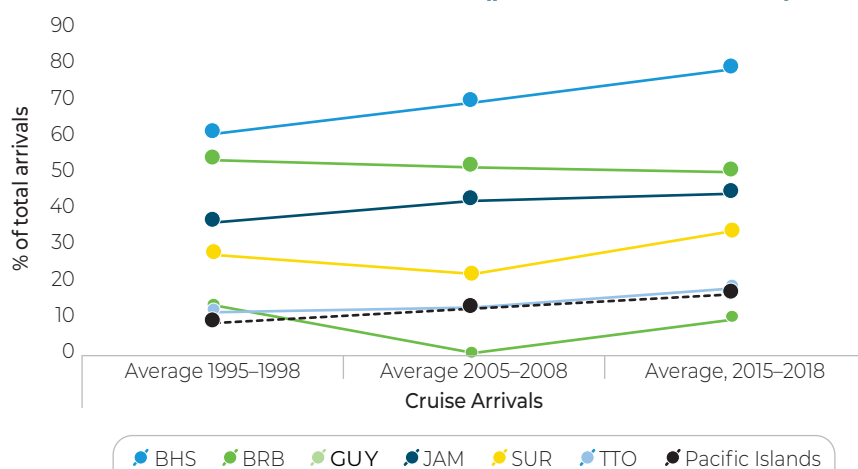


Source: Authors' elaboration based on World Bank (n.d.).

Note: Figures 5.6 and 5.7 are drawn as indexes with the base of unity in the year 1995; also included are the values of 2019 or the latest available.

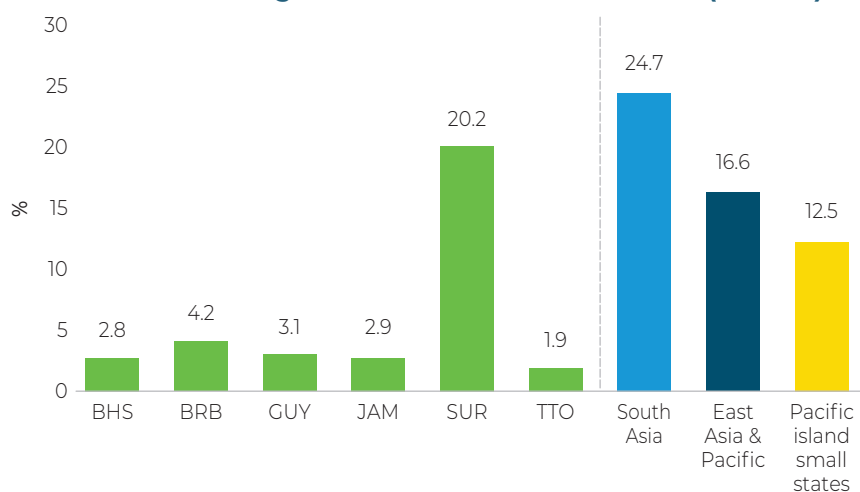
tourist destinations follow a life cycle from birth to maturity to old age and finally a demise (the “Butler S-curve”). Based on the tourist area life cycle, tourist destinations experience increasing difficulty attracting tourists, despite marketing efforts, because of the negative utility from, among other things, over-utilization of resources (Whitehall and Greenidge, 2000; Whitehall and Craigwell, 2006).

FIGURE 5.8 Cruise Tourist Arrivals (percent of total arrivals)



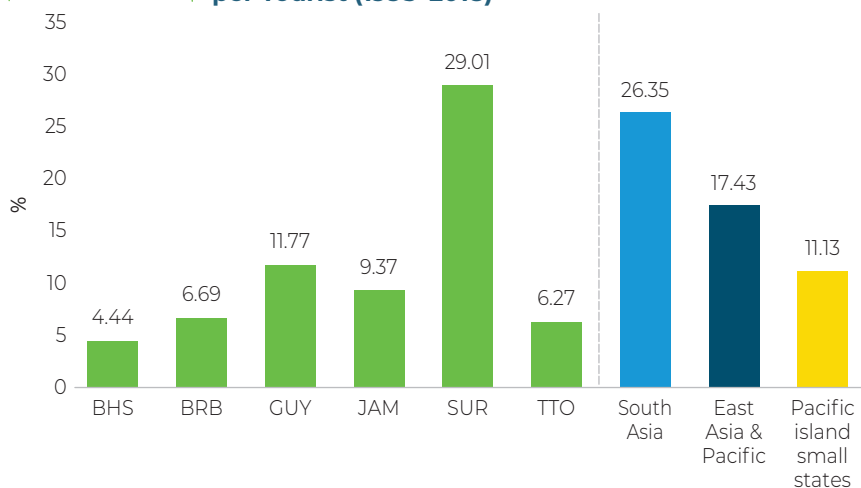
Source: Authors' elaboration based on UNWTO (2022).

FIGURE 5.9 Average Annual Growth Rate in Arrivals (2007–19)



Source: Authors' elaboration based on World Bank (n.d.).

The maturity of a destination alters the demand for the tourism product irrespective of price-income factors. This process eventually leads to decline unless rejuvenation occurs. An indication that the Caribbean may be reaching maturity is that the growth rate of tourism and expenditure per tourist is increasingly lower in the Caribbean than in similar destinations in South and East Asia and the Pacific Islands (Figures 5.9 and 5.10).

FIGURE 5.10**Average Annual Growth Rate in Expenditure per Tourist (1995–2018)**

Source: Authors' elaboration based on World Bank (n.d.).

Offshore Sector

Some Caribbean countries, particularly tourism-dependent ones, also have an essential offshore sector. Offshore financial centers (OFCs), also known as tax havens, play a crucial role in the Caribbean, particularly in tourism countries. OFCs in the Caribbean are mainly booking centers for intra-group funding. They are small by international standards, but they are relatively large compared to the size of host economies. As a result, being an OFC contributes considerably to economic activity in the host countries. However, recent global regulatory initiatives have significant negative implications for the offshore sector. The sector also faces risks of losing correspondent banking relationships; this would negatively affect most Caribbean countries to a greater or lesser degree.

The precise definition of “OFC” remains unsettled. Thus, many analysts and organizations that publish lists of OFCs disagree on which jurisdictions should be included (Palan, Murphy, and Chavagneux, 2010). A working definition used by Fichtner (2015) is that an OFC is a country or jurisdiction that provides financial services to non-residents on a scale that is incommensurate with the size and financing of its domestic economy. Adding foreign banking deposits, foreign direct investment (FDI), and foreign portfolio investment, Fichtner calculates an “offshore intensity ratio” (i.e., total financial assets divided by the host country's GDP) and then ranks countries accordingly (Table 5.2). The Bahamas and Barbados are in the top 10 according to Fichtner's ranking but are orders

TABLE 5.2 Offshore Intensity Ratio and Ranking

Rank/Jurisdiction (Sovereign Country)	Offshore Intensity Ratio (total assets divided by GDP)
1. Cayman Islands (UK)	1,545.6
2. British Virgin Islands (UK)	1,070.0
3. Marshall Islands (U.S.)	200.0
4. Bermuda (UK)	184.5
5. Jersey (UK)	109.8
6. Luxembourg	91.7
7. Guernsey (UK)	70.6
8. Curaçao (NL)	51.8
9. The Bahamas	35.1
10. Barbados	16.5

Source: Authors' elaboration based on Fichtner (2015, Table 4).

of magnitude below the highest ranked, the British Virgin Islands and the Cayman Islands. Many of the others are ex-colonies of the United Kingdom (see Table 5.2).

Regarding the sector's activity and size, Table 5.3 shows the types of international businesses using OFCs, distinguishing between banks, trusts, insurance companies, international business companies (IBCs), and investment funds. Regarding the flow of funds to the region, the lion's share goes to the Cayman Islands and Bermuda. The Bahamas and Barbados receive a small proportion of the flows (Figure 5.11).

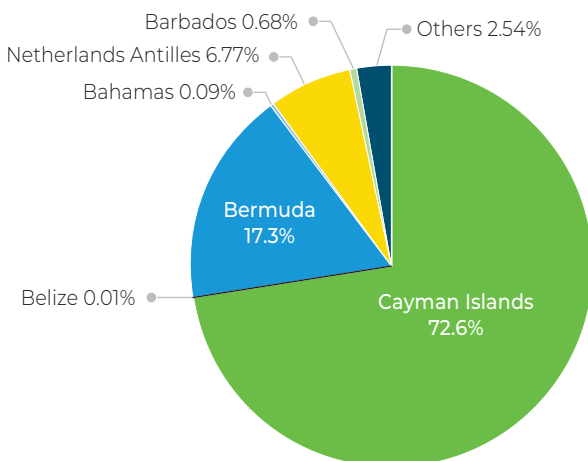
The presence of an offshore sector has ramifications for the country's fiscal revenue and contributes to its economic activity. While there are strict firewalls

TABLE 5.3 Types of Companies in Offshore Sector (total financial assets in millions of US\$)

	Banks	Trust Companies	Insurance Companies	International Business Companies	Investment Funds
The Bahamas	79	151	23	175,675	858
Barbados	27	n.a.	196	4,380	n.a.
Bermuda	4	27	1,682	11,548	456
The Cayman Islands	123	149	708	83,064	10,940

Source: Authors' elaboration based on IMF (2017, Table 1).

FIGURE 5.11 Offshore Financial Flows by Country (percent)



Source: Authors' elaboration based on González and Schipke (2011).

between offshore institutions and residents, three channels form links to the real economy. First, offshore institutions hire local employees (accountants, lawyers, or other service providers) to help manage their activities and meet reporting requirements to run their operations, typically paying an average wage higher than domestic employers pay. Second, the offshore institutions have a demand for local goods and services, which in turn affects the host country's economy. Offshore institutions directly demand local goods and services for their daily operations, and they indirectly stimulate output and employment in other industries when their clients visit the host country. Third, offshore institutions are a source of government revenues via registration and license fees. For example, international banks pay fees based on their asset size and license category, while IBCs pay fixed registration and annual fees. (A complete rundown of the taxes and fees paid by the offshore sector in the Bahamas is provided in Annex B, Box B.1.)

Figure 5.12 indicates the revenue loss in Barbados due to the preferential treatment of offshore firms before the tax reform in 2019. Before the 2019 reform, the offshore sector received a large proportion of the country's tax expenditures. By 2018, tax expenditures through reduced rates represented 77 percent of the country's total tax expenditures (i.e., 67 percent of GDP). As of 2019, the applicable tax rate for offshore institutions was changed to match Barbados's domestic rates. IBCs and international societies licensed before October 17, 2017, and corporate entities doing business in the international insurance sector were exempt from the rate change until June 30, 2021.

FIGURE 5.12**Barbados: Tax Expenditures Due to Preferential Treatment of the Offshore Sector**

Source: Authors' elaboration using official country data.

TABLE 5.4**Importance of Offshore Sector for Employment and Revenue**

	Employees (% of employees)	Revenue (% of GDP)
The Bahamas	0.60	0.13
Barbados	n.a.	1.10
Bermuda	7	0.90
The Cayman Islands	9	2.80

Source: Authors' elaboration based on IMF (2017).

OFCs have contributed to economic growth in the Caribbean and supported employment and revenue (Table 5.4). Butkiewicz and Gordon's (2013) study of the region, using data for 15 Caribbean economies, found that the offshore sector had a sizable and positive effect on income growth. Similarly, González-Miranda (2013) found that offshore institutions contributed about 7.8 percent of GDP in Barbados and 7.4–9.2 percent in the Bahamas. Britton and Sacks (2007) report that offshore banking in the Bahamas directly accounts for about 3.5 percent of GDP (almost 40 percent of the banking sector's total value added) and more than a quarter of total banking sector employment. Moreover, they find that the value added per employee has been approximately twice as large as that of onshore banks. The International Monetary Fund (IMF, 2017) finds that offshore banks and trusts in the Bahamas provide around 1,000 jobs with an average wage that is about twice that of domestic banks and that in 2016, the

total wage bill and registration and license fees of offshore banks amounted to about 1.7 and 0.2 percent of GDP, respectively.

Despite the economic contributions of offshore institutions, international institutions view OFCs as a source of severe problems—including tax evasion and money laundering—due to the lack of transparency and regulations under which OFCs operate. This has led to several global initiatives to reduce the adverse effects of OFCs.⁶⁹

The Global Minimum Tax (GMT) agreement signed, as of May 2024, by 142 members of the OECD/G20 Inclusive Framework on BEPS⁷⁰ represents a shock to the tax haven business (Christians et al., 2023). This agreement has the effect of reallocating taxing rights toward countries where economic activity occurs rather than where firms choose to book profits and setting a minimum global tax rate. The type of deal that the Biden administration has advocated (and the G7 has backed) applies the global minimum rate on a country-by-country basis rather than in the aggregate, which blows up the havens' business model. U.S. Treasury Secretary Janet Yellen has called the proposal an end to the "30-year race to the bottom on corporate tax rates" as countries compete to lure multinationals through reduced rates and bases of their corporate tax. If fully implemented, the Biden/G7 initiative could imply a negative shock, reducing revenue and economic growth in the Caribbean. An Organisation for Economic Co-operation and Development (OECD) assessment released in January 2024 concludes, "The GMT is estimated to reduce global low-taxed profit by about 80 percent, from 36 percent of all profit globally to about 7 percent. This reduction stems from the reduction in profit shifting and the application of top-up taxes" (OECD, 2024).

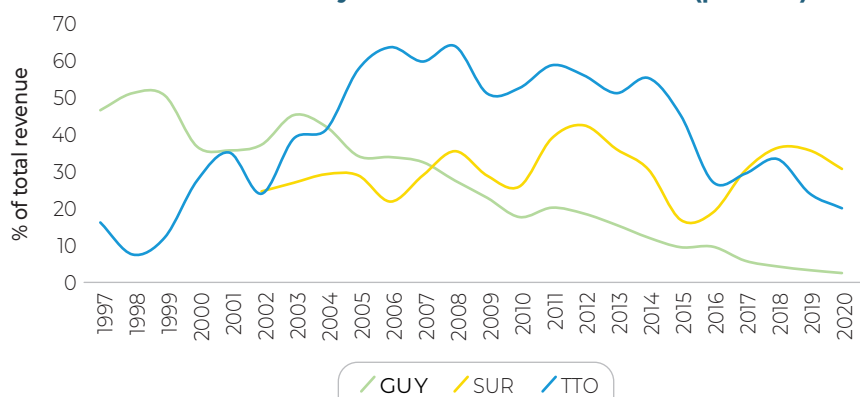
Commodity-Exporting Countries

Countries that export non-renewable commodities can be oil and gas dependent (e.g., Trinidad and Tobago) or mining dependent (Guyana and Suriname). Figures 5.13 and 5.14 show the ratios of commodity revenue to total revenue and to GDP, respectively. Both measures fell as the international commodity cycle came to an end, though Suriname recovered partially due to increased production of gold. It is essential to note that since 2020, Guyana has become a significant oil exporter; hence, the ratios of oil commodity revenue to total revenue and to GDP are expected to rise sharply. Something similar will likely happen in Suriname, where five significant offshore oil discoveries have been made since 2020.

⁶⁹ These were discussed at length in Chapter 4.

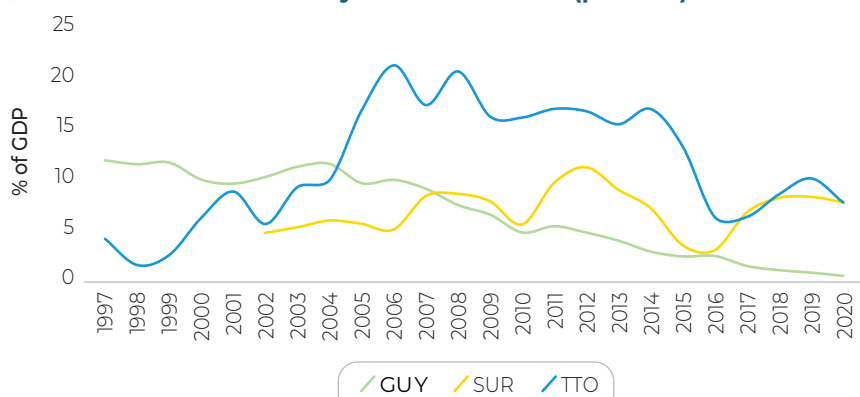
⁷⁰ As noted in Chapter 3, among the CCB6 countries, the Bahamas, Barbados, Jamaica, and Trinidad and Tobago had approved the associated Outcome Statement as of May 2024. Guyana and Suriname had not yet approved it.

FIGURE 5.13 Commodity Revenue to Total Revenue (percent)



Source: Authors' elaboration based on IMF (2020).

FIGURE 5.14 Commodity Revenue to GDP (percent)

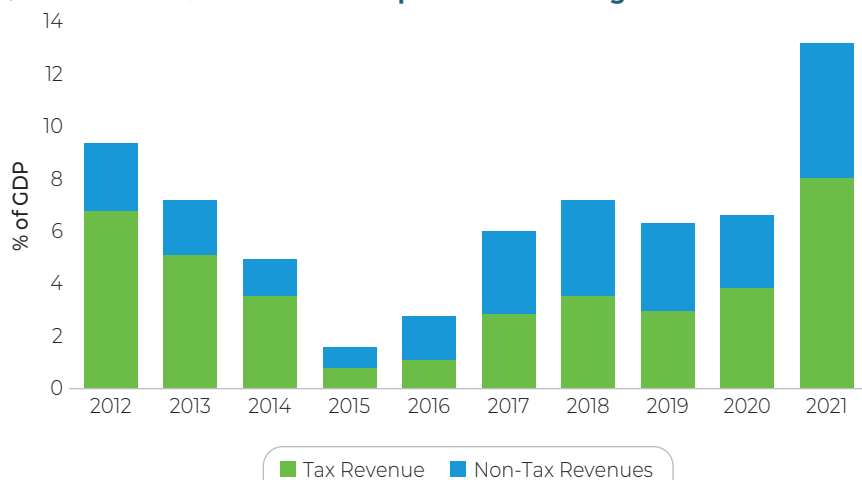


Source: Authors' elaboration based on IMF (2020).

An analysis of the composition of commodity revenues in Suriname (Figure 5.15) and Trinidad and Tobago (Figure 5.16) shows a decrease in the relative importance of tax revenues and an increase in non-tax revenues since 2012 and 2010, respectively. In Suriname, for example, tax revenues went from 72 percent of mining revenue in 2012 to 46 percent in 2019. Within the tax revenue, 99 percent came from direct taxes; for non-tax mining revenue, about 50 percent came from royalties. In Trinidad and Tobago, tax revenues fell from 86 percent of GDP in 2010 to 45 percent at the decade's end. Royalties accounted for 70 percent of non-tax oil revenues during the 2010s.

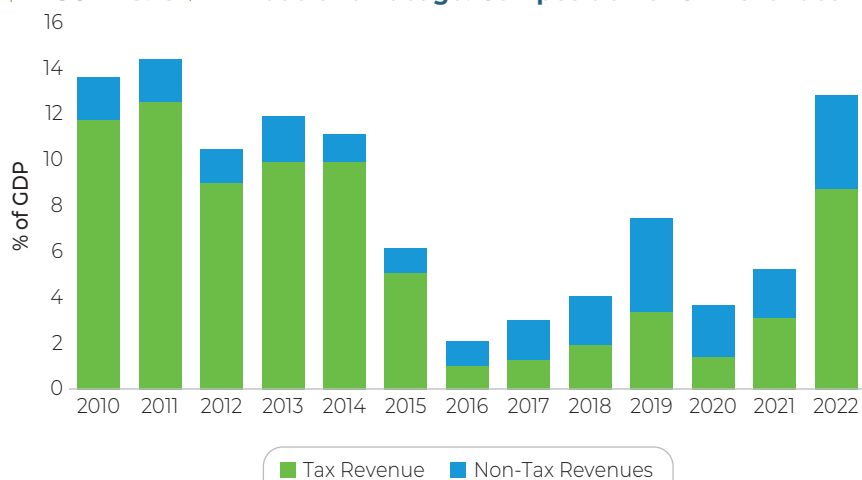
Commodity-exporting countries have a different tax structure than tourism-dependent countries. Similar to tourism-dependent countries, commodity exporters have sector-specific taxes; however, unlike tourism taxes, special taxes

FIGURE 5.15 Suriname: Composition of Mining Revenues



Source: Authors' elaboration based on internal reports of Suriname's Ministry of Finance and Planning.

FIGURE 5.16 Trinidad and Tobago: Composition of Oil Revenues



Source: Authors' elaboration based on data from Central Bank of Trinidad and Tobago.

constitute a significant source of revenue. For example, Trinidad and Tobago collects special taxes and non-tax revenues from different economic sectors.

Companies engaged in upstream gas and oil operations in Trinidad and Tobago are subject to a fiscal regime governed by the Petroleum Taxes Act (PTA) (EY, 2020). (A detailed list of the taxes and levies that apply to companies in Trinidad and Tobago that are engaged in oil and gas exploration is provided in Annex B, Box B.2.)

Mining is another sector often subject to a particular tax regime. While revenue from oil exports is expected to rise in the future in Suriname and Guyana, they are still mining-dependent countries. Hogan and Goldsworthy (2010) present an overview of the advantages and disadvantages of fiscal instruments levied in the mining sector. Table 5.5 shows their scoring using a seven-point scale

TABLE 5.5 Evaluation of Tax Instruments in the Mining Sector

	Investor Risk			Rent Collection and Government Risk			
	Neutrality	Stability	Project Risk	Flexibility	Fiscal Loss	Revenue Delay	Administration and Compliance
Rent based							
Resource based	+2	+3	+2	+3	-2	-3	-3
Excess profits	+1	+3	+2	+2	-1	-1	-2
Profit based							
Corporate income	-1	+1	0	+1	0	0	-1
Profit based royalty	-1	+1	0	+1	0	+1	-1
Output based royalty							
Ad valorem royalty	-2	0	-1	1	+1	+2	+1
Graduated windfall	-2	+2	+1	0	0	0	+1
Tax price based							
Specific royalty	-3	-1	-2	-2	+2	+2	+2
State equity							
Paid equity	+3	+1	+3	+3	-3	-1	+3
Carried interest	+2	+3	+3	+3	-2	-3	+1

Source: Hogan and Goldsworthy (2010, Table 5.3).

Notes: Hogan and Goldsworthy performed a qualitative analysis based on a seven-point scale (-3 to +3), where +3 means that the instrument performs extremely well on the criterion and -3 signifies the opposite. A fiscal instrument is neutral if an action or project that is assessed to be financially viable in the absence of the fiscal instrument (that is, profitable or economic before tax) remains viable after the fiscal instrument is applied. Stability refers to the investor's assessment of the political or policy risks associated with a resource project. Project risk refers to the investor's assessment of the market risks associated with a resource project. Flexibility refers to the responsiveness of fiscal instruments to changes in future market conditions. Fiscal loss refers to the situation where the government obtains a lower-than-expected return to the resource, particularly under adverse market outcomes. Revenue delay refers to the situation where the government does not start to collect tax revenue until sometime after the project's production commencement date.

from -3 to $+3$, where $+3$ indicates that the instrument performs very well and -3 is the opposite. The evaluation is based on seven criteria: neutrality, stability, project risk, flexibility, fiscal loss, revenue delay, and administration.

In the gold mining sector in Guyana, license/permit holders must make non-tax payments specific to their mining activities as stipulated in the Mining Act (1989), by agreements signed between miners and the government, and according to the terms provided by the license granted (Box 5.1).⁷¹

In addition, these special regime's payments are collected by various government agencies other than the Guyana Revenue Authority (GRA). (A description of the role of these agencies in collecting these payments is provided in Annex B, Box B3.) In the case of the gold sector, the specifics of the mining revenue collections are presented in Box 5.2, which shows conventional taxes and revenue from gold sector-specific non-tax revenue measures.

Displacement Effect

Many researchers have explored the ramifications for fiscal policy of resource-revenue dependence in non-renewable resource-exporting countries. Resource revenues differ from other sources of income. They are more volatile and uncertain than traditional revenue sources, complicating budgetary planning and execution. They originate primarily abroad and are injected into the domestic economy through the non-resource fiscal deficit. They arise from exploiting resources with a limited time horizon and can become technologically or economically obsolete, which raises long-term sustainability and intertemporal equity issues. They have been associated with procyclical fiscal policies, often related to inadequate public spending and rent-seeking. They usually harm non-resource revenue.

Several researchers have documented the displacement effect of natural resource revenue on non-resource-based taxes. Bornhorst, Gupta, and Thornton (2009) examine a panel of oil-exporting countries. The non-oil revenue-to-GDP ratio is inversely related to oil revenue to GDP. A similar effect for all resource wealth is documented by the IMF (2011). Ross (2009) finds that in countries with more oil income per capita, taxes on goods and services make up a smaller share of total revenue. Ossowski and Gonzáles (2012) study the impact of fiscal revenues from non-renewable resources on other revenues of Latin America and the Caribbean (LAC). They compare the performance of non-resource revenues in non-renewable resource countries to those in different countries in the region. They find that the effect of resource revenue on non-resource income

⁷¹ For the special regimes for gas and oil, mining, fisheries, and forestry, see GYEITI (2022).

is negative. Non-resource revenues in those countries having non-renewable resources are lower on average than in comparator countries (i.e., those that do not have such resources), and the gap between both groups of countries has

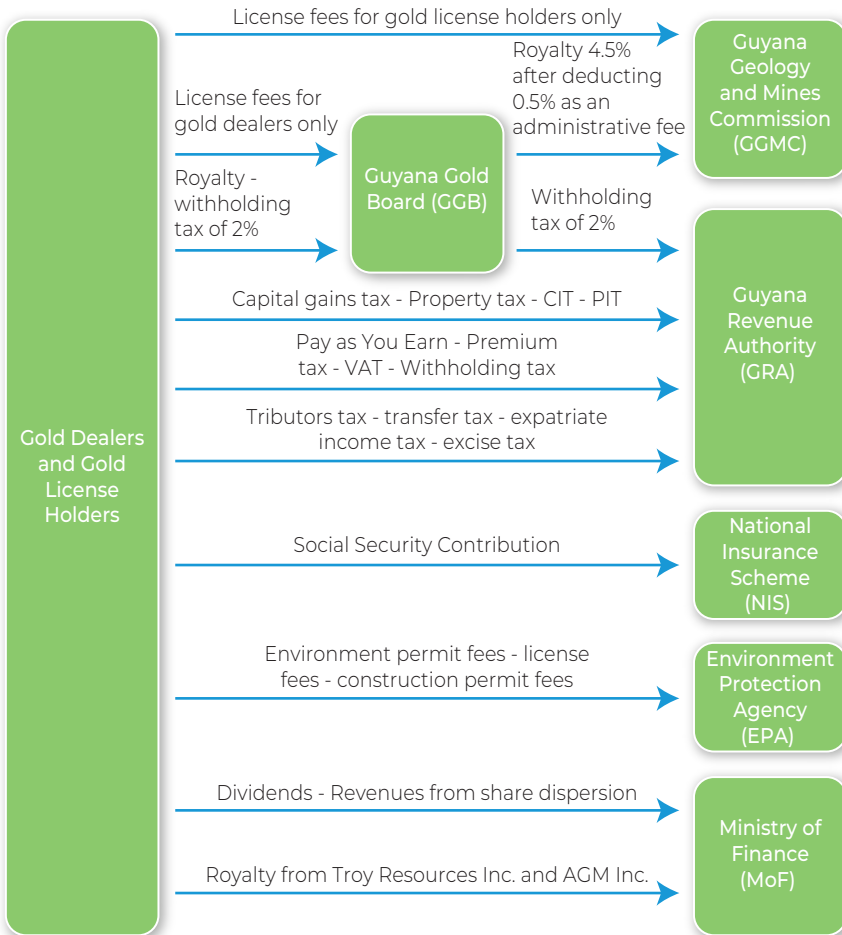
BOX 5.1 GUYANA: GOLD TAX REGIME

Payments	Main Provision	Rate	Law Reference
Royalty	According to the license, the holder of a mining license shall pay Guyana Geology and Mines Commission (GGMC) royalties regarding non-gold minerals obtained from the mining area to which the permit relates. Royalties on gold are payable to Guyana Gold Board (GGB). Royalties on gold produced by Aurora Gold Mines (AGM) and Troy Resources Guyana Inc. are payable to the Ministry of Finance. Royalties for gold are applied ad valorem (of the levying of tax) on gross sales revenues.	The applicable rates are: 5% for gold miners and dealers; 5% if the gold price is below US\$1,000/oz and 8% if the price increases beyond US\$1,000/oz for large scale; 1.5% for minerals other than gold.	Mining Act (1989). Section 68 of the Mining Act.
Annual License Rental Charge	The contractor pays an annual license rental charge regarding the contract area for the entire exploration period. These payments will continue to be applied to the remaining areas (after any relinquishments) during the life of the license.	The rent ranges US\$0.50 to US\$3 per year per acre for a prospecting license; US\$3 to US\$5 per year per acre for a mining license; US\$0.25 to US\$0.45 per year per acre for a prospecting permit; GY\$500 to GY\$15,000 per year per acre for a prospecting license; and from US\$1 per year per acre for a mining permit.	Mining Act (1989). Terms of the license.
License Fees	This payment is made to issue, renew, and transfer licenses.	The rates vary by type of license and by transaction on the license.	Mining Act (1989). Section 20(e) of the Mining Act.

Source: GYEITI (2022, Table 24).

BOX 5.2

GUYANA: GOLD MINING SECTOR'S VARIOUS REVENUE STREAMS AND PUBLIC AGENCIES RECEIVING FUNDS



Source: Authors' elaboration.

widened over time. The revenue streams in the former group of countries also tend to be more volatile. Ossowski and Gonzáles (2012) analyze the composition of non-resource revenues and find that the performance of resource exporters' VAT and non-resource income taxes is similar to that of other countries. Still, revenues from other taxes (including excises) have been lower. Given that resource exporters face fiscal vulnerabilities to shocks and sustainability issues, the policy implications are to strengthen non-resource revenues to create adequate budgetary space.

To address these vulnerabilities, the IMF (2015) identified four key objectives that are advisable for resource-dependent countries: (i) maintain appropriate levels of stabilization savings, (ii) promote effective spending policies, (iii) ensure effective use of taxation to reduce revenue volatility, and (iv) support a robust institutional framework, partly through the adoption of fiscal rules and the creation of a sovereign wealth fund (SWF).

A fiscal rule is a legally specified constraint on fiscal policy through numerical limits on budgetary aggregates. Thus, it implies that boundaries for a fiscal policy cannot be frequently changed (Lledó et al., 2017). The aggregates include budget balance rules, debt rules, expenditure rules, and revenue rules applied to the central or general government or the public sector.

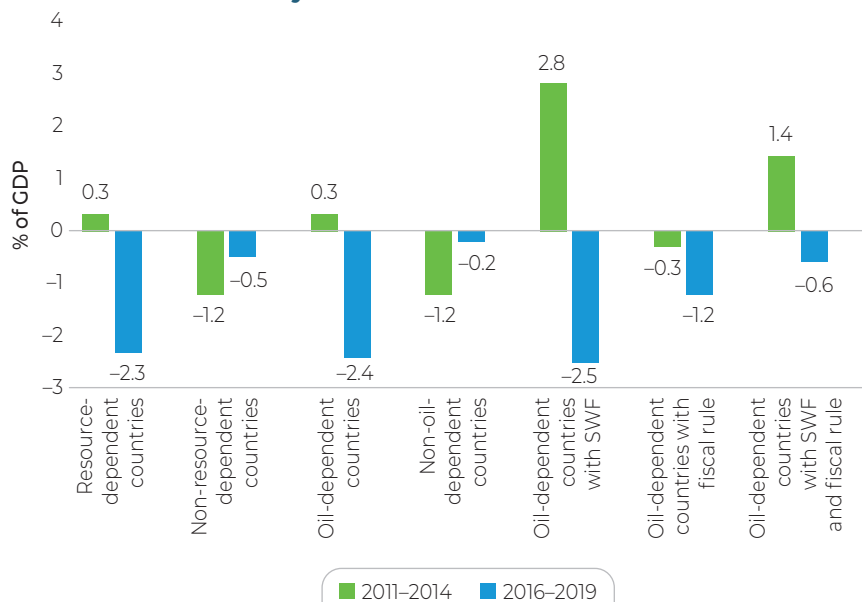
For example, Jamaica's fiscal rules were signed into law in 2010 and updated in 2014 to provide an escape clause in times of crisis. Embedded in this fiscal responsibility framework (FRF) is the objective of attaining a debt-to-GDP target of 60 percent by the fiscal year 2027/28. The FRF prescribes the minimum level of annual budgetary savings consistent with the debt-reduction objective given prevailing economic parameters. It also limits the aggregate level of public-sector wage expenditure as a ratio to GDP. It was temporarily suspended in FY 2020 due to the COVID-19 outbreak.

The Heritage and Stabilisation Fund in Trinidad and Tobago (see Annex B, Box B.4) aims to insulate the economy from fluctuations in international commodity price markets by recurrently transferring a pre-agreed amount to the state budget via a transfer rule. The latter is an example of an SWF that can promote macroeconomic stabilization through stable budget financing. In addition, these funds can also entail a saving and investment mechanism that distributes the wealth across generations and is a financial buffer in case of an economic shock.

However, the empirical evidence does not overwhelmingly favor fiscal rules and SWFs. Figures 5.17 and 5.18 compare key fiscal indicators for countries with a variety of traits: oil-dependent, non-oil-dependent, and/or with or without SWFs and with or without budgetary rules. The data from the pre-boom (2011–14) period and the period after the 2014–2016 oil price decline (2016–19) show that having an SWF and fiscal rules seems to be related to better budgetary outcomes measured in terms of the primary fiscal balance (Figure 5.17). However, this does not seem to translate into lower debt levels (Figure 5.18). Nonetheless, countries with either an SWF, a fiscal rule, or both did have much lower debt-to-GDP ratios than countries that did not have either of these tools, particularly before the oil price drop.

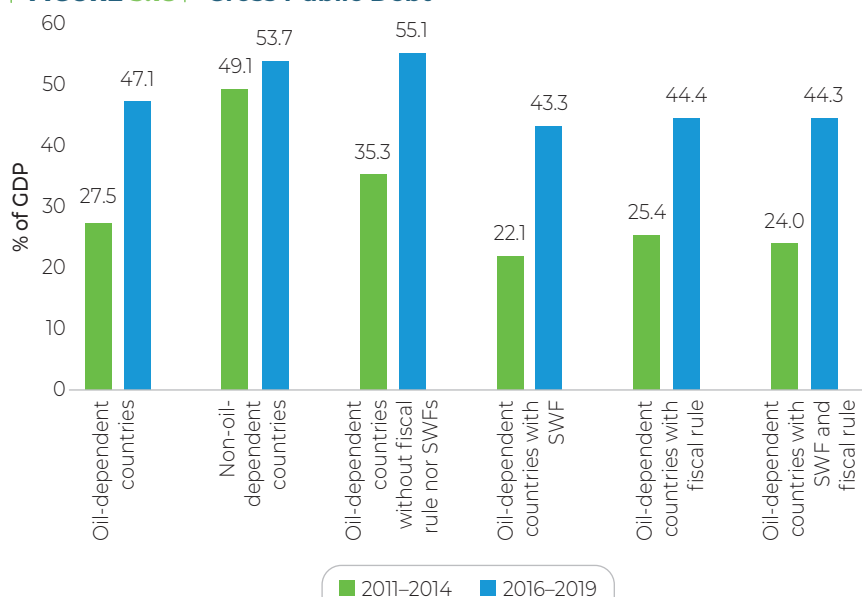
The mixed evidence supports the findings of the literature, pointing toward a broader set of factors contributing to the success or failure of SWFs and fiscal

FIGURE 5.17 Primary Fiscal Balance



Source: Authors' elaboration based on Giles, Gauto, and Khadan (2021).

FIGURE 5.18 Gross Public Debt



Source: Authors' elaboration based on Giles, Gauto, and Khadan (2021).

rules. Sound institutions—which encompass laws, organizations, and behaviors that determine the operation of fiscal policy—have been highlighted as factors that contribute to the effectiveness of SWFs and fiscal rules. Fiscal rules and SWFs are only part of a broader institutional framework that generally requires medium-term forecasts, fiscal councils, and budgeting cycles to function effectively. A substantial body of literature highlights institutional quality as a critical link between resource dependence, growth, and fiscal sustainability (Frankel, Végh, and Vuletin, 2012).

Conclusions

Because tourism-dependent countries offer a similar “product,” the various island nations in the Caribbean compete for investment in the sector, resulting in a race to the bottom regarding taxes. Thus, in practice, the industry is lightly taxed. Governments rely on various instruments to capture some of the rent generated by tourism businesses, including the widely used surcharge on hotel rooms and entry and exit taxes. However, while the number of tourists has generally increased over time, the opposite has occurred regarding actual expenditure per tourist, which has stagnated or fallen in some countries.

OFCs or tax havens play a crucial role in the Caribbean, particularly in tourism-dependent countries. In the Bahamas and Barbados, the total financial assets of the OFCs resident in each country exceed that country’s GDP by ratios of 35:1 and 17:1, respectively. However, international institutions—notably the OECD, the Inter-American Development Bank (IDB), and the IMF—view OFCs as a source of severe problems such as tax evasion and money laundering due to the lack of transparency and the opaque and convoluted regulations under which OFCs operate. Several global initiatives seek to reduce the adverse effects of OFCs.

Perhaps the most fundamental shock to the tax haven business model is the OECD’s GMT agreement (more formally known as the Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalisation of the Economy). As noted previously, in June 2021, 137 members of the OECD/G20 Inclusive Framework on BEPS approved this major international initiative, which will reallocate taxing rights toward countries where economic activity takes place rather than where firms choose to book profits and will set a minimum global tax rate to be applied on a country-by-country basis rather than in aggregate, which would destroy the havens’ business model.

Both commodity-exporting countries and tourism-dependent countries have sector-specific taxes, but in the former special taxes and other non-tax revenue, such as royalties, constitute a significant source of total revenue. Research

on the ramifications for fiscal policy of resource-revenue dependence shows that it hurts non-resource income in commodity-exporting countries. Specifically, non-resource revenues in those countries having non-renewable resources are lower than in comparator countries (i.e., those that do not depend on resource revenues), and the gap between the two groups of countries has widened over time. The revenue streams in the commodity-exporting countries also tend to be more volatile. Given that resource exporters face fiscal vulnerabilities to shocks and sustainability issues, the policy implications are that non-resource revenues need to be strengthened to create adequate fiscal space. Four specific measures are proposed for resource-dependent countries: (i) maintain appropriate levels of stabilization savings, (ii) promote effective spending policies, (iii) ensure effective use of taxation to reduce revenue volatility, and (iv) support a robust institutional framework, partly through the adoption of fiscal rules and the creation of an SWF.

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Jamaica: The Role of Tax Reform in the Economy's Evolution

Introduction

Jamaica stands out as the country with the most comprehensive stabilization-cum-structural reform in recent times. According to the International Monetary Fund (IMF), “policies supported by the precautionary SBA [Stand-By Arrangement] (2016–19) and its predecessor EFF [Extended Fund Facility] (2013–16) helped facilitate a significant improvement in a host of key macro-economic variables. Debt restructuring combined with active liability management and persistent fiscal discipline contributed to drastically reduced debt. Policy reforms strengthened tax administration, public financial management, monetary operations, foreign exchange (FX) market operations, financial system oversight, and reserves accumulation” (IMF, 2019). This chapter attempts to determine, What did the tax measures contribute to Jamaica's economic performance, and how?⁷²

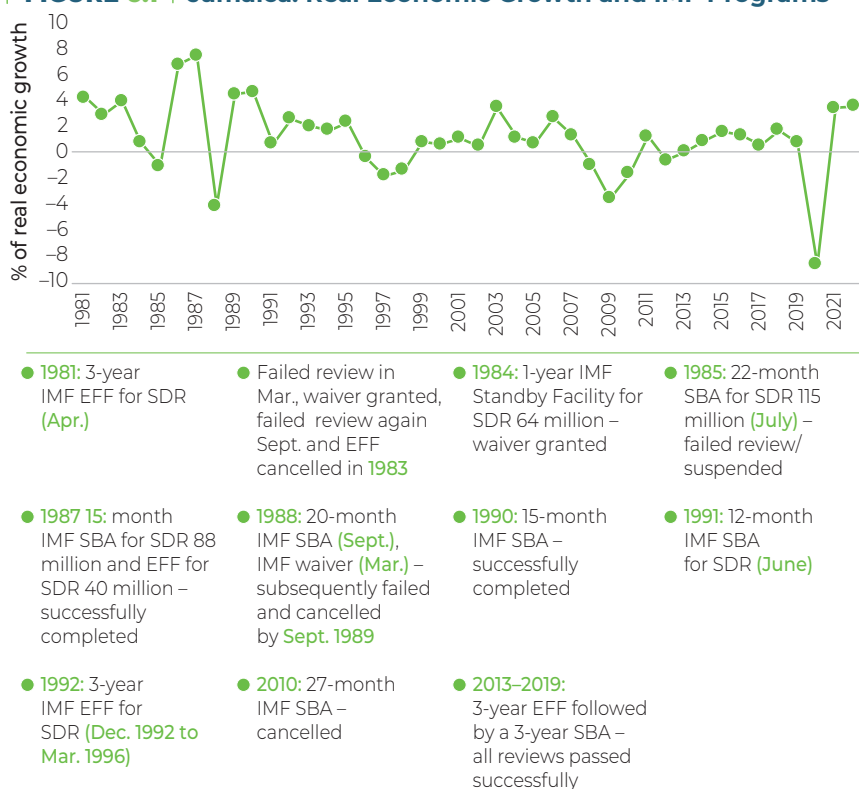
Background

Jamaica's economy was often referred to as “low growth, high investment, high debt,” but no longer. The stabilization-cum-reforms, mainly during 2013–15, are generally believed to have shifted the economy to higher growth and falling public debt.

⁷² This chapter draws extensively on Baca Campodónico (2017).

Before the stabilization and reform programs that culminated in 2019, the economy had grown at an annual average rate of around 0.7 percent over the previous four decades and suffered chronic fiscal and external imbalances. The latter resulted in a high and increasing debt-to-GDP ratio that averaged 100 percent of GDP from 1970 to 2010. A sequence of IMF adjustment programs—undertaken to ameliorate the extreme macroeconomic instability—each temporarily eased the macroeconomic imbalances but failed to shift the country to a sustainable higher economic growth path. Instead, they led to bouts of booms and busts where each boom’s maximum growth rate was lower than the previous one (Figure 6.1). A hysteresis process⁷³—where potential growth had a negative trend—was accompanied by a ratchet effect on the

FIGURE 6.1 Jamaica: Real Economic Growth and IMF Programs



Source: Authors' elaboration based on IMF country reports.

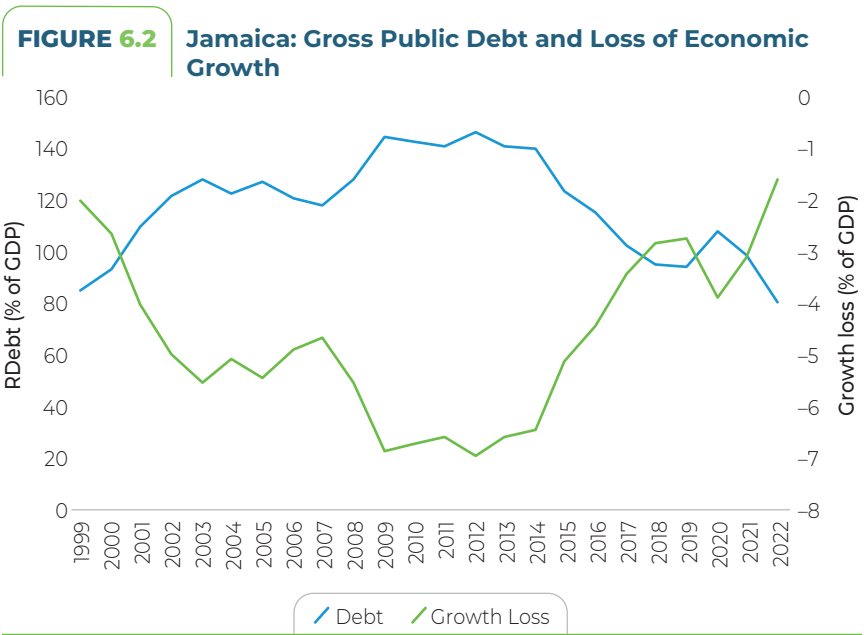
Note: EFF: Extended Fund Facility, SDR: Special Drawing Rights, SBA: Stand-By Arrangement.

⁷³ Hysteresis is the dependence of the state of a system on its history. The concept is discussed in more detail in Gocke (2002).

debt-to-GDP ratio as the government turned to debt financing during downturns without adequate debt retirement during a boom. The exception was from 1984 (when debt to GDP had reached 212 percent) to 1996 (when the debt ratio fell to 70 percent). After that, it again rose to 148 percent of GDP in 2012.

Nonetheless, since the 1980s, debt to GDP in Jamaica has been at levels where the marginal and average effect on economic growth is negative (for small economies like Jamaica, this is a debt ratio above 60 percent of GDP).⁷⁴ Figure 6.2 displays gross public debt and the associated loss of economic growth. The average annual growth loss was 5 percent between 1999 and 2012, and it has further declined since 2013. Consequently, the country became relatively more impoverished as its GDP per capita declined relative to the average of the rest of the small economies (ROSE).

Underlying the low economic growth (in the context of high investment and high public debt) was the poor (i.e., negative growth of) labor and total factor productivity (TFP), and it was not so much due to insufficient inputs, including private investment. These variables are interrelated: Blavy (2006) estimated that doubling total public debt reduces real factor productivity growth by about 1.5 percentage points. So, increasing public debt is associated with falling TFP.



Source: Authors' elaboration based on IMF (2020).
 Note: The loss in economic growth was estimated using the estimates in Greenidge et al. (2012).

⁷⁴ See Chapter 2 for a more thorough discussion of this issue.

Not only did high and increasing levels of debt reduce productivity in Jamaica, but they also contributed to the misallocation of resources. High public debt was related to macroeconomic disequilibrium and an output structure that relied excessively on a few maturing sectors—tourism and mining—while manufacturing declined steadily and the informal economy increased. Tourism has the largest share of total exports of goods and services. Still, the dominant enclave model (exemplified by all-inclusive resorts) inhibits the tourism sector's growth potential, severely reducing positive spillovers into the rest of the economy. Simultaneously, debt service crowded out public investment, further adversely affecting productivity. Even though total investment was relatively high, economic growth was low, reflecting that the output investment elasticity—used as a proxy for the accelerator effect—was low, declining, and highly variable.

The world economic recession in 2008–9 exacerbated this poor performance. Moreover, the ensuing recession in Jamaica reversed the socioeconomic gains achieved before the downturn. Before the global financial crisis, the headcount ratio of poverty decreased steadily, reaching a low of 9.9 percent in 2007, but the trend has been reversed since then. The halving of poverty from 2003 to 2007, despite low yearly per capita growth of 1.1 percent, is attributed three-quarters to increased household consumption. Household consumption outpaced GDP growth due to remittances. A further quarter can be attributed to decreased inequality due to narrowing returns to education and declining sector wage gaps (Medvedev et al., 2013). The contraction of GDP and employment and the fall in remittances in 2008 increased poverty yearly since then.

Jamaica did not have adequate policy buffers in place when the 2008 global financial crisis began, and the country was hit hard by contracting export income (tourism, bauxite, and remittances), leading to a twin fiscal and external crisis. Economic contraction set in. Consequently, Jamaica embarked on a stabilization-cum-reform plan in 2010, but it failed in 2011.⁷⁵ The country was forced to turn to the IMF again, and reforms and stabilization measures were reinitiated in 2013 under the auspices of an IMF EFF program (from 2013 to 2016) followed by an SBA (from 2016 to 2019). The Inter-American Development Bank (IDB) complemented these IMF operations with three policy-based loans (PBLs)—Fiscal Structural Program for Economic Growth (FISPEG) I, II, and III—and an accompanying investment program, the Fiscal Administration Modernization Program (FAMP). The stabilization-cum-reforms that began in May 2013 appear to have been a turning point for Jamaica. With social and political support for reforms,

⁷⁵ The IMF and IDB supported this initial reform effort with an SBA and a series of three Fiscal Consolidation PBLs respectively. The former was cancelled, and the latter was truncated after the second PBL due to the country's noncompliance with key policy provisions.

the Jamaican government—over two administrations⁷⁶—started on a path of fiscal discipline, monetary, exchange rate, and financial sector reforms as well as structural improvements to break the decades-long cycle of high debt and low growth and intensifying macroeconomic imbalances. Another feature particular to Jamaica was the monitoring of reform commitments by the Economic Programme Oversight Committee, whose members come from the business, civil, and public sectors.

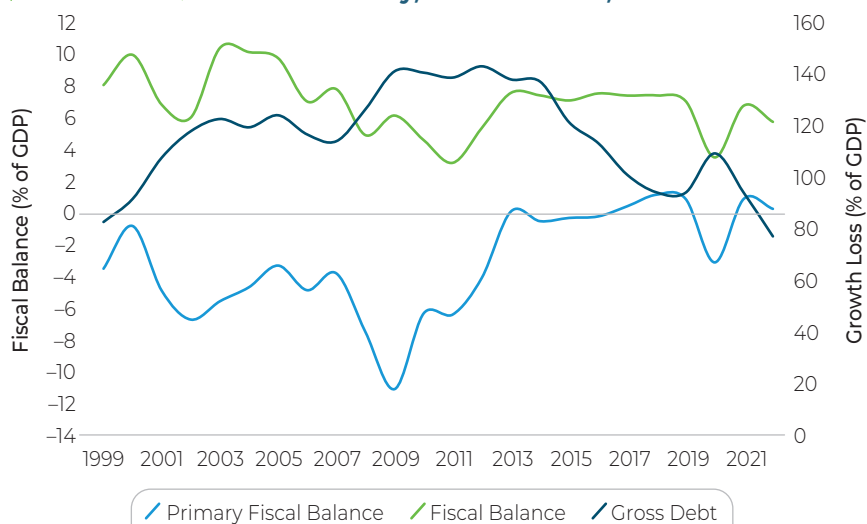
The stabilization measures included a primary fiscal surplus (targeted at 7.5 percent of GDP) until March 2017 and 7 percent after that, further lowered to 6.5 percent by the fiscal year 2019/20. Furthermore, the measures were designed to reduce the debt-to-GDP ratio to 100 percent by 2020. Also included in the program were exchange adjustments and reforms in the financial sector and business environment. These actions put debt on a downward trajectory. Reducing the debt stock through a PetroCaribe debt buy-back in 2015 also helped. Steps to achieve the primary fiscal surplus included an expenditure contraction and a significant tax reform, including reducing tax expenditure in 2014 and adopting a budgetary rule (aimed at reducing debt to GDP to 60 percent by 2026).

In the recent history of the Caribbean, these Jamaican initiatives constitute the region's most comprehensive set of stabilization and structural and tax reform initiatives. The fiscal reforms broadened the tax base and increased revenue despite reducing rates on corporate income tax (CIT) and the statutory rate of value added tax (VAT). Reforms included eliminating exemptions and discretionary waivers in the general consumption tax (GCT). A revenue-neutral personal income tax (PIT) reform enhanced efficiency by shifting from direct to indirect taxation. The Large Taxpayer Office was strengthened as part of the reform and strengthening of tax administration. These efforts led to tax revenues overperforming budget targets and tax expenditures falling from more than 8 percent of GDP in 2008 to 3 percent by 2016.

Macroeconomic policy indicators began improving and had generally trended in the right direction before the COVID-19 pandemic of 2020 (Figures 6.3 to 6.6). The fiscal deficit as a percentage of GDP improved from its worst point at -11.1 percent in 2009 to an estimated 0.9 percent in 2019. The primary fiscal balance went from a trough of a surplus of 6.2 percent of GDP in 2011 to 7.1 percent of GDP in 2019. The improvement in the budgetary balance was more due to expenditure reduction than tax revenue increase. Gross public debt fell from 141.9 percent of GDP in 2009 to 94.3 percent in 2019. Inflation began trending down, from a high of 16.8 percent in 2008 to 4.8 percent in 2018. The current

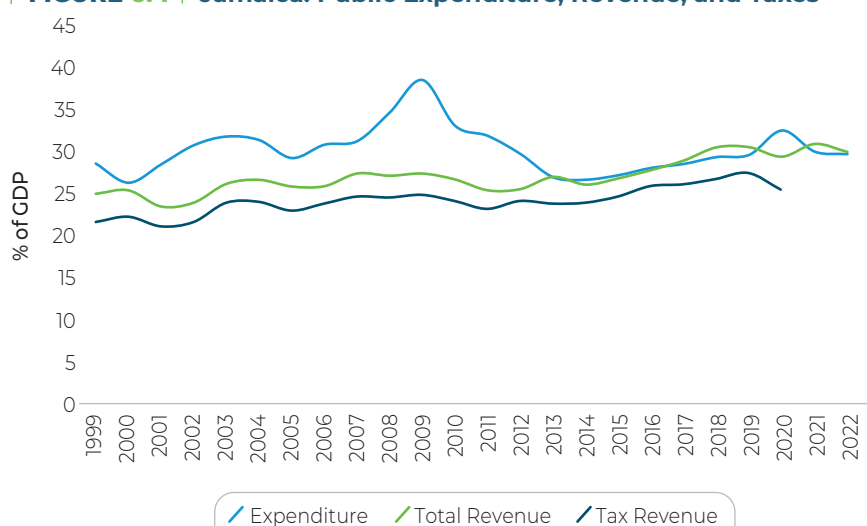
⁷⁶ The Jamaican Labour Party replaced the incumbent Peoples National Party in the general elections of 2016.

FIGURE 6.3 Jamaica: Primary, Fiscal Balance, and Gross Debt



Source: Authors' elaboration based on IMF (n.d., 2020).

FIGURE 6.4 Jamaica: Public Expenditure, Revenue, and Taxes

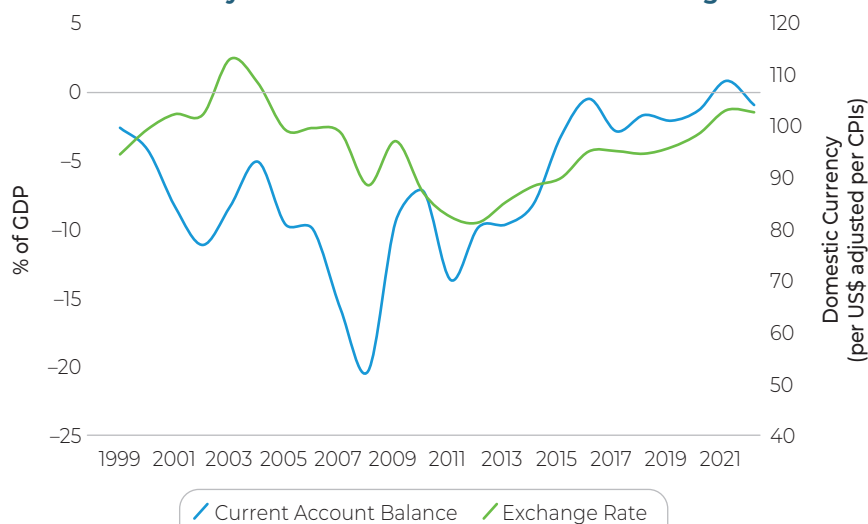


Source: Authors' elaboration based on IMF (n.d., 2020).

account of the balance of payments improved, from a deficit of 13.6 percent of GDP in 2011 to a deficit of 1.9 percent in 2019, partly reflecting a devaluation of 8.4 percent in the real effective exchange rate between 2008 and 2019.

International perceptions of Jamaica turned positive, and Jamaica returned to the global capital markets: Standard & Poor's and Moody's upgraded Jamaica's

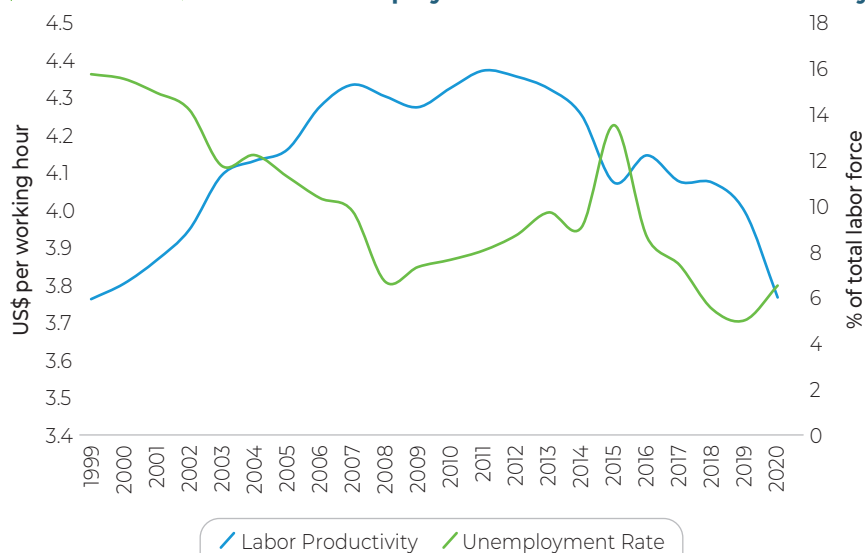
FIGURE 6.5 Jamaica: Current Account of the Balance of Payments and the Real Effective Exchange Rate



Source: Authors' elaboration based on IMF (n.d., 2020).

Note: CPI: consumer price index.

FIGURE 6.6 Jamaica: Unemployment Rate and Labor Productivity



Source: Authors' elaboration based on IMF (n.d., 2020).

credit rating in May and June 2016. Jamaica issued a US\$800 million international bond on July 2, 2014. In August 2015, Jamaica raised US\$2 billion on the global capital market through the issue of two new Eurobonds. The government has

used proceeds from the bonds to buy back around US\$3 billion in PetroCaribe debt owed to Petróleos de Venezuela SA for US\$1.5 billion (a discount of just under 50 percent). The government allocated the remaining funds to general budgetary financing. The debt buy-back and the repayment of existing maturities reduced Jamaica's debt-to-GDP ratio from 137 percent to 125 percent by the end of the fiscal year in March 2015.

According to a report by the Planning Institute of Jamaica (PIOJ, 2020), the overall impact of the tax reform has been positive. In particular, eliminating and replacing most incentive acts with a single Omnibus Incentive Regime (through the Omnibus Incentive Legislation, or OIL) has reduced tax expenditures and improved taxpayer compliance levels. The new regime has simplified the granting of incentives by providing a rule-based, non-discretionary system. Individuals and companies across various industries have benefited from the legislation implemented. Data from Tax Administration Jamaica (TAJ) shows compliance rates for filing returns and tax revenue have increased since the reforms.

The level of poverty, measured by the headcount ratio, fell from 21 percent in 2015 to 17 percent in 2016 but it then started to rise again, reaching 19 percent in 2017. Although the unemployment rate continued to fall, so did labor productivity (real GDP per worker employed).

Tax System before Reform

Before the 2013 tax reform, Jamaica's tax system was characterized by high statutory tax rates and a complex structure of exemptions, incentives, and waivers that had a severely negative impact on the transparency of tax policy, on tax revenue, and on tax and customs administrations. This situation distorted the competitiveness of taxpaying firms. Those who paid taxes paid at a high rate, but many with statutory tax liability paid little or nothing thanks to discretionary waivers. In this context, to a certain extent, tax waivers were system induced. In many cases, high tax rates forced taxpayers to request waivers (including for import duties) to maintain their competitive edge.

While the Jamaican tax-to-GDP ratio of 24.3⁷⁷ percent was in line with the Caribbean Community (CARICOM) average, the taxation structure differed from other countries as it relied heavily on direct taxes (42 percent of total taxes). The share of taxes on wages and salaries ("pay as you earn" or PAYE taxes) was 20 percent, double the percentage of taxes on companies (10 percent).

⁷⁷ Small discrepancies with official figures could arise due to this book's use of GDP calendar year figures rather than fiscal years. Using FY GDP figures, the tax-to-GDP ratio stands at 22.95 percent.

Taxes on consumption raised 46 percent of total tax revenue and had been buoyant during the 2010s, driven not least by a sharp increase in the share of the GCT. However, statutory rates of GCT are still higher than rates in other countries in the region. With a standard rate of 16.5 percent,⁷⁸ GCT collects 8.5 percent of GDP. GCT is a VAT system that uses a traditional credit-invoice-based system broadly compatible with modern VATs. In addition to the standard rate of 16.5 percent, a 25 percent rate applies to telecommunications services and handsets, and a 10 percent rate applies to tourism services. The government had reduced the scope of GCT exemptions but during the 2010s the list of exempted goods remained significant, notably including numerous categories of food, healthcare supplies (both for the healthcare sector and the final consumer), educational supplies (both for the education sector and the final consumer), and supplies purchased by religious institutions and other registered charities. In 2010, the electricity supply was removed from the GCT exemption list and subject to a 10 percent rate for residential (for those consuming more than 200 kWh per month), commercial, and industrial customers. In the late 2010s, the government increased the 10 percent rate on electricity to 16.5 percent while simultaneously abolishing the 200-kWh threshold for residential customers.

From 2005 to 2020, reforms to the GCT increased the standard rate (from 15 percent to 16.5 percent in April 2005, to 17.5 in early 2010, and back to 16.5 in 2012). The rate for telecommunications went from 20 to 25 percent in October 2009. The government reduced the range of rates applicable by eliminating special lower rates for building materials in April 2005, reducing the scope of some exemptions, and shifting a broad range of items (e.g., a range of food items, for the most part in 1999) from the zero-rated schedule to the exempt schedule. The GCT as a share of total tax revenues and GDP grew from 6.8 percent of GDP in 2000 to 8.4 percent in 2016, as displayed in Table 6.1. Excise tax revenues increased their participation in total revenue and as a share of GDP. Trade taxes were still significant revenue raisers at more than 9 percent of total tax revenue, although their share was falling. Trade taxes' (primarily customs duties) share of total taxes was lower in Jamaica than regional competitors despite the country having higher statutory rates. The latter was a direct consequence of the generalized use of exemptions and waivers for import duties.

Another feature was the importance of PIT (measured in terms of percentage of GDP and as a share of total taxes), which was significantly higher in Jamaica than in other CARICOM countries. However, Jamaican CIT's share of total taxes was also among the very highest in the region. The PIT was reformed to include higher thresholds. The CIT was assessed at a flat rate of 33.3 percent

⁷⁸ Reduced from 17.5 percent in 2012.

TABLE 6.1 Jamaica: Revenue Collections (percent of GDP)

Type of Tax	2000/01	2004/05	2008/09	2012/13	2016/17	2018/19
TOTAL	23.4	25.3	26.0	25.1	24.7	28.0
Direct Taxes	10.1	11.2	11.9	9.8	9.4	9.2
Income tax	4.9	4.4	5.0	4.1	3.9	4.4
PAYE	4.3	5.7	5.8	4.6	3.8	2.9
Other direct taxes	1.0	1.1	1.2	1.1	1.7	1.9
Indirect Taxes	12.8	13.4	13.4	14.4	14.3	17.7
GCT (net of refunds)	5.8	6.7	7.0	7.2	8.3	9.2
SCT	2.5	2.0	1.9	3.1	3.4	3.8
Taxes on international trade	2.9	2.6	2.4	2.4	2.7	3.2
Other indirect taxes	1.6	2.1	2.1	1.8	0.0	1.5
Social Contributions	0.5	0.7	0.7	0.9	1.0	1.1

Sources: Authors' elaboration based on Jamaica's Ministry of Finance and the Public Service (2012, 2013, 2014, 2015, 2016, 2017, 2018); nominal GDP from Statistical Institute of Jamaica.

of taxable income. Unregulated companies paid 25 percent, while the taxable income of building societies was evaluated at a preferential rate of 30 percent. However, many exemptions and waivers of the CIT eroded its tax base and created an unfair system between taxpayers paying taxes and those not paying them. A minimum corporate income tax at a flat rate of J\$60,000 was introduced on January 1, 2013.

A general withholding tax of 25 percent is levied on interest accruing to companies and individuals. The tax, introduced in 1999, is an advance tax, which can be credited against final tax liability as calculated when taxpayers submit their annual returns. There are several exemptions to the interest tax—both the advance tax and the final tax—including for interest received by pension funds, building societies, charitable institutions, non-residents in treaty countries, long-term savings accounts in financial institutions (held for more than five years and with a maximum balance of J\$1 million), foreign currency deposit accounts, some government securities, and life insurance companies.

Jamaica's excise tax regime, the special consumption tax (SCT), was introduced in 1991 as part of the GCT legislation. It initially imposed specific and ad valorem taxes on three different products: alcoholic beverages, tobacco products, and petroleum products. More recently, motor vehicles, initially covered only under the GCT, have been added to the SCT regime. Petroleum products

are generally subject to per-liter specific tax rates, which vary widely from as little as J\$0.03 per liter for liquid propane and butane to as much as J\$16.48 per liter for high-octane gasoline. These taxes fall on automotive fuels (gasoline and diesel), with other products facing lower specific rates. Fuel products are generally not taxed under the GCT. In December 2010, the government restructured the SCT on several alcoholic beverages to tax them based on their alcohol content using specific rather than ad valorem SCT rates. Alcohol taxes were further adjusted in May 2012, when the government supplanted the old SCT regime for over-proof rum to tax the product based on its alcohol content using a specific rate of J\$960 per liter of pure alcohol. Cigarettes are subject to a tax of J\$1,050 per 100 cigarettes, which increased sharply from J\$850 in early 2012. Non-cigarette tobacco products are subject to an ad valorem tax of 12 percent.

Before the reforms, the system was rife with tax expenditures (Baca Campodónico, 2012). While opinions differed on the optimal level of tax incentives, a consensus had emerged that tax incentives in Jamaica had gone well beyond that level.

An essential part of business activity in Jamaica benefited from tax incentives. The agriculture, manufacturing, and tourism sectors were significant beneficiaries of tax incentives. Other sectors received fewer tax incentives, though the Motion Picture Encouragement Act is an exception. An overview of the main tax expenditures granted to major beneficiaries is presented in this section.

Agriculture benefited from a discretionary incentive. Based on an application, the Ministry of Agriculture could provide a farmer with “approved farmer” status, which led to a period of exemption from most taxes (and reduced duty on vehicles). This period was often seven years, but it could be different and renewable. While this incentive may have boosted agricultural production, the effect was unlikely to be very large. With this incentive, farmer-beneficiaries may have been induced to produce more because their marginal costs were lower. However, after the expiration of the stimulus, this effect disappeared and production would fall again, except to the extent that the incentive may have been used to finance a fixed-cost investment that yielded permanent cost savings.

Manufacturing benefited from at least six incentives. Most of them were mutually exclusive, except for the waiver of the customs user fee, which could be combined with any other incentives by potential beneficiaries. Because they appeared to breach World Trade Organization (WTO) requirements, the most generous incentives applied to exporters had to be abolished or reformed by 2015. Irrespective of WTO commitments, the rationale for giving preferential treatment to exporters seems questionable. An investment that led to import substitution would have the same economic effects but would not have qualified. More broadly, manufacturers who do not export most or all their products

could equally achieve employment creation and economic growth. It is even possible that some manufacturers could artificially limit their domestic sales to continue benefiting from the incentive, thus imposing unnecessary transport costs on Jamaican consumers.

The treatment for petroleum refineries was equally very generous. However, no firm benefited from this because there is only one refinery in Jamaica and its tax holiday has expired. A particular program was available for firms wishing to modernize their production procedure, but it provided minimal benefits by exempting from GCT machinery and equipment used in modernization. Because GCT on inputs was refundable, this incentive offered a timing advantage, which might not have been worth the administrative cost. Another incentive was accelerated depreciation, available on application and subject to certification.

The tourism sector was another primary beneficiary of the tax incentives, with three programs targeted at hotels, rental properties, and attractions. All were similar in providing tax holidays for CIT, customs duties, and GCT on certain goods. However, the legal bases differed, as the attraction incentive was implemented as a ministerial waiver rather than through a specific act. Moreover, the sector benefits from a reduced GCT rate. While Jamaica competes with other countries for tourists, a reduced rate of GCT has several disadvantages. Apart from the revenue losses, the resulting dual rate significantly complicated tax administration and opened the system for abuse. The latter is particularly problematic for Jamaica, where the resources devoted to tax audits are already stretched. It also potentially created excess GCT credits, with all the potential problems of delayed refunds. Moreover, foreigners reap some, if not most, of the benefits of this reduction through lower prices.

Finally, the mining sector benefited from incentives, which provided exemptions from customs duties for 10 years (unlimited for bauxite and alumina). Given that the mining industry exploits a natural resource, which yields rent due to scarcity, it is unclear why an incentive is needed. Instead, attempting to tax part of the economic rent may be advisable.

Some extensive incentives encourage more investment, such as the accelerated depreciation provision. Other incentives are an attempt to pick winners or attract entirely new industries, such as the Motion Picture Encouragement Act. Yet other incentives seem to address problems created by the tax system: the Waiver of Customs User Fee addresses this additional tariff-like fee, and the Modernisation of Industry Program addresses the long delay in GCT refunds. The tourism sector incentives appear to be a combined effort at encouraging investment, creating employment, picking winners, and competing with the tax treatment provided in other countries in the Caribbean.

Whatever their aims, providing incentives to selected activities creates a huge difference in tax treatment between those who benefit from them and those who do not. Moreover, given the variability in stimuli, tax liabilities differ even among promoted industries. There is, of course, a difference in treatment between those firms still benefiting from a tax holiday and those with expired ones. In the more discretionary incentives, such as the approved-farmer status, there is also a difference in treatment between firms benefiting from the same incentive but whose applications may not have been approved on the same terms.

Tax Reform

The principles that guided the 2013 comprehensive tax reform were:

1. **Simplicity and Transparency.** Ensuring that it will become easier for taxpayers to comply when filing and paying taxes and increasing the effectiveness of tax administration.
2. **Fair and Equitable Taxation.** People earning higher incomes would pay a more significant proportion of their income in taxes. Additionally, tax treatments would be applied properly, whereby similar taxpayers and taxpaying activities are treated/taxed at the same rate.
3. **Broadened Base with Lower Rates.** It should have as few non-standard tax rates as possible (with limited exceptions), ensuring simplicity.
4. **Dynamic and In Keeping with Government Medium-Term Tax and Fiscal Initiatives.** The tax system should be engaged to meet the changing economic realities while ensuring it enhances the comprehensive economic mandate of the government to improve the economy and the standard of living.
5. **Maintain Revenue Adequacy.** Taxes should be structured to meet the revenue needs of the national budget.
6. **Facilitatory.** Without introducing new distortions, the tax code should facilitate savings, increased investments, and the business environment to enhance productive efficiency and economic growth.

The main objectives of the tax reform were broadening the tax base, reducing tax expenditures, and promoting economic growth and formal employment. Jamaica's authorities have made significant progress in achieving the objectives of the tax reform. The pre-reform situation and post-reform results in terms of tax expenditures and revenues collected are summarized in Table 6.2 for 2012–17. The broadening tax base has allowed the CIT rate to be offset from 33.3 percent to 25 percent, and the primary GCT rate reduced from 17.5 percent

TABLE 6.2 Jamaica: Tax Expenditures and Revenue
(by tax type as percent of GDP)

Tax Type	Expenditures and Revenue	Pre-Reform (% of GDP)		Post-Reform (% of GDP)	
		2005	2009	2013	2015
CIT	Tax Expenditures	0.60	0.58	0.39	0.18
	Revenue	2.27	2.74	1.74	1.97
PIT	Tax Expenditures	0.04	0.10	0.01	0.02
	Revenue	2.29	2.98	1.03	0.99
Education Tax	Tax Expenditures	0.00	0.03	0.03	0.03
	Revenue	1.05	1.13	1.26	1.28
GCT	Tax Expenditures	3.59	4.39	2.03	1.90
	Revenue	6.93	6.45	7.86	8.35
SCT	Tax Expenditures	0.28	0.39	0.35	0.45
	Revenue	1.66	2.77	2.67	3.09
Import Duty	Tax Expenditures	1.24	1.48	1.11	1.28
	Revenue	2.20	1.74	1.78	1.78
Customs User Fee	Tax Expenditures	0.15	0.48	0.17	0.01
	Revenue	0.16	0.12	0.14	0.12
All Taxes	Statutory	0.60	0.58	0.39	0.18
	Incentives	2.27	2.74	1.74	1.97
	Waivers and Reimbursements	0.04	0.10	0.01	0.02
	Waivers on Arrears	2.29	2.98	1.03	0.99
	Revenue	16.56	17.92	16.48	17.58
	Total Tax Expenditures	5.90	7.44	4.10	3.88
Tax Expenditures as % of Revenue		35.64	41.55	24.86	22.10
GDP (J\$)		700,276	1,089,927	1,432,096	1,659,677

Sources: Baca Campodónico (2017) and Jamaica's Ministry of Finance and the Public Service (2012, 2013, 2014, 2015, 2016).

to 16.5 percent. Reducing tax expenditures has streamlined the distortionary effects of various incentive laws and discretionary waivers. Formal employment has risen because of the new incentive law. However, strong economic growth remains elusive, and the revenue-enhancing measures negatively impact poverty and income distribution.

A vital component of the tax reform has been widening the tax base. The incorporation of government purchases into the GCT base was a significant step in broadening the tax base of indirect taxes. Although it has meant increasing each ministry's budget, it has widened the tax base by reducing the use of fake invoices, increasing taxpayer compliance, and reducing corruption among government suppliers. Also, the tax reform has eliminated most tax incentive acts by enacting the new OIL. The new incentive law levels the playing field for all sectors. It promotes the formalization and creation of new employment and new investment by granting a tax credit proportional to employers' contributions to the National Insurance Scheme (NIS) and other payroll-related taxes and tax credits for capital investments. The OIL provides a comprehensive amendment to the old incentive regime to ensure standardized non-sector-specific incentives, which incentivize the use of both the capital and labor in the productive sector of businesses in Jamaica. The amendments were passed in December 2013 and took effect January 1, 2014.

The benefits associated with the new OIL encompass the Employment Tax Credit (ETC), reduced CIT, a new capital allowance regime, provisions for tax losses, and a reduction of import duty. In the case of the ETC, businesses that employ workers and have statutory expenditures based on the number of persons employed can claim a tax credit equivalent to 30 percent of the aggregate of statutory deductions (i.e., education tax, HEART, NIS, and NHT⁷⁹). The CIT for unregulated companies was reduced from 30 percent to 25 percent and further reduced to as low as 17.5 percent by applying the ETC. Regulated companies continue at the rate of 33.3 percent. The modernized capital allowance regime simplifies depreciation using the straight-line basis rather than the reducing balance. The regime now accounts for intellectual property and research and development. The revised provisions governing tax losses include a new treatment for carryover of the previous year's losses. The legislation included reducing import duty on raw materials and selecting intermediary goods used to produce goods and internationally traded services.

With the enactment of the OIL, 11 old tax incentive laws were repealed effective January 1, 2014, namely: the Cement Industry (Encouragement and Control) Act, the Export Industry (Encouragement) Act, the Foreign Sales Corporation Act, the Hotels (Incentives) Act, the Industrial Incentives Act, the Industrial Incentives (Factory Construction) Act, the International Finance Companies (Tax Relief) Act, the Motion Picture Industry (Encouragement) Act, the Petroleum Refining Industry (Encouragement) Act, the Resort Cottages (Incentives) Act, and the Shipping (Incentives) Act.

⁷⁹ HEART is the Human Employment and Resource Training Trust, NIS is the National Insurance Scheme, and NHT is the National Housing Trust.

Taxpayers that had been granted incentives approved before January 1, 2014, under any of the above legacy incentive laws were to continue to be entitled to the benefits afforded under that legacy incentive until it expired. However, such taxpayers could elect to forgo their remaining entitlement under that legacy incentive and instead benefit under the new incentive law.

Five old incentive laws have been retained. Taxpayers approved for these incentive programs will continue to benefit under the current tax regime or may choose to graduate to the new incentive law. In addition, large-scale and pioneering projects will receive special treatment governed by rules and a parliamentary approval process rather than solely by ministerial discretion.

The Customs and Tariffs Reform aimed to standardize and reduce the dispersion of duty rates and provide statutory concessions to the productive sector. Agricultural import tariff rates at or below 40 percent have generally been reduced to the default rate of 20 percent. However, the Common External Tariff (CET) rates above 50 percent have been maintained (on products such as poultry, milk, and cream, including milk powder and vegetables). Also, to reduce the rate disparity between similar goods, the rate on some items previously rated at 0 percent have been increased to 5 percent. A rate of 0 percent has been applied to intermediate goods used in the production process for manufacturing and to primary producers (agriculture) through the Productive Inputs Relief (PIR) regime. The tourism accommodation, attractions, creative industry, and healthcare sectors have been provided duty relief on a specified list. The concessions provided under the PIR have been subjected to the constraints of the CARICOM Treaty.

The customs reform also eliminated the WTO noncompliant ad valorem customs fee. The old customs user fee (CUF) of a fixed ad valorem rate of 2 percent on all imports was replaced by a new Customs Administration Fee (CAF). The fee is not ad valorem and more accurately reflects the cost of services the Customs Agency offers. It is fully compliant with WTO guidelines. Imports by approved charitable organizations, the bauxite sector, and petroleum products were exempt from the CAF. The cabinet approved this measure in early February 2014 and implemented it through a resolution of the Customs Agency.

The existing Charities Act was repealed and a new Charities Act was enacted in 2013. The new act has implemented a mechanism for regulating charitable organizations by a single authority and has established a comprehensive legal and institutional framework. The government has ceased granting waivers to charities other than as specified under the new legislation. As of December 24, 2013, all charitable organizations must be registered with the Registrar for Cooperative and Friendly Societies under the new regime to be eligible for exemptions granted under the act. A transitional period of six months

was provided for organizations for charitable purposes created or operated before the new legislation came into force, allowing them to continue receiving tax benefits under the old Charities Act. Organizations not registered under the new Charities Act would no longer be considered registered charities entitled to tax benefits.

Another critical component of the tax reform has been the reduction of tax expenditures. Total tax expenditures decreased from 6.5 percent of GDP in 2011 to 3.5 percent in 2014. Discretionary waivers reduced from 1.0 percent of GDP in 2011 to 0.6 percent in 2014, which was expected to continue in 2015; since then, discretionary waivers have been less than 0.1 percent of the GDP. The new OIL phased out most old incentive acts (except bauxite, petroleum, and urban renewal). Discretionary waivers were capped at J\$10 million per month. The new Charities Act converted previous discretionary waivers granted to charities into new statutory waivers by embedding them in the latest register of approved charities.

As noted, the government drastically reduced the incidence of discretionary waivers and they now account for less revenue loss. A discretionary waiver is granted when the Minister of Finance chooses to waive all or a portion of duties and taxes imposed on a taxpayer. The government has implemented a Tax Relief Unit to process daily applications for relief across the various tax types. The curtailment of discretionary waivers has been mainly achieved by creating the Charities Act and the Fiscal Incentives Act. Requests from charities or that would be considered tax incentives will no longer be processed under the current cap. Currently, most waivers are confined to motor vehicle duty concessions provided to traveling officers in the public service as per the Customs and GCT Acts.

Although the government toyed with the idea of creating a new tax regime for special economic zones (SEZs), they did not do so. The new SEZ regime would have been such that taxpayers operating in an SEZ would pay only half of the standard CIT rate, would not be subject to any duties or taxes paid at customs, and would be allowed to sell their products in the domestic market. If implemented, the SEZ regime would have increased tax expenditures and, therefore, it was inconsistent with the objectives of the tax reform. Further, international experience shows that SEZs that allow companies to sell to the domestic market create numerous opportunities for evasion of domestic taxes and customs duties. That would have seriously undermined tax revenue and created unfair competition, negatively impacting economic growth.

The initial tax program continues to be supplemented with new revenue measures. There are some new revenue measures that are not aligned with the main objectives of the 2013 tax reform, which were centered on broadening the tax base, reducing rates, and simplifying the tax system. Examples include

the telephone call tax (which has a regressive impact on income distribution), the increase in the environmental levy, and the introduction of the accommodation tax. The revenue measures include raising the PIT threshold for PAYE and self-employed taxpayers. The marginal tax rate for individuals with an income of more than J\$6.0 million has been increased from 25 percent to 30 percent to compensate for the expected revenue loss (J\$12.5 billion). In addition, the specific SCT rates on petrol have been increased, and a new SCT regime for liquefied natural gas (LNG) has been introduced. Also, the SCT on cigarettes was increased and the departure tax has been raised.

Finally, the government started publishing a tax expenditure budget report, a significant step toward transparency of the tax system.

Tax Administration⁸⁰

Jamaica's comprehensive tax reform contemplated five specific goals for TAJ: (i) adopting a comprehensive reform strategy including a time-bound action plan to unify the domestic tax administration, (ii) vesting the necessary legal and administrative powers in the TAJ Director-General instead of the respective commissioners of each department, (iii) expanding the Large Taxpayer Office, (iv) facilitating compliance through streamlined procedures, and (v) developing an interface between the domestic tax and customs IT systems to exchange information between departments.

In the case of the Customs Agency, the primary goal was to transform this department into an executive agency (Jamaica Customs Agency, or JCA). As part of this transition, Customs was also to place increased emphasis on border protection. In May 2010, the IMF's Fiscal Affairs Department acknowledged the importance of border protection and lauded this goal. However, it was also advised that the new JCA should remain closely aligned with the Ministry of Finance and the Public Service due to the importance of the agency in overall tax collections (accounting for more than 30 percent of all government revenues).

Before the reform efforts, the Tax Administration Directorate was headed by a Director-General for Tax Administration who reported directly to the Financial Secretary (of the Ministry of Finance). The Director-General supervised five significant departments, each headed by a commissioner: (i) Tax Administration Services Department (TASD), (ii) Inland Revenue Department (IRD), (iii) Taxpayer Audit and Assessment Department (TAAD), (iv) Taxpayer Appeals Department (TAD), and (v) Customs Agency. A sixth department, the Revenue Protection

⁸⁰ The reforms described in this section were guided and fully supported by FAMP, a joint Government of Jamaica and IDB initiative funded by a US\$65 million IDB investment loan.

Department (RPD), had been attached to the directorate but was restructured by absorbing some parts directly into the Ministry of Finance and the Public Service and attaching the remaining components to units within the directorate. The Revenue Administration (Amendment) Act of 2011 provided for the dissolution of TAAD, IRD, and TASD and the creation of TAJ (TAJ, n.d.). A separate, wholly government-owned company called Fiscal Services Limited (FSL) provided information and communication technology (ICT) services to all departments.

Before the tax reform, there was a consensus by international institutions such as the IMF, IDB, World Bank, and United States Agency for International Development (USAID) regarding TAJ: it had achieved no significant increase in tax compliance, control of tax fraud was ineffective, and no meaningful increase in the tax base had occurred. Regarding the internal organization and management of TAJ, they identified the following deficiencies as particularly problematic: weaknesses in management, inadequate interdepartmental cooperation, a training backlog, incomplete implementation of the Integrated Computerized Tax Administration System (ICTAS), the need to rightsize departments/units, classification inconsistencies, and a lack of data harmonization with JCA. The departments created along functional lines had evolved into silos operating as single entities, when the reality of the environment required a more integrated approach to tax collection.

Regarding JCA, the IMF identified several significant shortcomings, including system functionality, redundant manual processes that resulted in duplication of effort, and heavy reliance on manual checking and paper processes. The operating procedures appeared to be based on overall distrust of traders (i.e., importers and exporters); self-assessment and risk management were not operating as they should. Too many unproductive physical inspections impeded trade without achieving any actual results. There was a general lack of ex post revenue controls, particularly in the critical areas of fraud, valuation, and exemption diversion. There was weak enforcement capability and, hence, weak enforcement results. Manual human resource processes were cumbersome and inefficient. Finally, management information systems needed further refinement and integration.

TAJ and JCA had limited capacity to increase their revenue collection. The tax and customs administration legislation required strengthening to provide TAJ and JCA with the proper enforcement powers. Enforcement of compliance was ineffective. TAJ's Large Taxpayer Office was understaffed, and no effective compliance plans were in place. TAJ and JCA lacked integrated information technology (IT) systems to support their operations. The IT systems used by TAJ and JCA comprised several independent legacy systems that were not integrated and relied on manual data entry and limited e-filing was possible. Also,

their accounting and financial systems were outdated and did not comply with accounting standards. These systems combined manual processing supplemented with Excel spreadsheets and some accounting information produced by their legacy systems.

Ex Post Evaluation of the Jamaican Tax Reforms

This ex post evaluation of the Jamaican tax reforms was carried out using a dynamic computable general equilibrium model (DCGEM) to simulate the effects of the reform measures.⁸¹ The baseline scenario covers 2012–16 and reproduces the historical values. For the period 2017–18 (post-reform), the counterfactual was obtained by running the model assuming no reform (i.e., all tax policy measures and tax expenditures had continued to remain in effect at their *pre-reform* levels, specifically that tax expenditures remained the same as in 2016). The “historical values” for the baseline (with reform) case in the post-reform period were simulated by the DCGEM model calibrated with add factors to reproduce the official historical figures without modifying the model’s elasticity values or dynamic properties. The model is fully calibrated when there is a zero difference between simulated and actual historical values (not shown) for 2012–18.

The baseline and the counterfactual results are presented with their percent deviation from the baseline value for each variable. The difference between the baseline and the counterfactual represents the impact of the tax reform on each variable. The assessment is done one variable at a time. Table 6.3 summarizes the direct cumulative effects, while the DCGEM simulation of scenarios gives both direct and indirect effects. Three scenarios were simulated (Scenario 1 of removing the tax policy measures only, Scenario 2 of removing tax expenditure measures only, and Scenario 3 of removing both tax policy and tax expenditure measures), but only overall Scenario 3 is thoroughly discussed here. It is important to note that the comprehensive reform Scenario 3 is not the sum of the previous two scenarios, given the non-linearities of the modeled effects. Table 6.4 summarizes the cumulative impact of the different scenarios from 2012 to 2018: in Scenario 1 real GDP would have been less by 4.68 percent (cumulatively over the six-year period), in Scenario 2 it would have been less by 1.86 percent, and in

⁸¹ The GDP values used for the model’s baseline were the values available when the simulation was conducted in 2017. These values do not necessarily correspond to the actual values reported in previous sections of this chapter, because the latter reflect subsequent revision by the Statistical Institute of Jamaica (STATIN). See Baca Campodónico (2017).

TABLE 6.3 Jamaica: Main Tax Policy Measures Summary (2012–17)

#	Revenue Measure	Status	Potential Revenue Gain/Loss (billions J\$)
1	Reduction in Standard Rate of GCT from 17.5 to 16.5%	Implemented	-2.4
2	Partially widen GCT base	Implemented	4.2
3	Increase threshold on electricity to 300 kWh (for residential) and increase GCT to the standard rate of 16.5%	Withdrawn	0.43
4	Amendment of the Corporate Income Tax (CIT)	Implemented	-0.45
5	Increase Annual General Personal Income Tax (PIT) threshold	Implemented	-0.1
6	Imposition of tax on dividends payable to residents	Implemented	0.3
7	Introduction of a minimum business tax	Implemented	0.66
8	Change in SCT regime for over-proof rum	Implemented	0.75
9	Modify alcohol regime for tourism	Implemented	0.53
10	Increase CET on selected goods	Implemented	1.95
11	Modification of GCT regime for tourism sector	Implemented	2.53
12	Increase Motor Vehicle License, Fitness, License Plates, and Registration Fees	Implemented	0.6
13	Increase tax rates on winnings (betting, gaming, horse racing, and lottery)	Implemented	0.38
14	Changes to termination calls for telephone calls	Implemented	5.25
15	Modify asset tax	Implemented	1.95
16	Introduction of specific SCT of J\$10.50 per 0.7 gram of unprocessed tobacco product (bundled tobacco leaves)	Implemented	0.38
17	Imposition of SCT on denatured ethanol	Implemented	0.54
18	Curtail discretionary waivers	Implemented	1.88
Total			19.38
2012/13 Amendment			
1	Amendment to GCT regime as it relates to electricity: GCT on electricity should not apply to residential customers	Implemented	***
2	Amendments to the imposition of GCT on selected items: remove imposition of GCT on animal feed and raw foodstuff, GCT on printed material with concession to private booksellers on textbooks	Implemented	***

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TABLE 6.3 Jamaica: Main Tax Policy Measures Summary (2012–17)
(continued)

#	Revenue Measure	Status	Potential Revenue Gain/Loss (billions J\$)
3	Increase in additional stamp duty (ASD) on selected items	Implemented	***
4	Changes to termination calls for telephone calls: J\$0.05 on calls originating and terminating on fixed network in Jamaica; J\$0.40 per minute on all other calls (domestic or international) originating in Jamaica and J\$0.075 on international calls terminating on a mobile network in Jamaica	Implemented	5.25
5	Increase Motor Vehicle License and Registration Fee to 50% and 60%, respectively	Implemented	***
6	Modified Asset Tax adjusted to J\$5,000 per annum for non-financial institutions with assets valued less than J\$50,000	Implemented	***
7	Include the TCT as part of the GCT base	Implemented	1.3
8	Include all fees and taxes paid at the port (Environmental Levy and CUF/CAF) as part of the GCT base	Implemented	1.5
9	Telecom providers should account for GCT on the face value of prepaid vouchers/airtime	Implemented	0.2
10	Increase tax on dividend to 15%	Implemented	0.8
11	Impose surtax of 5% on large unregulated companies (defined as per corporate income tax disaggregation)	Implemented	1.2
12	Increase Education Tax rate by 0.5% for employers and 0.25% for employees	Implemented	2.8
13	Apply a Customs Administration Fee (CAF) on all imports (except for charitable organizations and bauxite sector)	Implemented	8.55
14	Increase Stamp Duty and Transfer Tax rates (for properties) from the current 3% and 4% to 4% and 5%, respectively	Implemented	2
15	Amendment to fee structure and gross profit tax for betting, gaming, and lotteries sector	Implemented	1.5
16	Initiate measures to increase relatively low property tax compliance rate and reform property tax regime	Implemented	3.4
17	Introduce Transfer Pricing Rules and Thin Capitalization Rules	Implemented	n.a.
Total			15.9

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TABLE 6.3 Jamaica: Main Tax Policy Measures Summary (2012–17)
(continued)

#	Revenue Measure	Status	Potential Revenue Gain/Loss (billions J\$)
2013/14			
1	Modification of the alcohol regime to unify the specific SCT on all alcoholic beverages (J\$1,120)	Implemented	0.808
2	Increase in vehicle age limit (from 8 to 10 years) on sale of second-hand vehicles on which GCT will be applicable	Implemented	0.026
3	Levy on withdrawals from deposit-taking institutions and encashment from securities dealers	Withdrawn	2.25
4	Increase in premium tax for regionalized and non-regionalized life assurance companies (up to 5.5%)	Withdrawn	0.276
5	Investment tax for insurance companies (up to 20%)	Withdrawn	0.701
6	Increase in Asset Tax	Implemented	1.788
7	Modification of duty regime for specified motor vehicles from 30% to 20% for 2000 cc and from 40% to 30% for 3500 cc (23% to 13% in the case of diesel 2000 cc and 30% to 20% for 3500 cc)	Implemented	0.25
8	Redirect portion of SCT from the Road Maintenance Fund to Central Government	Implemented	1.2
9	Increase Annual General PIT threshold (J\$557,232)	Implemented	–0.65
Total			6.649
2014/15			
1	Amendment to taxation regime for life insurance companies	Steps for implementation are progressing	Revenue neutral
2	Increase in SCT on cigarettes (from J\$10.50 to J\$12.00)	Implemented	0.488
3	Increase specific SCT rates on petrol (i.e., E10 87, E10 90, Diesel, and Ultra Low Sulfur Diesel) by J\$7.00 per liter	Implemented	6.412
4	Replacement of 1% Petroleum Cess with specific fee of J\$2.00 per liter	Implemented	1.824
5	Increase in the Annual General PIT threshold to J\$592,800	Implemented and raised to J\$1.7 million in 2024	–0.644

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TABLE 6.3 Jamaica: Main Tax Policy Measures Summary (2012–17)
(continued)

#	Revenue Measure	Status	Potential Revenue Gain/Loss (billions J\$)
6	Reintroduction of GCT on electricity for residential customers (with an increased threshold of 350kWh) at standard rate	Implemented	0.807
7	Rationalization of environmental levy introduction of 0.5% on domestic sales (excluding services sector)	Implemented	0.962
8	Rationalization of outdated fees: Trade and Business License	Implemented	0.5
9	Rationalization of outdated fees: Excise Unit	Implemented	Compliance
10	Reduction of import duties (CET) on horses from 40% to 5%	Implemented	–0.001
11	Full implementation of the elimination of zero-rating under the GCT for government purchases (with exception of public schools and the Jamaica Defense Force)	Implemented	Compliance
12	Withholding Tax on Specified Services (at a rate of 3%)	Implemented	Compliance
Total			10.348
2016/17			
1	PIT reform phase 1: Increase annual general income tax threshold to J\$1,000,272 and increase marginal tax rate on income above J\$6.0 million to 30%	Implemented since July 2016	–12.5
2	Increase specific SCT component by J\$7.00 per liter on petrol (J\$1.048 billion yield per J\$1.00 per liter)	Implemented	6.489
3	Introduce a SCT regime for LNG and revise the regime for heavy fuel oil (HFO)	Implemented	1.415
4	Increase the specific SCT on cigarettes, cigars, cigarillos, and cheroots (including cigars, cheroots, and cigarillos of tobacco substitutes) to J\$14.00 per stick	Implemented	0.574
5	Increase Departure Tax to US\$35.00 from approx. US\$14.53	Implemented	5.3
Total			1.278

Source: Authors' elaboration based on data from Jamaica's Ministry of Finance.

Note: The direct revenue implications provided here do not take into consideration indirect effects. Hence, the total revenue (shown in the "Total" rows) of the measures is an approximation of the potential gains/losses.

*** Actual values for these items are not available because they are extremely difficult to quantify given the detail involved; as such, one would not be able to definitively attribute an amount to the specific measure.

TABLE 6.4 Jamaica: Summary of Three Simulation Scenarios

		Scenario 0	Scenario 1	Scenario 2	Scenario 3
		Baseline (all reforms implemented)	Removing Tax Policy Measures	Removing Tax Expenditures	Removing Tax Policy Measures and Tax Expenditures
	Units				
1. Real GDP					
- Value 2018	Millions J\$	899,601.6	857,493.9	882,834.1	856,481.0
% Deviation			(4.68)	(1.86)	(4.79)
2. Price Index (GDP Deflator)					
- Value 2018	Index	215.26	221.69	218.11	223.93
% Deviation			2.99	1.32	4.03
3. Unemployment Rate					
- Value 2018	Percent	13.41	16.69	14.70	16.78
% Deviation			24.45	9.63	25.16
4. Tax Revenue					
- Value 2018	Millions J\$	448,155.5	410,843.4	435,598.7	404,017.8
% Deviation			(8.33)	(2.80)	(9.85)
5. Ratio Public Debt/GDP					
- Value 2018	Percent	121.5	144.3	130.7	150.7
% Deviation			18.76	7.56	24.01
6. Poverty (% of Population)					
- Value 2018	Percent	17.2	18.1	17.5	17.7
% Deviation			4.88	1.52	2.81
7. Gini Index					
- Value 2018	Index	0.400	0.398	0.400	0.398
% Deviation			(0.38)	0.05	(0.27)

Source: Baca Campodónico (2017).

Scenario 3 it would have been less by 4.79 percent not by 6.54 percent (the sum of the first two scenarios) by 2018.

For Scenario 3, the results are presented by year in Table 6.5. GDP real growth would have been lower if no tax policy and tax expenditure reform measures had been implemented. The cumulative percentage deviation from the baseline solution for 2012–18 would have been 4.79 percent. In other words,

TABLE 6.5 Jamaica: Counterfactual Outputs for Scenario 3

	Units	2010	2013	2016	2018
1. Real GDP					
- Scenario 3	Millions J\$	827,909.1	840,482.0	848,834.0	856,481.0
- Baseline	Millions J\$	827,909.1	840,846.2	866,984.9	899,601.6
% Deviation		—	(0.04)	(2.09)	(4.79)
2. Price Index (GDP Deflator)					
- Scenario 3	Index	139.66	171.80	203.97	223.93
- Baseline	Index	139.66	170.68	199.00	215.26
% Deviation		—	0.66	2.50	4.03
3. Unemployment Rate					
- Scenario 3	Percent	11.78	15.34	14.20	16.78
- Baseline	Percent	11.78	15.30	12.68	13.41
% Deviation		—	0.30	12.01	25.16
4. Tax Revenue					
- Scenario 3	Millions J\$	277,210.0	304,106.5	396,840.0	404,017.8
- Baseline	Millions J\$	277,210.0	338,545.5	436,862.9	448,155.5
% Deviation		—	(10.17)	(9.16)	(9.85)
5. Ratio Public Debt/GDP					
- Scenario 3	Percent	135.5	140.4	143.6	150.7
- Baseline	Percent	135.5	134.7	124.7	121.5
% Deviation		—	4.19	15.15	24.01
6. Poverty (% of Population)					
- Scenario 3	Percent	17.6	16.8	18.2	17.7
- Baseline	Percent	17.6	18.7	19.2	17.2
% Deviation		—	(10.42)	(5.27)	2.81
7. GINI INDEX					
- Scenario 3	Index	0.381	0.393	0.401	0.398
- Baseline	Index	0.381	0.392	0.401	0.400
% Deviation		—	0.37	(0.12)	(0.27)

Source: Baca Campodónico (2017).

the economy would have experienced 4.79 percent lower growth without the tax reform, equivalent to a 0.94 percent lower real growth rate per year. The real growth rate of the primary sector (Sector 1) was higher than the growth rates

of Sectors 2 and 3.⁸² Compared to the baseline scenario, the more balanced growth eliminates the bias toward the service (tourism) sector (Sector 3) of the old structure of tax expenditures, and this sector has benefited the most from the tax reform. Removing the tax expenditures and reducing the CIT rate have positively impacted trade and tourism-related activities. Transformation activities (Sector 2) such as manufacturing, construction, electricity, and water have also benefited from the tax reform. The OIL has opened new opportunities for the manufacturing sector to benefit from the import tariff restructuring. Sector 1 has also benefited from the tax reform but to a lesser extent. The dynamics of the service sector (tourism in particular) have catapulted Sector 1 growth, which has also benefited from the recovery of the bauxite industry.

Inflation rates measured by the GDP deflator are higher than the baseline scenario for all years of the simulation exercise. The higher financial requirements of the public sector (higher deficits) and the lower levels of GDP present in the counterfactual compared to the baseline scenario explain the increase in inflation relative to the baseline scenario. Removing tax expenditures and implementing a more efficient tax system reduce borrowing requirements and pressure on the exchange rate. Lower international prices since 2016 have generated less inflation in both scenarios. Simulation results indicate that fewer borrowing requirements and less devaluation explain an increase in inflation of around 0.8 percent per year during the simulation period.

Unemployment levels in all three counterfactual scenarios are higher than in the baseline scenario because of lower growth rates in all sectors. Removal of the biased structure of tax expenditures tends to favor higher growth rates in Sector 1. Sector 1 has a higher labor absorption ratio than Sectors 2 and 3, thus lowering the unemployment level compared to the baseline scenario.

Total tax revenue is lower in all counterfactual scenarios than the baseline in all years of the simulation exercise. The difference in revenue streams due to the direct impact of increased tax revenue resulting from implementing tax policy measures and removing tax expenditures (baseline scenario) is augmented by the indirect impact of lower growth rates and higher inflation rates in the counterfactual scenarios.

The simultaneous removal of tax expenditures with the enactment of comprehensive tax reform has been instrumental in increasing tax revenue and reducing public debt. An overall assumption for the simulation exercise is that all additional revenue generated by removing tax expenditures or tax policy measures reduces public debt. This means less debt, less inflation, and more

⁸² Sector 1 encompasses agriculture, fishing, and mining. Sector 2 includes manufacturing, construction, electricity, and water. Sector 3 covers all service sectors.

investment in the long term, but in the short term removing tax expenditures or increasing direct taxes reduces disposable income levels.

Poverty levels measured as a percentage of the population in the counterfactual are initially lower than the baseline. Yet, they have become higher in the years after the simulation exercise. Initial removal of tax expenditures and increases in direct and indirect taxes translates into lower disposable income for all quintiles. As a result, poverty levels tend to be higher at the beginning of the tax reform. Then, lower statutory tax rates, higher GDP growth, less inflation, and the impact of safety net programs (such as the Program of Advancement through Health and Education, or PATH) decreased poverty levels below the counterfactual levels. The reduction of the inflation level and the higher growth rates, combined with PATH and other safety net programs, compensated for the drop in disposable income that resulted from removing tax expenditures.

Another overarching conclusion from the simulation exercise is the progressive nature of the negative “inflation tax”⁸³ effect resulting from removing tax expenditures. The inflation tax is usually highly regressive. Lower-income groups do not have protection mechanisms against rising inflation while higher-income groups are better protected through the financial system. Reducing inflation has the reverse effect on the lower-income groups. Average inflation in Jamaica is around 8 percent annually, with a cumulative rate of 26 percent. The cumulative effect of not implementing tax policy and tax expenditure measures (counterfactual scenario) over the simulation period is an increase in inflation of 4.03 percentage points over the baseline inflation.

Notwithstanding initial higher poverty levels and higher inequality, inequality in the counterfactual did not change significantly compared to the baseline (similar Gini values) along the simulation horizon. The overall progressive nature of the tax reform was neutralized in the out years of the simulation exercise because of lower inflation, greater GDP growth, and safety net programs applied during the period of the tax reform.

⁸³ Inflation tax refers to the financial loss of value suffered by holders of cash due to the effects of inflation. This financial loss of value is often expressed as a loss of purchasing power. Many economists hold that inflation affects the lower and middle classes more than the rich: because the former hold a larger fraction of their income in cash, they are much less likely to receive the newly created monies before the market has adjusted with inflated prices; more often have fixed incomes, wages, or pensions; and lack the means to avoid domestic inflation by reallocating assets overseas. Some argue that inflation is a regressive non-linear consumption tax. It should be noted that the reduction of inflation levels experienced by Jamaica is the result of the combination of the tax reform and the reduction of international prices of oil products. The counterfactual simulation did include the reduction of international oil prices.

Because inflation over the assessment period was more significant than the increase in the PAYE tax threshold, the model points to a slight rise in inequality since 2015. The compensating tax measures and the PATH benefit reduced the effect of the threshold decrease (in real terms) in the out years of the simulation horizon.⁸⁴

The tax reform reduces poverty and inequality and points toward a positive impact. The latter is due to lower inflation, higher GDP growth, and lower unemployment. The tax reform has had a net positive effect on the standard of living of the average Jamaican household.

The beneficial aspects of the tax reform in terms of poverty and inequality have not been instantaneous. At the beginning of the tax reform, there was an increase in poverty levels and inequality. With time, compensating measures increased social assistance (PATH and other safety net programs). Less inflation, more GDP growth, and less unemployment have reduced poverty levels and inequality to a lesser degree.

The tax reform and the reduction of tax expenditures have also resulted in a significant transfer of resources from the private sector to the government. The counterfactual simulation reveals that the combined effect of not carrying out the tax policy measures and only partial implementation of tax expenditures (Scenario 1) translated into an increase in disposable income (consumer expenditures) of 4 percent compared to the levels of the baseline scenario.

Per capita consumption expenditure—measured net of indirect taxes (net expenditure)—falls proportionately less in the lower quintiles than in the higher ones through the time horizon of the simulation exercise (PIOJ, 2017). This result confirms the progressive nature of the combined impact of removing tax expenditures and tax reform. In addition, the simulation results reveal that progressivity increases in the long term because of diminishing inflation and the presence of social assistance programs.

The following points provide a summary of the main simulated results of the with-reform Scenario 3 compared to the counterfactual situation without tax reform:

⁸⁴ The increase in the safety net expenditure to prevent poverty increasing (i.e., fall in income of quintile 1) is the difference between the income of quintile 1 in the scenario and the baseline. This gives a first approximation of the amount required by the safety net program to maintain the poverty level of the baseline solution. However, this is not the end of the story because the transfer of resources (from the government to quintile 1) implied by the safety net program has feedback effects on the rest of the economy. Hence, an iterative procedure is required until the conditions (poverty and income distribution) are attained. The average annual expenditure increase is 0.41 percent of GDP in Jamaica, although the temporal profile will differ in the simulation horizon. (For greater detail see the methodology in Annex A.)

- Counterfactual real GDP growth decreases relative to the baseline by 4.79 percent for the entire simulation period. This slower growth is equivalent to 0.94 percent less in each year on average.
- The price index in the counterfactual is higher relative to the baseline by 4.03 percent for the entire period. The tax reform has reduced inflation on average by 0.79 percent per year.
- The unemployment rate in the counterfactual scenario increases relative to the baseline by 3.37 percentage points (a 25.2 percent decrease). This reduction is equivalent to a 0.47 percent yearly reduction during the simulation horizon.
- Tax revenue decreases relative to the baseline by 9.85 percent. This decrease is equivalent to saying that tax reform increased tax revenue by 1.89 percent per year during the simulation period.
- Compared to the counterfactual scenario, the public debt-to-GDP ratio decreases by 24.01 percent relative to the baseline. This is equivalent to an average reduction of 4.8 percent per year from 2013 to 2018.
- After an initial decrease, the prevalence of poverty (poverty levels) in the counterfactual scenario increases relative to the baseline by 2.8 percent. The reversal in poverty levels throughout the simulation period directly results from lower inflation and higher GDP growth rates than the baseline scenario. Together with the implementation of social programs, these results have contributed to reducing poverty in the out years of the simulation exercise.
- The level of inequality (Gini coefficient) remains the same relative to the baseline. There is a reduction in inequality with the removal of tax policy measures. Relative to the baseline, however, the improvement is not remarkable. In all scenarios, the net expenditure for all quintiles increases relative to the baseline by removing all tax policy and expenditure measures. The pattern applies to all quintiles because removing tax expenditures reduces the disposal income of all income groups. The reduction is a transfer from the private domain to the public and cannot be done without compensatory measures like tax rate deduction and social programs such as PATH.

Conclusions and Recommendations

The ex post assessment of the direct and indirect impacts of the tax reform in Jamaica reveals an overall positive result. The latter holds notwithstanding the delays in the implementation of tax policy measures and the strengthening of tax and customs administration despite the increase in the regressive structure of taxes.

The strengthening of the tax and customs administrations has contributed to the success of the tax reform. New IT systems have been installed, and mandatory e-filing has been adopted for most taxes. As a result, on-time filing has improved and tax arrears collection has increased.

However, the tax reform has shifted the burden of the tax system from direct to indirect taxes, making it less progressive. This trend exemplifies the reduction of the CIT rate and the nominal increase in the PAYE threshold less than the inflation rate. To compensate for this unwanted feature of the tax reform, the government has increased its social assistance spending and revamped PATH cash transfer programs by promoting training and creating new job opportunities.

The main objectives of the tax reform—reduction of tax expenditures and the broadening of the tax base—have been achieved. The tax base broadening has allowed the offset of the CIT rate from 33.3 percent to 25 percent and the reduction of the primary GCT rate from 17.5 percent to 16.5 percent. Reducing tax expenditures has streamlined the distortionary effects of various incentive laws and discretionary waivers.

Incorporating government purchases into the GCT base was a significant step in widening the base of indirect taxes. The elimination of many exemptions of the GCT, SCT, import duty, and other taxes, together with the inclusion of government purchases in the GCT base, has substantially increased tax revenues. However, there is still much to be done to eliminate exemptions. One elusive objective in widening the GCT tax base has been the continued exclusion of oil products from the GCT.

The OIL has been instrumental in promoting new investment and creating new formal employment. It levels the playing field for all sectors. It enables the formalization and creation of new jobs and investments by granting a tax credit proportional to the employers' contributions to NIS and other payroll-related taxes (ETC) and a tax credit for capital investments.

The tax reform envisaged restructuring tariff rates to reduce dispersion and distortion of relative prices. The tariff reform has shifted the tariff rates toward the 20 percent tariff rate. The number of zero-rate tariff codes was reduced from 3,960 to 3,426 by moving 534 tariff codes to the 5 percent tariff rate. Because those codes apply to many high-volume imports, the resulting increases in tariff revenue have been substantial. Restructuring tariff rates has been the first step toward an efficient tariff system. The major impediment to reducing the dispersion of customs tariffs is CARICOM's CET, and there remains much to be done in this regard.

It is essential to point out that many of the new revenue measures introduced in Jamaica in recent years (early 2020s) have not been aligned with the main objectives of the 2013 tax reform, which were centered on broadening the

tax base and reducing rates as well as simplifying the tax system. Examples of these counterproductive measures include the telephone call tax (which has a regressive impact on income distribution) and the increase in the environmental levy, travel tax, and accommodation tax. These tax measures have indeed contributed to increasing tax revenue, but they have done so at the cost of distorting the tax system, reducing competitiveness, slowing GDP growth, and limiting employment creation.

Notwithstanding the substantial recovery of GCT and SCT revenue in the late 2010s and early 2020s, the Jamaican government missed the opportunity to switch the taxation of oil products from SCT to GCT. The GCT taxation of oil products would reduce domestic producers' costs and make the country's exports more competitive.

One of the main conclusions derived from the DCGEM simulations is the need to enhance competitiveness, promote growth, and foster employment. Despite the positive results of the tax reform, sustainable high GDP growth has remained elusive (Holden and Howell, 2012). A second round of reforms is needed to achieve these elusive objectives. The incentive framework of the current tax system is still distortionary and generates inefficient allocation of investments. Rationalization measures should include further widening of the tax base, reductions of CIT and PIT rates, reduced taxes on labor, modernization of the property tax, reduced dispersion of customs tariffs, and restructuring of social security contributions.

Recent tax policy measures have made the Jamaican tax system less progressive. The PAYE threshold increase has introduced some bias against the tax system's poor because the lower-income bracket is already below the threshold. Hence, some tax revenue rebalancing is needed to reduce the need for additional social assistance programs. A new set of tax policy measures is required to eliminate distortionary indirect taxes and temporary measures such as telecom and accommodation taxes to eliminate inequality and bias toward the non-poor.

Despite the government's recent effort to reduce tax expenditures, there is room for improvement. For example, all domestic GCT zero-rating should be eliminated, and further progress should be made in lowering tax expenditures, (including those linked to petrol products).

The Jamaican government should further strengthen and modernize the property tax. Improvements in property registration, valuation, and tax collection could substantially enhance the importance of the tax as a revenue source for local governments by applying new property values and adjusting the rate schedule. Financial and capital taxation should be strengthened. Capital gains tax on real estate and securities should be studied to achieve an efficient and fairer tax system. Steps should be taken to study the impediments to tariff

dispersion reduction presented by the CARICOM CET. Based on this study, a medium-term strategy should be adopted to reduce dispersion on customs tariffs. The late 2010s and early 2020s witnessed a resurgence of discretionary waivers; monitoring of discretionary waivers should be enhanced to avoid the repeat of past problems. The positive results of the ETC program should be used to improve the scope of the OIL. Monthly information on individual employee NIS contributions should be monitored to better understand the formal labor market and the impact of the ETC program. Jamaican authorities need to continue with tax administration reform to complement tax policy measures, including enhancing coordination between TAJ and JCA to reduce noncompliance and accelerate IT use.

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Barbados: Stabilization and Tax Reform

Introduction

This chapter evaluates the potential impact on the Barbadian economy of tax measures and the removal of tax expenditures (incentives and waiver schemes). First, it assesses the direct impact on revenue of the 2018 tax reform and tax proposals and the impact of phasing out tax incentives and waiver schemes for the six major tax types. Second, it addresses the indirect impact of the tax reform on economic growth, inflation, tax revenue, public debt, poverty, employment, and income distribution using a dynamic computable general equilibrium model (DCGEM) of the Barbados economy. These two-stage calculations of the effects of reform illustrate the pitfalls of direct effects estimations.⁸⁵ The calculations and simulations were made before the COVID-19 pandemic; the results of an updated version of this model are presented in Chapter 9, which simulates the effects of COVID-19 on the Barbadian economy.

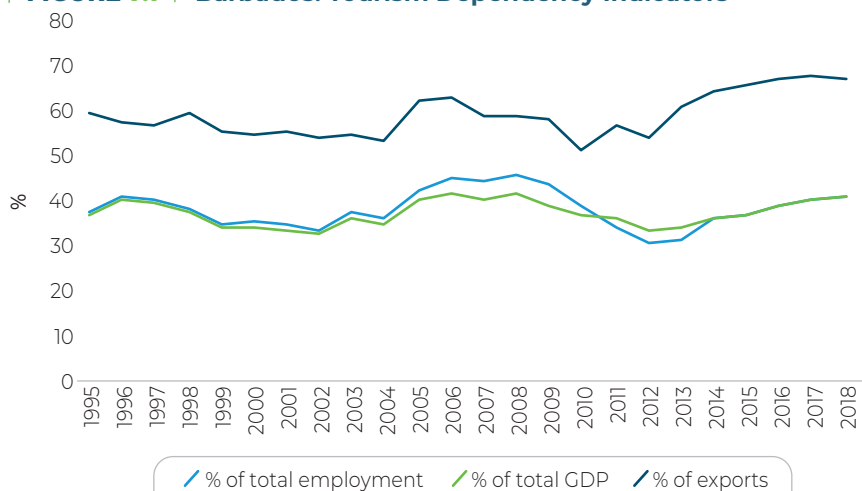
The Macroeconomic Context

Barbados remained mired in the aftermath of the global financial crisis in 2008, with a slow recovery underway before the COVID-19 pandemic hit. Tourism,⁸⁶ offshore financial services, and construction were especially hard hit by the external shock of 2008.

⁸⁵ This chapter draws upon Baca Campodónico (2019).

⁸⁶ For indicators of tourism dependency, see Figure 7.1.

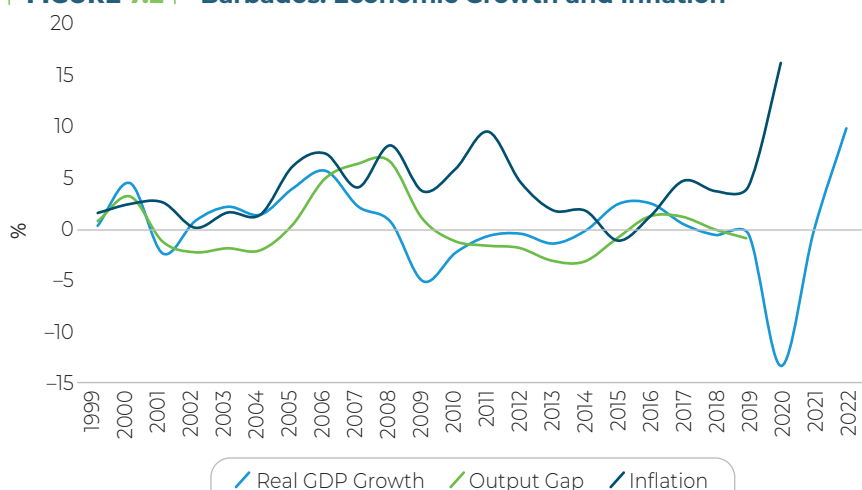
FIGURE 7.1 Barbados: Tourism Dependency Indicators



Source: Authors' elaboration based on UNWTO (n.d.).

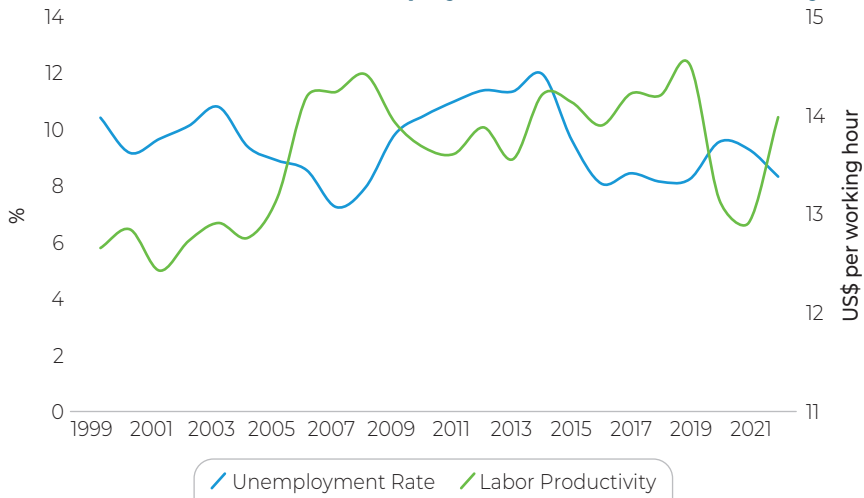
Economic activity contracted in real terms by a cumulative 5.3 percent between 2008 and 2018 (Figure 7.2). During this period, the administration had increased stimulus expenditures in the face of the external shock. The authorities responded to the economic slump by implementing several countercyclical measures to protect employment and minimize the impact of the crisis on vulnerable groups. The government increased tax expenditures, reversing a downward trend.

FIGURE 7.2 Barbados: Economic Growth and Inflation



Source: Authors' elaboration based on IMF (n.d.).

FIGURE 7.3 Barbados: Unemployment and Labor Productivity



Source: Authors' elaboration based on World Bank (n.d.).

Note: Labor productivity is defined as GDP / (employment x 2080 working hours).

These measures generated a sizable fiscal deficit and worsened the debt-to-GDP ratio (Figure 7.4). Between 2000 and 2013, the fiscal balance deteriorated continuously. The deterioration was partially halted due to the comprehensive debt restructuring process during the rest of the decade, but the budgetary situation continued to be weak. The worsening of the fiscal balance reflected a combination of lower tax receipts—given the economic slowdown—and increased outlays in public debt service (Figure 7.5).

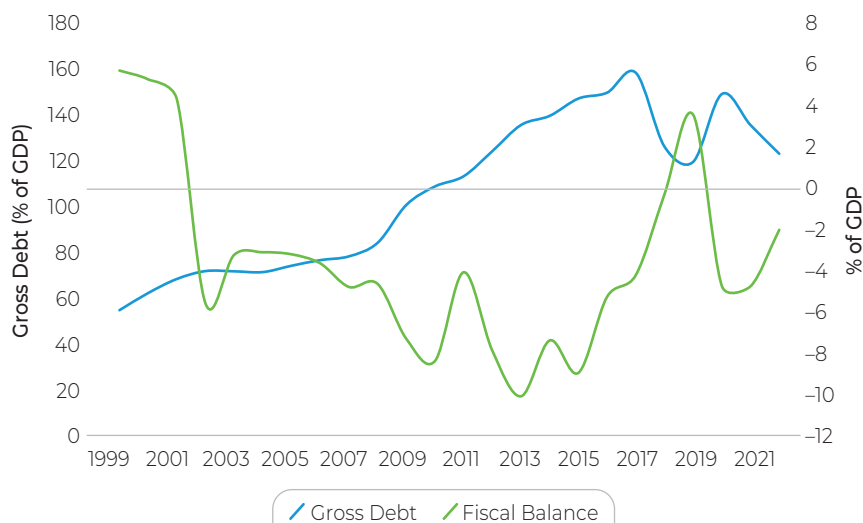
Between 2015 and 2016 the economy had a small recovery due to continued robust long-stay tourism arrivals and spending. However, by 2017 GDP growth took a downward trend, turning negative to -0.6 percent in 2018, reflecting the increased pace of fiscal consolidation and policy uncertainty related to the national elections of 2018.

In May 2018, the Barbadian authorities reached an agreement with the International Monetary Fund (IMF),⁸⁷ initiated a debt restructuring,⁸⁸ and reformed the corporate income tax (CIT), unifying rates levied on local firms with the rates

⁸⁷ This was a 48-month Extended Arrangement in the amount of Special Drawing Rights (SDR) 208 million (about US\$290 million), or 220 percent of Barbados's IMF quota. SDR 35 million (about US\$48 million) became available upon IMF board approval of the Extended Fund Facility (EFF) in October 2018, and the remainder was to become available upon successful completion of seven semi-annual reviews.

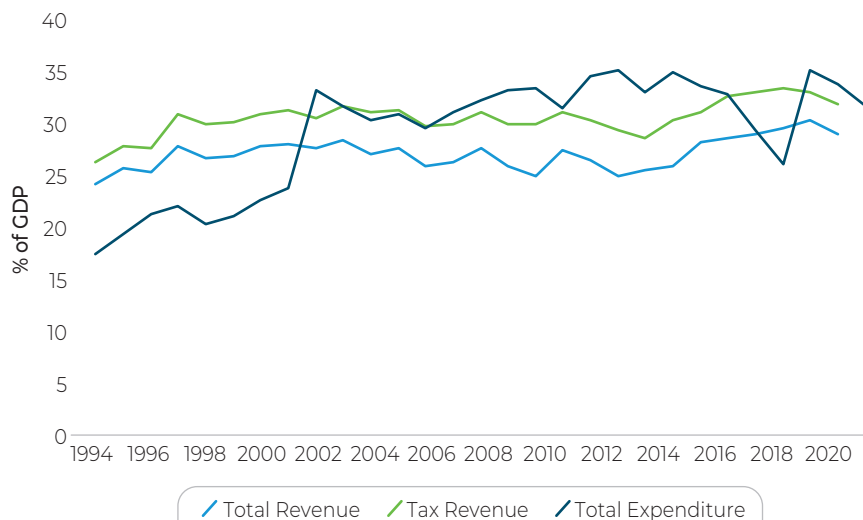
⁸⁸ The new government announced a comprehensive debt restructuring, including commercial external debt and treasury bills, on June 1, 2018. An exchange offering domestic

FIGURE 7.4 Barbados: Fiscal Balance and Gross Debt



Source: Authors' elaboration based on IMF (n.d.).

FIGURE 7.5 Barbados: Expenditure and Revenue



Sources: Authors' elaboration based on IMF (n.d.) and IDB-CIAT (n.d.).

Barbados dollar-denominated debt to private creditors was initiated in September 2018. The proposed debt restructuring included a natural disaster clause that was expected to help the authorities stay current on their future debt obligations. See Anthony, Impavido, and Selm (2020).

charged to offshore companies. The authorities revisited their medium-term fiscal strategy to improve budgetary outcomes, mainly by reducing spending and introducing comprehensive tax reform. By 2019, GDP growth was 0.5 percent; in 2020, it was expected to be -13 percent due to the COVID-19 pandemic.⁸⁹

Regarding prices, inflation reached 1.3 percent in 2016 and 3.7 percent in 2018 due to the introduction of the National Social Responsibility Levy (NSRL). The authorities repealed the NSRL in July 2018. The elimination of this distortionary and regressive tax and the declining prices of oil products put downward pressure on inflation during 2019.

These unstable economic conditions hit the labor market hard. Unemployment rose from 8.7 percent in 2006 to 12 percent in 2014. Mirroring this increase, labor productivity continued to fall until 2013 (Figure 7.3). By 2016, the unemployment rate fell to 8.2 percent and remained at those levels until 2019.

Despite the fiscal adjustments, public debt continued to be high. At the end of FY 2017/2018, the gross government debt-to-GDP ratio was 125.6 percent. Domestic debt accounted for about 60 percent of public debt, mostly at fixed interest rates. The National Insurance Scheme (NIS) and the domestic banking system were its primary holders. Debt rollover risks were limited since the NIS continued buying government securities and holding them to maturity. In addition, external debt issues were primarily long term and had favorable amortization profiles.

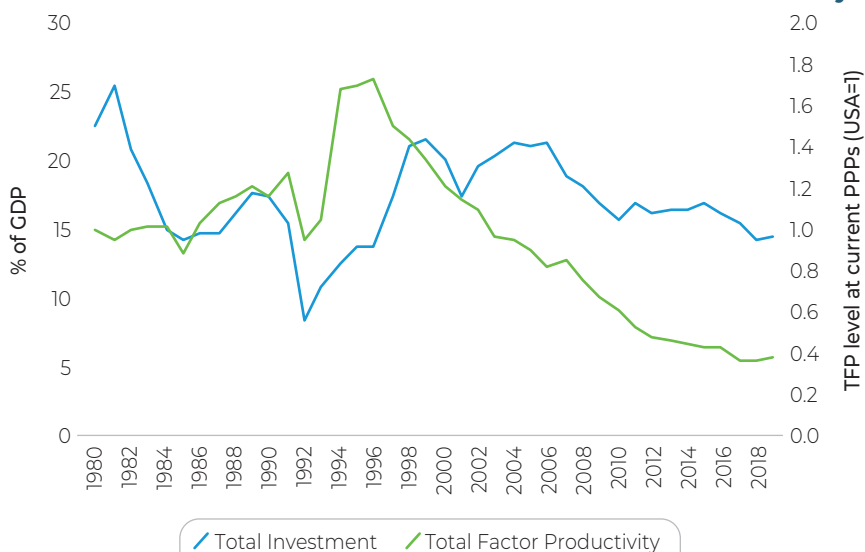
As mentioned, the government in power in 2018 embarked on a comprehensive set of fiscal measures. These measures were accompanied by a set of economic policies, all of them as part of the Barbados Economic Recovery Transformation (BERT) plan to regain macroeconomic stability and raise economic growth. The program was underpinned by the understanding that fiscal and debt sustainability would be necessary for macroeconomic stability and economic development. A sharp reduction in the debt burden was assumed to support higher private sector-led investment and growth as economic confidence is restored.

The practically zero output gap in these years (Figure 7.2) suggests that the growth in output capacity had fallen, partly due to a diminishing gross capital formation and a steep decline in total factor productivity (TFP; see Figure 7.6). However, between 2018 and 2019, total gross capital formation remained above 14 percent of the GDP, and recent country data suggest a sharp increase,⁹⁰ implying that the implementation of BERT's policies had a positive effect on the economy.

⁸⁹ In 2020, the economic activity contracted 12.7 percent as expected. Economic recovery occurred in the next two years, and as of 2023, the real GDP growth rate was 4.1 percent.

⁹⁰ According to the World Bank (n.d.), the total gross formation of capital between 2020 and 2023 increased to 17.6 percent on yearly average.

FIGURE 7.6 Barbados: Investment and Total Factor Productivity



Sources: Authors' elaboration based on IMF (n.d.) and Feenstra, Inklaar, and Timmer (2015).

The Tax System before the 2018 Reform

Barbados's tax system was characterized by high statutory tax rates and a complex structure of tax expenditures (exemptions, incentives, and waivers) that distorted transparency and fairness. Barbados's tax-to-GDP ratio was about 24⁹¹ percent between 2008 and 2018 (see Table 7.1). The tax structure relied heavily on indirect taxes, representing about 60 percent of total taxes. The share of taxes on personal income (PIT), including wages and salaries (PAYE taxes), was 17.5 percent, and the percentage of corporate income tax (CIT), including for offshore companies, was 11.9 percent.

The tax system was plagued with exemptions and waivers that distorted the competitive stance of taxpaying firms. Few taxpayers paid taxes at a high rate, but many paid little or nothing thanks to tax expenditures (incentives and discretionary waivers). In this context, to a certain extent, tax waivers were system induced. High tax rates often forced taxpayers to request waivers to maintain their competitive edge.

Estimates indicate that 2016 tax revenues increased by 14.3 percent, mainly reflecting the introduction of the NSRL. Direct tax income stagnated around the

⁹¹ Small discrepancies with official figures could arise due to this book's use of GDP calendar year figures rather than fiscal years.

TABLE 7.1 Barbados: Tax Revenue (percent of GDP)

Type of Tax	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
TOTAL TAX REVENUES	24.24	24.03	24.12	23.17	24.68	24.45	22.80	24.51	22.62	24.11	27.56	26.53
<i>Direct Taxes</i>	<i>10.85</i>	<i>9.81</i>	<i>11.09</i>	<i>9.30</i>	<i>9.87</i>	<i>9.61</i>	<i>8.83</i>	<i>10.48</i>	<i>8.81</i>	<i>9.21</i>	<i>10.19</i>	<i>10.22</i>
a) Personal*	3.38	3.01	4.13	4.28	4.50	4.25	4.07	4.97	3.73	4.53	5.01	4.59
b) Corporate	5.57	4.67	4.17	3.25	3.21	3.06	2.07	2.07	1.64	2.25	2.85	2.82
c) Levies	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
d) Stabilization	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.07	0.33	0.33	0.14	n.a.	n.a.
e) Property	1.23	1.26	1.74	1.25	1.20	1.33	1.54	1.68	1.98	1.34	1.37	1.39
f) Other	0.67	0.87	1.05	0.52	0.96	0.96	1.08	1.43	1.13	0.95	0.96	1.42
Indirect Taxes	13.39	14.21	13.02	13.87	14.82	14.84	13.97	14.03	13.81	14.90	17.38	16.31
a) Consumption	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
b) Stamp	0.22	0.20	0.15	0.16	0.13	0.12	0.11	0.13	0.12	0.09	0.10	0.11
c) VAT	8.19	8.54	7.58	8.31	9.63	9.85	9.31	9.21	8.36	9.20	9.38	8.47
d) Excises	1.59	1.70	1.62	1.64	1.71	1.51	1.36	1.22	1.68	1.81	3.01	2.82
e) Import Duties	2.00	2.26	1.94	2.11	2.00	2.15	2.07	2.25	2.35	2.53	2.46	1.95
f) NSRL	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.12	1.24	1.74
g) Other	1.37	1.51	1.73	1.66	1.35	1.22	1.13	1.21	1.31	1.14	1.20	1.23
TOTAL NON-TAX REVENUE	1.38	1.49	2.03	2.21	1.61	2.18	2.01	1.94	2.66	1.72	2.73	2.09
a) Non-Tax Revenue	1.15	1.22	1.84	1.58	1.19	1.65	1.38	1.68	1.69	1.37	2.54	1.70
b) Grants	0.04	0.08	n.a.	0.40	0.18	0.28	0.39	0.03	0.76	0.10	0.01	0.21
c) Post Office - Revenue	0.19	0.19	0.19	0.23	0.24	0.25	0.24	0.23	0.21	0.24	0.18	0.18
TOTAL REVENUE	25.62	25.52	26.15	25.39	26.30	26.63	24.81	26.45	25.29	25.83	30.29	28.62
<i>Nominal GDP (Bds\$)</i>	<i>9,348,015</i>	<i>9,569,850</i>	<i>8,931,315</i>	<i>9,059,857</i>	<i>9,315,399</i>	<i>9,220,192</i>	<i>9,354,497</i>	<i>9,392,689</i>	<i>9,450,908</i>	<i>9,681,309</i>	<i>9,979,001</i>	<i>10,477,951</i>

Source: Authors' elaboration based on Baca Campodónico (2019).

* Personal tax includes tax on dividends, individuals, and interest.

levels reached in 2006 before the global financial crisis and has lost ground to indirect taxes since then. In 2010, direct taxes amounted to 48 percent of total tax revenue. This figure had come down to 38 percent by 2018. Increases in the rate of value added tax (VAT), excises, and new indirect taxes explained the upward trend of indirect taxes. Granting generous tax credits, allowances, and deductions to local and international business companies (IBCs) also contributed to reducing direct taxes' share of total tax revenue.

VAT was the most crucial revenue generator among indirect taxes, followed by excises and import duty. VAT revenue as a share of total tax and of GDP had grown from 8.5 percent in 2008 to 9.3 percent in 2017 because of higher rates and reduced exemptions. However, the list of goods exempted from VAT remained significant and included numerous categories of food and healthcare supplies, drugs, medical devices, financial services, property sales, ground transportation, water distribution, and sewerage services. As a consequence, zero-rating on these goods and services kept the efficiency of VAT low compared with other countries in the region.

Trade taxes (primarily import duties) as a share of total taxes remained relatively low (8.9 percent of total tax revenue) despite high statutory rates,⁹² which was a direct consequence of the generalized use of exemptions and waivers for import duties. Import duty ranged from 0 to 20 percent of most items' CIF (cost plus insurance plus freight) value. Some exceptions included bound rates ranging from 40 to 196 percent on specified agricultural and manufactured products. Exceptions included 60 percent for jewelry, 50 percent for watches, and 45 percent for motor vehicles. There were also some items, such as cigarettes and alcoholic beverages, that had specific import duty rates.

Barbados allows duty-free imports from Caribbean Community (CARICOM) members. However, the Common External Tariff (CET) enables members to impose import duties on scheduled product imports from other members. In Barbados, products scheduled are milk and cream, wheat flour, and mill feed (pollard). Barbados also accords tariff preferences for products imported from Colombia, Costa Rica, Cuba, the Dominican Republic, and Haiti. These are countries with which CARICOM has entered into free-trade agreements.

Another feature of the Barbados tax system before reform was the substantial tax expenditure incentives given to IBCs, measured in terms of GDP and share of total taxes. Before the convergence reform introduced in 2018, local firms paid a CIT rate of 25 percent, whereas IBCs paid a descending CIT rate ranging from 2.5 percent to 0.25 percent. When the Organisation for Economic

⁹² In 2016, the statutory import duty rate, based on total CIF value, was 15.2 percent, while the effective tariff rate was 7.3 percent.

Co-operation and Development (OECD) questioned this abysmal difference, the European Union (EU) prompted Barbados authorities to respond; this materialized in the convergence of CIT tax reform.

Another feature was an NIS contribution level that was well above that of other regional countries. The high level of NIS contribution had created a wedge between the formal and informal labor sectors. The informal labor sector had grown substantially in the years before the reform, and it is estimated to have been more than 62 percent of the labor force in 2016 (ILO, n.d.).

Barbados's excise tax regime was introduced in 1991 as part of the general consumption tax (GCT) legislation. It initially imposed specific and ad valorem taxes on three different products: alcoholic beverages, tobacco products, and petroleum products. By the mid-2010s, motor vehicles, initially covered only under the VAT, were added to the excise regime. As such, excise tax revenues had increased their participation in total revenue and as a share of GDP during these years (i.e., from 1.7 percent of the GDP in 2008 to 3 percent in 2017).

The evolution of revenue from the different tax types is presented in Table 7.1. The revenue figures are shown as a percentage of GDP for each calendar year; there may be some discrepancies with official data that are presented on a fiscal year basis. Calendar years are used here instead of fiscal years to compare the revenue with the corresponding calendar-year figures of the national accounts.

Various tax incentives, exemptions, provisions, and waivers were in force in Barbados and constituted the tax expenditure system. This study only assesses the impact of removing tax expenditures linked to six major tax types (CIT, PIT, land and property transfer tax, VAT, excise, and import duties), which account for the majority of them.

Table 7.2 presents the leading tax expenditures organized by the main tax types. The table focuses on tax expenditures under the income tax (CIT and PIT), land and property transfer tax, VAT, excise, and import duties, accounting for almost 95 percent of tax revenue. At the bottom of the table the sum of tax expenditures is shown and their allocation between three categories: statutory tax expenditures, incentives, and discretionary waivers.

Statutory tax expenditures are the exemptions included as provisions in the legislation governing each tax. This category is the most critical part of the Barbados tax expenditure system and represents 90 percent of all tax expenditures due to the "offshore firm" regimes. The removal of statutory tax expenditures would have required modification of the act of each tax type. In some cases, statutory waivers, such as the duty-free regime for imports from free-trade zones, were impossible to remove.

The incentives category includes provisions to promote given economic sectors. Accurate estimates of tax incentives were intrinsically challenging to obtain.

At one extreme, if the incentives applied only to investments that would not have taken place otherwise, the actual cost of direct revenue forgone would be zero. On the other hand, if incentives were purely redundant and had no effect on the level of investment, the total tax revenue waived would equal the revenue lost. The actual amount of direct revenues lost was likely between these two extremes.

The discretionary waivers category includes any reductions in tax payable that are allowed through a direct waiver from the Ministry of Finance. These waivers were mainly used to reduce import tariffs, excise, and VAT. Most of these discretionary waivers were system induced—that is, they were the result of high import tariff rates (in some cases extremely high). They could not be removed at once without risking economic stability. In particular, there was a conflict with the CET, and some waivers had been granted to resolve these cases. However, extensive use of these discretionary waivers had also not been justified. This category represented 1.7 percent of GDP on average (2008-17).

These waivers were camouflaged tax amnesties given to individual taxpayers at the discretion of the Minister. They went against accepted tax administration international best practices, creating a moral hazard problem among taxpayers and undermining the efforts of the tax administration to collect tax arrears. This category represented more than 2.6 percent of GDP in 2009 and reached 0.9 percent in 2018. In some cases, the tax amnesties were granted for the fines payable on taxpayers' accumulated arrears on VAT and PIT.

Statutory tax expenditures were grouped into four subcategories: reduced rate, zero rate, deductions and allowances, and exemptions. This categorization was based on the reporting method for each tax according to the tax forms submitted by taxpayers.

The reduced rate category included any provisions that taxed any particular source of income at a rate below the standard rate or that taxed income for any specific type of taxpayer at a tax rate below the standard rate. This category included reduced income tax rates for international business financial services firms, which represented the bulk of tax expenditures in Barbados. The duty-free imports of goods originating from CARICOM countries were also included,⁹³ as well as the revenue forgone in VAT-reduced rates for tourism and accommodation services. Reduced rates represented 50.0 percent of GDP in 2007; by 2018, these expenditures represented 67.4 percent due to the entry of new offshore firms.⁹⁴

⁹³ Strictly speaking, duty-free imports from CARICOM should not be considered tax expenditures because the duty-free regime is a result of international treaty. However, this category was included to have an estimate of the tax forgone associated to the CARICOM treaty.

⁹⁴ International business companies, international banks, and international societies with limited liability were subject to income tax rates ranging from 1 to 2.5 percent.

The zero rate category included goods and services other than exports. Zero-rating on exports is not considered a tax expenditure, but revenue forgone due to a zero VAT rate on goods and services other than exports is considered a tax expenditure. Zero-rating involves the refund of all VAT paid on purchases made by producers of zero-rated goods; hence, its impact on tax revenue is significant. This category represented 0.65 percent of GDP and had exhibited a clear upward trend in years before the reform.

The deductions and allowances category in the income tax includes deductions from gross income over and above those allowances considered standard in generating that income, including any special capital cost allowance provisions. These tax credits allow for a reduction in gross tax and tax incentives to promote given economic sectors. They represented 18.9 percent of GDP in the years before the reform (2008–18).

The exemptions category includes provisions that exempt specific types of income from inclusion in taxable income. Most exemptions in this category are statutory because they are included as provisions in the act authorizing each tax. They are the most critical category of tax expenditure regarding revenue forgone. They represented more than 1.7 percent of GDP in the years before the reform (2008–18).

It should be noted that the tax expenditure estimates presented in Table 7.2 are gross approximations. Different categories of tax expenditures should not be added up because the value of two tax expenditures in isolation might differ from when both are applied together. For example, an import duty exemption reduces the base for the VAT, which would result in a lower cost for VAT expenditure. Some other interactions might result in a combination of incentives that would result in more revenue forgone than estimated if removed together. One of the advantages of the general equilibrium approach is that it simulates the compounded effects of multiple reductions of tax expenditures.

Notwithstanding the data quality and the above caveat regarding their aggregation, total tax expenditures for Barbados were estimated to be well above 50 percent of GDP after 2016. The evolution of each category as a percentage of GDP for the years 2007–18 is shown in Table 7.2. These were estimated using the traditional accounting method.

Total tax expenditures exhibited a clear downward trend up to 2016, but this trend was reversed in the subsequent two years. The downward trend experienced up to 2016 is displayed by all categories of tax expenditures. Statutory waivers constituted the bulk of Barbados's tax expenditures, and a long-term strategy would have been required to deal with the phasing out of the waivers in these categories. Discretionary waivers included a smaller share of tax expenditures but were trending upward in the years before 2016. Hence, they should

TABLE 7.2 Barbados: Tax Expenditures and Revenue
(by tax type as percent of GDP)

Tax Type	Expenditures and Revenue	2007	2010	2013	2016	2018
CIT	Tax Expenditures	60.6	45.8	40.6	39.9	76.2
	Revenue	5.6	3.2	2.1	2.3	2.8
PIT	Tax Expenditures	8.1	8.1	8.1	8.1	8.1
	Revenue	3.4	4.3	4.1	4.5	4.6
Land & Property Tax	Tax Expenditures	0.5	0.6	0.5	0.5	0.5
	Revenue	1.2	1.3	1.5	1.3	1.4
VAT	Tax Expenditures	5.1	6.6	4.9	4.3	5.0
	Revenue	8.2	8.3	9.3	9.2	8.5
Excise	Tax Expenditures	0.8	0.8	1.3	1.0	0.4
	Revenue	1.6	1.6	1.4	1.8	2.8
Import Duty	Tax Expenditures	2.3	1.6	1.6	1.7	2.2
	Revenue	2.0	2.1	2.1	2.5	1.9
All Taxes	Statutory	70.2	57.2	50.0	46.7	83.3
	<i>Reduced Rate</i>	50.0	26.2	30.4	29.9	67.4
	<i>Zero Rate</i>	1.2	2.9	2.5	0.7	1.3
	<i>Deductions and Allowances</i>	17.4	26.1	14.9	14.5	13.2
	<i>Exemptions</i>	1.5	2.1	2.2	1.5	1.4
	<i>Incentives</i>	2.6	2.8	2.6	2.8	3.0
	Discretionary Waivers	3.3	2.1	1.4	1.3	1.0

Source: Baca Campodónico (2019).

have been capped to avoid more significant distortions to the tax system. Waivers of tax arrears had been increasing substantially in the years immediately preceding 2018. Their elimination should have been the goal of a short-term tax waiver reduction strategy.

The 2018 Tax Reform

This section presents the ex ante simulation of the proposed measures included in the convergence program and additional measures to address the increasing informality of the Barbadian economy. Some of the tax reform measures were presented in the budget proposal and financial statement (mini-budget) on June 11, 2018. These initial measures included the convergence program of the CIT and a new proposal to achieve the objective of the reform. Note that the

different measures were not implemented simultaneously but staggered over time, which is captured by the DCGEM.

The tax measures are presented below in more detail and are grouped by tax type.

- **CIT tax measures.** The objective of the CIT measures was to consolidate the convergence program of CIT rates (in response to OECD criticism and initiative), significantly reducing the tax expenditures associated with the CIT, based on the principle that all sources of income should be taxed at the same rate. The latter implies that thin capitalization rules should be adopted with increases in the tax rate on interest and dividends to reduce opportunity costs generated by the CIT convergence reform.⁹⁵ The tax measures contemplated were (a) reduction of the CIT rate for domestic companies from 25 percent to 5.5 percent, 3.5 percent, 2.5 percent, and 1 percent, depending on the economic activity; (b) increase of actual CIT rates for IBCs to a schedule similar to that of domestic firms; (c) elimination of the foreign currency tax credit; (d) elimination of other tax credits; and (e) reduction of up to 20 percent in allowances and deductions. These measures were expected to reduce CIT tax expenditures substantially (by 62 percent of GDP) and generate around 1.5 percent of additional tax revenue.
- **PIT tax measures.** The objective of the PIT measures was to improve the progressivity of the PIT while maintaining its revenue. The tax measures considered were (a) adjustment of income brackets and tax rates, (b) conversion of personal allowance to a tax credit to enhance the progressivity of the PIT, (c) elimination of tax credits, (d) reduction of allowances and deductions by 10 percent, and (e) reform of the reverse (negative) income tax to eliminate distortions around the threshold income bracket. These measures were intended to be revenue neutral and reduce tax expenditures by -0.10 percent of GDP.
- **Land tax measures.** The land tax measures aimed to make this tax more efficient, reducing the preferential treatment provided to different property types. The tax measures considered were (a) adjustment of the current rate structure and (b) reduction of concessions, waivers, and amnesties.
- **Incentive laws.** The objective was to dismantle the current plethora of disparate incentive laws and replace them with an omnibus incentive law that would level the playing field for all taxpayers regardless of their economic sector. The tax measures considered were (a) elimination of current

⁹⁵ For example, firms can use back-to-back loans to siphon out profits aimed at reducing their CIT tax base.

incentive laws, (b) approval of a new omnibus incentive law, and (c) introduction of legacy programs. These measures were to be revenue neutral and help simplify the tax system and its administration. The new incentive law was also expected to promote the formal labor market by reducing the wedge created by the high NIS contributions.

- **Import duty measures.** These measures aimed to rationalize the current concessions, waivers, and exemptions associated with the tariff system. The measures considered were (a) reduction of tariff rates in line with CARICOM rules and (b) reduction of exemptions, concessions, and discretionary waivers. These measures were expected to increase current import duty revenue and decrease tax expenditures associated with this tax.
- **Customs processing fee measures.** These measures aimed to overhaul the structure of current processing fees charged by customs. The idea was that this fee should cover the cost of customs administration and its investment requirements. The new processing fee was to have been paid without exemptions. The tax measures were (a) rate adjustment to an equivalent duty of 1.5 percent for all imports and (b) elimination of all concessions and waivers for this fee.
- **Excise tax measures.** The excise rate structure was thoroughly reviewed to align the current rate with those in the CARICOM countries. The then-current special VAT rate on telecom services was eliminated; instead, an excise tax was levied on them. The concessions and waivers granted to excise goods at the time were to be curtailed. The tax measures contemplated were (a) reduction of concession and waivers, (b) rate adjustments, and (c) excise levied on telecom services. These measures were expected to raise additional revenue equivalent to 0.43 percent of GDP and to reduce tax expenditures associated with this tax.
- **VAT tax measures.** The objective was to streamline the VAT system, making it simpler and easier to administer. The tax measures considered were (a) convergence of the accommodation rate to the standard rate, (b) elimination of the telecom rate to replace it with an excise, (c) elimination of all zero-ratings other than on exports, (d) reduction of exemptions, and (e) removal of concessions and waivers. The indirect impact of increasing the VAT tax base was due to reduced concessions and waivers on import duty and excise. The effect of these VAT measures was expected to produce an additional revenue equivalent to 3.16 percent with a reduction of tax expenditures equivalent to 3.26 percent of GDP. Depending on the results of these tax measures, it was expected that a decrease in the standard VAT rate might be considered subsequently.
- **Minimum income tax measures.** This measure aimed to reduce informality among small and medium-sized enterprises (SMEs) and sole proprietorships.

The minimum income tax was to be levied on all PIT taxpayers, and it was to be credited against the PIT in conjunction with the Reverse Income Tax. Without proper tax legislation for SMEs, the minimum income tax was a good tax handle until legislation for SMEs could be implemented. It set the minimum income tax lower than the PIT personal allowance (for example, Bds\$2,000). It was expected to reach most of the SMEs and sole proprietorships that were not registered, increasing the PIT tax base. In addition, it was expected to reduce noncompliance by small firms already registered. It was estimated that more than 40,000 taxpayers could be brought into the PIT tax base. The introduction of the minimum income tax was expected to translate into additional revenue of 0.46 percent of GDP. No changes in tax expenditures were envisaged by introducing the minimum income tax.

- ***Withholding on imports.*** The presence of a VAT threshold opened the possibility of importers' noncompliance. An imported good that pays VAT at customs should also pay additional VAT proportional to the value added to imported goods before their sale to final consumers. A withholding on imports equivalent to 3 percent of the CIF value was proposed to avoid potential abuse. This withholding was credited against the domestic VAT paid by registered taxpayers. Using the credit against VAT domestic sales was expected to improve VAT taxpayers' compliance and generate additional revenue among small traders who had not reported paying VAT. This measure was successfully used in Jamaica without special legislation for SMEs. The impact of these measures was estimated to be around 0.48 percent of GDP with no effect on tax expenditures.

An overall view of the impact of the tax reform requires including the tax measures introduced in the mini-budget of 2018. In addition, it was important to consider the impact of the repeal of the NSRL and other measures implemented in the second semester of 2018. The measures considered were (a) mini-budget tax measures, (b) elimination of the NSRL, and (c) other measures. It was estimated that the direct impact of these measures would amount to a revenue loss equivalent to 0.64 percent of GDP without including the impact on the level of tax expenditures.

The estimated direct impact on tax revenue of all tax measures considered in the tax reform is presented in Table 7.3. Note that these are estimated using the accounting method. Based on this method, all tax measures would enhance tax revenue by 7.04 percent of GDP. The tax measures contemplated in the reform would reduce tax expenditures by 78.0 percent of GDP.

The estimations of the direct effect presented in Table 7.3 do not consider secondary indirect effects. Those were estimated using a DCGEM presented in the following section.

TABLE 7.3 Barbados: Summary of Direct Effect on Revenue and Reduction of Tax Expenditure

Tax Measure by Tax Type	Change in Revenue as % of GDP	Change in Tax Expenditures as % of GDP
1. CIT		
Reduction of CIT rate from 25% to 5.5% and elimination of associated tax expenditures	-1.9%	-65.9%
Increase CIT rate of offshore companies by 1%	2.0%	0.0%
Elimination of foreign currency tax credit	0.6%	-1.0%
Elimination of other tax credits	0.1%	-0.2%
Reduction of Allowances and Deductions (20%)	0.9%	-5.7%
2. PIT		
Adjustment of income brackets and tax rates	-0.4%	0.0%
Convert personal allowance to tax credit	-0.3%	0.3%
Elimination of tax credits	0.1%	-0.1%
Reduction of allowances and deductions (10%)	0.3%	-0.3%
Elimination of the reverse income tax	0.6%	0.0%
3. Land Tax		
Adjusted rate structure	0.2%	-0.2%
Reduction of concessions, waivers, and amnesties	0.2%	-0.2%
4. Incentive Laws		
Elimination of current incentive laws	1.9%	-3.0%
New omnibus incentive law	-2.5%	2.5%
Legacy programs	-0.5%	0.5%
5. Import Duty		
Reduction of tariff rates	-0.2%	0.0%
Reduction of exemptions, concessions, and waivers	1.0%	-1.4%
6. Customs Processing Fee		
Elimination of concessions and waivers	0.1%	-0.1%
Rate adjustment to 1.5%	0.8%	0.0%
7. Excise Tax		
Reduction of concessions and waivers	0.2%	-0.2%
Rate adjustments	0.1%	0.0%
Excise on telecom	0.1%	0.0%

(continued on next page)

TABLE 7.3**Barbados: Summary of Direct Effect on Revenue and Reduction of Tax Expenditure** *(continued)*

Tax Measure by Tax Type	Change in Revenue as % of GDP	Change in Tax Expenditures as % of GDP
8. VAT		
Convergence of accommodation rate to standard rate	1.5%	-1.5%
Elimination of telecom rate	-0.2%	0.2%
Elimination of zero-rating other than exports	0.9%	-0.9%
Reduction of exemptions	0.4%	-0.4%
Removal of concessions and waivers	0.3%	-0.4%
Increase tax base due to reduction of waivers on import duty	0.1%	-0.1%
9. Minimum Income Tax (Bds\$2,000)		
Increase PIT tax base	0.2%	0.0%
Reduction of noncompliance	0.1%	0.0%
10. Withholding on Imports (3%)		
Increase VAT base	0.1%	0.0%
Increase PIT base	0.1%	0.0%
Reduction of noncompliance	0.2%	0.0%
11. Other Tax Measures		
Mini-budget	0.4%	0.0%
Elimination of NSRL	-1.7%	0.0%
Other	0.2%	0.0%
Overall Direct Impact	7.0%	-78.0%

Source: Baca Campodónico (2019).

Simulation of the Cumulative Impact of Alternative Scenarios

This section presents the impact on the Barbadian economy of the different tax measures, considering both the direct and indirect effects, from 2018 to 2022.⁹⁶ Five simulations corresponding to different scenarios were performed,⁹⁷ but the

⁹⁶ These simulations were done before the COVID-19 outbreak.

⁹⁷ The five simulations were: Scenario 1: Impact of Tax Measures on Direct Taxes, Scenario 2: Impact of Tax Measures on Indirect Taxes, Scenario 3: Impact of Tax Measures on Direct and Indirect Taxes, Scenario 4: Impact of Additional Proposed Tax Measures, and Scenario 5: Impact of All Tax Measures.

only one fully reported on here is the simulation of the impact of implementing all tax measures (Scenario 5). It is crucial to remember that the combined effect of individual scenarios is not the sum of the individual impacts of each scenario. There are non-linear relationships in the DCGEM model that generate different results when two or more scenarios are simulated together (Table 7.4). For example, the sum of cumulative GDP deviations from the baseline of Scenarios 1–4 is 8.6 percent. However, when simulating all measures together as in Scenario 5, the figure is 3.53 percent. The results shown in Table 7.4 represent the cumulative impact of the corresponding tax measures over the period 2018 to 2022 as compared to the baseline.

The common finding of the five simulation exercises is that the removal of the tax expenditures represented a significant increase in transfers of resources from the private sector to the government. This transfer followed a net disposable expenditure reduction of 28.9 percent of the baseline scenario levels.

The need to complement the removal of tax expenditures with the reduction of statutory tax rates is a clear message from the simulation exercises. In other words, any reform seeking to remove tax expenditures must also reduce the statutory rates or tax burden. An overall assumption for the scenarios was that all additional revenue generated by eliminating tax expenditures would reduce public debt, leading to less inflation and more investment in the long term. However, in the short term, the impact of removing tax expenditures was a direct reduction of disposable income levels.

Another overarching conclusion from the simulation exercises was the regressive nature of the inflation tax effect resulting from removing tax expenditures. Inflation tax refers to the financial loss of value suffered by cash holders due to the impact of inflation. This financial loss of value is often expressed as a loss of purchasing power. The inflation tax is usually highly regressive. Some argue that inflation is a regressive non-linear consumption tax because lower-income groups do not have protection mechanisms against rising inflation like higher-income groups do. Reducing inflation has a reverse effect on the lower-income groups. Average inflation in Barbados has bordered on the 10 percent mark. Hence, the inflation tax has been high. The Barbadian DCGEM included the impact of the inflation tax on income distribution and growth through the transmission mechanism of inflation. The latter is one of the highlights of the dynamic model, which is usually ignored in static tax incidence studies.

In most scenarios, the primary sector's real growth rates are higher than the secondary and tertiary sectors. The more balanced growth concerning the baseline scenario reflects the elimination of the bias of the current structure of tax expenditures toward the tertiary sector.

TABLE 7.4 Barbados: Simulated Cumulative Outcomes under Different Reform Measures

	Scenario 0	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5
	Baseline	Tax Measures on Direct Taxes	Tax Measures on Indirect Taxes	Tax Measures on Direct and Indirect Taxes	Additional Proposed Tax Measures	All Tax Measures
1. Real GDP						
- Millions Bds\$ (2022 prices)	9,526.9	9,549.0	9,807.6	9,808.5	9,757.6	9,863.2
% Deviation	—	0.2	2.9	3.0	2.4	3.5
2. Price Index (CPI)						
- Millions Bds\$ (2022 prices)	155.8	155.8	158.0	157.9	161.2	162.8
% Deviation	—	(0.1)	1.4	1.3	3.4	4.5
3. Unemployment Rate						
- Millions Bds\$ (2022 prices)	9.4	9.2	7.2	7.0	7.9	5.4
% Deviation	—	(2.3)	(23.3)	(25.7)	(15.7)	(42.9)
4. Tax Revenue						
- Millions Bds\$ (2022 prices)	3,108.7	3,143.6	3,491.4	3,522.4	3,513.5	3,950.4
% Deviation	—	1.1	12.3	13.3	13.0	27.1
5. Public Debt						
- % of 2022 GDP	141.9	140.1	124.6	123.0	128.2	109.2
% Deviation	—	(1.3)	(12.2)	(13.3)	(9.6)	(23.0)
6. Poverty						
- % of 2022 Population	21.3	21.3	22.5	22.5	15.7	19.6
% Deviation	—	0.0	5.5	5.4	(26.2)	(7.8)
7. Gini Index						
- Value	0.326	0.326	0.330	0.331	0.325	0.331
% Deviation	—	0.007	1.326	1.513	(0.142)	1.474

Source: Banca Campodónico (2019).

Inflation rates measured by the GDP deflator were lower than the baseline for most scenarios. The lower financial requirements of the public sector and the lower levels of aggregated demand common to most scenarios explain the fall in inflation compared to the baseline scenario. Removing tax expenditures reduced borrowing requirements and put pressure on the exchange rate due to the decreased influx of foreign exchange. This effect was weighed against the equilibrium condition in each sector (nominal supply must equal nominal demand) of the DCGEM. Simulation results for most scenarios indicated reduced borrowing requirements and less devaluation lowered inflation more than nominal supply and demand changes.

Unemployment levels were lower than the baseline scenario due to relatively higher growth rates in the primary sector. Removal of the biased structure of tax expenditures tended to favor higher growth rates in the primary sector. The primary sector had a higher labor absorption ratio than the secondary and tertiary sectors, contributing to lower unemployment levels registered in all scenarios compared to the baseline scenario.

Total tax revenue increased relative to the baseline in all scenarios. The direct impact on tax revenue of removing tax expenditures was enhanced by the indirect effects of higher growth rates and lower inflation rates, which induced additional tax revenue.

The public debt-to-GDP ratio decreased relative to the baseline along the time horizon of analysis for all scenarios: more tax revenue would be generated, and the assumption that all additional public revenue would be directed toward debt reduction translated into lower debt levels.⁹⁸ In addition, lower public debt implied lower interest payments and other surpluses that contributed even more to lowering the debt stock.

Poverty levels measured as a percentage of the population were higher than the baseline for most scenarios. Under most scenarios, removing tax expenditures translated into lower disposable income at all income levels. As a result, poverty levels tended to be higher. Reduced inflation levels (lower inflation tax) and higher GDP growth rates did not compensate in the short term for the drop in disposable income from removing tax expenditures.

Notwithstanding higher poverty levels, inequality was lower than the baseline (lower Gini values). The progressive nature of removing tax expenditures resulted from lower inflation and the biased structure of tax expenditures. The income distribution effect of the current tax expenditure structure was to favor the higher quintiles.

⁹⁸ A different assumption regarding the use of additional revenue can be simulated with the Barbadian DCGEM. For instance, it could be assumed that the additional revenue is allocated to more public investment.

The following sections discuss the baseline scenario and Scenario 5 in greater detail, including presenting the results by year for 2018–22.

Baseline Scenario

The baseline scenario selected for the simulation exercises corresponded to 2018–22. This period was chosen because of the expected time frame for implementing the tax reform. The baseline scenario reproduced the evolution of the main macroeconomic variables without any measures considered in the tax reform. The simulations then provided a counterfactual that could be used to assess the impact of the tax measures.⁹⁹

It would have been desirable to have data for a more extended period to study the long-term effect of the tax reform. However, five years of simulation was considered enough to explore the transient response of the tax reform. Business cycles in the economy of Barbados were within this time frame.

The baseline scenario was obtained using the DCGEM model, with 2016 as a starting point. We assumed that all effective tax rates remained the same for the simulation horizon to generate an outlook for 2018–22. One good example is the NSRL. The baseline scenario assumes that this levy stayed intact for the entire time period of the simulation.

The evolution of potential GDP and its associated business cycle was vital as an input to the simulation exercise. Potential GDP was determined by the level of investment that defined capital stock growth in each of the three economic sectors¹⁰⁰ of the model. Potential GDP and the business cycle determined taxable bases associated with sectoral GDP. The cyclical behavior of the business cycle around the potential GDP had an essential role in the evolution of tax revenue. It was necessary to recognize that tax reform was introduced at the bottom of the business cycle. The potential GDP depends on the level of investment, while the business cycle depends on short-term variables such as the number of tourists, capacity utilization, and inventory levels. Figure 7.7 presents the values of real GDP (total and for the three economic sectors) for the baseline scenario and the simulation of general tax reform (Scenario 5). A comprehensive tax reform implied an increasing GDP and potential GDP for all sectors.

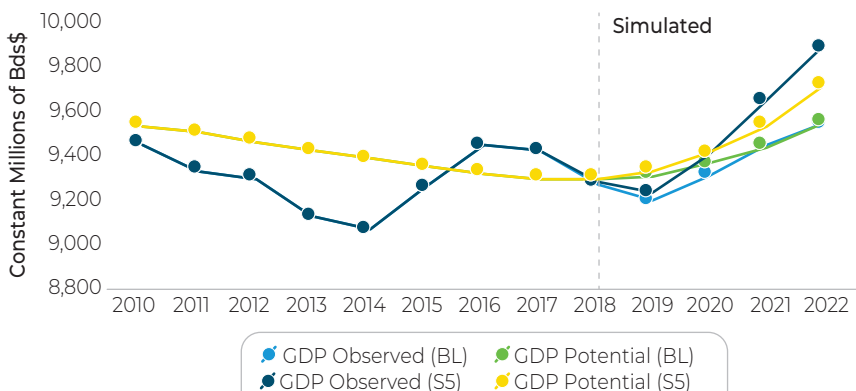
The values of the model variables for 2018 did not reproduce the values that the authorities and the IMF expected for 2018 because the baseline assumed

⁹⁹ Note that in the Barbados case, “baseline” refers to the scenario under which *no* reforms are implemented, while the “counterfactual” refers to scenarios under which reforms *are* implemented.

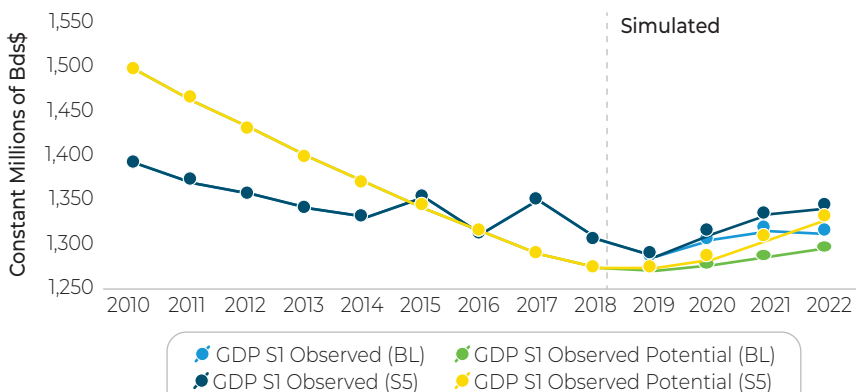
¹⁰⁰ Sector 1: Agriculture, fisheries, mining, manufacture, electricity, gas and water, construction; Sector 2: Hotels and restaurants; Sector 3: All other services.

FIGURE 7.7 Barbados: Real GDP Baseline and Simulation

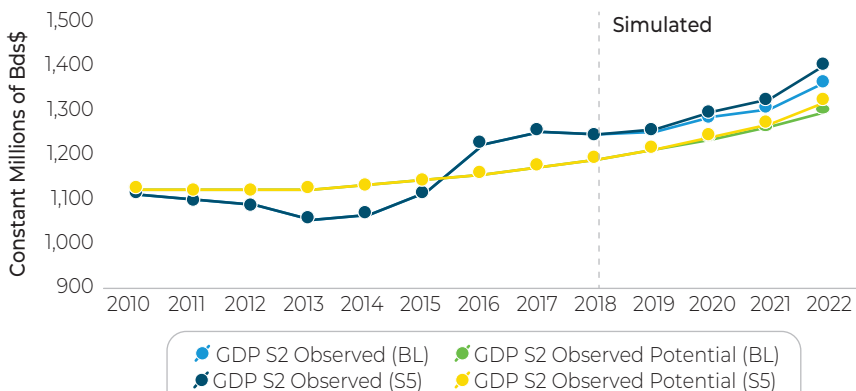
Panel A. Total Real GDP Baseline and Simulation



Panel B. Sector 1* Real GDP Baseline and Simulation



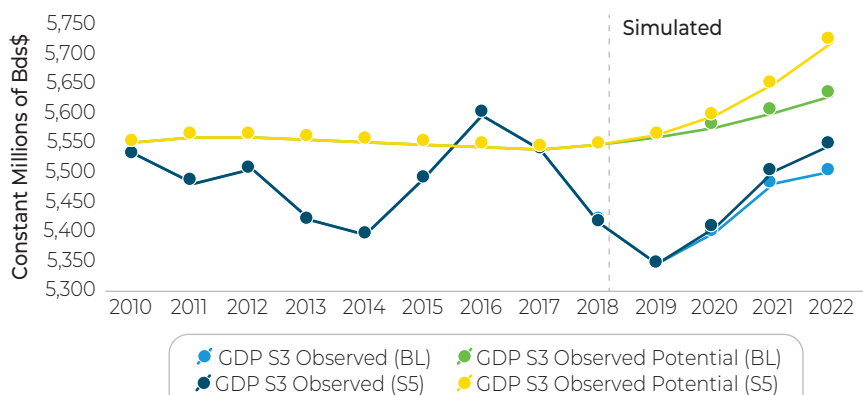
Panel C. Sector 2* Real GDP Baseline and Simulation



(continued on next page)

FIGURE 7.7 Barbados: Real GDP Baseline and Simulation (continued)

Panel D. Sector 3[‡] Real GDP Baseline and Simulation



Source: Baca Campodónico (2019).

Note: In all panels, BL = baseline, S5 = Scenario 5.

* Sector 1 (S1): Agriculture, fisheries, mining, manufacture, electricity, gas and water, construction.

† Sector 2 (S2): Hotels and restaurants.

‡ Sector 3 (S3): All other services.

that no tax measures were taken in 2018. Up to 2016, the values of all variables were taken from the National Accounts Central Bank and figures provided by the authorities. The model generated the values for 2018 onwards, thus calibrating the model to re-create the baseline scenario as a benchmark against assessing the impact of different tax measures. With this calibration, the model was prepared to simulate the alternative scenarios.

The Barbadian DCGEM model was calibrated to reproduce the expected effects on the economy if no tax measures were taken during the simulation period. The calibration process was done by defining exogenous additive variables (“add factors”) for each behavioral equation of the model. These variables allow for shifting of the intercept constant of each equation to reproduce the values of each model equation.

The effective direct and indirect tax rates used to simulate the baseline scenario are presented in Tables 7.5 and 7.6. The latest available effective tax rate for each taxable base (2016) was assumed to remain constant for the entire period (2018–22) of the baseline scenario simulation. The tables show the effective tax rate computed by dividing the expected tax revenue (second part of the tables) by the corresponding tax base (third part of the tables).

The effective tax rates before the reform were used as exogenous inputs for the DCGEM to obtain the outlook for the baseline scenario. Add factors were used to get the final version of the baseline solution, and the model values were equal to the historical pre-reform values. Once the baseline solution

TABLE 7.5**Barbados: Effective Direct Tax Rates (percent) and Tax Revenue and Tax Bases (millions of Bds\$) Used for the Baseline Simulation**

	2016	2017	2018	2019	2020	2021	2022
Effective Tax Rates Baseline	9.48%	11.21%	11.85%	11.20%	11.21%	11.22%	11.23%
CIT	2.32%	3.14%	3.27%	3.14%	3.14%	3.14%	3.15%
PIT	4.66%	5.51%	5.33%	5.51%	5.51%	5.52%	5.52%
Property	1.38%	1.50%	1.61%	1.50%	1.50%	1.50%	1.51%
Other Direct Taxes	1.12%	1.06%	1.07%	1.06%	1.06%	1.06%	1.06%
Direct Taxes Revenue (millions Bds\$)	892.0	1,017.0	1,070.0	1,021.7	1,058.6	1,098.8	1,137.0
CIT	218.3	284.8	295.2	286.1	296.4	307.7	318.4
PIT	438.3	499.9	481.0	502.2	520.3	540.1	558.9
Property	130.0	136.3	145.3	137.0	141.9	147.3	152.4
Other Direct Taxes	105.5	96.0	96.2	96.5	100.0	103.8	107.4
Tax Bases (millions Bds\$)							
Operating Surplus	4,618.7	4,836.4	4,792.5	4,892.1	5,174.4	5,466.3	5,732.6
Total Wages	3,864.2	3,818.8	3,815.2	3,809.2	3,847.5	3,905.4	3,970.2
National Income	9,404.6	9,075.1	9,027.8	9,121.4	9,441.8	9,791.6	10,122.7
Income Quintile 1	542.5	518.4	518.2	520.2	535.2	552.5	565.7
Income Quintile 2	1,085.1	1,040.7	1,038.3	1,049.6	1,085.2	1,123.6	1,161.7
Income Quintile 3	1,623.5	1,559.5	1,553.9	1,569.5	1,622.2	1,679.7	1,735.1
Income Quintile 4	2,140.2	2,100.4	2,088.6	2,109.6	2,182.9	2,263.1	2,338.6
Income Quintile 5	4,013.3	3,856.0	3,828.8	3,872.5	4,016.4	4,172.7	4,321.7

Source: Baca Campodónico (2019).

was obtained, the values projected by the model's solution were assumed to be what would have been the actual variables for the period of the simulation exercise (2018–22) had no reforms been implemented. The values of the variables for 2018 do not necessarily coincide with the historical values observed for 2018 because it is assumed that the tax measures enacted with the mini-budget (in particular, the elimination of the NSRL) did not take place and, therefore, were not part of the baseline scenario simulation.¹⁰¹

The coincidence between the actual values of the model variables and the corresponding adjusted simulated variables validated the baseline scenario as a

¹⁰¹ The simulation of the reform scenarios includes both the mini-budget and the agreed IMF measures.

TABLE 7.6**Barbados: Effective Indirect Tax Rates (percent) and Tax Revenue and Tax Bases (millions of Bds\$) Used for the Baseline Simulation**

	2016	2017	2018	2019	2020	2021	2022
Effective Tax Rates Baseline	17.01%	20.03%	19.85%	20.79%	20.64%	20.47%	20.32%
VAT	10.50%	10.81%	10.31%	10.85%	10.87%	10.89%	10.92%
Import Duty	7.96%	7.22%	7.22%	7.22%	7.22%	7.22%	7.22%
Excises	2.07%	3.47%	3.43%	3.41%	3.38%	3.33%	3.29%
Other Indirect Taxes	1.45%	2.81%	3.62%	3.65%	3.54%	3.43%	3.33%
Indirect Taxes Revenue (millions Bds\$)	1,443.0	1,734.0	1,709.0	1,808.6	1,861.9	1,918.6	1,971.4
VAT	890.9	935.7	887.2	943.9	980.8	1,020.3	1,059.7
Import Duty	245.1	245.0	203.9	240.9	246.9	253.8	258.1
Excises	175.4	300.6	295.4	296.6	304.8	312.5	319.7
Stamp Duty	8.5	9.7	11.1	9.4	9.8	10.4	10.7
Other Indirect Taxes	123.0	243.0	311.4	317.8	319.6	321.6	323.2
Tax Bases (millions Bds\$)							
Imports of Goods	3,080.9	3,204.0	3,148.2	3,144.4	3,231.2	3,333.0	3,396.0
GDP S1	1,361.2	1,405.3	1,345.5	1,329.2	1,354.3	1,373.0	1,375.1
GDP S2	1,132.0	1,235.0	1,292.7	1,385.7	1,512.0	1,631.6	1,812.9
GDP S3	5,989.7	6,014.9	5,969.6	5,986.4	6,155.6	6,367.2	6,514.8
Total GDP	8,482.9	8,655.2	8,607.7	8,701.3	9,021.9	9,371.7	9,702.8
National Income	9,404.6	9,075.1	9,027.8	9,121.4	9,441.8	9,791.6	10,122.7

Source: Baca Campodónico (2019).

Note: S1, S2, and S3 refer to the economic sectors: Sector 1: Agriculture, fisheries, mining, manufacture, electricity, gas and water, construction; Sector 2: Hotels and restaurants; Sector 3: All other services.

benchmark for the simulation exercises. For each variable, the deviation of the simulated variables from the actual baseline values is 0 percent. These results confirmed the calibration process of the model.¹⁰²

Impact of All Tax Measures on Direct and Indirect Taxes

Scenario 5 simulates the combined impact of all tax reform measures (of both direct and indirect taxes), including the proposed tax measures that had not yet been implemented. This scenario depicted the effects of the tax measures as of 2018 (introduced in the mini-budget) and the proposal to reduce tax

¹⁰² For further explanation of these methodological issues, see Annex A.

expenditures that were still under consideration. The objective was to dismantle the then-current system of incentive laws and replace it with an omnibus incentive law that would level the playing field for all taxpayers regardless of the economic sector. The tax measures considered were (a) elimination of current incentive laws, (b) approval of a new omnibus incentive law, and (c) introduction of legacy programs. These measures were to be revenue neutral and help simplify the tax system and its administration. The new incentive law was to promote the formal labor market by reducing the wedge created by the high NIS contributions.

The idea behind reducing tax expenditures related to direct and indirect taxes was the generation of more tax revenues and the redistribution of the benefits compared to the current system of incentives. Replacing the current incentives with a new incentive law to level the playing field was expected to impact all income brackets. In this scenario, the tax revenue generated by eliminating concessions and incentives was expected to reduce poverty and create higher savings levels, translating to increases in investment, GDP growth, and employment levels.

The proposed tax measures regarding changes in direct and indirect tax rates were consolidated and translated into effective tax rates and are presented in Tables 7.7 and 7.8. These values were used as inputs (exogenous) to the DCGEM and the corresponding exogenous variables corresponding to indirect taxes to simulate Scenario 5 (which captures the impact of the proposed reforms of all direct and indirect taxes—i.e., comprehensive tax reform).

The results of the simulation of Scenario 5 performed by the DCGEM are presented in Table 7.9. The results are a subset of the many variables included in the model. Results for the baseline and the alternative scenarios are presented with their percent deviation from the baseline value for each variable. Figure 7.8 shows four key variables: real GDP, poverty, inequality, and tax revenue. Real GDP and tax revenue both continuously rise in the simulation. In contrast, the poverty level increases and then falls in the out years of the simulation while inequality constantly rises.

The overall impact of all tax measures was expected to have a significant positive effect on real GDP growth. The cumulative result was projected to be a real GDP 3.53 percent higher than the baseline scenario in the five-year simulation horizon. The impact on growth was projected to be much more accentuated in Sectors 1 and 2 than in Sector 3.¹⁰³ However, all sectors exhibited growth rates greater than the baseline solution, which is a direct result of the higher investment levels obtained due to reduced public debt and higher tax revenue.

¹⁰³ See Baca Campodónico (2019) for details on these results.

TABLE 7.7**Barbados: Impact of Tax Measures on Effective Rates (percent) and Revenue (millions of Bds\$) of Direct Taxes**

	2016	2017	2018	2019	2020	2021	2022
Tax Measures (millions Bds\$)	—	—	10.0	66.7	43.4	94.0	147.8
CIT Rate	—	—	38.0	61.1	8.5	8.8	9.1
Tax Expenditures	—	—	—	18.2	37.8	88.1	141.7
PIT Rate	—	—	(7.7)	(22.6)	(66.1)	(68.5)	(70.9)
Tax Expenditures	—	—	(20.3)	(26.5)	(12.3)	(12.7)	(13.2)
Property Tax Rate	—	—	—	18.2	37.8	39.2	40.5
Tax Expenditures	—	—	—	18.2	37.8	39.2	40.5
Other Direct Taxes Rate	—	—	—	—	—	—	—
Tax Expenditures	—	—	—	—	—	—	—
New Effective Tax Rates	9.48%	11.21%	11.38%	11.93%	11.67%	12.18%	12.69%
CIT Rate	2.32%	3.14%	3.69%	4.01%	3.63%	4.13%	4.64%
Tax Expenditures	0.00%	0.00%	0.00%	0.20%	0.40%	0.90%	1.40%
PIT Rate	4.66%	5.51%	5.02%	4.97%	4.68%	4.69%	4.69%
Tax Expenditures	0.00%	0.00%	—0.23%	—0.29%	—0.13%	—0.13%	—0.13%
Property Tax Rate	1.38%	1.50%	1.61%	1.90%	2.30%	2.30%	2.31%
Tax Expenditures	0.00%	0.00%	0.00%	0.20%	0.40%	0.40%	0.40%
Other Direct Taxes Rate	1.12%	1.06%	1.07%	1.06%	1.06%	1.06%	1.06%
Tax Expenditures Other	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Effective Tax Rates Baseline	9.48%	11.21%	11.85%	11.20%	11.21%	11.22%	11.23%
CIT Rate	2.32%	3.14%	3.27%	3.14%	3.14%	3.14%	3.15%
PIT Rate	4.66%	5.51%	5.33%	5.51%	5.51%	5.52%	5.52%
Property Tax Rate	1.38%	1.50%	1.61%	1.50%	1.50%	1.50%	1.51%
Other Direct Taxes Rate	1.12%	1.06%	1.07%	1.06%	1.06%	1.06%	1.06%
Direct Taxes Revenue (millions Bds\$)	892.0	1,017.0	1,070.0	1,021.7	1,058.6	1,098.8	1,137.0
CIT	218.3	284.8	295.2	286.1	296.4	307.7	318.4
PIT	438.3	499.9	481.0	502.2	520.3	540.1	558.9
Property Tax	130.0	136.3	145.3	137.0	141.9	147.3	152.4
Other Direct Taxes	105.5	96.0	96.2	96.5	100.0	103.8	107.4

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TABLE 7.7

Barbados: Impact of Tax Measures on Effective Rates (percent) and Revenue (millions of Bds\$) of Direct Taxes *(continued)*

	2016	2017	2018	2019	2020	2021	2022
Tax Bases (millions Bds\$)							
Operating Surplus	4,618.7	4,836.4	4,792.5	4,892.1	5,174.4	5,466.3	5,732.6
Total Wages	3,864.2	3,818.8	3,815.2	3,809.2	3,847.5	3,905.4	3,970.2
National Income	9,404.6	9,075.1	9,027.8	9,121.4	9,441.8	9,791.6	10,122.7
Income Quintile 1	542.5	518.4	518.2	520.2	535.2	552.5	565.7
Income Quintile 2	1,085.1	1,040.7	1,038.3	1,049.6	1,085.2	1,123.6	1,161.7
Income Quintile 3	1,623.5	1,559.5	1,553.9	1,569.5	1,622.2	1,679.7	1,735.1
Income Quintile 4	2,140.2	2,100.4	2,088.6	2,109.6	2,182.9	2,263.1	2,338.6
Income Quintile 5	4,013.3	3,856.0	3,828.8	3,872.5	4,016.4	4,172.7	4,321.7

Source: Authors' calculations.

TABLE 7.8

Barbados: Impact of Tax Measures on Effective Rates (percent) and Revenue (millions of Bds\$) of Indirect Taxes

	2016	2017	2018	2019	2020	2021	2022
Tax Measures (millions Bds\$)							
VAT Rate	—	—	103.3	408.1	533.4	553.9	573.1
Tax Expenditures	—	—	—	70.5	119.1	123.7	128.1
Import Duty Rate	—	—	—	9.4	19.4	20.0	20.4
Tax Expenditures	—	—	10.8	56.6	94.7	98.4	101.9
Excise Rate	—	—	130.3	267.8	282.2	293.2	303.5
Tax Expenditures	—	—	—	9.1	18.9	19.7	20.4
Other Indirect Taxes Rate	—	—	(31.6)	(63.9)	(66.3)	(68.8)	(71.3)
Tax Expenditures	—	—	—	—	—	—	—
New Effective Tax Rates	14.12%	20.03%	19.85%	22.60%	23.60%	23.46%	23.35%
VAT Rate	10.50%	10.81%	10.24%	12.33%	12.92%	12.93%	12.96%
Tax Expenditures	0.00%	0.00%	0.00%	5.30%	8.79%	9.01%	9.31%
Import Duty Rate	0.00%	0.00%	0.34%	1.80%	2.93%	2.95%	3.00%
Tax Expenditures	0.00%	0.00%	0.34%	1.80%	2.93%	2.95%	3.00%
Excise Rate	2.07%	3.47%	4.95%	6.59%	6.72%	6.67%	6.63%

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TABLE 7.8
Barbados: Impact of Tax Measures on Effective Rates (percent) and Revenue (millions of Bds\$) of Indirect Taxes *(continued)*

	2016	2017	2018	2019	2020	2021	2022
Tax Expenditures	0.00%	0.00%	0.00%	0.69%	1.40%	1.43%	1.48%
Other Indirect Taxes Rate	1.45%	2.81%	3.25%	2.92%	2.81%	2.70%	2.60%
Tax Expenditures	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Effective Tax Rates Baseline	17.01%	20.03%	19.85%	20.79%	20.64%	20.47%	20.32%
VAT Rate	10.50%	10.81%	10.31%	10.85%	10.87%	10.89%	10.92%
Tax Expenditures							
Import Duty Rate	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Tax Expenditures							
Excise Rate	2.07%	3.47%	3.43%	3.41%	3.38%	3.33%	3.29%
Tax Expenditures							
Other Indirect Taxes Rate	1.45%	2.81%	3.62%	3.65%	3.54%	3.43%	3.33%
Tax Expenditures							
Indirect Taxes Revenue (millions Bds\$)	1,443.0	1,734.0	1,709.0	1,808.6	1,861.9	1,918.6	1,971.4
VAT	890.9	935.7	887.2	943.9	980.8	1,020.3	1,059.7
Import Duty	245.1	245.0	203.9	240.9	246.9	253.8	258.1
Excises	175.4	300.6	295.4	296.6	304.8	312.5	319.7
Stamp Duty	8.5	9.7	11.1	9.4	9.8	10.4	10.7
Other Indirect Taxes	123.0	243.0	311.4	317.8	319.6	321.6	323.2
Tax Bases (millions Bds\$)							
Imports of Goods	3,080.9	3,204.0	3,148.2	3,144.4	3,231.2	3,333.0	3,396.0
GDP S1	1,361.2	1,405.3	1,345.5	1,329.2	1,354.3	1,373.0	1,375.1
GDP S2	1,132.0	1,235.0	1,292.7	1,385.7	1,512.0	1,631.6	1,812.9
GDP S3	5,989.7	6,014.9	5,969.6	5,986.4	6,155.6	6,367.2	6,514.8
Total GDP	8,482.9	8,655.2	8,607.7	8,701.3	9,021.9	9,371.7	9,702.8
National Income	9,404.6	9,075.1	9,027.8	9,121.4	9,441.8	9,791.6	10,122.7

Source: Authors' calculations.

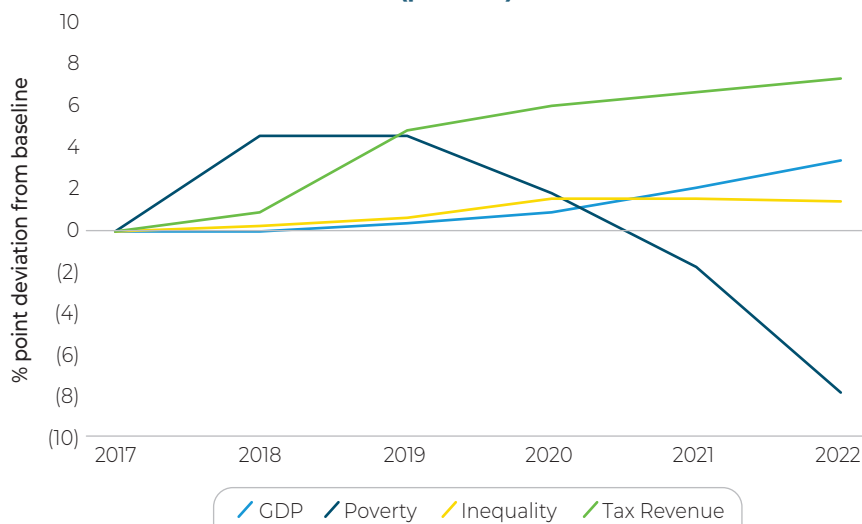
The consumer price index (CPI) remained very close to the baseline solution during the first three years of the simulation horizon, reflecting a balance between the impact of the tax expenditures removal and the reduction of

TABLE 7.9 Barbados: Simulated Output Variables for Scenario 5 (Comprehensive Tax Reform)

	Units	2016	2018	2020	2022
1. Real GDP					
- Scenario	Millions Bds\$	9,432.3	9,274.0	9,395.8	9,863.2
- Baseline		9,432.3	9,265.9	9,303.3	9,526.9
% Deviation		—	0.09	0.99	3.53
2. Price Index (CPI)					
- Scenario	Index	118.84	128.80	144.63	162.84
- Baseline		118.84	128.66	141.47	155.84
% Deviation		—	0.12	2.23	4.49
3. Unemployment Rate					
- Scenario	Percentage	9.72	9.57	8.25	5.36
- Baseline		9.72	9.57	9.71	9.38
% Deviation		—	(0.00)	(15.10)	(42.87)
4. Tax Revenue					
- Scenario	Millions Bds\$	2,334.6	2,870.8	3,521.8	3,950.4
- Baseline		2,334.6	2,779.3	2,920.8	3,108.7
% Deviation		—	3.29	20.58	27.07
5. Ratio Public Debt/GDP					
- Scenario	Percentage	146.2	144.5	129.1	109.2
- Baseline		146.2	145.6	144.0	141.9
% Deviation		—	(0.77)	(10.33)	(23.04)
6. Poverty (% of Population)					
- Scenario	Percentage	17.1	18.7	19.4	19.6
- Baseline		17.1	17.8	19.0	21.3
% Deviation		—	4.72	1.84	(7.78)
7. Gini Index					
- Scenario	Index	0.316	0.318	0.326	0.331
- Baseline		0.316	0.317	0.321	0.326
% Deviation		—	0.24	1.63	1.47

Source: Authors' calculations.

public-sector borrowing requirements. The inflation increase in the out years of the simulation horizon was generated by the rapid decrease of unemployment in the out years of the simulation period. The unemployment rate was expected to fall from 9.38 percent in the baseline scenario to 5.36 percent by the end of the

FIGURE 7.8**Impact of the Reforms: Changes in GDP, Poverty, Inequality, and Tax Revenue in Scenario 5 Compared to the Baseline (percent)**

Source: Baca Campodónico (2019).

simulation horizon. Lower levels of unemployment were the direct consequence of higher growth rates in all economic sectors.

Tax revenue increased by 27.06 percent over the baseline scenario in the simulation horizon. This positive impact on tax revenue of the tax measures implemented so far and the removal of tax expenditures was the combined result of the direct effect of collecting the tax expenditures and the higher growth rate of the economy that benefited from the reduction of the public debt levels. In this scenario, the public debt-to-GDP ratio went down from 141.9 percent to 109.2 percent at the end of the analysis period.

Poverty levels were reduced after a slight increase over the baseline scenario in the first years of the simulation horizon. They ended up at 7.68 percent lower than the baseline in 2022. Eliminating tax expenditures linked to direct taxes was directed toward higher-income groups. Therefore, there was no direct impact on poverty because tax expenditures were related to indirect taxes. In this scenario, the benefits of lower inflation and higher growth were enough to reduce the poverty level.

The overall redistributive effects of the tax measures and of removing tax expenditures were slightly regressive, as the evolution of the Gini coefficient shows for the simulation period. Net consumer expenditure (expenditure less indirect taxes) fell more in the lower-income groups than in the higher quintiles.

Conclusions and Recommendations

The overall finding of the simulation exercises is that the tax measures implemented as of 2018 were not enough to attain reasonable GDP growth rates and reduce poverty levels. The increase in low levels of net tax revenue did not significantly reduce the debt-to-GDP ratio.

The need to complement the current tax reform with additional tax measures that include removing tax expenditures is a clear message from the simulation exercises. Note that an overall assumption for the scenarios was that all additional revenue generated by eliminating tax expenditures would reduce public debt and lead to less inflation and more investment in the long term. However, in the short term, the impact of removing tax expenditures is a direct reduction of disposable income levels.

Another conclusion from the simulation exercises is that eliminating tax expenditures results in regressive reforms. Indirect taxes are regressive by nature and have a direct incidence of inflation. The inflation tax¹⁰⁴ is usually highly regressive. Lower-income groups do not have protection mechanisms against rising inflation. Higher-income groups are better protected through the financial system. Reducing inflation has a reverse effect on the lower-income groups. Average inflation in Barbados has bordered on the 6 percent mark. Hence, the inflation tax has been relatively high.

Historically, the real growth rates of the hotels and transformation sectors have been higher than those of the other services sector.¹⁰⁵ The reform scenarios show more balanced sectoral growth than the baseline scenario, eliminating the bias toward the hotels and financial sectors in the baseline structure of tax expenditures.

As measured by the CPI, inflation rates were lower than the baseline scenario for the direct taxes scenario and higher for the indirect taxes scenario. The lower financial requirements of the public sector and the lower levels of aggregated

¹⁰⁴ As noted in Chapter 6, inflation tax refers to the financial loss of value suffered by holders of cash due to the effects of inflation. This financial loss of value is often expressed as a loss of purchasing power. Many economists hold that inflation affects the lower and middle classes more than the rich: because the former hold a larger fraction of their income in cash, they are much less likely to receive the newly created monies before the market has adjusted with inflated prices; more often have fixed incomes, wages, or pensions; and lack the means to avoid domestic inflation by reallocating assets overseas. Some argue that inflation is a regressive non-linear consumption tax.

¹⁰⁵ The transformation sector (1) encompasses agriculture, fishing and mining, manufacture, construction, electricity, and water. The hotels sector (2) covers the services of hotels and restaurants. The other services sector (3) covers the wholesale and retail services, government activities, real estate, financial activities, and other service sectors.

demand, common to direct tax scenarios, explained the drop in inflation concerning the baseline scenario. In the case of indirect taxes, the impact on prices was higher in the first years of the simulation period. Still, the beneficial effect of higher growth and fewer public-sector requirements was not enough to reverse the initial impact on prices. Removing tax expenditures reduced borrowing requirements and inflation pressure. This effect was weighed against the equilibrium condition in each sector (nominal supply vs. nominal demand) of the DCGEM. For most scenarios, simulation results indicated that fewer borrowing requirements would lower inflation more than the effect of small changes in supply and demand.

Unemployment levels were lower than the baseline scenario due to relatively higher growth rates in all sectors. Removal of the biased structure of tax expenditures tended to favor higher growth rates in the transformation and other services sectors. The transformation sector had a higher labor absorption ratio than the hotel sector, lowering the unemployment level in the baseline scenario.

Total tax revenue increased relative to the baseline in all scenarios. The direct impact of tax measures implemented so far and the indirect effects of higher growth rates and lower inflation rates on additional tax revenue enhanced the proposed additional measures on tax revenue.

The ratio of public debt-to-GDP decreased relative to the baseline along the time horizon of analysis for all scenarios. The decrease was followed by higher tax revenue and the assumption that additional public revenue would be used for debt reduction. In addition, lower public debt implied lower interest payments and other surpluses that lowered the debt stock even further.

Poverty levels measured as a percentage of the population were lower when additional measures related to reducing tax expenditures were considered. Removal of tax expenditures translated into lower disposable income in the initial years of the simulation exercise. Still, in most scenarios, this effect was reversed, thus ending up at the end of the simulation period with lower poverty levels than the baseline scenario. In most scenarios, falling inflation and rising growth rates compensated for the initial drop in disposable income from removing tax expenditures. This effect was higher for indirect taxes than for direct taxes.

In most scenarios, consumption expenditure measured net of indirect taxes (i.e., net expenditure) declined more in lower quintiles than in higher ones. This result confirmed the regressive nature, in most cases, of the tax measures implemented so far.

Transparency and predictability are principal criteria that must guide a tax expenditure reform. The key to its success is the careful and transparent

preparation and design of reform measures, including their sequencing. The simulation exercises presented in this chapter could be used as building blocks of such reform.

The reform of the tax expenditure system needs a clear strategy, with pre-announced and well-publicized measures and timelines. In this context, the results of the simulation exercise favor a gradual as opposed to a big-bang approach to reform.

Continued transparency of the reform process can be achieved by simplifying the “institutional setting” in which (remaining) incentives are granted, improving reporting and monitoring procedures, and—not least—by regularly publishing all incentives and their costs to the budget as is done in Jamaica.

Removing many tax expenditures would require redrafting tax acts, which would provide a welcome opportunity to improve transparency through a more transparent and unified legal framework for the remaining incentives. Transparency and predictability rest on the best possible estimates of the revenue consequences of reform that available data allow. Simulation results presented in this chapter rely heavily on the data quality used to implement the DCGEM. The National Accounts of Barbados require substantial improvement; as of the late 2010s no input-output matrix was available. A sources and uses table (SUT) should be commissioned to strengthen the activities of the Barbados Statistical Service.

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The Bahamas: Preparing for Accession to the World Trade Organization

Introduction

The Bahamas is an interesting case study. The dynamic computable general equilibrium model (DCGEM) was first estimated for the country in 2013 and used in designing the introduction of value added tax (VAT) in January 2015 at an initial standard rate of 7.5 percent with very few exceptions and a zero rate for exports.¹⁰⁶ In 2018, an updated version of the DCGEM was used as part of the Bahamas' negotiation for accession to membership in the World Trade Organization (WTO).¹⁰⁷ This case study is an example of simulating identified unintended effects (i.e., increase in poverty) and, therefore, recognizing the need to simultaneously implement other policy measures (i.e., strengthening the social safety net). The Bahamas case study is also an example of transferring skills needed for host-country operation of the DCGEM. Selected staff from the Ministry of Finance, Central Bank, Customs Department, Tax Department, Statistical Service, and University of the Bahamas were trained to become familiar with the software (EViews) and operational procedures to simulate the DCGEM under alternative scenarios.

In consultation with the authorities, the estimated model for introducing VAT was used to simulate 16 scenarios with different VAT designs. The need to complement the introduction of the VAT with a social safety net program was a

¹⁰⁶ For a description of the model and scenarios for the introduction of VAT, see Baca Campodónico (2013).

¹⁰⁷ This chapter is based on simulations carried out before the COVID-19 pandemic.

clear message that emerged from the simulation exercises. An overall assumption for the 16 scenarios was that all additional revenue generated by introducing VAT will be used to reduce public debt. Results were less debt, less inflation, and more investment in the long term. With the introduction of a safety net program, the model deducted the cost of this program from total revenue before assigning the remainder to reduce public debt. In most scenarios, the actual growth rates of the transformation sector were slightly lower than those of the hotels and other services sectors.¹⁰⁸ Compared to the baseline scenario, the more balanced growth scenario eliminated bias toward the hotel sector.

In 2018, as part of the country's accession to membership in the WTO, the Government of the Bahamas submitted a Revised Goods Market Access Offer. However, the government postponed the application to the WTO because there was an urgent need to identify the vulnerability factors (including possible conflicts with Caribbean Community [CARICOM] trade agreement stipulations) that would shape the government's response to the requirements for WTO membership.¹⁰⁹ Quantitative tools were needed to shed light on these vulnerability factors. The DCGEM was updated, and a detailed satellite model of existing and proposed import tariffs was created for this analysis. The general equilibrium model was intended to guide the government in selecting the most appropriate macroeconomic and fiscal policy measures to shape the response to the WTO. The DCGEM that provided the various scenarios was an essential tool to guide the government during trade negotiations and annual budget exercises.¹¹⁰

Macroeconomic Background

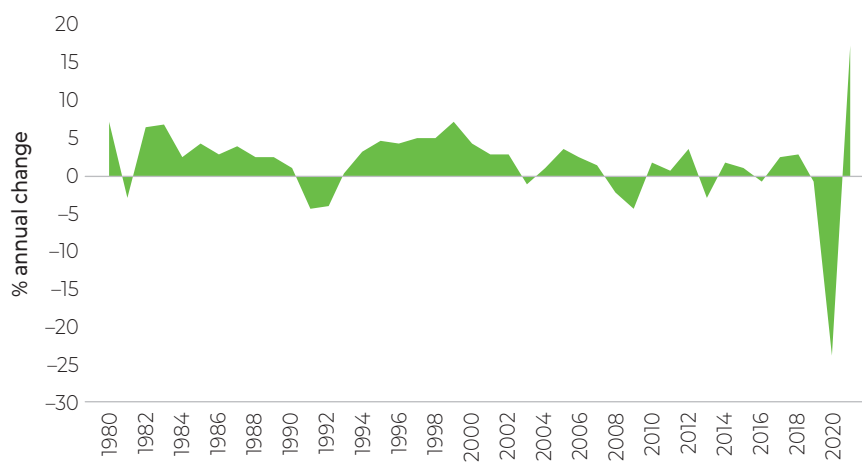
This section reviews the macroeconomic background of the Bahamas from the perspective of the situation in 2021. The Bahamas is a small open archipelagic economy dependent on both tourism and financial services. The economy was hit hard, with a sharp fall in tourism, by the global financial crisis of 2008–9. The crisis led to a fall in domestic activity, a rise in unemployment, and a deterioration in the fiscal position initially primarily financed by public debt, which rose

¹⁰⁸ The transformation sector encompasses agriculture, fishing and mining, manufacture, construction, electricity, and water. The hotels sector includes hotels and restaurants. The other services sector covers all other services. Note that the definition of the three sectors differs slightly between the countries studied in this book due to differences in the structure of their economies.

¹⁰⁹ Note that the Bahamas is not formally a full member of CARICOM.

¹¹⁰ For a description of the model and scenarios for the WTO accession, see Baca Campodónico (2018a), from which this chapter draws extensively.

FIGURE 8.1 The Bahamas: Real GDP Growth



Source: Authors' elaboration based on IMF (2020).

sharply. Recovery was cut short by the COVID-19 shock of 2020, which hit tourism-dependent countries particularly hard. The macroeconomic disequilibrium also revealed the economy's underlying structural weaknesses.

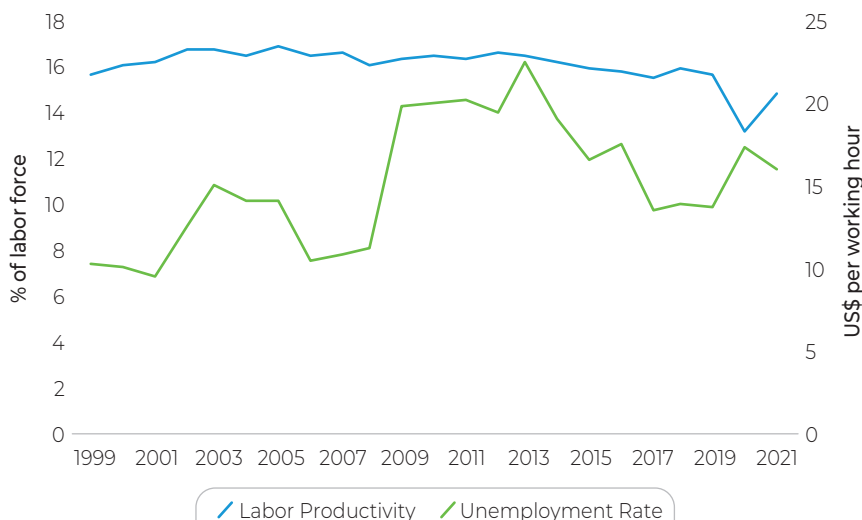
In cumulative terms, real GDP contracted by 4 percent between 2008 and 2009. When the 2020 shock came, real GDP in the Bahamas had not yet recovered to the 3.4 percent growth rate it had achieved in 2005. Also, note that maximum growth rates during booms had fallen over time (from a rate of 7.1 percent in 1999, to 3.4 percent in 2005, and to 3.5 percent in 2012), suggesting a falling potential output (Figure 8.1).

Unemployment doubled from 7.88 percent in 2007 to a peak in 2013 of 16.2 percent; after that, it fell to 9.8 percent in 2017 and remained higher than in 2007. Since 2018, unemployment has remained in the double digits (Figure 8.2).

The fiscal balance of the general government began to deteriorate in 1999, with a deficit of 1 percent of GDP reaching 8.13 percent of GDP in 2017; it then declined until 2020. The worsening of the fiscal balance was temporarily tempered in 2008–9 with the introduction of the excise tax and in 2015–16 with the implementation of VAT. Gross debt to GDP had started to rise in 2001 from 19.4 percent, then steeply increased to reach 54.9 percent of GDP in 2017—just short of 60 percent, the figure at which the average and marginal effect of debt on GDP growth becomes negative, as discussed in previous chapters.

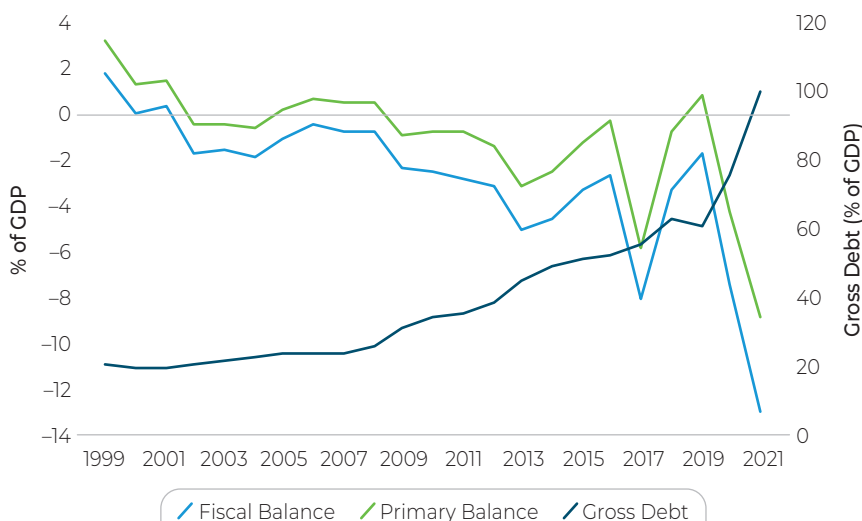
The fiscal balance deteriorated significantly in 2020 and 2021 due to world events. Consequently, gross debt to GDP surpassed the 60 percent benchmark, reaching 99.9 percent of GDP in 2021 (Figure 8.3) as expenditure and revenue widened (Figure 8.4).

FIGURE 8.2 The Bahamas: Unemployment Rate and Labor Productivity



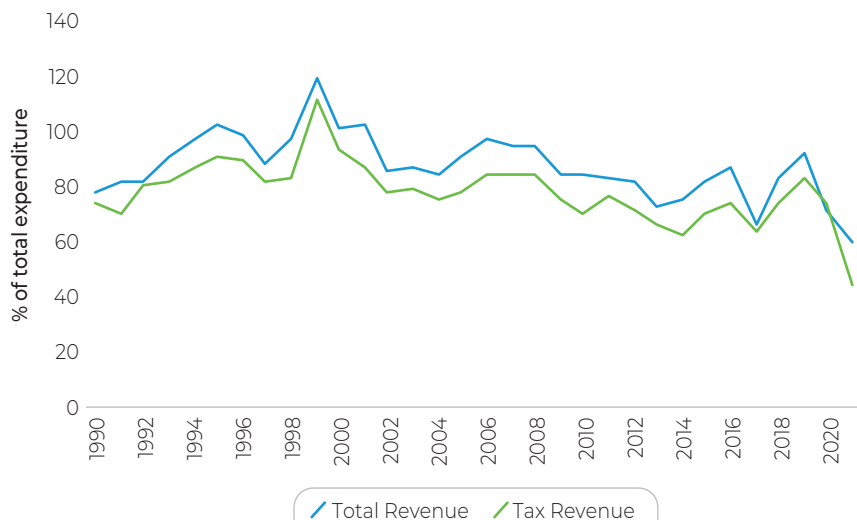
Source: Authors' elaboration based on World Bank (n.d.).

FIGURE 8.3 The Bahamas: General Government Fiscal Balance and Gross Debt

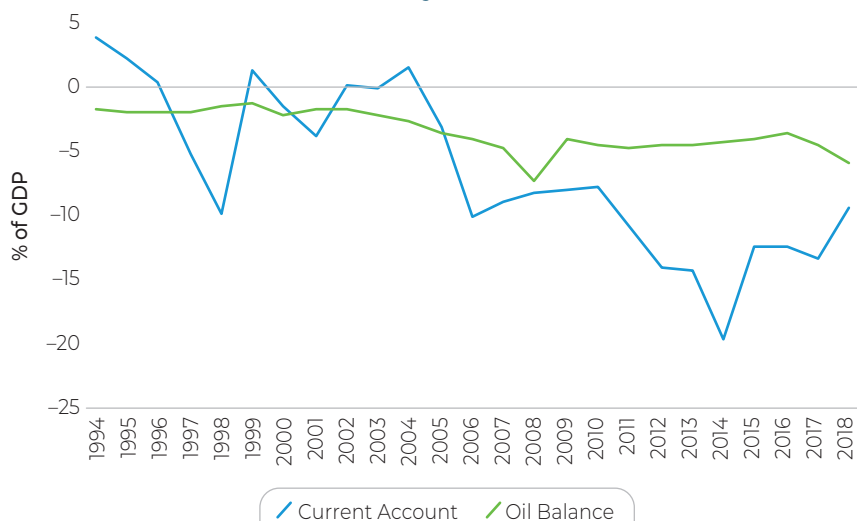


Source: Authors' elaboration based on IMF (2020).

The current account of the balance of payments started to improve in 2014 as the oil balance improved (Figure 8.5), but as expected it began to deteriorate in 2020 and 2021: the current account of the balance of payments as a percentage of GDP was -24 percent in 2020 and -19.7 percent in 2021.

FIGURE 8.4**The Bahamas: General Government Revenues to Expenditure**

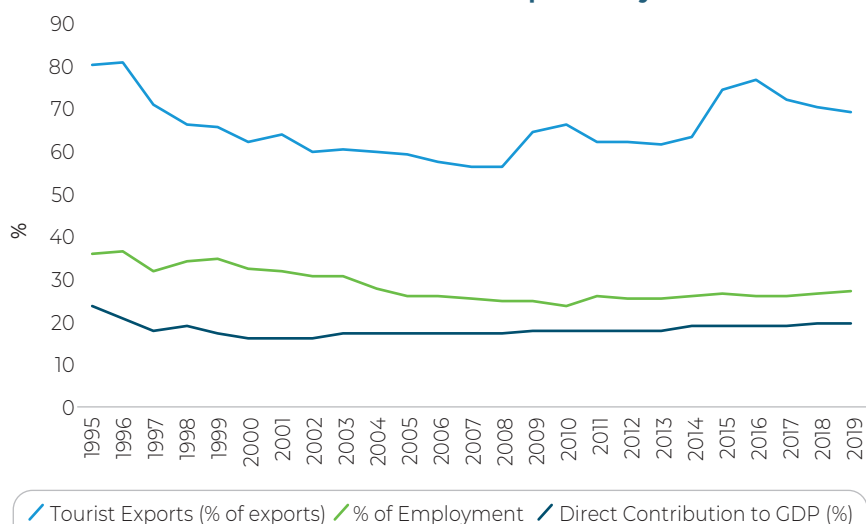
Source: Authors' elaboration based on IMF (2020).

FIGURE 8.5**The Bahamas: Current Account and Oil Balance of the Balance of Payments**

Source: Authors' elaboration based on IMF (2020).

These short-term developments revealed structural problems in the economy. A substantial fiscal effort of about 2 to 3 percent of GDP was needed to stabilize and reduce public debt. The existing import tariff structure was incompatible with accession to the WTO. Hence, alternative revenue was needed. Over

FIGURE 8.6 The Bahamas: Tourism Dependency Indicators



Source: Authors' elaboration based on World Bank (n.d.).

the decade of the 2010s, the average real economic growth had been 0.53 percent. Tax reform, including the introduction of VAT, was urgent. Underlying the low growth rates was the weakening performance of the two major economic growth drivers (tourism and the financial services sector). The tourism sector (see Figure 8.6 for tourism dependency indicators) was approaching maturity in its destination life cycle.

In contrast, the financial sector was challenged to comply with rigorous international regulatory standards. The low economic growth reflected declining labor productivity (Figure 8.2). Negative productivity growth and declining contributions from labor and capital had reduced the economy's potential economic expansion, which began to decline in the late 1990s. As economic growth fell, the output gap became negative and had not yet closed by the end of the 2010s. On the demand side, a low fiscal multiplier, low tax revenue buoyancy, and high public debt constrained expansionary budgetary policies (Wright et al., 2015). Consequentially, as discussed in Chapter 9, the Bahamas' fiscal response to COVID-19 was estimated to be less than 1 percent of GDP.

Tax Structure and Reforms

Before the Bahamas' proposed WTO accession, the country's tax-to-GDP ratio was 15.7 percent, which is less than in countries with a similar GDP per capita and less than the Caribbean Community (CARICOM) average of 22 percent. The

TABLE 8.1 The Bahamas: Structure of Tax Revenue (percent of total revenues)

Tax Classification	2007	2010	2018	2019	2020	2021	Average
Property Tax	5.8	7.2	8.0	5.3	4.4	7.8	6.2
Selective Tax on Services	2.9	2.8	3.6	1.4	1.6	2.1	2.6
Business and Professional Licenses	5.8	8.0	8.4	7.7	7.9	6.7	7.9
Motor Vehicle Tax	1.5	1.6	2.0	1.5	1.4	1.8	1.7
Departure Tax	5.7	5.5	10.0	6.9	5.9	0.6	6.3
Taxes on Int'l Trade and Transactions	48.9	29.6	25.2	14.3	12.0	15.7	24.0
Import Tax	37.3	27.3	23.0	13.6	11.4	10.5	20.9
Excise Tax		14.8	17.0	11.9	9.7	9.6	14.2
All Other Stamp Tax	16.8	12.7	11.1	5.2	9.5	3.3	10.5
Value Added Taxes				37.4	40.8	45.9	36.8
Other Taxes and Contributions	12.7	32.6	31.9	57.7	57.3	62.0	40.8

Source: Authors' elaboration based on IDB-CIAT (n.d.).

Bahamas ranked 19th in the world in terms of GDP per capita, but it ranked 92nd out of 98 countries in tax effort. Tax effort is the ratio of actual tax collections to GDP relative to tax capacity, which is the maximum attainable tax-to-GDP ratio given the country's economic structure. The country utilized only 40 percent of its tax capacity (Caner, Grote, and Krelove, 2013).

An inspection of the tax structure (Table 8.1) up to 2021 reveals that the Bahamas tax system was characterized by a heavy dependence on international trade taxes and the nonexistence of corporate and personal income taxes. The tax structure relied heavily on import duties, which represented, on average, 24 percent of total taxes. The share of trade taxes (primarily import duties) in total taxes was relatively low despite relatively high statutory rates¹¹¹ due to the generalized use of exemptions and waivers for import duties (i.e., tax expenditures).

Import tariffs can illustrate the importance of tax expenditures.¹¹² Before the introduction of the VAT in 2015, the Bahamas had a 20-tariff rate structure; the

¹¹¹ In 2011, the statutory import duty rate, based on total cost plus insurance plus freight (CIF) value, was 15.2 percent, while the effective tariff rate was 7.8 percent (IDB-CIAT, n.d.).

¹¹² The Bahamas allows duty-free imports from CARICOM members. Imports coming from CARICOM had been steadily increasing during the 2010s, eroding the import duties tax base.

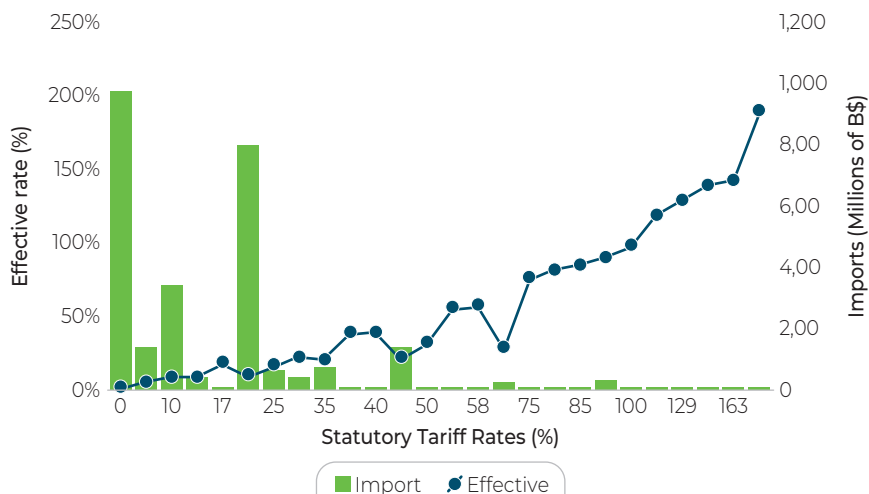
45 percent rate was the prevailing rate at which most of the import value was concentrated. Only the 0 percent tariff rate registered more import value than the 45 percent tariff rate. Tariff rates of 5 percent, 10 percent, and 35 percent were the next most common in importance. Weighted average tariff rates were estimated by multiplying the value of imports at each tariff rate, adding up all the tariff revenues, and dividing the total by the total value of imports. No tax expenditures were considered. The weighted average tariff rate over the previous three years (2015–17) had been 20.30 percent.

Regarding import duties, besides the import value, there were two figures registered by the customs information technology (IT) system for each tariff code. These were: (i) the “Duty Payable” or duty liable that is estimated using the statutory tariff rate multiplied by the import value and (ii) the “Duty Paid” or duty collected—that is, the actual amount paid by the taxpayer. The difference between the duty payable and the duty paid would be the tax expenditure associated with a given tariff code. Effective tariff rates are calculated by dividing the duty paid by the import value of each tariff code. The effective tariff rate is always equal to or lower than the statutory rate. The higher the tax expenditure, the lower the effective tariff rate. The weighted average effective tariff rate for 2015–17 was 9.81 percent, substantially lower than the statutory weighted average tariff rate of 20.29 percent (Figure 8.7). This substantial difference between the statutory and effective rates reveals the distortion of the tariff structure induced by tax expenditures.

The tariff rate that received the highest value of tax expenditure was the 20 percent rate (Figure 8.8). In this case, the statutory 20 percent rate was reduced to an effective 8.8 percent. Thus, reducing the tariff rate from 20 percent to 8.8 percent (and eliminating all exemptions, waivers, etc.) for all imported imports with a 20 percent tariff rate would have generated the same revenue. Next in importance were the rates of 45 percent and 35 percent. The 45 percent statutory rate was reduced to a 20.4 percent effective rate in these cases. For the 35 percent statutory rate, tax expenditures were reduced to an effective tariff rate of 19.8 percent. Tax expenditures—that is, revenue forgone—averaged US\$165 million annually. Figure 8.8 shows tax expenditures by statutory rates during 2015–17.

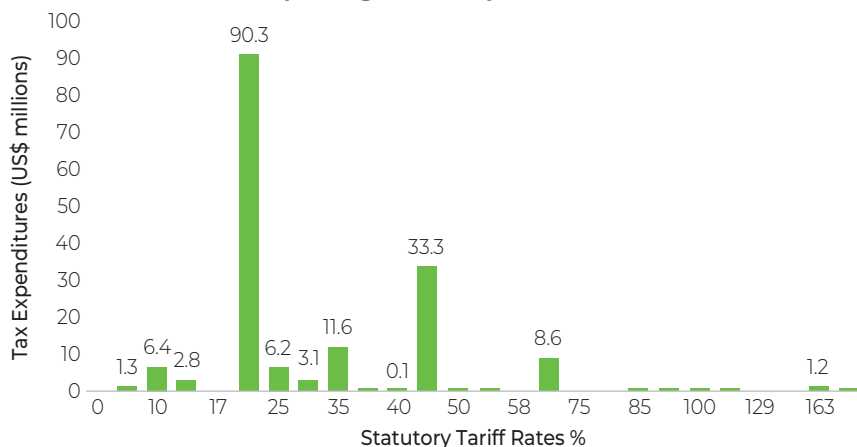
In response to the fall in tax revenue in 2008–9, an excise tax act was introduced in FY 2008/09. Simultaneously, some imported items that were also locally produced were removed from the Tariff Act and placed under the new Excise Act. Excise rates were reduced from 29 to 23 percent in FY 2008/09 and 17 percent in 2009/10. By 2011, excise tax revenues were slightly higher than import tax revenues. These measures gave the Bahamas some revenue protection because the tariff rates would be lowered with the expected accession to WTO membership. The measures also improved collection and administrative

FIGURE 8.7 The Bahamas: Value of Imports and Statutory and Effective Tariff Rates (average 2015–17)



Source: Baca Campodónico (2018b).

FIGURE 8.8 The Bahamas: Tax Expenditures by Statutory Tariff Rates (average 2015–17)



Source: Baca Campodónico (2018b).

efficiency because Bahamas Customs collected all excise taxes and the products were easy to identify, the sales volume was high, and there were few producers or the imported products simplified collection. In addition, the demand for excisable products tended to be price inelastic, implying that tax-induced price increases did not result in proportionate decreases in consumption.

In January 2015, VAT was implemented. As part of the tax reform, the 10 percent hotel occupancy tax was eliminated, several import tariffs were reduced, and rates on property tax, business licenses, and stamp duties were adjusted. Initially, a standard rate of 7.5 percent was set with very few exceptions and a zero rate for exports. The authorities also raised the minimum wage and increased social spending to mitigate the adverse effects of poverty. In July 2018, the standard rate was increased to 12 percent. Exemptions were simultaneously introduced: (i) zero rates for all breadbasket items except for sugar (e.g., butter, mayonnaise, corned beef, baby formula, baby cereal, mustard, soaps, soups, broths, and other assorted small food and personal care items), (ii) VAT exemptions on medicines, (iii) residential property insurance was to be exempt from VAT, and (iv) residential electricity bills at or under B\$100 and water bills at or under B\$50 were also to be exempt from VAT.

Tax administration, however, remained largely unreformed, with 31 different agencies collecting taxes, fees, and duties. The proposal to consolidate the Department of Inland Revenue and staff from other agencies (but not Customs) into an integrated functional-based central revenue agency remained as a proposal for 2022. Nonetheless, the country implemented a new information system, Data Torque, that contributed to successful administration of the VAT.

From 2007 to 2017, tax revenue increased and its structure changed. Tax revenue as a percentage of GDP increased from 11.3 in 2007 to 15.96 in 2017. The predominant source of tax revenue changed from international taxes to domestic taxes. International taxes fell from 57.3 percent in 2007 to 31.7 percent in 2017 as a percentage of total tax revenue. If excise taxes had been deducted, international taxes would have fallen to 16.1 percent. Hotel occupancy tax—which had been 2.2 percent of total tax revenue in 2007—had almost disappeared by 2017.

WTO Accession: Ex Ante Scenarios

The ex ante scenarios seek to study the impact on the Bahamas of the WTO Goods Offer, a trade tariff structure reform required for negotiations for access to the WTO.¹¹³ A special-purpose EXCEL customs data micro model was used to determine the direct impact of the tariff structure changes implied by the WTO

¹¹³ Any state or customs territory having full autonomy in the conduct of its trade policies may become a member (“accede to”) the WTO, but all WTO members must agree on the terms. This is done through the establishment of a working party of WTO members and through a process of negotiations. The Bahamas Working Party was established on July 18, 2001. The Working Party met for the fourth time in April 2019. As of July 2024, the application was still pending. For more information on the current status of this accession, see WTO (n.d.).

Goods Offer. The special-purpose EXCEL customs micro model uses data at the level of eight-digit tariff codes aggregated into four economic sectors to simulate changes in the structure of tariff rates to obtain changes in the overall average effective tariff rate in each of the four sectors. The effective tariff rates are obtained for two scenarios: (i) without tax expenditures and (ii) with all existing tax expenditures for each of the four sectors.¹¹⁴ The difference between the current average effective tariff rate and the implied average effective tariff rate in each sector obtained with the EXCEL model was used as an input—summarized into these four sectors—to the DCGEM to study the overall impact of the WTO Goods Offer. This chapter only reports the effective rates with tax expenditures.

Further, it is essential to note that exports of goods and services in the DCGEM are depicted through an Armington function.¹¹⁵ The latter relates the evolution of world trade (imports) of goods and services and relative prices of Bahamian export and import prices (terms of trade) with the development of Bahamian exports of goods and services. In standard models of international trade, it makes no economic sense to engage in trade in both directions for the same product. Nonetheless, a characteristic of real-world trading patterns is that countries simultaneously import and export goods in the same product category. In the applied literature, this is accommodated via the Armington assumption. The specification is almost universal in DCGEMs, so much so that they are often referred to as “Armington type” models. Consumers are assumed to have a love of variety that generates demand for domestic and foreign-produced products within a product category.

Four scenarios were simulated with the DCGEM to assess the impact of WTO Goods and Services on the Bahamian economy (Table 8.2):

- Scenario 1: tariffs associated with the WTO Goods Offer without a VAT rate increase
- Scenario 2: VAT rate increase alone (from a standard rate of 7.5 to 12 percent with additional exemptions—see above)
- Scenario 3: a combination of the previous two scenarios, which is equivalent to the impact of the WTO Goods Offer accession plus VAT rate increase
- Scenario 4: Scenario 3 plus the impact of the WTO Services Offer¹¹⁶

¹¹⁴ See Baca Campodónico (2018a) for the results of these two scenarios.

¹¹⁵ An Armington function represents the elasticity of substitution between products of different countries and is based on the assumption made by Paul Armington in 1969 that products traded internationally are differentiated by country of origin. See Armington (1969) and Bajzik et al. (2020).

¹¹⁶ Although the simulations were done for both with and without tax expenditures, we only report the simulations with tax expenditures.

The outputs of each scenario cannot be added to obtain the most general Scenario 4 due to non-linearity in the effects.¹¹⁷ First, each scenario is discussed as the cumulative effect over the scenario period; then, Scenario 4's temporal (year-by-year) impacts are addressed.

To conduct experiments with the DCGEM, the model was first calibrated by creating a baseline scenario of the Bahamas economy based on data available as of 2017. Then, alternative policy scenarios were defined, allowing the difference between the alternative and the baseline scenarios to be calculated. Hence, the impact of the proposed policies on economic growth, poverty levels, income distribution, tax revenue, and so on was estimated. Note that the model was not being used as a forecasting model but instead as a model that allowed for studying the impact of alternative policy scenarios on a given economic path (the baseline scenario)—that is, assuming no WTO Goods Offer and no VAT increase, but with the FY 2009/10 excise tax structure remaining in place.

The baseline scenario selected for the simulation exercises corresponded to 2018–22. The reason for choosing this period was the availability of data. Data for income distribution, poverty, and other macro variables were available from 2000 to 2014. For 2016–17, the data on tax expenditure and national accounts were not definite. The model was used to generate the missing data. Furthermore, since it was essential to study the long-term impact of increasing the VAT rate and modifying the other indirect taxes, the simulation horizon covered was 2018–22.

The Bahamian DCGEM was calibrated to reproduce the International Monetary Fund (IMF) projections presented in the 2017 Article IV report (IMF, 2017) for the simulation period (these projections accounted for the VAT introduced in 2015 but did not consider the proposed increase in the VAT rate nor the WTO Goods Offer). The calibration process was done by defining exogenous additive parameters (“add factors”) to each behavioral equation of the model. These parameters allow shifting the intercept constant of each equation to reproduce the historical values of each model equation. Add factors were set to replicate the exact historical values for each of the years of the simulation horizon. Using add factors to calibrate the model made the simulation results more realistic. In this case, the benchmark used to measure the impact of removing the tax expenditures corresponded to the historical figures for all variables. The coincidence between the actual values of the model variables and the corresponding adjusted simulated variables (not shown) validated the baseline scenario as a benchmark for the simulation exercises. For each variable, the

¹¹⁷ See Baca Campodónico (2018a), where all scenarios are given in detail.

deviation of the simulated variables from the actual values was 0 percent; this result confirmed the success of the calibration process of the model.

The overarching finding of the simulation exercise performed for 2018–22 was that the increase in government revenue obtained with the VAT rate increase alone would represent a transfer of resources from the private sector to the government (Table 8.2, Scenario 2). This transfer would not be fully compensated by the mitigation measures implied by the tariff rate reduction of the WTO Goods Offer (Scenario 3). In Scenario 2, with a VAT rate increase alone, there was a fall in net consumption expenditure for Quintile 1 (Q1, the poorest 20 percent of the population), which amounted to 5.6 percent of the baseline scenario levels. With the WTO Goods Offer (Scenario 1), there was an increase in net expenditure in Q1 of 0.7 percent. The combined effect of Scenarios 1 and 2 (i.e., Scenario 3) was to generate a net fall of expenditure in Q1 of 4.8 percent.

The additional foreign direct investment (FDI) implied by implementing the WTO Services Offer (Scenario 4) would have restored the private sector's losses through higher GDP growth only at the end of the simulation period. The initial transfer of resources from the private sector to the government was compensated progressively by the higher GDP growth rates implied by higher private investment.

As mentioned earlier, the need to complement the VAT rate increase with a social safety net program was a clear message that emerged from the simulation exercise. An overall assumption for the scenario was that all additional revenue generated by the VAT rate increase would be assigned to reducing public debt. Thus, there would have been less debt, less inflation, and more investment in the long term. With the introduction of safety net programs, the model deducted the cost of the safety net program¹¹⁸ from total revenue before assigning the remainder to reducing public debt. The WTO Goods Offer did not eliminate the need for a social safety net program.

Total real GDP growth rates were slightly lower than the baseline solution in Scenario 1 (WTO Goods Offer). In comparison, growth rates for the VAT rate increase scenario alone (Scenario 2) and the Goods and Services Offer (Scenario 4) were higher than the baseline solution. Because of the model's non-linearity, the combined effect of Scenarios 1 and 2 was not the sum of Scenarios 1 and 2. The combined effect produced an accumulated real GDP growth rate of 4.48 percent, higher than the baseline solution over the five-year simulation period. The latter meant an average of 0.9 percent higher yearly growth than the baseline solution. The hotel and restaurant sector exhibited higher growth

¹¹⁸ See Annex A for the methodology used in estimating these costs.

rates than the transformation and other services sectors.¹¹⁹ These effects were accentuated when the WTO Goods and Services Offer was combined with the VAT increase (Scenario 4).

After an initial surge in the first year of the simulation horizon, inflation rates—as measured by the consumer price index (CPI) in the increased VAT rate scenario (Scenario 2)—were slightly higher than in the baseline scenario. The initial surge was a direct consequence of the VAT increase and was partially compensated by the GDP growth rates and the public deficit reduction in the following years. The initial inflation surge was insignificantly higher than the historical values in a VAT rate increase from 7.5 percent to 12 percent. The lower financial requirements of the public sector and the lower levels of aggregated demand explain the drop in inflation compared to the baseline scenario starting in the second year of the simulation time horizon. Simulation results indicated that the decreased public borrowing requirements resulted in a lower inflation rate by the end of the forecasting period than observed by the initial impact of the VAT rate increase. The WTO Goods Offer alone (Scenario 1) decreased inflation but only slightly. The combined effect of Scenarios 1 and 2 eliminated the surge in inflation of the first years by the end of the simulation period.

Unemployment levels were initially unaltered compared to the baseline scenario because of higher inflation and relatively poor growth rates in all economic sectors. The transformation sector had a higher labor absorption ratio than the hotels and other services sectors, contributing to a lowering of the unemployment level registered in the baseline scenario by the end of the simulation period. The combined effect of Scenarios 1 and 2 (i.e., Scenario 3) was a reduction in the unemployment rate from 7.9 percent in the baseline solution to 5.4 percent by the end of the simulation period.

Total tax revenue increased relative to the baseline scenario with the VAT rate increase (Scenario 2) but fell with the WTO Goods Offer (Scenario 1). The indirect effect of higher GDP growth rates and lower inflation rates on additional tax revenue during the forecast period enhanced the positive direct impact on tax revenue of the VAT rate increase. The opposite happened with the WTO Goods Offer scenario. However, the combined effect of Scenarios 1 and 2 (Scenario 3) generated a positive net impact. Tax revenues ended up 23.20 percent higher than the baseline solution at the end of the simulation horizon.

¹¹⁹ As noted previously, for the Bahamas the transformation sector encompasses agriculture, fishing and mining, manufacture, construction, electricity, and water. The hotels sector includes hotels and restaurants, and the other services sector covers all other services. The model results at this level of detail are presented in the fully elaborated tables contained in the source document (Baca Campodónico, 2018b).

The public debt-to-GDP ratio increased with the WTO Goods Offer alone (Scenario 1) but decreased relative to the baseline with the VAT rate increase (Scenario 2). Higher tax revenue and the assumption that the additional public revenue is used for debt reduction meant lower debt levels. In addition, lower public debt implied lower interest payments and other surpluses that would have further lowered the debt stock. In the WTO Goods Offer case, reducing tax revenues increased the deficit and translated into higher debt levels. The combined effect of Scenarios 1 and 2 (i.e., Scenario 3) positively impacted the public debt-to-GDP ratio: by the end of the simulation horizon, it fell from the baseline value of 57.6 to 39.2 percent.

While the WTO Goods Offer (Scenario 1) reduced the poverty level compared to the baseline solution, the VAT rate increase (Scenario 2) raised it from 4.8 percent to 6.7 percent in 2022. The combined effect of Scenarios 1 and 2 (Scenario 3) did not reduce poverty below the baseline solution. Introducing a safety net program targeted at people experiencing poverty would have significantly reduced the adverse effects of the VAT rate increase on poverty levels. A VAT rate increase translated into lower disposable income, hence the need for a safety net.

The mitigating effect of the WTO Goods Offer was not enough to reverse the situation of higher poverty levels. When the WTO Goods Offer was combined with the Services Offer and its implied higher FDI (Scenario 4), the poverty level was slightly reduced to the baseline solution by the end of the simulation period. In this case, the diversification of the new investment in all sectors of the economy was crucial to lowering poverty levels. If new investment continued to be concentrated in the tourism sector, reducing poverty levels would have been more difficult to obtain in the short term.

Per capita consumption expenditure measured net of indirect taxes ("net expenditure") fell more in lower quintiles than in the higher ones with the VAT rate increase (Scenario 2). The WTO Goods Offer (Scenario 1) increased net expenditures for all quintiles, but it was not enough to reverse the impact of the VAT rate increase. These results confirmed the need for a safety net program by implementing a VAT rate increase and the WTO Goods Offer (Scenario 3). In addition, the simulation results revealed that this effect would have intensified with higher statutory VAT rate increases.

Inequality was slightly higher relative to the baseline (higher Gini values) in the VAT rate increase (Scenario 2) at the end of the simulation period due to the higher inflation and lower economic growth in the transformation and other services sectors during the simulation period. The lack of safety net programs exacerbated this inequality. The WTO Goods Offer (Scenario 1) reduced inequality, but only slightly, through the simulation horizon. It was insufficient

to counteract the deterioration of equality generated by the VAT rate increase scenario. The combined scenario simulation (Scenario 4) results revealed this phenomenon.¹²⁰

Table 8.2 ignores the temporal path of the effects. The simulation results of all four scenarios revealed the importance of increasing the VAT rate and implementing the WTO Goods and Services Offer to avoid a revenue fall that could have further increased the debt-to-GDP ratio. They also confirmed the importance of putting together a safety net program and increasing the VAT.

The overall finding from the simulation exercise performed for the period 2018–22 was that the increase in government revenue obtained with the VAT rate increase represented a transfer of resources from the private sector to the government that was not fully compensated by the mitigation measures implied by the tariff rate reduction of the WTO Goods Offer. In the scenario with a VAT rate increase (Scenario 2), there was a fall in net consumption expenditure for Quintile 1 (Q1, the poorest 20 percent of the population) that amounted to 3.4 percent of the levels of the baseline scenario. With the WTO Goods Offer alone (Scenario 1), there was an increase in the net consumption expenditure by Q1 of 0.2 percent.

The above discussion of the cumulative effect of the scenarios ignores the virtue of the DCGEM, which is to stimulate the temporal evolution of the impact of policy measures. Therefore, the discussion now turns to the year-by-year effects of Scenario 4 (i.e., the WTO Goods and Services Offer plus VAT increase but with no social safety net increase); see Table 8.3. The impact of increasing revenue grew over time, as did the reduction of public debt. The effect on economic growth was positive and accelerating, as was the effect on unemployment reduction. The impact of increasing inflation quickly tapered down. The negative impact on private expenditure was reversed over time for Quintiles 2–5 but not for Quintile 1, suggesting the need for a targeted social safety net program.

Conclusions

The simulation of the tariff change and VAT rate increase on four key variables (real GDP, tax, poverty, and inequality) is shown in Figure 8.9 as a percentage of deviation from the baseline. Taxes and real GDP rose continuously above the baseline values. Poverty shot up and only gradually fell to below baseline values in 2022. Income inequality worsened and remained so for the entire simulation period.

¹²⁰ For the temporal effects of each scenario, see Baca Campodónico (2018b).

TABLE 8.2

The Bahamas: Summary of Four Simulation Scenarios, including the WTO Goods and Services Offer Impact

		Scenario 0	Scenario 1	Scenario 2	Scenario 3	Scenario 4
			WTO Goods Offer without VAT Increase	VAT Rate Increase Alone	WTO Goods Offer with VAT Increase	WTO Goods and Services Offer with VAT Increase
Units		Baseline	Increase	Increase	Increase	Increase
1. Real GDP						
- Value 2022	Millions B\$	12,044	11,964	12,665	12,584	12,841
% Deviation		—	(0.7)	5.2	4.5	6.6
2. Price Index (GDP Deflator)						
- Value 2022	Index	136.1	135.8	136.4	136.2	136.1
% Deviation		—	(0.3)	0.2	0.1	(0.0)
3. Unemployment Rate						
- Value 2022	Percentage	7.9	8.3	5.0	5.4	4.2
% Deviation		—	5.3	(36.8)	(32.2)	(47.2)
4. Tax Revenue						
- Value 2022	Millions B\$	2,269.0	2,202.7	2,868.8	2,796.0	2,861.4
% Deviation		—	(2.9)	26.4	23.2	26.1
5. Ratio Public Debt to GDP						
- Value 2022	Percentage	57.6	60.3	36.7	39.2	38.0
% Deviation		—	4.7	(36.3)	(32.0)	(34.0)
6. Poverty (% of Population)						
- Value 2022	Percentage	4.83	4.62	6.66	6.40	4.78
% Deviation		—	(4.4)	38.0	32.7	(1.0)
7. Gini Index						
- Value 2022	Index	0.47	0.47	0.48	0.47	0.47
% Deviation		—	(0.2)	0.9	0.7	0.6

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TABLE 8.2

The Bahamas: Summary of Four Simulation Scenarios, including the WTO Goods and Services Offer Impact *(continued)*

		Scenario 0	Scenario 1	Scenario 2	Scenario 3	Scenario 4
			WTO Goods Offer without VAT	VAT Rate Increase Alone	WTO Goods Offer with VAT	WTO Goods and Services Offer with VAT
Units		Baseline	Increase		Increase	Increase
8. Net Expenditure p/c* Q1						
- Value 2022	Thousands B\$	8.51	8.53	8.22	8.25	8.38
% Deviation		—	0.2	(3.4)	(3.0)	(1.5)
9. Net Expenditure p/c Q2						
- Value 2022	Thousands B\$	15.10	15.10	14.80	14.80	15.10
% Deviation		—	(0.1)	(1.9)	(1.8)	0.0
10. Net Expenditure p/c Q3						
- Value 2022	Thousands B\$	16.10	16.10	16.00	15.90	16.20
% Deviation		—	(0.2)	(1.2)	(1.2)	0.6
11. Net Expenditure p/c Q4						
- Value 2022	Thousands B\$	23.90	23.80	23.70	23.70	24.10
% Deviation		—	(0.3)	(0.7)	(0.9)	1.1
12. Net Expenditure p/c Q5						
- Value 2022	Thousands B\$	40.80	40.70	40.70	40.60	41.20
% Deviation		—	(0.4)	(0.4)	(0.7)	1.0

Source: Baca Campodónico (2018b).

Note: The simulations are presented to one decimal point.

*Throughout the figure, "p/c" means per capita.

TABLE 8.3 The Bahamas: General Outcomes of Scenario 4 by Year

	Units	Historical Values				Simulation Period					
		2014	2015	2016	2017	2018	2019	2020	2021	2022	
1. Real GDP	Millions B\$										
- Scenario 4		10,980.0	10,984.7	10,966.2	10,999.0	11,244.5	11,475.5	11,859.6	12,324.3	12,840.6	
- Baseline		10,980.0	10,984.7	10,966.2	10,999.0	11,201.0	11,364.9	11,622.3	11,850.8	12,044.0	
% Deviation		—	—	—	—	0.39	0.97	2.04	4.00	6.61	
2. Price Index (CPI)											
- Scenario 4	Index	118.40	120.90	120.40	122.20	126.80	129.20	131.60	133.90	136.10	
- Baseline		118.40	120.90	120.40	122.20	124.90	127.70	130.50	133.30	136.10	
% Deviation		—	—	—	—	1.51	1.22	0.89	0.48	(0.03)	
3. Unemployment Rate	Percentage									1.	
- Scenario 4		14.60	13.40	12.20	10.10	9.20	7.10	4.90	4.40	4.20	
- Baseline		14.60	13.40	12.20	10.10	9.20	8.40	8.20	7.90	7.90	
% Deviation		—	—	—	—	—	(15.90)	(40.10)	(44.20)	(47.20)	
4. Tax Revenue	Millions B\$										
- Scenario 4		1,245.5	1,500.5	1,676.2	1,837.0	2,279.0	2,395.0	2,532.3	2,684.2	2,861.4	
- Baseline		1,245.5	1,500.5	1,676.2	1,837.0	1,916.0	2,005.0	2,100.0	2,182.0	2,269.0	
% Deviation		—	—	—	—	18.90	19.50	20.60	23.00	26.10	
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TABLE 8.3 The Bahamas: General Outcomes of Scenario 4 by Year *(continued)*

Units	Historical Values				Simulation Period				
	2014	2015	2016	2017	2018	2019	2020	2021	2022
5. Ratio Public Debt to GDP									
- Scenario 4	51.0	53.3	56.3	58.0	60.3	55.8	50.5	44.5	38.0
- Baseline	51.0	53.3	56.3	58.0	61.3	60.7	59.6	58.5	57.6
% Deviation	—	—	—	—	(1.60)	(8.00)	(15.30)	(24.00)	(34.00)
6. Poverty Level									
Percentage									
- Scenario 4	5.1	5.1	5.1	5.1	6.6	6.0	5.8	5.2	4.8
- Baseline	5.1	5.1	5.1	5.1	5.2	5.1	4.9	4.9	4.8
% Deviation	—	—	—	—	28.10	18.00	17.70	6.60	(0.00)
7. Gini Index									
Index									
- Scenario 4	0.470	0.470	0.470	0.470	0.480	0.480	0.480	0.480	0.470
- Baseline	0.470	0.470	0.470	0.470	0.480	0.480	0.470	0.470	0.470
% Deviation	—	—	—	—	0.56	0.75	0.75	0.67	0.64
Net Annual Consumption Expenditure per capita (thousands B\$)									
8. Net Expenditure Q1									
- Scenario 4	5.9	6.5	6.7	6.8	7.0	7.3	7.6	8.0	8.4
- Baseline	5.9	6.5	6.7	6.8	7.4	7.6	8.0	8.2	8.5
% Deviation	—	—	—	—	(4.86)	(4.75)	(4.36)	(3.18)	(1.53)

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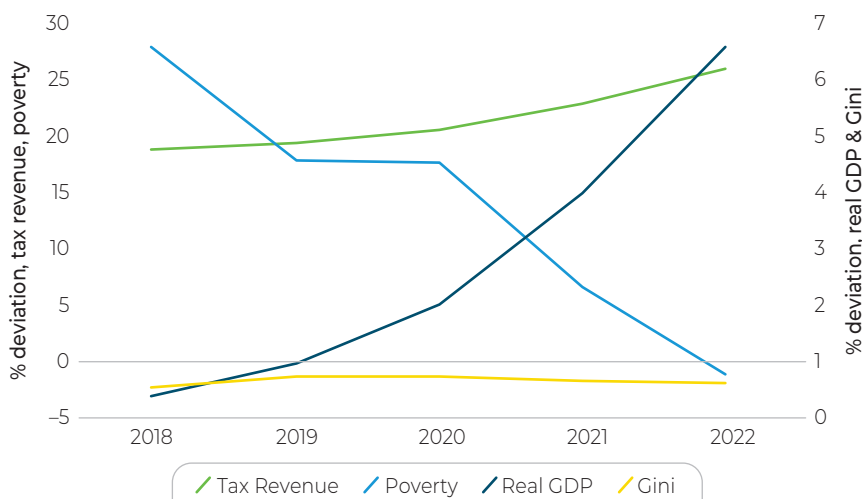
TABLE 8.3 The Bahamas: General Outcomes of Scenario 4 by Year *(continued)*

Units	Historical Values				Simulation Period				
	2014	2015	2016	2017	2018	2019	2020	2021	2022
9. Net Expenditure Q2									
- Scenario 4	9.9	11.9	12.1	12.1	12.5	13.0	13.7	14.4	15.1
- Baseline	9.9	11.9	12.1	12.1	13.1	13.5	14.1	14.6	15.1
% Deviation	—	—	—	—	(4.23)	(3.96)	(3.28)	(1.89)	0.03
9. Net Expenditure Q3									
- Scenario 4	11.7	12.9	13.1	13.1	13.5	14.0	14.7	15.5	16.2
- Baseline	11.7	12.9	13.1	13.1	14.1	14.6	15.1	15.7	16.1
% Deviation	—	—	—	—	(3.88)	(3.56)	(2.85)	(1.38)	0.63
10. Net Expenditure Q4									
- Scenario 4	16.5	19.2	19.5	19.6	20.1	20.8	21.9	23.0	24.1
- Baseline	16.5	19.2	19.5	19.6	20.8	21.5	22.4	23.2	23.9
% Deviation	—	—	—	—	(3.55)	(3.22)	(2.51)	(0.99)	1.05
11. Net Expenditure Q5									
- Scenario 4	26.7	27.0	30.7	30.8	34.7	36.1	37.5	39.3	41.2
- Baseline	26.7	27.0	30.7	30.8	35.9	37.1	38.4	39.7	40.8
% Deviation	—	—	—	—	(3.44)	(2.78)	(2.16)	(0.90)	0.99

Source: Baca Campodónico (2018b).

FIGURE 8.9

The Bahamas: Simulation Values for Tax Revenue, Poverty, Real GDP, and Inequality (percent deviation from baseline values, Scenario 4)



Source: Baca Campodónico (2018a).

The additional FDI implied by implementing the WTO Services Offer (Scenario 4) restored the private sector's losses only at the end of the simulation period through higher GDP growth. The initial transfer of resources from the private sector to the government was compensated progressively by the higher GDP growth rate implied by higher private investment.

The need to complement the VAT rate increase with a social safety net program was a clear message that emerged from the simulation exercise. An overall assumption for the scenario was that part of the additional revenue generated by the VAT rate increase would be assigned to reducing public debt. The latter would mean less debt, less inflation, and more investment in the long term, thereby boosting economic growth. With the introduction of safety net programs, the model deducted the cost of the safety net program from total revenue before assigning the remainder to reducing public debt.¹²¹ The model obtained the following results but has not been reported in tabular form in the text for brevity. Real growth rates of total GDP were slightly lower in Scenario 1 (WTO Goods Offer) than in the baseline solution. By comparison, growth rates

¹²¹ The average annual increase in the safety net expenditure to prevent poverty increasing is 0.5 percent of GDP (B\$40 million), although the temporal profile will differ in the simulation horizon. (For greater detail see Annex A.)

for the VAT rate increase alone (Scenario 2) and the Goods and Services Offer (Scenario 4) were higher than the baseline solution. The combined effect of Scenarios 1 and 2 produced an accumulated real GDP of 4.48 percent higher than the baseline solution over the five-year simulation period, an average of 0.9 percent higher growth per year than the baseline solution. The hotel and restaurant sector exhibited higher growth rates than the transformation and other services sectors. These effects were accentuated in the case of the WTO Services Offer (Scenario 4).

After an initial surge in the first year of the simulation horizon, inflation rates measured by the CPI index in the VAT rate increase (Scenario 2) ended lower than the baseline scenario. The initial surge was a direct consequence of the VAT increase and was somewhat compensated by the GDP growth rates and the public deficit reduction in the following years. Initial inflation was marginally higher than the historical values in a VAT rate increase from 7.5 percent to 12 percent. The lower financial requirements of the public sector and the lower levels of aggregated demand explain the drop in inflation relative to the baseline scenario starting in the second year of the simulation time horizon. Simulation results indicated that the lower public borrowing requirements would lower inflation by the end of the forecasting period. The WTO Goods Offer alone (Scenario 1) decreases inflation but only slightly.

Unemployment levels were initially unaltered relative to the baseline scenario because of higher inflation and relatively poor growth rates in all economic sectors. The transformation sector had a higher labor absorption ratio than the hotels and other services sectors, contributing to a lowering of the unemployment level registered in the baseline scenario by the end of the simulation period. As measured by Scenario 3, the combined effects of Scenarios 1 and 2 generated a positive net impact, reducing the unemployment rate from 7.9 percent in the baseline solution to 5.4 percent at the end of the simulation period.

The cumulative results (Table 8.2) show that total tax revenue increased with the VAT rate increase (Scenario 2) relative to the baseline scenario. However, it fell with the WTO Goods Offer (Scenario 1). The indirect impact of higher GDP growth rates and lower inflation rates on additional tax revenue during the forecast period enhanced the positive direct effect of the VAT rate increase on tax revenue. The opposite happened with the WTO Goods Offer scenario. However, as measured by Scenario 3, the combined effect of Scenarios 1 and 2 generated a positive net impact. Tax revenues ended up 23.20 percent higher than the baseline solution at the end of the simulation horizon.

The public debt-to-GDP ratio increased with the WTO Goods Offer alone but decreased relative to the baseline with the VAT rate increase scenario. The higher tax revenue and the assumption that all additional public revenue is used

for debt reduction translated into lower debt levels. In addition, lower public debt implied lower interest payments and other surpluses that would lower the debt stock even further. In the WTO Goods Offer case, reducing tax revenues increased the deficit and translated into higher debt levels. The combined effect of Scenarios 1 and 2 (i.e., Scenario 3) positively impacted the public debt-to-GDP ratio. By the end of the simulation horizon, the debt-to-GDP ratio fell from the baseline value of 57.6 to 39.2 percent.

While the WTO Goods Offer reduces the poverty level relative to the baseline solution, the VAT rate increase raises it from 4.8 percent to 6.7 percent by 2022. The combined effect of Scenarios 1 and 2 did not reduce poverty below the baseline solution. Introducing a safety net program targeted at the poor would have significantly reduced the harmful effects of the VAT rate increase on poverty levels. A VAT rate increase translated into lower disposable income, provoking the need for a safety net.

The mitigating effect of the WTO Goods Offer was not enough to reverse the situation of higher poverty levels. With its implied higher FDI, the Services Offer (Scenario 4) could help reduce the poverty level to that of the baseline solution by the end of the simulation period. In this case, the diversification of new investment across all sectors of the economy would have been crucial to lowering poverty levels. If new investment continued to be concentrated in the tourism sector, reducing poverty levels would have been more challenging in the short term.

Per capita consumption expenditure measured net of indirect taxes (i.e., net expenditure) fell more in lower quintiles than in the higher ones under the VAT rate increase (Scenario 2). The combined WTO Goods Offer and VAT increase (Scenario 3) increased net expenditures for all quintiles. Still, it was not enough to counteract the impact of the VAT rate increase. These results confirmed the need for a safety net program for a VAT rate increase combined with a WTO Goods Offer implementation.

Inequality was slightly higher relative to the baseline (higher Gini values) in the VAT rate increase scenario at the end of the simulation period. The higher inequality was due to the higher inflation and lower economic growth of the transformation and other services sectors during the simulation period. The lack of safety net programs exacerbated the inequality. The WTO Goods Offer reduced inequality, but only slightly, through the simulation horizon. It was insufficient to counteract the deterioration of equality generated by the VAT rate increase scenario. The combined scenario (Scenario 4) simulation results revealed this fact.

The simulation results of all four scenarios revealed the importance of increasing the VAT rate and implementing the WTO Goods and Services Offer to

avoid a revenue fall that could further increase the debt-to-GDP ratio. The simulation results confirmed the importance of putting together a safety net program along with increasing the VAT.

It is also important to point out that the simulations of the WTO Goods Offer were performed assuming that tax expenditures continued as they were during the historical period. Tax expenditures are a distortionary component of the current tax system. They must be curtailed to have a fair tax system that creates a more competitive economy and attracts much-needed private investment.

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A Shock Like No Other: COVID-19

Introduction

In 2019, most countries were on an economic expansion path, and forecasts for 2020 implied a continuation of that path. COVID-19, which arrived in the Caribbean in March 2020, changed that. The pandemic resulted in a sharp decline in tourism, foreign direct investment (FDI), and commodity prices and a significant external shock as the severe global downturn unfolded (Figures 9.1–9.4). The sudden drop-off in economic activity and employment was far faster and deeper than anything on record.

Caribbean countries moved quickly to respond. They closed their borders, introduced quarantine measures, and imposed social distancing protocols.¹²² However, these necessary health containment measures compounded the negative external shock to the economies. The October 2020 World Economic Outlook forecasted an 11.4 percent contraction in 2020 for tourism-dependent economies worldwide before a recovery in 2021 of 4.8 percent growth (IMF, 2020b). The sudden stop in tourism sharply slowed economic activity in the Caribbean. Growth in the region was projected to contract by 6.2 percent in 2020 (–7.5 percent in tourism countries and –4.6 in commodity countries,

¹²² There was increased regional coordination particularly in the procurement of personal protective equipment, which was more difficult for individual countries due to a traditional reliance on the United States in times of crisis and the Trump administration's decision to block distributors from selling personal protective equipment overseas. However, the U.S. Centers for Disease Control and Prevention provided US\$3 million to Barbados, Guyana, Trinidad and Tobago, and the Caribbean Public Health Agency (CARPHA). See Alleyne et al. (2020).

excluding Guyana, where the oil and gas sector is booming due to recent oil discoveries). The Caribbean nations faced the worst economic recession since they had started producing national account statistics. Many of them faced severe economic contractions and increasing fiscal deficits, and many found they were strained to meet their debt obligations. They were also constrained in expanding public expenditure to mitigate the adverse shocks because the crisis erupted when they had low policy buffers. Finally, in some of these countries, the situation was compounded by other pre-existing conditions, as discussed in previous chapters.

COVID-19 Policy Response and Fiscal Outlook

Caribbean countries adopted similar measures during the COVID-19 pandemic. Each country's social distancing protocols and fiscal measures are summarized in the IMF's COVID-19 Policy Tracker (IMF, 2021). This chapter concentrates on the budgetary implications of these measures. Before discussing the fiscal impacts, Figures 9.1 and 9.2 illustrate the severity of the external shocks of a fall in tourism in two countries (the Bahamas and Jamaica) and a fall in commodity prices regionwide, which resulted in downward pressure on fiscal revenues.

Table 9.1 summarizes the fiscal cost in the Caribbean as of 2020. It separates measures directed at addressing the impact of the containment measures from those directed at economic recovery.¹²³

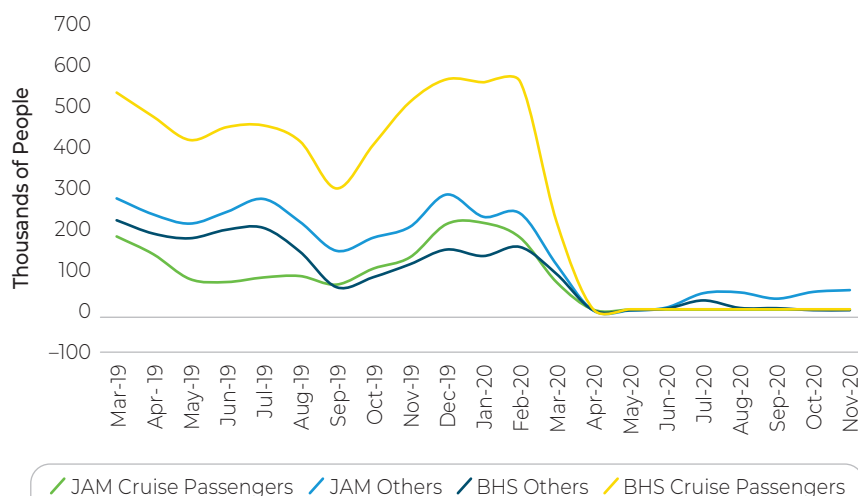
The Caribbean response to COVID-19 was in line with more restrictive fiscal buffers; larger debt ratios were associated with fewer resources available for fiscal measures (Figure 9.3).¹²⁴ The considerable increase in debt levels that resulted from the global financial crisis reduced fiscal space, which—combined with poor governance to manage shocks—hindered the governments' ability to deploy funds and resources to manage the pandemic. The constraints were slightly eased, but with increased debt, by emergency financing from the IMF: Jamaica obtained US\$520 million from the Rapid Financing Instrument in May 2020. The Bahamas got US\$250 million from the same instrument, while Barbados received US\$91 million from an Augmented Extended Fund Facility (EFF).

One legacy of COVID-19 was a higher fiscal deficit (Figure 9.4) and a higher debt-to-GDP ratio (Figure 9.5). In 2019, the Caribbean countries did not have the

¹²³ For detailed discussion on the economic challenges of the Caribbean countries, see Reyes-Tagle et al. (2020).

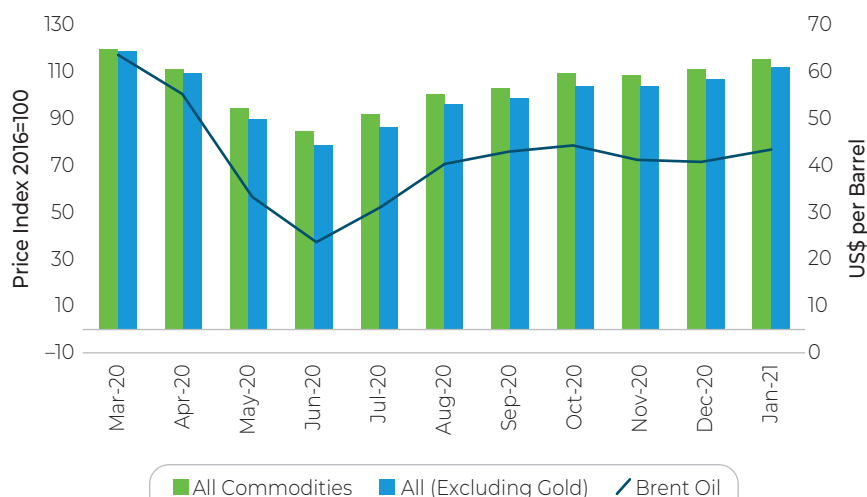
¹²⁴ For the case of Latin America and the Caribbean, see Pineda, Pessino, and Rasteletti (2020).

FIGURE 9.1 The Bahamas and Jamaica: COVID-19's Impact on Tourist Arrivals



Sources: Authors' elaboration based on STATINJA (n.d.) and Bahamas Ministry of Tourism (n.d.).

FIGURE 9.2 Commodity Prices in the Caribbean Region during the COVID-19 Pandemic



Sources: Authors' elaboration based on STATINJA (n.d.) and Bahamas Ministry of Tourism (n.d.).

fiscal balance required to stabilize the debt ratio at the benchmark of 60 per cent; thus, they were in a particularly vulnerable position when trying to meet the fiscal demands of the COVID-19 crisis.

TABLE 9.1 Fiscal Measures Implemented in the Caribbean in Response to COVID-19 (as of 2020)

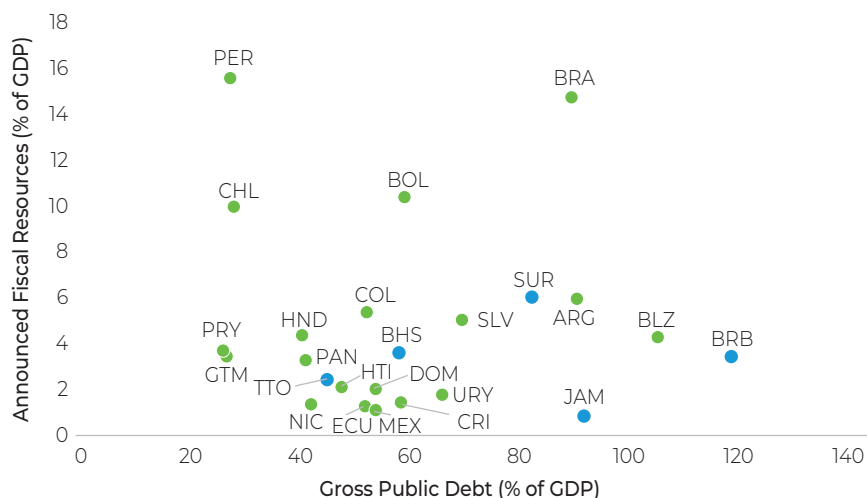
Measures Country	Containment				Recovery		Estimated Additional Budget
	Health Fund	Transfers to Households	Tax Deductions or Deferrals	Debt Deferrals	Grants/Loans to SMEs	Infra-structure Investment, Others	
The Bahamas	✓	✓	✓	✓	✓	x	US\$279 million (2.46% GDP)
Barbados	✓	✓	✓	x	✓	✓	US\$468 million (10.1% GDP)
Jamaica	✓	✓	✓	x	✓	x	US\$195 million (1.3% GDP)
Guyana	x	x	✓	x	x	x	Not available
Suriname	✓	✓	x	x	x	x	US\$154 million (6% GDP)
Trinidad and Tobago	✓	✓	x	✓	✓	x	US\$584.7 million (2.6% GDP)

Sources: Authors' elaboration based on Reyes-Tagle et al. (2020) with updated figures from IDB (2020).

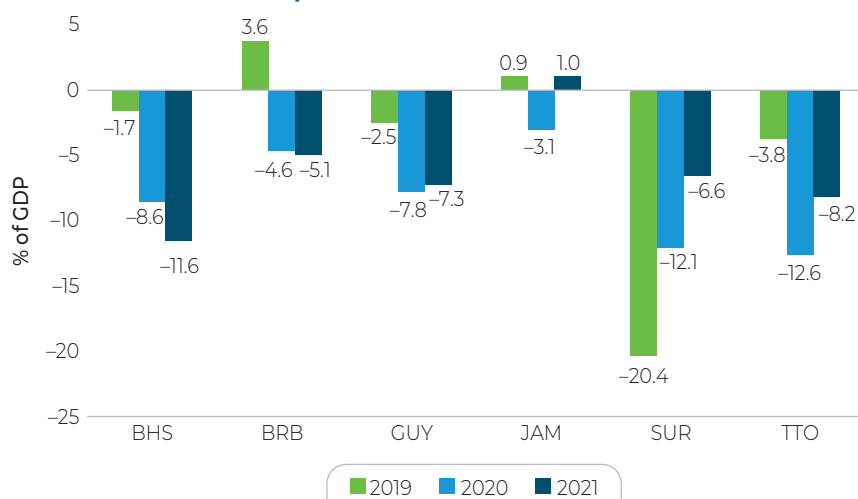
The Case of Barbados Using a DCGEM

COVID-19 significantly impacted Barbados's economy, which was already amid an adjustment program (the Barbados Economic Recovery Transformation Plan [BERT]) with the support of an IMF Extended Arrangement program. In most Caribbean countries, aerial and maritime transportation shutdowns during the pandemic directly impacted tourism, and Barbados was no exception. The quarantine measures implemented for the island nation's inhabitants contributed to an even more significant impact; most economic activities and consumers felt the effect. The pandemic led to decreased activity across multiple channels: (a) export of services (tourism and transportation services), (b) investment (both FDI and public investment), (c) trade (interrupted supply chains), and (d) imports (volatility of commodity prices).

Using an updated annual dynamic computable general equilibrium model (DCGEM), a COVID-19 scenario was simulated to assess the impact of the

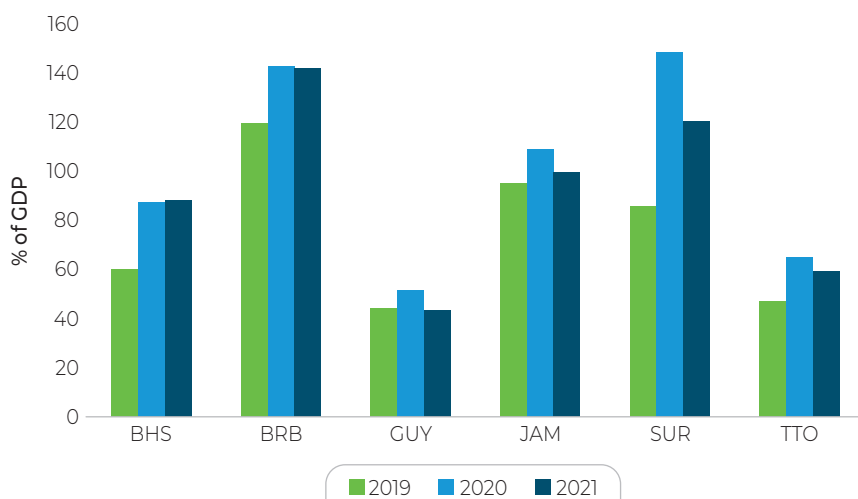
FIGURE 9.3**Size of COVID-19 Fiscal Measures (2020) versus Debt to GDP (2019) in Selected Latin American Countries**

Sources: Authors' elaboration using Alichí (2020), IMF (2020b), and IMF staff calculations.
 Note: Caribbean countries discussed in this book are identified with blue dots.

FIGURE 9.4**Fiscal Balance in CCB6 Countries (percent of GDP, 2019–21)**

Source: Authors' elaboration based on IMF (2020b).

FIGURE 9.5 Debt in CCB6 Countries (percent of GDP, 2019–21)



Source: Authors' elaboration based on IMF (2020b).

COVID-19 pandemic on the economy of Barbados.¹²⁵ The forecast scenario covered 2020–25 and encompassed the following exogenous events: (i) tourism shock and (ii) FDI shock. It also included the simulated effects of mitigating policy measures.

In this case, the baseline scenario was defined as the BERT program (as supported by the IMF) with no further shocks or adjustments. The definition of the COVID-19 scenario followed the same procedure as the definition of an alternative scenario simulation. The first step was to define and calibrate a new scenario—in this case, Scenario 1. The calibration was done to reproduce 100 percent of the baseline scenario. The next step was to choose the exogenous variables to use to simulate the effect of COVID-19. This was done by identifying the exogenous variables that best describe the tourism shock and the foreign investment shock generated by the pandemic and the policy measures adopted by the authorities to mitigate the impact of the pandemic.

The forecast scenario assumed a contraction in tourism for the second quarter (Q2) of 2020 through the fourth quarter (Q4) of 2021. The shutdown of

¹²⁵ In order to highlight the impact of the COVID-19 pandemic on tourism, the updated model for Barbados used here in Chapter 9 has four sectors: Sector 1: the transformation sector, Sector 2: the tourism sector, Sector 3: the trade sector, and Sector 4: the other services sector. The previous version of the Barbados model used in Chapter 7 had three economic sectors: Sector 1: agriculture, fisheries, mining, manufacture, electricity, gas and water, construction; Sector 2: hotels and restaurants; Sector 3: all other services (see note for Table 7.6).

aerial and maritime transportation drove tourism to a halt in the second quarter of 2020. Then, recovery was projected to start in the fourth quarter and slowly progress throughout 2021. A full recovery was expected by the end of 2021. Travel and transportation receipts were expected to fall in 2020 and 2021. Travel credit and debit receipts were expected to fall 62.7 percent in 2020 and 34.9 percent in 2021 relative to the values forecast for the BERT program. Transportation credit and debit receipts were expected to fall in a similar proportion.

The scenario assumed a contraction of FDI for 2020 Q2 through 2021 Q4. The shutdown of aerial and maritime transportation and the quarantine were expected to drive FDI to a halt in the second quarter of 2020; it would then slowly start to recover in 2021 with a full recovery expected by the end of 2021. We assumed that FDI would fall by Bds\$400 million in 2020 and Bds\$100 million in 2021 relative to the levels of FDI envisaged in the BERT program. The fall in FDI was mitigated by an increase in public investment of Bds\$200 million in 2020 and Bds\$100 million in 2021. The net impact on potential real value added by reducing FDI and public investment and the concomitant decrease in capital stock was estimated to be around Bds\$281 million in 2020.

To mitigate the impact of the pandemic, the government put in place several economic measures. The stimulus package announced in 2020 included transfers to persons and support to businesses (Bds\$280 million), additional funding for the health sector for goods and services (Bds\$116.3 million), and additional capital spending (Bds\$40.6 million).

The values of the several exogenous variables of the DCGEM that describe the tourism shock, the FDI shock, and the mitigating policy measures are presented in Table 9.2. The shocks were assumed to take place in 2020 and 2021.

A summary of the forecast simulation results is presented in Table 9.3. The table contains the evolution, for the period 2018–25, of the main variables of the COVID-19 scenario and of the baseline solution to assess the impact of the COVID-19 pandemic on the BERT program. The impact of COVID-19 on the BERT program was found to be substantial and to have lingered through the simulation horizon (2020–25).

The ex ante simulation of the overall impact of the combined shocks and mitigating measures resulted in a sharp decline in the annual GDP real growth rate. Without the COVID shock (baseline) the projected growth was 1.9 percent between 2019 and 2020. With the COVID shock the real GDP growth rate dropped by a negative 16.5 percent between 2019 and 2020 but then rebounded from this low level by a positive 12.8 percent between 2020 and 2021. (These numbers are derived from the simulated GDP levels in Table 9.3.) By 2022, there was expected to be a rebound in GDP growth led by strong growth in the tourism sector with a growth rate of 29.0 percent in 2022 (Figure 9.6). The term “value

TABLE 9.2 Barbados: Evolution of Exogenous Variables in the COVID-19 Scenario (Scenario 1)

	Historical Values				Simulation Period					
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
1. Travel Credit										
- Scenario 1	2,079.1	2,161.4	2,280.9	2,522.1	976.9	1,774.9	2,841.3	2,965.7	3,115.1	3,245.1
- Baseline	2,079.1	2,161.4	2,280.9	2,522.1	2,619.8	2,725.6	2,841.3	2,965.7	3,115.1	3,245.1
- Deviation	—	—	—	—	(1,642.9)	(950.7)	—	—	—	—
% Deviation	—	—	—	—	(62.7)	(34.9)	—	—	—	—
2. Travel Debit										
- Scenario 1	0.8	0.9	0.9	0.9	0.6	0.7	0.9	0.9	0.9	0.9
- Baseline	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
- Deviation	—	—	—	—	(0.4)	(0.2)	—	—	—	—
% Deviation	—	—	—	—	(39.2)	(26.4)	—	—	—	—
3. Transportation Credit										
- Scenario 1	61.8	65.1	68.6	70.8	47.3	71.6	78.1	82.6	86.4	89.2
- Baseline	61.8	65.1	68.6	70.8	73.2	75.6	78.1	82.6	86.4	89.2
- Deviation	—	—	—	—	(25.9)	(4.0)	—	—	—	—
% Deviation	—	—	—	—	(35.3)	(5.2)	—	—	—	—
4. Transportation Debit										
- Scenario 1	2.1	2.2	2.2	2.4	1.4	1.7	2.4	2.4	2.4	2.4
- Baseline	2.1	2.2	2.2	2.4	2.4	2.4	2.4	2.4	2.4	2.4
- Deviation	—	—	—	—	(0.9)	(0.6)	—	—	—	—
% Deviation	—	—	—	—	(39.3)	(26.3)	—	—	—	—

(continued on next page)

TABLE 9.2 Barbados: Evolution of Exogenous Variables in the COVID-19 Scenario (Scenario 1) *(continued)*

	Historical Values					Simulation Period				
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
5. Capital (Private)										
- Scenario 1	332.1	311.4	461.0	500.4	94.1	468.8	636.1	730.2	734.1	883.2
- Baseline	332.1	311.4	461.0	500.4	494.1	568.8	636.1	730.2	734.1	883.2
- Deviation	0.0	0.0	0.0	0.0	(400.0)	(100.0)	—	—	0.0	(0.0)
% Deviation	0.0	0.0	0.0	0.0	(81.0)	(17.6)	—	—	0.0	(0.0)
6. Capital (Public)										
- Scenario 1	(171.1)	(134.9)	451.0	189.3	540.6	206.5	15.2	(64.4)	(90.2)	(368.1)
- Baseline	(171.1)	(134.9)	451.0	189.3	340.6	106.5	15.2	(64.4)	(90.2)	(368.1)
- Deviation	—	—	—	—	200.0	100.0	—	—	—	—
% Deviation	—	—	—	—	58.7	94.0	—	—	—	—
7. Expected Total Potential Real Value Added										
- Scenario 1	7,957.6	7,975.1	7,994.7	8,015.1	7,800.0	7,900.0	8,100.0	8,300.0	8,500.0	8,700.0
- Baseline	7,957.6	7,975.1	7,994.7	8,015.1	8,055.1	8,176.0	8,339.5	8,548.0	8,761.7	8,980.7
- Deviation	—	—	—	—	(255.1)	(276.0)	(239.5)	(248.0)	(261.7)	(280.7)
% Deviation	—	—	—	—	(3.2)	(3.4)	(2.9)	(2.9)	(3.0)	(3.1)
8. Other Income Total										
- Scenario 1	2,088.0	2,191.7	1,830.9	1,718.3	2,000.0	1,718.3	1,718.3	1,718.3	1,718.3	1,718.3
- Baseline	2,088.0	2,191.7	1,830.9	1,718.3	1,718.3	1,718.3	1,718.3	1,718.3	1,718.3	1,718.3
- Deviation	—	—	—	—	281.7	—	—	—	—	—
% Deviation	—	—	—	—	16.4	—	—	—	—	—

Source: Baca Campodónico (2021).

Notes: All values are in millions of constant Bds\$. The values in bold correspond to assumed exogenous values.

TABLE 9.3 Barbados: Summary of COVID-19 Scenario (Scenario 1)

	Units	Historical Values		Simulation Period					
		2018	2019	2020	2021	2022	2023	2024	2025
1. Real GDP									
- Scenario 1	Millions constant Bds\$	9,221.4	9,216.6	7,695.5	8,683.7	9,991.8	10,095.8	10,320.8	10,410.0
- Baseline		9,221.4	9,216.6	9,384.4	9,505.1	9,682.1	9,820.2	10,075.1	10,239.5
% Deviation		—	—	(18.0)	(8.6)	3.2	2.8	2.4	1.7
2. Price Index (CPI)									
- Scenario 1	Index	128.7	131.1	133.0	138.6	144.1	149.1	154.5	160.3
- Baseline		128.7	131.1	133.4	138.7	144.1	149.0	154.4	160.2
% Deviation		—	—	(0.3)	(0.1)	0.0	0.1	0.0	0.0
3. Unemployment Rate									
- Scenario 1	Percentage	10.0	10.1	23.6	15.3	7.3	7.5	7.3	8.3
- Baseline		10.0	10.1	10.1	9.9	9.5	10.1	9.5	9.8
% Deviation		—	—	13.4	5.4	(2.3)	(2.6)	(2.2)	(1.5)
4. Tax Revenue									
- Scenario 1	Millions constant Bds\$	2,711.6	2,946.5	2,531.9	2,942.6	3,460.3	3,605.1	3,805.2	3,961.4
- Baseline		2,711.6	2,946.5	3,026.8	3,175.1	3,347.5	3,501.9	3,711.0	3,899.0
% Deviation		—	—	(16.4)	(7.3)	3.4	2.9	2.5	1.6

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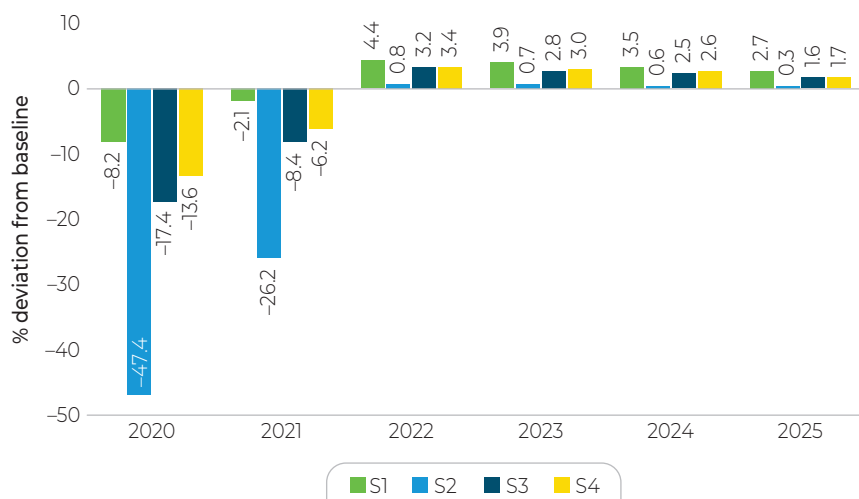
TABLE 9.3 Barbados: Summary of COVID-19 Scenario (Scenario 1) *(continued)*

	Units	Historical Values		Simulation Period					
		2018	2019	2020	2021	2022	2023	2024	2025
5. Ratio Public Debt to GDP									
- Scenario 1	Percentage	122.9	115.6	141.9	120.5	99.7	93.1	86.1	81.0
- Baseline		122.9	115.6	113.1	105.8	98.0	91.4	84.5	78.8
% Deviation		—	—	28.8	14.8	1.7	1.6	1.6	2.2
6. Poverty Level									
- Scenario 1	Percentage	26.5	26.1	30.0	27.7	23.9	23.5	22.7	22.3
- Baseline		26.5	26.1	26.0	25.4	24.6	24.1	23.2	22.5
% Deviation		—	—	4.0	2.3	(0.7)	(0.6)	(0.5)	(0.2)
7. Gini Index									
- Scenario 1	Index	31.4	31.4	31.0	31.4	31.5	31.6	31.6	31.7
- Baseline		31.4	31.4	31.3	31.4	31.5	31.6	31.6	31.7
% Deviation		—	—	(0.4)	0.0	0.0	0.0	0.0	0.0

Source: Baca Campodónico (2021).

FIGURE 9.6

Barbados: Value Added by Economic Sector (percent deviation from baseline)



Source: Baca Campodónico (2021).

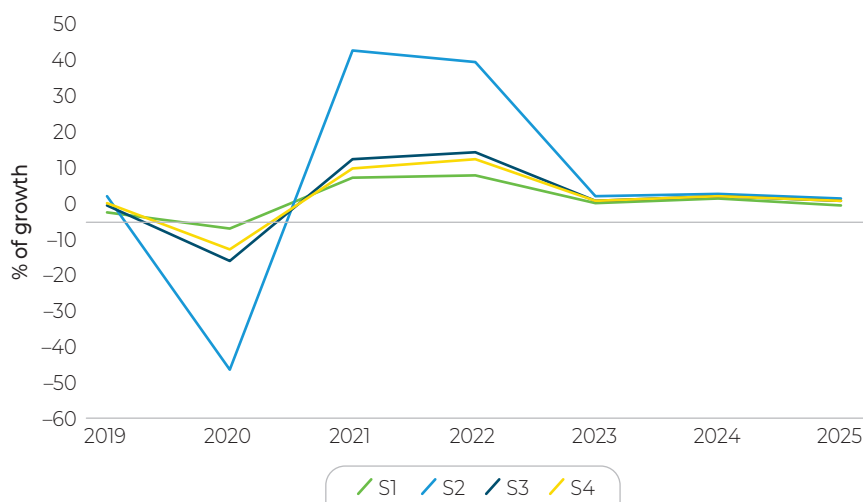
Note: S1, S2, S3, and S4 refer to the economic sectors: Sector 1: the transformation sector, Sector 2: the tourism sector, Sector 3: the trade sector, and Sector 4: the other services sector.

added” in the following figures corresponds to the four main economic sectors: Sector 1: the transformation sector, Sector 2: the tourism sector, Sector 3: the trade sector, and Sector 4: the other services sector.¹²⁶ The sectors’ evolution is shown in Figure 9.6 as a percent deviation from the baseline and in Figure 9.7 as a percentage of growth.

The simulation showed a substantial negative impact on unemployment in 2020, when it was expected to reach 23.6 percent, and in 2021 with 15.3 percent, but it was then expected to return to pre-pandemic levels in the out years of the forecasting exercise. Poverty levels were expected to increase during 2020 and 2021 and then recover progressively in the rest of the simulation horizon. In 2020, the simulated poverty level reached 30.0 percent of the total population and 27.7 percent in 2021. Once recovery began, the poverty level was expected to drop to 22.3 percent by 2025. Income distribution, measured by the Gini index of expenditure, was expected to worsen in 2020 but recover to baseline value by 2021.

As a percentage of GDP, public debt was expected to increase over the levels envisaged in the BERT program during the entire simulation horizon. The

¹²⁶ This four-sector breakdown is designed to highlight tourism’s sensitivity to the COVID-19 pandemic given the sector’s importance to the Barbadian economy.

FIGURE 9.7**Barbados: Value Added by Economic Sector under COVID (annual growth rate)**

Source: Baca Campodónico (2021).

Note: S1, S2, S3, and S4 refer to the economic sectors: Sector 1: the transformation sector, Sector 2: the tourism sector, Sector 3: the trade sector, and Sector 4: the other services sector.

increased fiscal deficit incurred due to the pandemic was expected to make the debt-to-GDP ratio reach 141.9 percent in 2020; it would start going down once the economy began to recover and reach 81.0 percent by 2025 (i.e., 2 percentage points higher than the baseline value).

The Case of Suriname: Assessing the Impact of Implementing VAT during COVID

As in the case of Barbados, in Suriname the COVID-19 pandemic also had a significant impact on the economy. However, Suriname already had systemic macroeconomic imbalances due to many years of economic mismanagement before COVID. The pandemic accentuated these prior imbalances that included substantial fiscal and external current account deficits, unsustainable public debt, low foreign reserves, an economic downturn, and high inflation.

In 2021, Suriname authorities embarked on a comprehensive economic reform program that included tightening fiscal policy. The main objectives of the program were to restore macroeconomic stability and confidence and pave the way to economic recovery while protecting the most vulnerable during the adjustment process.

Fiscal consolidation was a critical ingredient of the program. The fiscal reforms included eliminating the costly and poorly targeted electricity price subsidies and introducing a value added tax (VAT) to replace the sales tax, thereby creating an efficient source of non-mineral revenue. The agenda emphasized enhancing the social safety net to mitigate adverse effects on the vulnerable. The authorities negotiated debt relief from private and official creditors per the program parameters to achieve debt sustainability.

These reforms have been supported by technical assistance from development partners including the IMF, the Inter-American Development Bank (IDB), and the World Bank Group. Further, to address these significant macroeconomic challenges, the Government of Suriname requested support from the IMF through an EFF program (approved in December 2021 for three years valued at US\$690 million). The EFF supports fiscal sustainability; exchange rate, monetary, and financial stability; and governance.

After briefly discussing the economy, this section presents our tax expenditure estimates. This discussion is followed by an *ex ante* simulation of the impact of different VAT designs on crucial macroeconomic variables.

Suriname had negative growth rates in 2016 (–4.9 percent) followed by a mild recovery in 2017–19 (Table 9.4). The current account deficit averaged 6.5 percent of GDP for 2016–19. At the end of September 2020, international reserves amounted to merely US\$106 million (equivalent to roughly 0.9 months of imports of goods and services). Fiscal and primary deficits averaged 12.6 percent and 8.3 percent of GDP in 2016–19, respectively.

The COVID-19 pandemic exacerbated the decline in macroeconomic and fiscal stability: GDP fell in 2020 (–15.9 percent) and 2021 (–3.5 percent), while the fiscal deficit reached 13.4 percent of GDP and 7.3 percent in the same years. Further, significant parallel market exchange rate premiums, bouts of monetary financing, and a substantial exchange rate devaluation caused spiraling inflation (rising from 4.2 percent in 2019 to an average of 60.7 percent in 2019–20).

The imbalances in the fiscal accounts led to increased public debt (from 85.2 percent to an average of 141.5 percent of GDP in 2019–20). The lack of financing sources led to a default on US\$675 million on bonds due in 2023 and 2026. The government's inability to pay its public debt obligations has led to growing external and domestic arrears. A debt restructuring plan was negotiated with creditors. An agreement with the Paris Club for debt restructuring was achieved in June 2022,¹²⁷ and Suriname entered into a non-disclosure agreement with the Euro Note Creditors Committee to restructure the two outstanding Eurobonds.

¹²⁷ The Ministry of Finance and Planning announced the conclusion of negotiations with the members of the Paris Club for the restructuring of approximately US\$100 million in debt with France, Israel, Italy, the Netherlands, and Sweden (Paris Club, 2022).

TABLE 9.4**Suriname: Selected Economic Indicators (2016–23)**

	2016	2017	2018	2019	2020	2021	2022 est.	2023 proj.
Real GDP Growth (%)	-4.9	1.6	4.9	1.1	-15.9	-2.7	1	2.3
Unemployment (% of labor force)	10	7	9	8.8	11.1	11.2	10.9	10.6
Inflation (% end of period)	52.4	9.3	5.4	4.2	60.7	60.7	54.6	36.4
Government Revenue (% of GDP)	17.7	20.1	20.9	20.4	18.4	27.2	27.8	26.9
Tax Revenue (% of GDP)	12.4	13.3	15.6	15	13.4	20.1	19.3	16.6
Government Expenditure (% of GDP)	27.1	27.2	26.2	40.8	30.5	33.8	30.9	27.7
Primary Balance (% of GDP)	-6.8	-4.6	-2.5	-17.5	-8.4	-0.6	1.1	1.7
Overall Balance (% of GDP)	-9.3	-7.1	-5.2	-20.4	-12.1	-6.6	-3.1	-0.9
Exchange Rate (per US\$, end of period)	7.4	7.5	7.5	7.5	14.2	20.8	30.2	31.9
Central Government Debt (% of GDP)	74.8	71.5	66.1	-17.5	-8.4	-0.6	1.1	1.7

Sources: IMF (2020b, 2023).

In terms of fiscal sustainability, one of the primary measures supported by the EFF has been the introduction of a VAT, which replaces the country's sales tax. Its implementation is expected to require a comprehensive plan to increase tax and customs administration capabilities with the support of IDB loan-funded programs. The EFF's structural benchmarks also include actions to strengthen the expenditure control framework by improving public financial management operations, such as streamlining a treasury single account (TSA) and measures to increase control and transparency in public procurement.

Another problem with Suriname's current tax system is the high level of tax expenditures including a wide range of tax incentives, exemptions, provisions, and waivers. In addition to their real impact on investment or other economic behavior, tax expenditures have led to a complex system, in part because they are contained in different pieces of legislation. The proliferation of discretionary waivers is system induced due to high tax and duty rates. These high rates

TABLE 9.5 Suriname: Tax Expenditures (percent of GDP)

	2015	2016	2017	2018	2019	2020	2021
Statutory	4	3.2	3.5	3.4	4	3.7	4.2
Incentives	1	1	1.2	2	1.6	1.4	1.4
Discretionary Waivers	1	0.8	0.8	0.5	0.5	0.6	1.1
Waivers on Tax Arrears	1.7	1.2	1.1	1	0.8	0.3	0.1
Total Tax Expenditures	7.7	6.1	6.6	6.8	6.9	5.9	6.9

Source: Authors' calculations based on raw data provided by Suriname Ministry of Finance, Customs, and Directorate of Taxes.

Note: "Statutory" refers to exemptions or reduced tax rates on goods and services, included in the various tax acts. "Incentives" refers to sectoral benefits.

cannot be removed at once without risking economic stability. However, there has also been extensive use of discretionary waivers that are not justified on economic or technical grounds and should be phased out.

A rough approximation of the total tax expenditures in Suriname across all categories hovers around 7 percent of GDP. The evolution of each category as a percentage of GDP and their total amounts for 2015–2021 are presented in Table 9.5.

Tax expenditures generated by "exemptions" (statutory and incentives) of the different tax types are the most important sources of tax expenditures, followed by discretionary waivers. Waivers on tax arrears associated with tax amnesties and remission granted by the tax department have diminished in the early 2020s. However, the backlog of tax arrears has been increasing and could mean a surge in waivers of tax arrears in the coming years. The COVID-19 pandemic reduced overall tax expenditures, but they had recovered to pre-pandemic levels by 2021. The principal reductions in tax expenditures during the pandemic were for statutory exemptions and waivers on tax arrears.

The total tax expenditures of all indirect taxes amounted to Sr\$1,471 million in 2017, equivalent to 5.5 percent of GDP. This figure increased to Sr\$3,849 million in 2021, equivalent to 6.75 percent of GDP (Table 9.6). This figure includes tax expenditures incurred with imports from CARICOM members and other countries with whom Suriname has an economic partnership agreement.

The two tax types with the highest tax expenditures are import duty and sales tax.¹²⁸ The high tax expenditures associated with the sales tax (around 3 percent of GDP) are particularly relevant because this tax is targeted to be replaced by VAT. The reduction of tax expenditures associated with the sales tax is essential for a successful introduction of VAT. Tax expenditures on direct

¹²⁸ The custom and statistical fees are custom processing fees.

TABLE 9.6**Suriname: Tax Expenditures of Indirect Taxes (millions of Sr\$)**

Tax Type	2015	2016	2017	2018	2019	2020	2021
Import Duty	508.65	512.42	706.02	766.93	890.77	957.71	1,788.91
Sales Tax	447.74	418.75	641.44	807.85	868.01	1,021.96	1,728.19
Statistical Fee	14.83	15.49	24.34	31.02	32.38	38.23	60.78
Consent Fee	59.14	59.25	89.22	110.40	115.18	135.04	238.60
Excise	9.66	7.84	10.25	9.14	9.86	8.84	32.51
Total	1,040.02	1,013.75	1,471.28	1,725.33	1,916.20	2,161.78	3,848.99
As % of GDP	5.94	4.90	5.47	5.79	6.09	5.64	6.75

Source: Authors' calculations based on raw data provided by Suriname Ministry of Finance, Customs, and Directorate of Taxes.

taxes (corporate income tax [CIT], personal income tax [PIT], and wages tax) have declined over this period from 1.69 percent to 0.51 percent of GDP. (See Annex B, Box B.5 for a complete discussion of tax expenditures tied to direct taxes.)

In its present design, the Suriname system of tax incentives is very costly in terms of revenue forgone and is usually ineffective in generating new economic activity. Tax incentives complicate compliance and administrative costs by straining an already challenged tax administration. They also contribute to a pervasive culture of noncompliance.

Quantifying the tax expenditures is critical for assessing the impact of VAT introduction. It is essential to know the effect of each type of tax expenditure, the trend for each category, and their policy implications. For example, the taxation of forthcoming oil production activities should consider limiting the impact of zero-rating of contractors and subcontractors of oil exporters. The VAT refund mechanism is an efficient procedure for the zero-rated activities of oil exporters. Exempting VAT at customs to contractors and subcontractors of oil firms could distort the entire VAT system and severely curtail VAT revenues.

Notwithstanding the lack of accuracy of the estimates of the tax expenditures related to direct taxes, total tax expenditures are estimated to be about 7 percent of GDP. This is higher than in most of the countries in the region. This high level highlights the importance of considering a curtailment of tax expenditures to increase revenue and simplify tax administration.

Developing a simulation of the impact of implementing VAT¹²⁹ requires scenarios to be defined by identifying the characteristics of the proposed VAT

¹²⁹ These simulations are based on results obtained from a DCGEM of the Suriname economy (see Baca Campodónico, 2018, 2022).

(namely standard and zero-rated VAT rates), the level of exemptions, and/or the percentage of economic activity that will be VAT taxable due to the presence of a threshold or the nature of the economic activity. The characteristics of VAT will define the equivalence between the statutory VAT rates and the effective rates of the main economic sector. In addition, defining scenarios entails identifying other tax measures or additional public expenditures (i.e., social safety net programs) that will be implemented simultaneously with the introduction of VAT. It is essential to define the nature of tariff reduction, which taxes will be eliminated (including the sales tax), and the introduction of VAT.

The simulation exercise also requires the definition of a baseline scenario that can be used as a benchmark to measure the impact of a given alternative scenario. The baseline scenario selected for this study was 2023–30. The VAT introduction was assumed to occur in the first year of the simulation period (2023). The seven additional years (2024–30) were included to study the long-term effects on main economic variables of introducing the VAT.

The following four scenarios were considered:

- Scenario 1: VAT standard rate of 10 percent without the safety net program
- Scenario 2: VAT standard rate of 10 percent with the safety net program
- Scenario 3: VAT standard rate of 12.5 percent without the safety net program
- Scenario 4: VAT standard rate of 12.5 percent with the safety net program

Note that for Scenarios 2 and 4 the increase in the social safety net is 0.65 percent per year for the scenario period.

Effective VAT rates were estimated using the national accounts for gross output and intermediate consumption structure for each economic sector reported in the national accounts (sources and uses [SUT] tables) based on the statutory rates defined for each scenario. For tariffs, data for each tariff code and the cost plus insurance plus freight (CIF) value reported in 2021 were used to compute the effective tariff code for total imports. A table of the model for estimating effective VAT rates for the different scenarios is presented in Annex A.

The central assumption of the simulation exercises is that the approved VAT law does not include zero-rating of goods or services other than for exports. The long list of zero-rated goods and services included in the 2022 VAT Act draft was a non-starter. This list should have been eliminated from the VAT Act, but as of May 2024 it had not been (IMF, 2024). The authorities should have concentrated on defining the list of exempted goods and services instead. Zero-rating of goods other than those for export makes the VAT ineffective and distorts the price system and administration.

In the case of the list of exempted goods and services, the simulation assumes that the list includes goods and services exempted in other Caribbean countries. The same assumption applies to the VAT threshold. No special regime for small traders is considered in the simulation exercises.

In the following paragraphs, each of the four scenarios is presented along with tables and figures to describe the inputs and results of the simulation model. Table 9.7 presents the numerical results of the simulation for the whole period of analysis (2023–30) for the most relevant variables. Finally, Figures 9.7–9.17 present the evolution of the essential variables together with the values of the baseline scenario to assess the impact of the introduction of VAT.

Table 9.7 gives the cumulative impacts of key variables for the baseline and the four scenarios. The table contains the values (in 2030) for the key

TABLE 9.7 Suriname: Cumulative Effects of the Four Scenarios (2020–30)

		Scenario 0	Scenario 1	Scenario 2	Scenario 3	Scenario 4
	Units	Baseline	VAT 10% no safety net	VAT 10% with safety net	VAT 12.5% no safety net	VAT 12.5% with safety net
1. Real GDP						
- Value in 2030	Millions Sr\$	19,429.30	22,964.10	23,070.20	23,339.00	23,848.40
% Deviation		—	18.2	18.7	20.1	22.7
2. Price Index (CPI)						
- Value in 2030	Index	2,310.00	1,544.30	1,561.80	1,576.40	1,588.10
% Deviation		—	-33.1	-32.4	-31.8	-31.3
3. Unemployment Rate						
- Value in 2030	Percentage	7.5	6	6	6.35	6
% Deviation		—	-20.1	-20.10	-15.3	-20.1
4. Ratio Tax Revenue to GDP						
- Value in 2030	Percentage	24.02	30.21	30.32	30.69	30.96
% Deviation		—	25.79	26.24	27.77	28.93
5. Ratio Public Debt to GDP						
- Value in 2030	Percentage	64.3	57.4	57	54	52.4
% Deviation		—	-10.8	-11.4	-16	-18.6

(continued on next page)

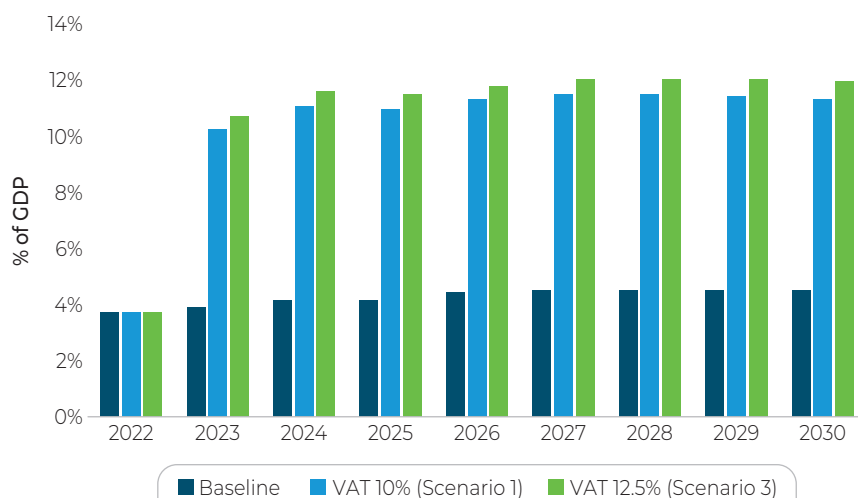
TABLE 9.7**Suriname: Cumulative Effects of the Four Scenarios (2020–30)** *(continued)*

		Scenario 0	Scenario 1	Scenario 2	Scenario 3	Scenario 4
	Units	Baseline	VAT 10% no safety net	VAT 10% with safety net	VAT 12.5% no safety net	VAT 12.5% with safety net
6. Poverty Level						
- Value in 2030	Percentage	82.5	72.1	70.8	73.6	71.1
% Deviation		—	-12.6	-14.10	-10.8	-13.8
7. Gini Index						
- Value in 2030	Index	0.53	0.53	0.53	0.54	0.53
% Deviation		—	0.44	-0.31	0.85	-0.3
8. Net Expenditure Q1						
- Value in 2030	Millions Sr\$	8,002.30	6,079.70	6,602.70	5,879.90	6,656.20
% Deviation		—	-24	-17.50	-26.5	-16.8
9. Net Expenditure Q2						
- Value in 2030	Millions Sr\$	16,004.60	12,103.30	12,454.60	11,661.00	12,364.00
% Deviation		—	-24.4	-22.20	-27.1	-22.7
10. Net Expenditure Q3						
- Value in 2030	Millions Sr\$	27,627.00	21,002.70	21,557.50	20,329.90	21,434.00
% Deviation		—	-24	-22	-26.4	-22.4
11. Net Expenditure Q4						
- Value in 2030	Millions Sr\$	41,916.80	31,997.70	32,775.70	31,087.70	32,628.60
% Deviation		—	-23.7	-21.8	-25.8	-22.2
12. Net Expenditure Q5						
- Value in 2030	Millions Sr\$	96,980.30	74,508.20	76,042.30	72,842.80	75,853.10
% Deviation		—	-23.2	-21.6	-24.9	-21.8

Source: Authors' elaboration using the DCGEM.

variables and the percentage deviation of each variable's value in the four scenarios concerning the baseline value. A positive percentage indicates that the variable's value under that scenario is higher than the baseline value. In contrast, a negative percentage shows that the value in that scenario is less than the baseline value. For example, while real GDP is higher under all scenarios, it is highest (22.7 percent) under Scenario 4. Inflation would be lowest (33.1) under Scenario 2. Thus, real GDP and revenue to GDP are higher under all scenarios but inflation, unemployment, public debt to GDP, poverty, and

FIGURE 9.8 Suriname: Projected Simulated VAT Revenue



Source: Authors' elaboration.

inequality are lower (except for Scenarios 1 and 3). Net consumption expenditure (income minus taxes, minus savings) falls for all quintiles in all scenarios but by differing levels.

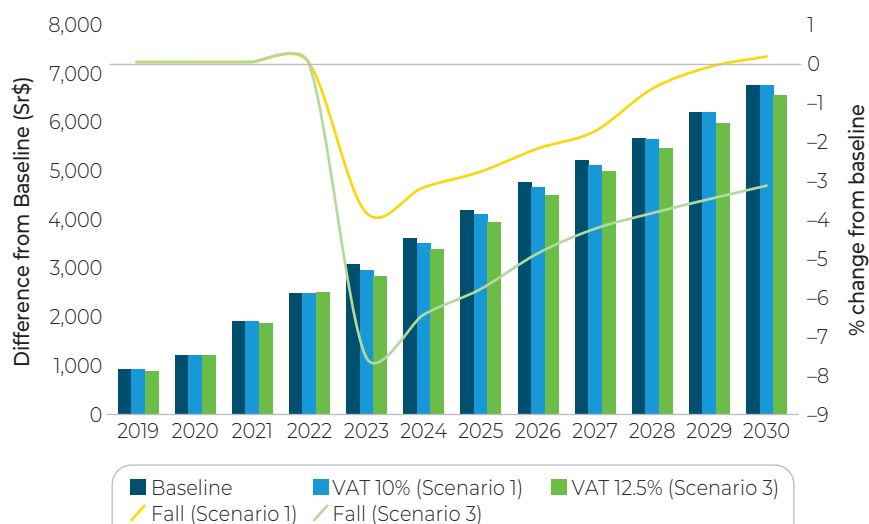
Next, the temporal profiles of the evolution of the main macroeconomic variables are presented. The simulations of the expected VAT revenue indicate a substantial increase over the revenue collected with the sales tax (Figure 9.8). In the case of Scenario 1, with a VAT rate of 10 percent, the revenue measured as a percentage of GDP oscillates around 10 percent. By contrast, in Scenario 3, with a VAT rate of 12.5 percent, the revenue is slightly higher and oscillates around 12 percent.

The overall indication of the four simulation exercises is that the net increase in government revenue provided by the introduction of the VAT represents a transfer of resources from the private sector to the government that is not fully compensated by the elimination of the sales tax. In the case of Scenario 1 with a VAT rate of 10 percent, the disposable income of Quintile 1 (Q1, the poorest 20 percent of the population) falls 4.1 percent compared to the baseline scenario and is recovered only in the out years of the simulation horizon. In the case of Scenario 3 with a VAT rate of 12.5 percent, the disposable income of Q1 falls 7.5 percent compared to the baseline and recovers to -3.0 percent in the out years (Figure 9.9).

The need to complement the introduction of the VAT with a social safety net program is a clear message that emerges from the simulation exercises.

FIGURE 9.9

Suriname: Projected Fall in Disposable Income of Quintile 1



Source: Authors' elaboration.

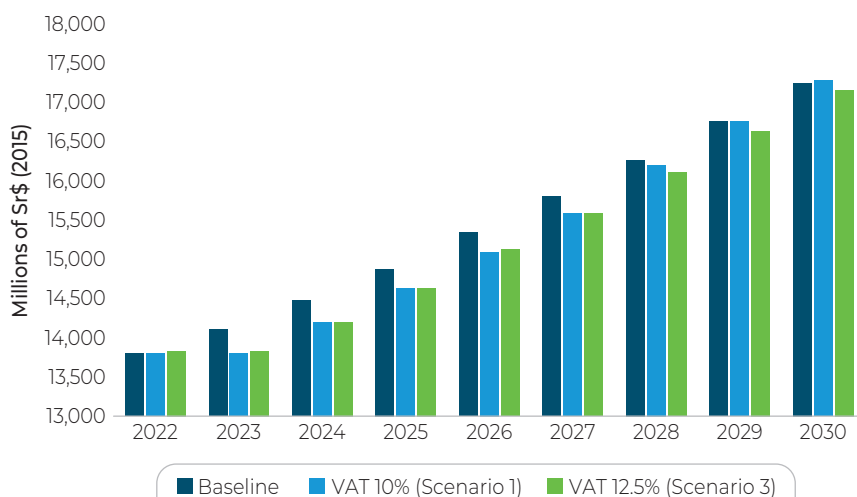
An overall assumption for the four scenarios is that all additional revenue generated by introducing the VAT is assigned to reducing public debt. The latter means less debt, less inflation, and more investment in the long term. With the introduction of safety net programs, the model deducts the value of the safety net program from total revenue before assigning the remainder to reducing public debt.

In Scenarios 1 and 3, growth rates of total real value added are shown to be lower than the growth rates of the baseline but recover in the out years (Figure 9.10). The introduction of the VAT extracts resources from the private sector in the initial years of the simulation exercise. However, reducing the public deficit opens space for more private investment and growth in the years after the simulation horizon.

Real GDP grows faster in all scenarios because of higher indirect taxes. GDP, defined as value added plus indirect taxes, outperforms the baseline scenario as a direct result of the higher revenue generated by the introduction of VAT. Introducing the safety net programs favors GDP growth of 10 percent and 12.5 percent, respectively, for each VAT rate (Figure 9.11).

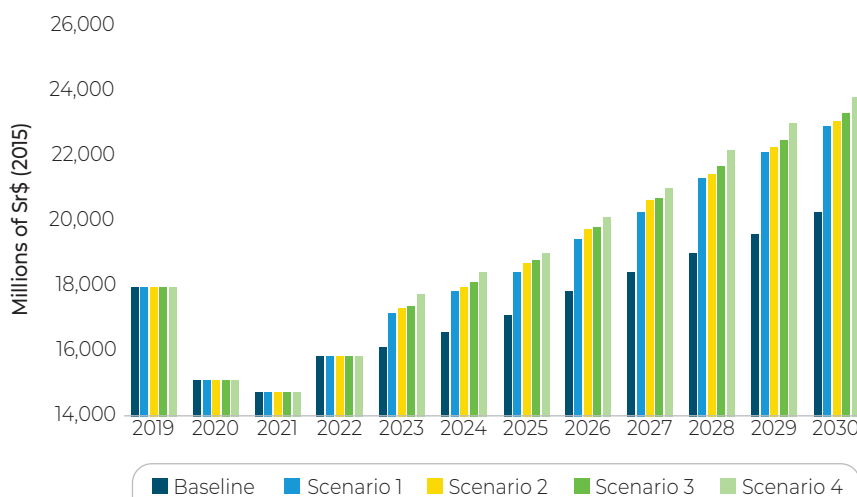
Inflation rates are measured by the consumer price index (CPI); after an initial surge in the first year of the simulation horizon, inflation ends up slightly higher than the baseline scenario for all the scenarios (Figure 9.12). The initial

FIGURE 9.10 Suriname: Projected Real Value Added



Source: Authors' elaboration.

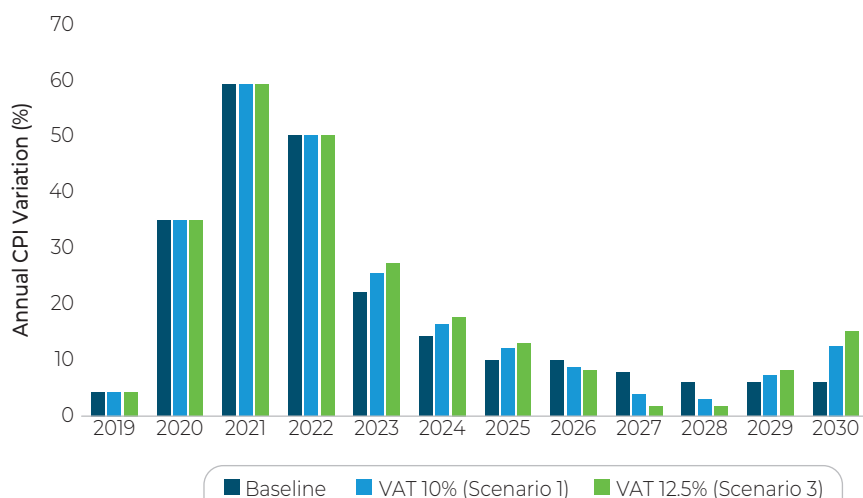
FIGURE 9.11 Suriname: Projected Real GDP



Source: Authors' elaboration.

surge is higher when the statutory VAT is higher and somewhat mitigated by eliminating the sales tax. In the case of 10 percent VAT, the initial inflation surge reached 25.6 percent, 3.4 points higher than the baseline values. In the case of VAT of 12.5 percent, inflation reaches 27.3 percent, 5 points higher than the

FIGURE 9.12 Suriname: Projected Inflation Rate (CPI)



Source: Authors' elaboration.

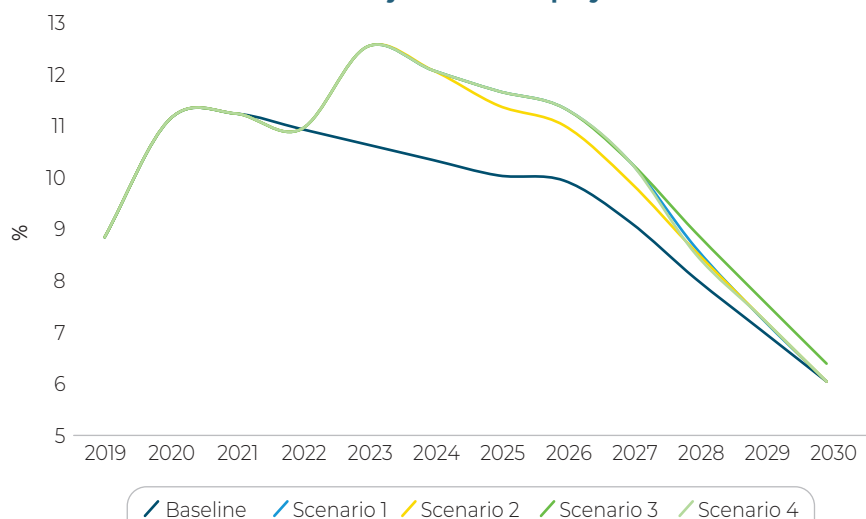
baseline. The lower financial requirements of the public sector and the lower levels of aggregated demand, common to all scenarios, explain the drop in inflation concerning the baseline scenario starting in the fourth year of the simulation time horizon.

Unemployment levels are higher compared to the baseline scenario due to relatively lower growth rates in all economic sectors (Figure 9.13). Still, they recover in the later years of the simulation horizon. The transformation sector and the trade and tourism sector have a higher labor absorption ratio than the other services sector,¹³⁰ contributing to a lowering of the unemployment level in the baseline scenario.

Total tax revenue increases relative to the baseline in all scenarios (Figure 9.14). The indirect impact on additional tax revenue of higher growth rates and lower inflation rates enhances the direct effect on tax revenue of the introduction of VAT.

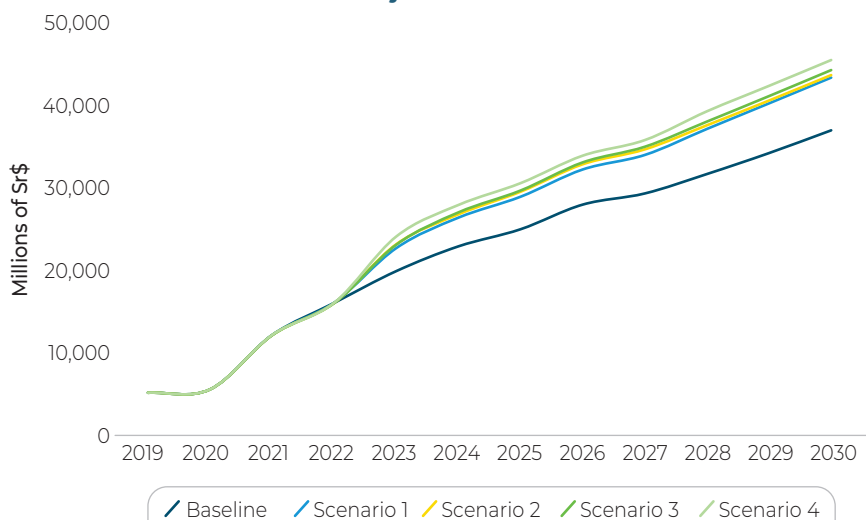
¹³⁰ The primary sector refers to agricultural and mining activities; the transformation sector corresponds to manufacturing, construction, and utility activities (i.e., electricity, water, and sanitation); trade and tourism refers to wholesale and retail activities, transportation, and tourism; the financial sector corresponds to financial and real estate activities; and the other services sector corresponds to government activities, professional services, and community and social services.

FIGURE 9.13 Suriname: Projected Unemployment Rate



Source: Authors' elaboration.

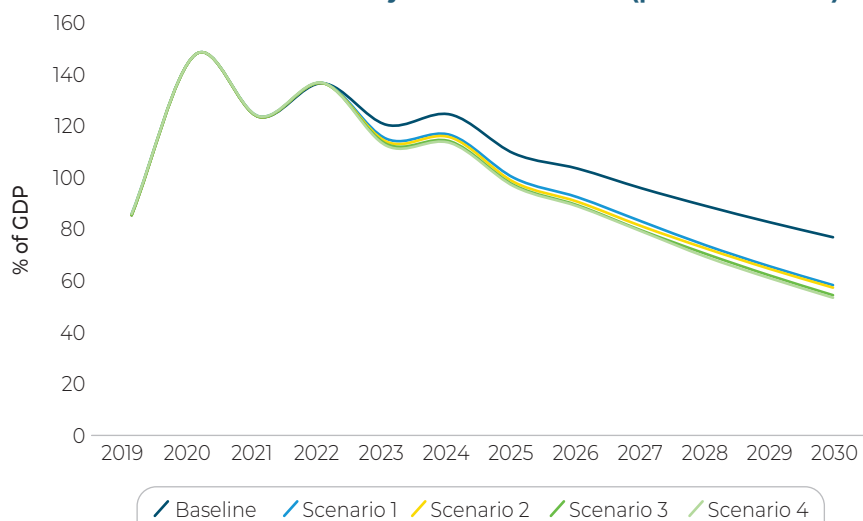
FIGURE 9.14 Suriname: Projected Total Tax Revenue



Source: Authors' elaboration.

The ratio of public debt to GDP decreases relative to the baseline along the time horizon of analysis for all scenarios, including the scenarios with safety net programs (Figure 9.15). Higher tax revenue and the assumption that all additional public revenue will go toward debt reduction translate into lower debt

FIGURE 9.15 Suriname: Projected Public Debt (percent of GDP)



Source: Authors' elaboration.

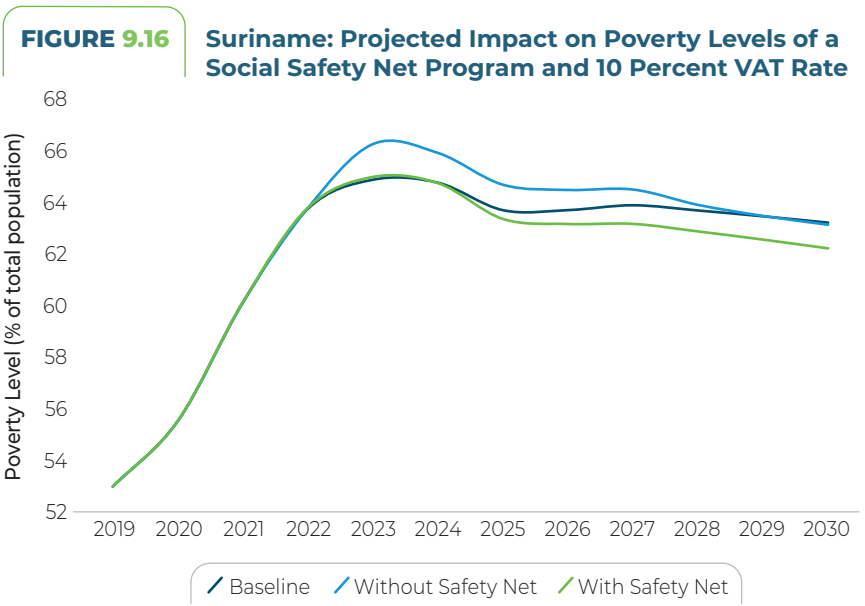
levels. In addition, lower public debt implies lower interest payments and additional surpluses that lower the debt stock even further.

The government's intention to strengthen safety net programs would significantly reduce the adverse effects of the VAT on poverty levels. The introduction of VAT translates into lower disposable income in most scenarios; as a result, poverty levels tend to be higher in the absence of social safety net programs. The level of the safety net program will depend on the VAT rate. The higher the VAT rate, the higher the level of the safety net program required. Figures 9.16 and 9.17 show the impact of the safety net programs on poverty for the scenarios with a 10 percent VAT standard rate and 12.5 percent standard rate, respectively.

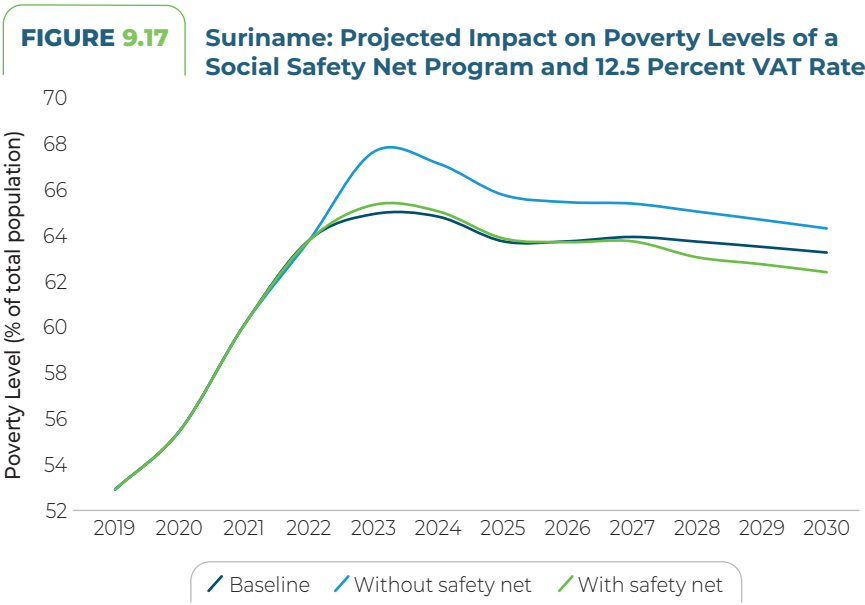
Consumption expenditure measured net of indirect taxes (net expenditure) falls more in lower quintiles than in higher ones in most scenarios without safety net programs. This result confirms the need for a safety net program with the introduction of VAT. In addition, the simulation results reveal that this effect intensifies the higher the statutory VAT rate is. The latter is reflected in the evolution of the Gini index for the different scenarios (Figure 9.18).

In summary, real GDP and revenue to GDP are higher under all scenarios. VAT revenue more than compensates for the loss of revenue due to the elimination of the sales tax. Scenarios 2 and 4 are lower for inflation, unemployment, public debt to GDP, poverty, and inequality. Net consumption expenditure (income minus taxes, minus savings) falls for all quintiles in all scenarios but by

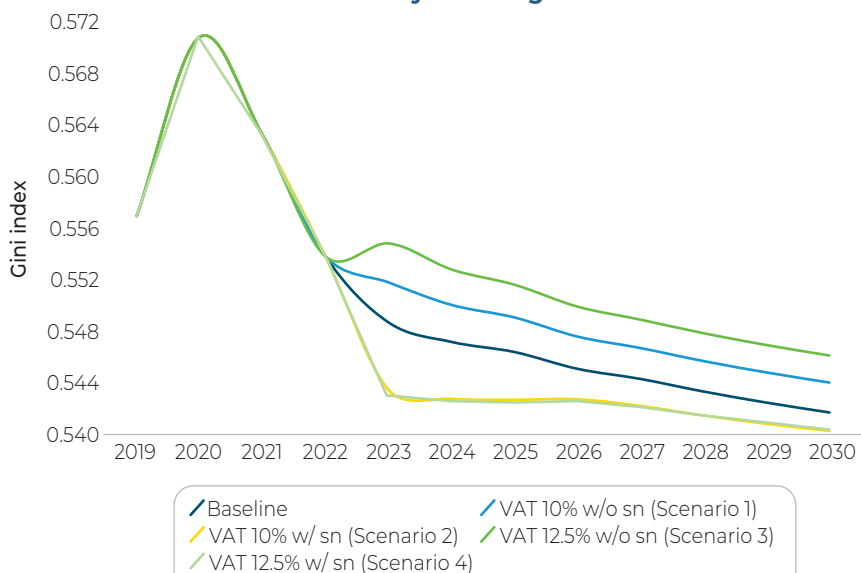
differing amounts. The required increase in the safety net to mitigate the impact of VAT on poverty levels is 0.65 percent of GDP per year.



Source: Authors' elaboration.



Source: Authors' elaboration.

FIGURE 9.18**Suriname: Projected Impact on Income Distribution of a Social Safety Net Program**

Source: Authors' elaboration.

Note: In the legend, "w/ sn" = with safety net and "w/o sn" = without safety net.

Conclusions and Future Outlook

The COVID-19 crisis had a significant impact on economic activity and transformed the fiscal outlook in Barbados and, more broadly, throughout the Caribbean's tourism-dependent economies. As the pandemic was ending, there was still massive uncertainty about the path of the pandemic, the economy, and public finances in the following years.

The only certainty when the pandemic first impacted these countries was that fiscal deficits would rise due to increased COVID-19 expenditure and decreased revenue due to the combined effects of supporting tax measures and reduced economic activity. Thus, public debt would have been higher. In addition, this situation was expected to exacerbate two existing problems. First is the composition of public expenditure: specifically, high current expenditure with low capital expenditure. Countries could shift their public spending away from the less urgent but more profitable capital expenditure projects. Second, governments could turn to state-owned enterprises (SOEs) for funds, worsening the SOEs' already bad finances. These effects would have been more significant the longer the crisis remained and would accentuate another existing problem, namely the unsustainability of the financial situation of SOEs. In this

vein, Reyes-Tagle et al. (2020, 2022) suggest that there is an opportunity to rationalize SOEs and keep only the most productive ones in the medium term.

Gaspar and Mauro (2020) argue that the pandemic profoundly affected taxation. With lasting implications, COVID-19 was expected to change tax policy and administration in at least three critical ways. First and most immediately, taxation played a role in the crisis's early stage through "lifeline" measures where vulnerability to COVID-19 and its economic impact was significantly different across social groups, with the lower socioeconomic strata suffering disproportionately. This uneven playing field provided an additional argument for progressive taxation. In the same vein, large taxpayers' aggressive tax minimization (avoidance)—however legal it may have been—would have become even more intolerable to society. Second, as the world's economies recovered, regardless of which scenario might have unfolded, taxation would have played a role. Countries were likely to have seen a significant decline in their average tax-to-GDP ratio in 2020, with lasting implications. For example, after the 2008–9 global financial crisis, it took eight years for revenues to recover to their pre-crisis level. Countries with limited fiscal space going into the crisis were hit harder than those with greater flexibility. The latter highlights the importance of mobilizing revenues after a crisis by supporting longer-term tax capacity building. Therefore, strengthening tax administration would have been crucial in addressing immediate revenue requirements and supporting future macroeconomic stimulus to regain growth. Striking the appropriate balance was not expected to be simple. Taxes would play a role in shaping the "new normal." Finally, the pandemic reinforced the need for fundamental reform and building governance capacity as part of the development process. Transparency in this effort is critical.

The Organisation for Economic Co-operation and Development (OECD, 2020) noted that given the uncertainty of how the COVID-19 crisis was expected to unfold, it was too early to develop advice on tax policies for the longer term, but the discussion had begun. Given the unprecedented crisis, the debate at that time was about whether some exceptional measures should have been contemplated. For example, several authors have suggested new revenue sources or modifications to the tax structure, as have been implemented after significant wars or other fiscal problems (Guvenen et al., 2019; Saez, Zucman, and Landais, 2020; Mankiw, 2020). These authors noted the significant political-economic challenges of such measures, but there was evidence that introducing new taxes would be less complicated during major policy reforms as countries strove to increase their tax-to-GDP ratios. For example, carbon pricing tax measures combine revenue-raising objectives with a more fundamental, long-term structural reform. Reforms of the prevailing tax structure could be considered

anew, such as base broadening and tackling inefficient tax expenditures. Rising pressure on public finances could strengthen the push for effective minimum taxation of micro and small enterprises. Increased revenue needs were seen as prompting investments in strengthened tax administrations. The COVID-19 crisis also called for assessing the required changes in tax administration. These tasks became more complicated due to the rise in worldwide inflation, the latter partly due to the supply shock derived from COVID-19 and the Ukrainian war.

Another common conclusion of the COVID-19 pandemic, which prompted social distancing, was the desirability of upgrading digital financial services. Digital financial services facilitate social distancing; they allow governments and banks to disburse (and collect) funds by enabling many households and firms to rapidly make and receive online payments from anywhere. Digital financial services were seen as being quickly scalable and very beneficial in supporting the observance of appropriate COVID regulations and safeguards. In particular, these efforts to ramp up digital financial services were seen as a means to avoid increasing existing divides across users. The latter issue is discussed in the next chapter.

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Leapfrogging the Inherited and Emerging Challenges of the Tax System

The countries in the Caribbean region are at different stages in reforming their taxes. Nonetheless, to enhance the transparency, equity, and efficiency of their tax systems, improve competitiveness, and simplify their administration, a comprehensive tax reform, to a greater or lesser extent, still needs to be on the agenda for all Caribbean countries.¹³¹ Many countries still have low effective tax burdens but high statutory tax rates. The narrow tax base is partly due to a complex system of exemptions, incentives, deductions, allowances, and discretionary waivers: tax expenditures compounded by a large informal sector. Reform implies enlarging the tax base by reducing tax expenditures (including the informal sector), changing statutory rates, and strengthening tax administrations and customs.

The road to improvement is relatively straightforward and can be followed if a political commitment to reform and public buy-in can be obtained.

¹³¹ Despite its far-ranging reforms, Jamaica's work is not yet completed. With a second round of reforms its tax revenue could still be increased and its tax expenditures decreased. Furthermore, the country has not yet hit the ceiling in terms of electronic administration and in fully meeting the challenges of the digital economy. Nonetheless, it is a case study of what can be done. What was once an extremely distortionary tax system full of exemptions and incentives is now simplified, generating more revenue from taxes levied at lower rates but on a broader base and with a majority of returns filed electronically. These results were accomplished in a few years of dedicated political and technical effort.

On this road, tax reform should pursue four objectives: (i) broaden the tax bases; (ii) reduce statutory rates and tariffs consistent with a responsible fiscal situation; (iii) simplify the tax system—including reducing tax expenditures—to facilitate compliance, enforcement, and transparency; and (iv) strengthen tax administration. Pursuing these objectives is aligned with the overarching goal of increasing tax revenue to obtain the primary fiscal balances necessary to reduce public debt while simultaneously creating a pro-growth-with-equity tax policy environment.

Partial and Dilatory Reform in the Face of Major Challenges

Why did Caribbean countries not reform their tax systems in the aftermath of the global financial crisis in 2008? Since that crisis and the international commodity crisis in 2011, the region's tourism- and commodity-dependent countries have all suffered large, unsustainable fiscal imbalances leading to high and growing public debt. The countries have also incurred sizable current account deficits in their balance of payments and have low foreign reserves (i.e., low policy buffers). Nonetheless, none of these countries has reformed their taxes (except Jamaica, albeit belatedly and partially during 2013–15).¹³²

This pattern contrasts with the reforms undertaken in many developed countries after the global financial crisis in 2008 (IMF, 2013, Table 9). From 2010 to 2013, most of these countries changed the base or the rate for personal income tax (PIT), value added tax (VAT), and excise taxes. Fewer countries increased corporate income tax (CIT), social security contributions, and property tax. As noted in IMF (2013), most (74 percent) of the 27 countries changed excise rates. The latter was followed by changes in PIT, with 56 percent of the countries changing both base and rate. The third most frequent change was regarding VAT, with 48 percent of countries changing their rates and 30 percent changing their base. CIT and property tax were less frequently changed.

Possible tax reforms can be considered on a continuum of initiatives ranging from comprehensive to piecemeal approaches. Comprehensive reform reduces the inequities, complexities, and inefficiencies of the entire tax system, including tax administration and customs. The piecemeal approach involves minor changes to the tax code. Jamaica is an example of a comprehensive reform where most tax codes were rewritten, transparency increased, tax expenditures reduced, and tax and customs administrations strengthened. Suriname is at the other extreme of the reform continuum, where no change has been made to

¹³² The following paragraphs draw upon the IMF's Article IV reports over the years mentioned for the respective countries.

its tax code and administration. The Bahamas and Barbados are between the extremes in terms of extent and types of tax reform.

In the case of Suriname, tax reform was not undertaken despite the country having suffered a significant drop in tax revenue as the international commodity boom ended in 2017. The ratio of tax revenue to GDP almost halved, falling from 20 percent in 2013 to 11 percent by 2017, mainly reflecting a fall in commodity-based revenue from 11 percent in 2012 to 5 percent in 2017. In late 2015, the authorities launched an adjustment program supported by a 24-month International Monetary Fund (IMF) Stand-By Arrangement (SBA). The SBA was approved in May 2016 but was suspended after the first quarter review in August 2016 and was officially canceled by the government in 2017 (CEPAL, 2017), essentially because the adjustment measures envisaged were not implemented and were repeatedly postponed. For example, the enactment of VAT was delayed until 2021; instead, the authorities resorted to debt financing. To accomplish this, the State Debt Law was modified in 2017 to bypass the statutory 60 percent of GDP ceiling temporarily, and in 2019, the ceiling was effectively increased to 90 percent of GDP. By 2017, gross public debt had reached 77 percent of GDP. The wait-and-see reaction of the authorities was based on expectations of a recovery of commodity revenue and a possible increase in revenue from the discovery of oil fields.¹³³

Barbados is another example of procrastination but to a lesser extent than Suriname. In 2011, the country's VAT rate increased from 15 percent to 17.5 percent for 18 months as a temporary measure; it was made permanent in 2012. However, that year, the VAT rate for tourism was reduced from 8.75 percent to 7.5 percent. In 2014, a new semi-autonomous tax agency, the Barbados Revenue Authority (BRA), was "established as a statutory corporation after the merger of four government departments. Inland Revenue and Land Tax Departments, the Value Added Tax (VAT) and Excise Divisions of the Customs and Excise Department" (BRA, n.d.). Customs and excise departments were to be integrated in 2013, but this was postponed. In FY 2015/16, several measures were enacted to raise revenue by about 2.3 percent of GDP. These included (i) a new surcharge (higher VAT rate) on mobile phones, (ii) an increase in land tax, (iii) a narrowing of VAT exemptions and the imposition of VAT on gambling and betting, and (iv) a reduction from seven to five years of carryforwards (i.e., the ability to carry deductions to subsequent fiscal years). In 2017, the National Social Responsibility Levy (NSRL) was imposed (10 percent on all imports and domestic goods).

¹³³ In neighboring Guyana, 14 deep-water offshore oil discoveries have been made by ExxonMobil alone since 2015. Guyana now has more proven oil reserves per capita than any other country. In 2020 oil and gas were first discovered in Suriname, and by 2024 reserves were estimated at 2.4 billion barrels (Slav, 2024).

In 2018, under the auspices of a four-year Extended Arrangement of an IMF Extended Fund Facility (EFF) program, Barbados began a comprehensive reform. In December 2018, the CIT was reformed (to comply with OECD-cum-EU requirements) with a single rate applied to all companies registered in Barbados, implying a reduction in the rate used for domestic firms and an increase in rates for foreign firms. Simultaneously, the NSRL was eliminated. Reforms set in motion during FY 2018/19 include introducing new taxes (airline travel fees, room levies, a new fuel tax, and a new health service contribution). A broadening of the VAT base and the land tax, implemented in March 2019 in the FY 2019/20 budget, also raises revenue.

The Bahamas is an example of implementing some reforms, including introducing VAT, but no comprehensive tax reform. In 2008, an excise tax on imports was enacted to partially compensate for the revenue fall from tariff reductions. In FY 2010/11, the following taxes were increased: (i) excise taxes on vehicles, except for hybrids; (ii) air and sea departure taxes and taxes on hotel rooms; (iii) domestic beer; (iv) stamp tax on real estate transactions; and (v) stamp tax on bank transactions and annual fees payable by retail banks. In 2015, VAT was introduced at a 7.6 percent basic rate with few exceptions, and the hotel occupancy tax was eliminated. In 2018, the VAT basic rate was increased to 12 percent; simultaneously, zero-rating was introduced for several commodities, and there were modifications to gambling and stamp duties. Also in 2018, the Fiscal Responsibility Law (FRL) was enacted, including rules to guide fiscal policymaking. The FRL establishes three rules: (i) a ceiling on the overall budget deficit set at 0.5 percent of GDP, (ii) a ceiling on the annual growth rate of current expenditures set at the long-term nominal GDP growth rate once the budget deficit target is met, and (iii) a ceiling on government debt set at 50 percent of GDP (to be met by FY 2024/25). There is a transition period during which fiscal consolidation efforts will gradually bring down the overall budget deficit to the target of FY 2020/21.¹³⁴ The rules do not specify the tax-cum-expenditure mix required to meet the budget ceiling.

On the spectrum of tax reform, Jamaica lies at the comprehensive reform end. The country was hit hard by the 2008 global financial crisis; the decrease in export income (from tourism, bauxite, and remittances) led to twin fiscal and external crises. Economic contraction set in. Consequently, Jamaica embarked on a stabilization-cum-reform plan after a failed start in 2010. It successfully implemented reforms under the auspices of an IMF EFF program (from May 2013 to March 2017)

¹³⁴ During the transition phase, the budget deficit cannot exceed 1.8 percent of GDP in FY 2018/19 and 1.0 percent of GDP in FY 2019/20. Considering uncertainty in macroeconomic forecasts, the FRL provides for a compliance margin of 0.5 percent of GDP in any given fiscal year, including the transition period.

and the Inter-American Development Bank (IDB) Fiscal Structural Program for Economic Growth (FISPEG) series of three policy-based loans (PBLs) complemented by the Fiscal Administration Modernization Program (FAMP) operation that reinforced the institutions responsible for tax and customs collections. The primary tax policy reform broadened the tax base and reduced top tax rates and expenditures. Tax expenditures had been 8.7 percent of GDP in 2008 and were reduced to 3.4 percent by 2015. The broadening of the tax base allowed an offset of the CIT rate from 33.3 percent to 25 percent and the reduction of the primary general consumption tax (GCT) rate from 17.5 percent to 16.5 percent. Removing many tax expenditures has lessened the distortionary effects of various incentive laws and discretionary waivers. The country started publishing an annual tax expenditure report, the first Caribbean country to do so (Ministry of Finance and the Public Service, 2017). The reform also included policy reforms that strengthened Tax Administration Jamaica (TAJ) by (i) unifying the domestic tax administration, (ii) vesting the necessary legal and administrative powers in the TAJ Director-General instead of the respective commissioners of each department, (iii) expanding the Large Taxpayer Office, (iv) facilitating compliance through streamlined procedures, and (v) developing an interface between the information technology (IT) systems for domestic taxes and customs to exchange information between departments. Minor adjustments have continued to be made since then.

Political Commitment and Public Buy-In

So why procrastinate when the road to tax reform is relatively straightforward? The critical question for tax reform in the Caribbean is not necessarily whether to reform but whether to adopt an incremental or big-bang approach. It has long been held that small, gradual changes—the incremental approach—in the tax system are best, in the sense of being the politically viable option. Deciding which approach to take is essentially a political decision, and the Caribbean countries typically take the incremental route as the most politically expedient one.

International empirical evidence is ambiguous on what determines the best scope and timing of reform. Studies accept that a reform's economic and political costs may well diverge depending on whether political constraints, often imposed by powerful lobbies, are weaker or more robust over the economic and political cycles. Concerning the economic cycle, it is unclear whether political constraints are amplified during crises relative to "normal" times or whether crisis times offer an opportunity for reform because the urgency to solve the crisis facilitates political agreement among different actors. Regarding the political constraints, the problem is that not all tax reforms necessarily produce clear winners and losers. It is difficult for policymakers to quickly implement the most

efficient reform that also includes a compensation mechanism for the losers. Weingast, Shepsle, and Johnsen (1981) explain the persistence of tax inefficiency as a divergence between economic and political costs and benefits.

Nonetheless, conventional wisdom is that tax reforms are most straightforward to undertake in good times, when rising revenues can compensate identified losers. However, Brys (2011) argues that crises are conducive to tax reforms because they can reduce opposition. The political business cycle literature (Rogoff and Sibert, 1988; Alesina, 2000) argues that tax reforms' timing and type are related to the electoral cycle; politicians often wait until after reelection to implement reform measures. Alesina and Drazen (1991) argue that stabilization with significant tax increases to reduce a budget deficit results in a "war of attrition" as groups attempt to minimize their cost of reform.

The case of Jamaica in the Caribbean is an example of successful big-bang reform during a crisis and at the beginning of an administration—both the economic and political cycles matter. Chen et al. (2019) note that measures aimed mainly at reducing fiscal deficits and debt are costlier than tax consolidation policies for improving long-term growth prospects. Electoral costs are high for broad-based indirect tax and corporate tax reforms because voters tend to penalize governments less if tax consolidations are announced early in the government's term or the government has a strong political mandate. In Jamaica, after some procrastination, the country embarked on a stabilization-cum-reform agenda in 2010 during the last year of the Jamaica Labour Party (JLP) administration but immediately veered off from the IMF program and lost the election to the People's National Party (PNP) in 2011. After some hesitation, the new PNP administration reinitiated the adjustment program under the auspices of an IMF EFF program (2013–16) followed by an SBA (2016–19), both of which were reinforced by complementary IDB policy-based programs as noted above. These parallel operations supported the successful implementation of Jamaica's structural reform program. The PNP lost the election in 2016 to the JLP, which nonetheless continued to meet the IMF program's benchmarks.

Inherited Problems

Caribbean tax systems have low effective tax rates but often high statutory tax rates. The low tax base is partly due to a complex system of tax expenditures via exemptions, incentives, deductions, allowances, and discretionary waivers. The low tax base is accentuated by the sizable informal economy in the sense of "ghosts" (firms and individuals who should register for tax purposes but do not and therefore remain unknown to authorities) or "icebergs" (taxpayers who are registered with tax authorities but underpay). Reform implies increasing the

tax base by reducing tax expenditure, extending taxes to the informal economy, revisiting statutory rates, and strengthening tax administrations and customs.

From a macroeconomic perspective, there are problems derived from the inadequate tax revenue and the poorly designed composition of tax revenue. When the level of tax revenue is too low, tax efforts must increase such that, combined with reduced government expenditure, a sufficiently large primary surplus can be generated to reduce public debt. An inappropriate composition of tax revenue implies that the public sector acts as a shock amplifier rather than a shock absorber and has low tax buoyancy; hence, public expenditure is not self-financed.

Reforms to tackle the inherited problems would include the following (IMF, 2013, Table 8):

- Expand the VAT base before raising standard rates.
 - Strengthen and use the social safety net transfer system to protect the most vulnerable as needed rather than establish VAT rate differentiation that is often rationalized by distributional concerns.
- Seek opportunities to broaden the PIT base.
 - The first step is quantifying all tax expenditures and recognizing that increased inequality calls for increased progressivity, implying policies that pursue higher marginal effective tax rates. Exemptions and deductions remain significant in many countries. Their cost should be transparent; raising effective rates can strongly affect incentives and avoidance activities.
- Social security contributions should not be increased; instead, combining a cut in the contribution with an increase in consumption taxation—a fiscal devaluation—should be considered (De Mooij and Keen, 2013). A fiscal devaluation can increase net exports with a fixed exchange rate by reducing the foreign currency price of exports and increasing imports' relative domestic consumer price.
- For the CIT, tax expenditures should be reviewed and quantified to avoid further inappropriate base erosion and pressure to cut statutory rates and reduce the tax bias toward debt finance.
- Increases in property taxes should also be considered, especially recurrent charges on residential properties, while simultaneously scaling back property transaction taxes.
- Weak tax administrations are a key inherited problem in most countries. This weakness is partly due to legal constraints on tax enforcement such as the absence of power to establish mandatory filings and tax payments and to regulate e-notifications, and the lack of power to seize delinquent

taxpayers' assets including bank accounts. The legal framework governing taxes needs to be changed.

Preparing and filing tax returns is just one part of tax compliance (as discussed in Chapter 3). After tax filing, concerns include the time to request and obtain VAT refunds and to correct corporate tax returns. With the rise in VAT as an essential revenue source, auditing VAT refund claims has become important. Hence, efforts should be concentrated on methods for identifying fraudulent claims. In addition, coordination with the customs authority needs to be enhanced while simultaneously increasing the practicality of VAT refund procedures and the disbursement of refunds to exporters. Similarly, CIT corrections need to be expedited. These are suitable indicators for evaluating the efficiency of tax administrations and they are measured by the World Bank's Doing Business surveys. Survey values for Caribbean countries and comparator countries are given in Figure 10.1. As can be seen, Jamaica does poorly in these indicators, suggesting further reform in tax administration is needed. The Caribbean, in general, underperforms relative to the rest of the small economies (ROSE) averages. Technology may be part of the solution.

Emerging Problems and Opportunities

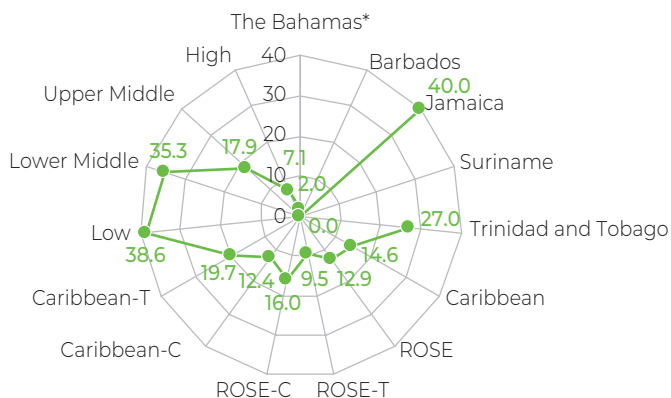
In the immediate future, changes in technology will present additional challenges and opportunities for both tax policy and its administration. Tax laws and administrations may have to move beyond incremental changes to meet these challenges. Instead of using existing tools and administrative structures, a more fundamental overhaul of current systems, exploiting the latest technologies, should be considered. This "leapfrogging" over current systems would tackle both the inherited problems and the emerging challenges derived from changes in the economy. New patterns and business models pose additional tax policy and administration problems and call for new solutions. Specifically, these changes must accommodate digital transactions and platforms, the gig economy,¹³⁵ automation, the explosion of digital data, cyberattacks, and global trade shifts from goods to services.

¹³⁵ "The term 'gig economy' indicates a labour market characterised by the prevalence of short-term and often non-standard contracts or freelance work as opposed to permanent jobs and standard labour contracts. The term 'sharing economy' refers to a market in which assets or services are shared between private individuals, either for free or for a fee. Both the gig economy and the sharing economy have become increasingly prominent as a result of digitalisation, and in particular, the use of the Internet, which has allowed a rapid expansion of such activities on a global scale" (OECD, 2018: 8).

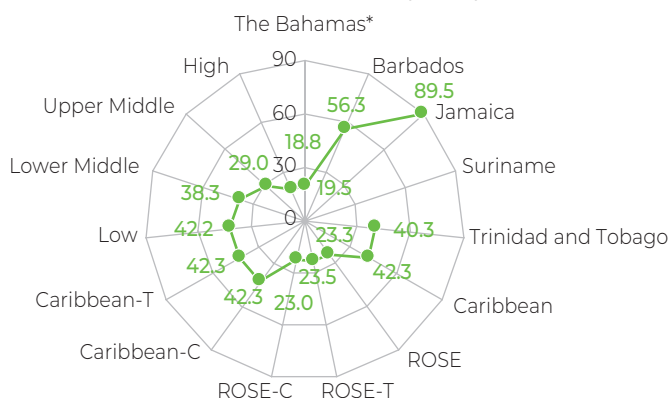
FIGURE 10.1

Ex Post Tax Administration's Efficiency in Selected Countries

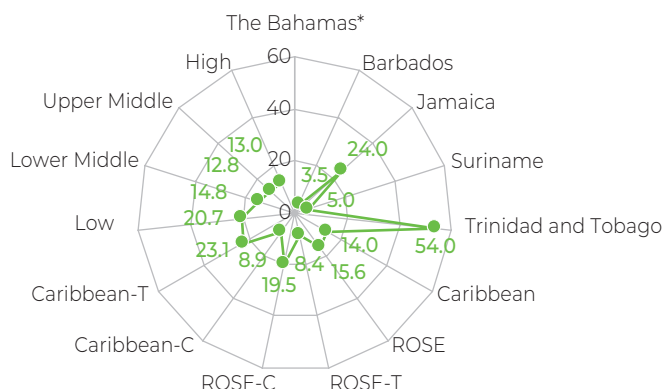
Time to Comply with VAT Refund (hours)



Time to Obtain VAT Refund (weeks)



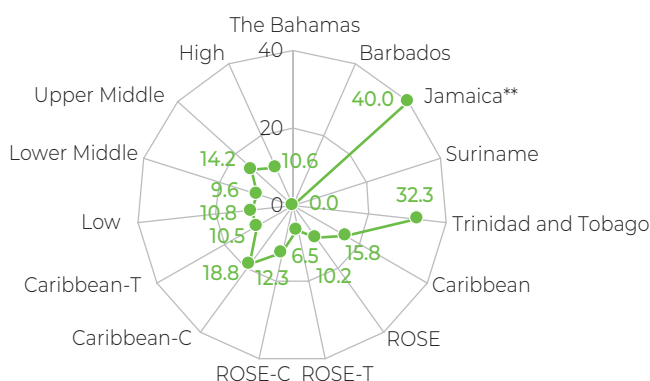
Time to Comply with a Corporate Income Tax Correction (hours)



(continued on next page)

FIGURE 10.1 Ex Post Tax Administration's Efficiency in Selected Countries *(continued)*

Time to Complete a Corporate Income Tax Correction* (weeks)



Source: Authors' elaboration based on World Bank (2020).

Note: Doing Business 17–20 methodology: The score for paying taxes is the simple average of the scores for each of the component indicators, the payments, time, and total tax and contribution rate for a company to comply with tax laws in an economy, as well as the post-filing procedures to request and process a VAT refund claim and to comply with and complete a CIT correction.

* The Bahamas does not levy corporate nor personal income tax. There is no information available for Suriname.

** The value for Jamaica is 113.3 but was capped at 40 for presentation purposes.

The Organisation for Economic Co-operation and Development (OECD, 2018) identifies three critical technological changes and new business models that imply tax base erosion and profit shifting (BEPS).¹³⁶ The first is the change in the cross-jurisdictional scale without mass. Digitalization allows businesses to locate different stages of their production processes across various countries and simultaneously access more customers worldwide. Thus, digitalization enables some enterprises to be critical players in a jurisdiction's economic life without physical presence, thereby achieving a local operational scale without local mass. This is a problem because tax laws in the Caribbean are still based on the physical location of the taxpayer, while new business reliance is on intangible assets, including intellectual property (IP) which can be, and often are, located across multiple countries and their corresponding tax jurisdictions. Second, digitalized enterprises are characterized by the intense investment in intangibles, where assets such as software and algorithms supporting platforms and websites are directly owned or leased from third

¹³⁶ BEPS involves reallocation of income and expenses between related corporations or branches of the same legal entity (e.g., by using transfer pricing) in order to reduce the overall tax liability of the group or corporation. This is a particular problem for tourism-dependent countries, but Caribbean countries do not have policies to address it.

parties.¹³⁷ Third, digitalized businesses are essentially characterized according to how and by whom their data are used (e.g., customer participation, network effects, and user-generated content). The benefits from data analysis are also likely to increase with the amount of collected information that is linked to a specific customer. The vital role of user participation is seen in social networks, where new businesses would not exist without data, network effects, and user-generated content.

These changes in technology and business models represent opportunities for tax administrations that go beyond digitizing invoices or the tax filing process. The digital transformation of tax administration could solve the inherent problems of a system that is out of date, filled with loopholes, and hard to enforce fully. Digitalization represents an opportunity to exploit the mountains of data that tax administrations now administer or that they could access from third-party sources. Table 10.1 lists some activities that can be digitized and the countries that have adopted them, in contrast to the Caribbean, where there is little to no digital activity.

TABLE 10.1

Digitalization of Tax Administrations around the World

Level 1 E-Filing	Level 2 E-Accounting	Level 3 E-Match	Level 4 E-Audit	Level 5 E-Access

Activities That Can Be Digitized				
Use of standardized electronic forms for filing tax returns required or optional; other income data (e.g., payroll and financial) filed electronically and matched annually	Submit accounting or other source data to support filings (e.g., invoices and trial balances) in a defined electronic format according to a defined timetable, frequent additions, and changes (i.e., on an ongoing basis rather than just annually)	Submit additional accounting and source data; the government accesses other data (bank statements) and begins to match data across tax types and potentially across taxpayers and jurisdictions in real time	Level 2 data is analyzed by government entities and cross-checked with filings in real time to map the geographic economic ecosystem; taxpayers receive electronic audit assessments with limited time to respond	Government entities use submitted data to assess tax without needing tax forms; taxpayers are allowed a limited time to audit and challenge government-calculated tax

(continued on next page)

¹³⁷ “An online platform may not always have access to all of the relevant information [to carry out a given transaction]. Other third parties, e.g., payment service providers, may also hold relevant information about transactions facilitated by a platform” (OECD, 2018, endnote 3).

TABLE 10.1 Digitalization of Tax Administrations around the World
(continued)

Level 1 E-Filing	Level 2 E-Accounting	Level 3 E-Match	Level 4 E-Audit	Level 5 E-Access
Countries That Have Adopted the Respective Activities				
Albania, Bosnia and Herzegovina, Croatia, Kenya, Macedonia, Montenegro, Netherlands, Nigeria, Qatar, Saudi Arabia, Serbia, Slovenia, Sweden, Switzerland, Ukraine	Austria, Belgium, Finland, Germany, Greece, Italy, Lithuania, Luxembourg, Norway, South Africa, United Kingdom	Australia, Brazil, Czech Republic, Denmark, France, Hungary, India, Ireland, New Zealand, Poland, Portugal, Slovakia, Turkey	Russia	Belgium, Denmark, Estonia, Spain

Source: EY (2017, 6).

Note: Not all governments collect the same information or treat it the same under this model. Further, the move to digitization is not necessarily linear.

Barnay et al. (2018) and ACCA (2018) argue that tax administrations need to be radically different from today's to meet the challenges of tomorrow. Technological changes facilitate systematic filing and payment in a risk- and error-free environment and smooth back-end operations. Taxpayers may not even need to contact tax administrations anymore, which would address a significant complaint of Caribbean taxpayers about the poor in-person service that they receive. Tax administrations must leapfrog over incremental changes using existing tools and functional administrative structures and begin changing their approaches to various operational tasks to incorporate these technologies. Specifically, Barnay et al. (2018) point to three areas of opportunity for leapfrogging that technology represents for tax administrations: (i) digitizing interactions with taxpayers, (ii) advanced analytics, and (iii) process automation.

Concerning digitizing interactions with taxpayers, there are two opportunities: (i) service differentiation and (ii) an integrated view of the taxpayer. In the case of service differentiation, digitizing facilitates mapping taxpayers' service experiences with the tax administration across communication channels and applying analytics to identify time-consuming interactions. With this knowledge, tax administrations can devise more customized digital channels to address customer wants and needs. Thus, they can rapidly identify the root causes of taxpayers' dissatisfaction and resolve them more expediently and efficiently. Second, an integrated view of the taxpayer involves implementing an integrated account-management system, which is a necessity for digitizing

large volumes of taxpayer interactions. The tax authorities must create central digital workflows across departments such as processing, audit, and collections to build an integrated view of the taxpayer. This integration improves taxpayer experience because the tax administration's representative can simultaneously see and resolve multiple issues, including some that the taxpayer may not have raised. In addition, integration provides tax authorities with efficiency gains: administrative workers who were previously assigned to a single function can also resolve other issues.

Table 10.2 summarizes the increased data requirements underlying the digitization of tax administrations' activities.

The second of Barnay et al.'s (2018) leapfrogging areas, advanced analytics, represents an opportunity to transform how tax administrations carry out examinations and debt collections. Advanced analytics can be used to create early-warning systems and practice extreme modeling to segment taxpayers, prioritize investigations, and choose the appropriate examination approach. This represents a shift to using a "light touch" rather than performing full audits. Early-warning systems use an advanced model drawing on information regarding VAT, income tax, social security contributions, and other datasets to create a comprehensive profile of taxpayers. These enhanced profiles enable the tax authority to identify those at high risk of insolvency and proactively address these situations to reduce tax losses in debt collection. Extreme modeling is a means by which tax administrations identify taxpayers for audit. This involves using machine learning to build an algorithm to determine the best-predicting

TABLE 10.2 Data Requirements for the Modern Tax Administration

Master Data	Transactional Data	Operational Data	Financial Data
Taxpayer information	Invoice details	Foreign trade operations	Accounting statements (income, cash flow, balance sheet)
Vendor details	Details of relations with third parties (banks, financial intermediaries, brokers)	Profit-sharing data	General ledger
Banking information	Intra-company transactions	Capital contributions	Statutory chart of accounts
Broker details	Customs details	Electronic signatures	
Tariff rates	Banking transactions	Tax losses	
Tax rates	Import details and customs payments	Blacklisted suppliers	
Foreign exchange rates			

Source: EY (2017).

factors for a successful audit. The improved case selection avoids unproductive audits, and the cases selected have higher returns. However, these techniques do raise concerns about privacy and government overreach.

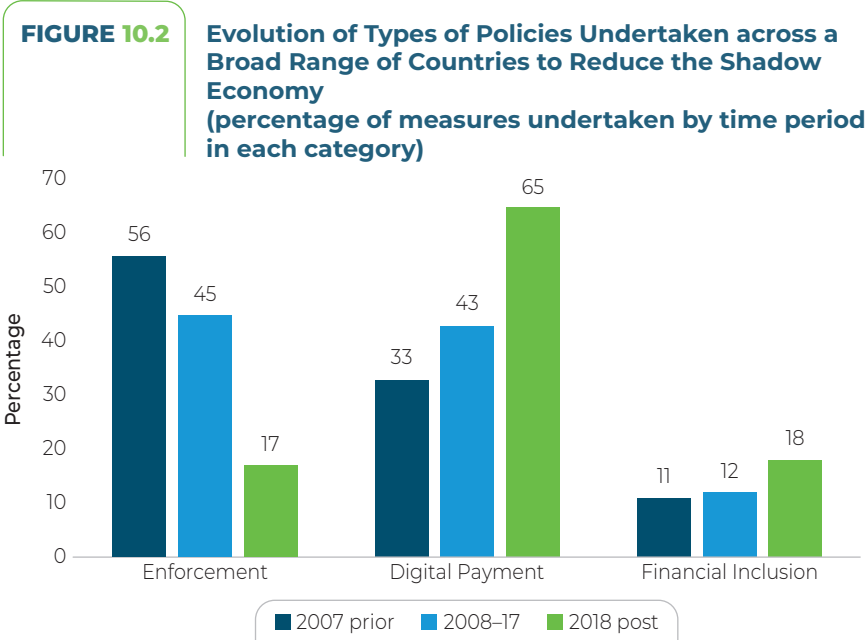
Implementation of Barnay et al.'s (2018) third area of opportunity, process automation, has been underway for decades in many tax administrations worldwide and is still ongoing. It includes e-filing, automatic data checks, automatic reminders, call center interactive voice response, and other activities. Advances in analytics and machine learning combined with robotic process automation have generated new capabilities that significantly increase tax administrations' productivity. These processes apply IT and digital technology to automate critical stages of tax administrations' operations, including compliance processes that offer prepopulated and self-corrected returns and integrate taxpayers' accounts across various products and situations. They also use automation to process inbound inquiries from taxpayers and automatically tag them by issue.

Of course, taxpayers also have access to technology that enables them to reduce tax liabilities, and this requires tax administrations to stay one step ahead technologically (OECD, 2017). Two issues—sales suppression (i.e., under-reported revenue) and false invoicing (i.e., over-reporting deductions)—illustrate this problem for tax administrations.

Traditionally, sales suppression was achieved by taking cash straight out of the till and editing the accounting books. These days, there are two main electronic sales suppression tools in use: phantom-ware and zappers. Phantom-ware is software installed as part of the sales register. It allows a program to operate on the sales register and alter the data that has been recorded. The program, accessible through a hidden menu and available only to the business owner, is used to manipulate sales records after the transaction. A zapper is an external device or program accessed online that can be connected to the cash register. It allows the manipulation of transaction records similar to how phantom-ware operates. Both allow sales amounts to be replaced with lower figures, reducing the recorded value of overall sales and the corresponding tax liability. Because of their concealed nature, these rogue cash registers are difficult for tax auditors to detect. Data recording technology is the most common counter-suppression tool to address electronic sales suppression. This tool records and secures the sales data the moment the transaction occurs and stores it in tamper-proof files. It can also automatically send data from cash registers to the tax authority's data server systems. The tax authority can then access the data for compliance and audit purposes. A country's legal framework would need to be changed to implement this solution (e.g., approval of new legislation to require the production of electronic invoices for every transaction and the use of data recording technology or a cash register that satisfies the specified standards, including privacy issues).

On the input (purchases) side, false invoicing is when a business fabricates or inflates invoices, thus fraudulently claiming expenses as legitimate deductions to reduce tax liability. Tax administrations could verify the validity of each invoice by comparing it to the records of the counterparty to the transaction, as is often done for VAT, but this process has traditionally been time consuming and resource intensive. Now, the detection of over-reporting of deductible expenses can be achieved by automatically matching the data for the purchaser and seller. Where this is adopted, tax administrations enhance their knowledge about taxpayers and can perform audits, analytics, and tax return functions efficiently. Implementing this solution requires legislation stipulating electronic invoicing, supported by penalties for failure to comply, and legislation allowing the tax authority to access third-party data to match payment flows to taxpayers.

An inherited problem that may be ameliorated by promoting digital technology is the large informal sector. In addition to the simplification of tax regulations, policies to reduce the size of the informal sector include enforcement measures (i.e., punishing participants in the shadow economy), digital payment measures (i.e., proactively stimulating engagement in the formal economy), and financial inclusion measures (i.e., promoting access to the formal financial sector) (EY, 2016; Kearney, 2018). Over time, enforcement measures have decreased in many countries, and digital payment and financial inclusion measures have increased (Figure 10.2).



Source: Authors' elaboration based on Kearney (2018, Figure 9).

Some digital solutions to reduce the informal sector are based on enforcement or obligation mechanisms, whereas others provide incentives to consumers or merchants (Table 10.3). They are all essentially directed at reducing cash transactions.

One policy option is to impose maximum cash thresholds above which transactions must be digitally or otherwise recorded (Sands et al., 2017). Since France introduced such a measure, several other countries have implemented measures to reduce the use of cash for large transactions. For example, in 2013, Jamaica prohibited cash transactions above J\$1 million. The government argued that creating a paper trail would facilitate tax collection. Since the measure's adoption, several individuals have been prosecuted for violating the threshold. Variations include eliminating high denomination notes (as India did in 2017) or placing onerous reporting requirements on bulk cash movements (e.g., in the United Kingdom, any business that accepts cash payments of more than €10,000 must register as a High-Value Dealer and carry out anti-money-laundering checks).

The objective of a program of receipt lotteries, where prizes are awarded to consumers who keep their sales receipts, is to reduce the shadow economy by limiting unreported transactions and increasing issuance of receipts in business-to-consumer transactions. Consumers are incentivized to request a receipt

TABLE 10.3 **Examples of Policies and Programs to Enhance Digital Payments**

Policy	Countries That Have Adopted the Policy
Obligation to pay employee wages and salaries electronically	Bosnia and Herzegovina (Republika Srpska), Croatia, Slovenia, Uruguay
Obligation to pay social security benefits electronically	Bulgaria, Croatia, Denmark, Italy, Slovenia, Sweden, Uruguay
Threshold for consumer cash payments [above which payments must be electronic]	Bulgaria, Czech Republic, Slovakia, Slovenia (though in all countries at relatively high levels)
Obligation to possess and use cash registers	Bosnia and Herzegovina, Bulgaria, Croatia, Hungary, Italy, Poland, Serbia, Slovakia, Sweden
Obligation to operate point of sale (POS) terminals	South Korea
Receipt lotteries*	Brazil, Bulgaria, Croatia, Malta, Poland, Portugal, Slovakia, South Korea, Taiwan
Tax incentives for consumers	Brazil (São Paulo), Colombia, South Korea
Tax incentives for merchants	South Korea, Uruguay

Source: EY (2016, Table 3.2).

* Consumers are provided with an incentive (prize) to ask for a sales receipt.

because it implies a free-of-charge ticket in VAT lotteries, giving its holder a chance to win a prize. It is assumed that people will develop the habit over time and thus will continue to demand sales receipts even without such an additional monetary incentive.

Tax incentives to consumers to use digital payments make them financially more attractive for consumers than cash payments. The private sector often uses this option, providing payment card users with special benefits such as discounts, cash-back, or rewards points redeemable for prizes. Financial motivation may be provided by the government, for example, through tax incentives to reduce the tax component of retail prices, such as VAT, provided that a consumer makes a credit or debit card payment at the point of sale. The consequence is a reduction in cash payments, hence a decrease in the size of the passive shadow economy and a concomitant increase in government revenues. An example of this regulation comes from Colombia, where card payment consumers are entitled to a 2 percent VAT rebate.

Tax incentives can also be given to merchants to decrease the cost of accepting card payments; this may stimulate the growth of electronic payments, thus reducing cash payments. The reduction, in turn, would translate into a contraction of the passive shadow economy and a subsequent increase in government revenues. In South Korea, merchant-targeted policies include VAT deduction and income tax deduction programs. Although the latter was abolished in 2011, both gave merchants tax benefits for accepting card payments. The VAT deduction ratio (with a deduction cap) has varied over time and across categories of goods and services. In Uruguay, merchants accept a 2-percentage-point VAT deduction on electronic payments.

Of course, many of the above programs can only succeed in countries with widespread availability of electronic payment terminals. In many countries, consumers' card usage is limited by the number of places where cards are accepted. The cost to purchase or lease point of sale (POS) terminals is high. Widespread adoption via mandatory installation of POS can be enhanced by the government paying 100 percent of the price or sharing the cost with merchants. Tackling the informal market requires a holistic approach—that is, implementing not one measure but all measures simultaneously.

As one can see, digitalization brings a wide range of opportunities to improve the efficiency of the tax system and the experience of taxpayers. However, with great opportunities come significant challenges, and the taxation of new business models brought about by digitalization is one of them. Overcoming these challenges will depend on tax administrations' capacity to absorb disruptive changes. On the one hand, taking advantage of new sources of information in real time and installing tools for their analysis, such as data analytics,

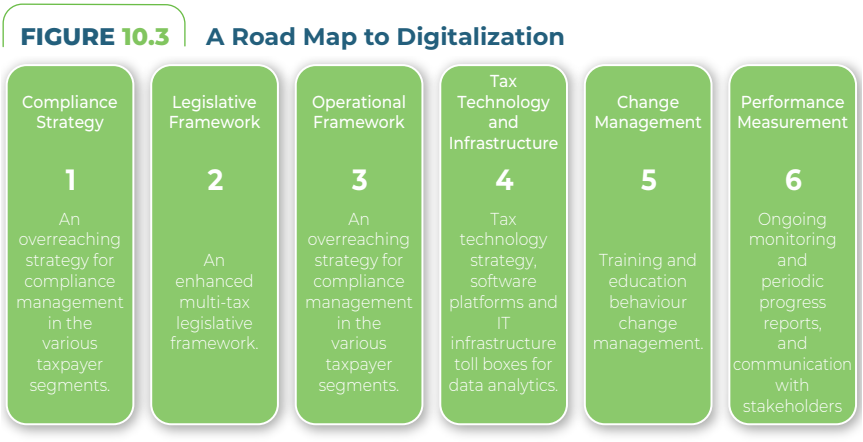
will demand sophisticated technological capabilities from tax administrations. These agencies must be prepared to receive massive volumes of information (typically unstructured), store it, and process it safely.

However, an adequate technological infrastructure will not be enough. Tax legislation must contain the necessary provisions for new forms of monetary transactions (e.g., e-invoicing, e-payments, electronic communication, personal data collection). Further, operational frameworks need to be established to implement them.

For the Caribbean countries, which are at the first level of digitalization (e-filing) shown in Table 10.1 after updating their IT systems in recent years, there is still a long way to go down a path on which they are already behind. The Guyana tax authority has just established its e-facilities for the first time and others like Suriname are on the way to doing so. Although tax agencies in Jamaica use third-party data to cross-check information, their use is still incipient (Reyes-Tagle, Silvani, and Ospina, 2021). Furthermore, as mentioned previously, the region is already lagging in undertaking long-needed reforms. Reform should offer the opportunity to leapfrog and catch up with pending reforms while introducing further necessary changes to take firms on the road toward digitalization. Figure 10.3 provides a road map for Caribbean countries to embark on a successful digitalization process.

Conclusions

Countries in the Caribbean are at different stages in reforming their taxes but comprehensive tax reform is still on the agenda for all countries to a greater or



Source: Microsoft and PWC (2018).

lesser extent. The road to improvement is relatively straightforward and can be taken if political commitment to reform and public buy-in can be obtained. On this road, tax reform should pursue four objectives: (i) broaden the tax bases; (ii) reduce statutory rates and tariffs consistent with a responsible fiscal situation; (iii) simplify the tax system—including reducing tax expenditures—to facilitate compliance, enforcement, and transparency; and (iv) strengthen tax administration.

The critical question for tax reform in the Caribbean is not necessarily whether to reform but whether to adopt an incremental or big-bang approach. It has long been held that small, gradual changes—the incremental approach—in the tax system are best, in the sense of being the politically viable option. Deciding which approach to take is essentially a political decision, and the Caribbean countries typically take the incremental route as the most politically expedient one.

Weak tax administrations also have severe constraints on reform. In part, this weakness is due to legal constraints on tax enforcement such as the absence of power to establish mandatory filings and tax payments and to regulate e-notifications, and the lack of power to seize delinquent taxpayers' assets including bank accounts. On the operations side, the ease of tax preparation and the efficiency and accuracy of processing tax returns after filing must be improved.

The road map presented in Figure 10.3 must be fleshed out as an action plan for each country. Although many problems are common to all Caribbean countries, each country is at a different stage in their reform agenda. Thus, they must prioritize the order in which the issues will be addressed. Hopefully, as elaborated in this book, the discussion of these issues and their resolution will provide the basis for defining an action plan for the respective country.

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Summary and Conclusions

This book provides a comprehensive discussion of tax policy and makes a case for tax reform in the cash-strapped governments of the Caribbean countries. The relationship between taxes, economic growth, the sectoral composition of these economies, their inflation rates, and levels of income inequality and poverty are examined in detail. The book uniquely illustrates the need for and use of a dynamic computable general equilibrium model (DCGEM) in the design of tax reform by simulating the impacts of reform on revenue—both direct and indirect—and other salient macroeconomic variables of policy interest.

The complete gamut of tax policy and tax administration issues in the Caribbean is covered in this book. Heavy emphasis is placed on the pernicious effects of tax incentives, a common feature of tax policy throughout the region that takes several forms including tax holidays, preferential rates, and targeted allowances. Caribbean countries often use the incentives to bid against each other to attract specific, identifiable businesses, almost invariably large firms. The resulting tax expenditures degrade the horizontal and vertical equity of the respective tax systems.

Chapter 2, Caribbean Overview: All That Glitters Is Not Gold, discusses the factors contributing to the region's poor economic performance. We argue that these factors, including taxes, intertwine into a downward negative loop such that the countries are caught in a low-growth, high-debt situation. Their steadily worsening economic performance provides evidence that the early post-independence economic development model of tourism and tax havens as motors of growth is no longer working. Per capita incomes, which were converging toward those of advanced countries until the mid-1990s, have stagnated. The proportion of the population that is impoverished is greater than expected at these stagnating levels.

Adverse external shocks buffet the countries, which are made all the more vulnerable by their macroeconomic imbalances (the twin deficits of the fiscal and current account of the balance of payments) and high public debt burdens. As a result governments typically do not have adequate policy buffers in place to mitigate the shocks.

The downward feedback loops between these factors have hurt growth and hindered these economies from benefiting from globalization and technological progress. The countries' inadequately diversified economies (i.e., their high concentration in a few exports and export markets) underlie the structural factors contributing to stagnation and high volatility. Tax expenditure policies have exacerbated this market concentration, locking the countries into limited economic structures and unfriendly business environments that prevent a dynamic private sector from forming. Weak institutional structures seem geared not to the public interest but to special interest groups and elite members, often granting them favorable tax incentives. In turn, the favored groups gain strength in these politically stable societies. The rent-seeking behavior of these often-stagnant sectors eventually reduces the efficiency of the economies in which they operate.

Chapter 3, *Taxes: Common Problems*, explores the interplay between tax policy and tax administration; in particular, it covers the shadow economy, the perverse effects of tax expenditures, the inadequacy of tax administration, amnesties, and international tax issues. These common problems exacerbate the negative feedback loops outlined in Chapter 2.

Numerous deficiencies in tax policy and tax administration plague the region. Revenue bodies in many countries operate under outdated institutional frameworks that need new laws and tax codes that could speed up the process of enforcing tax collection without risking taxpayers' rights. Legal reforms that allow the administration to use modern technologies (which taxpayers are already taking advantage of) are also highly desirable.

Because of these deficiencies, many firms and individuals do not pay taxes or severely underpay. This noncompliance takes the form of "ghosts" (firms and individuals who should register for tax purposes but do not and therefore remain unknown to authorities) or "icebergs" (taxpayers who are registered with tax authorities but underpay). These two groups compose a large portion of the shadow economy, accounting for approximately one-third of the total GDP in each country. This shadow economy worsens the negative feedback loops when adverse external shocks confront the countries. The typical response to a shock is to increase tax rates and introduce distortionary taxes, increasing the tax burden on taxpayers. This increased burden provides an additional impetus for firms and individuals to fly under the radar; hence, the informal economy grows,

consequently reducing tax revenue, increasing rates for taxpayers, and reducing government revenue in the medium term, a shortfall that lowers the quality of public services and slows economic growth.

Tax expenditures adversely affect the fiscal systems' transparency, efficiency, and equality without the expected positive effect on the economy. They also make the tax system less transparent and more difficult to administer. Further, particularly in the Caribbean, they are often directed at stagnant sectors, thereby locking in low economic growth. The legal framework typically does not provide specific criteria for granting concessions or detailed procedural rules for such decisions. The case-by-case decision process has several negative consequences. It leaves investors who are not beneficiaries of the concession troubled about unequal treatment and leaves the government open to charges of favoritism. The case-by-case process also weakens the government's position when negotiating the terms of a concession. In short, tax expenditures have seven main drawbacks: they (i) reduce the tax base, (ii) are less transparent than direct subsidies, (iii) encourage corruption, (iv) create horizontal inequities, (v) can worsen income inequality, (vi) reduce domestic competition, and (vii) are not necessarily effective in attracting foreign direct investment (FDI).

Tax administration affects yield, incidence, and efficiency; thus, "tax administration is tax policy" (Casanegra de Jantscher, 1990, 179). The tax authorities in the Bahamas and Suriname are still organized by tax type, but all other Caribbean tax administrations have integrated direct and indirect tax operations and have structured the organization according to function. They have also adopted a taxpayer segmentation approach by establishing a Large Taxpayer Office, enabling them to gain better control over the primary sources of government revenue by improving compliance from a few taxpayers.

Tax amnesties are a double-edged sword. Their regular use may lead taxpayers to adapt their expectations and behavior and always wait for new forgiveness, undermining the impact of amnesties over time. This suggests that the implementation of tax amnesty programs should come only after a thorough analysis of the specific situation of the tax arrears. Evaluating the short- and long-term revenue needs is crucial, considering the magnitude of the net revenue losses versus the probability of total loss.

Regarding international taxation, many Caribbean countries and their financial centers, such as the Bahamas, Barbados, and Curaçao, have been perceived as low-tax jurisdictions. The region is still lagging in regulating transactions between related parties and mitigating base erosion and profit shifting (BEPS) through transfer pricing, one of the main strategies to avoid taxes that multinational enterprises (MNEs) use. In line with best practices, countries are encouraged to enact

provisions in tax legislation, issue regulations, and adopt prescribed methodologies for tax administrations to establish transfer pricing rules.

Chapter 4, Taxes, What Taxes? discusses the structure of taxes and the design of individual taxes, both indirect (value added tax [VAT], international trade tariffs [ITT], and property tax [PT]) and direct (corporate income tax [CIT], personal income tax [PIT], and, although not treated as tax revenue, social security contributions [SSC]).

Regarding their effect on economic growth, taxes range on a spectrum from bad to less bad. CIT has the most negative impact, followed by labor income taxes, consumption taxes, and property taxes. The latter suggests that a revenue-neutral rebalancing that reduces corporate income taxes while increasing consumption and property taxes would be associated with faster long-term growth. The tax structure also matters when it comes to the volatility of tax revenue. Different taxes have different volatilities; the general observation is that volatility is high in the Caribbean countries due to their narrow tax base reflecting an undiversified economy. Higher volatility is often associated with a lower mean revenue-to-GDP ratio value.

The high proportion of total tax revenue derived from indirect taxes, on which the Caribbean primarily depends, implies that the regressive nature of the tax system—compounded by tax expenditures—is high. For some countries, it has increased. The generalized tax on goods and services (mainly VAT) is the most significant component of indirect taxes for most countries. VAT revenue has risen over time for all Caribbean countries except Guyana. A key determinant of the tax base is the registration threshold. Most countries have thresholds based on turnover—the annual value of goods and services a business produces—below which companies do not need to register for VAT. Another determinant of the tax base is tax expenditures. Typically, Caribbean governments concerned with equity considerations identify goods and services of social interest and apply zero and reduced rates, exemptions, incentives, and waivers to these items (sometimes at the minister's discretion rather than according to law).

Regarding international taxes, a critical factor in the Caribbean is the Caribbean Community (CARICOM), mainly through its imposition of the Common External Tariff (CET). While designed to foment intra-regional trade by diverting trade toward its members, in practice, the CET results in members trying to gain an advantage by bypassing the CET through tax expenditures and granting selective import duty exemptions. As a result, there is a significant gap between the weighted statutory and effective tariff rates, ranging from 0.35 for Suriname to 0.6 for Jamaica.

The Caribbean countries could harmonize and streamline their tax incentive regimes rather than pursue the harmful race to the bottom that results

from these competitive grants of tax incentives and import duty exemptions to attract FDI. Eliminating these incentives and exemptions would provide mutual benefits and reduce the current policies' adverse macroeconomic and fiscal sustainability impacts. CARICOM is a well-placed forum for resolving this collective action problem, but efforts thus far have not been successful.

In the Caribbean, property taxes are collected by the central governments. This practice sets the Caribbean apart from the usual practice elsewhere in the world, where local governments set the base and rates and accrue the revenue generated. The centralized approach implies less public support for property taxes in the Caribbean. Furthermore, there is a sharp difference between statutory rates and effective rates due to tax expenditures, often granted by discretion, that undermine the progressivity of property tax rates.

The overall performance of the property tax systems is also a matter of concern. At present, collection and enforcement are a problem across many Caribbean countries, and several countries have significant arrears. Reforms are needed to address valuation, assessment, collection, and enforcement issues. Regular and frequent revaluations should be organized and implemented per legislation. Appropriate upskilling and capacity development should be provided to valuers involved in the assessment process, including training in applying computer assisted mass appraisal (CAMA) and geographic information systems (GIS techniques). Registration of deeds and titles requiring land registration within a comprehensive titling system and periodic tax rate adjustments in line with inflation should be carried out so that revenue from property tax is not eroded in real terms.

CIT is an essential direct tax, accounting for roughly 20 percent of total tax revenue in the late 2010s. Statutory CIT rates in the Caribbean hovered around 25 percent, but these countries have resorted to tax expenditures to reduce effective rates for preferred businesses instead of reducing maximum nominal rates. In Barbados, decreased CIT rates alone resulted in a loss of revenue equivalent to 65 percent of GDP in 2018, while deductions and allowances accounted for another 10 percent.

PIT is traditionally one of the main pillars of a country's revenue and has the most redistributive power. For various reasons, the Caribbean falls far short of its potential regarding both objectives. In practice, the comprehensive PIT paid by individuals is often a set of incomplete and sometimes inconsistent rules applicable to different types of income. Several factors reduce the tax base. First is the treatment of capital gains, interest and dividends, and gifts and inheritance, which typically are not taxed, thereby reducing PIT's tax base and progressivity. Second, tax expenditures also reduce the tax base.

Reforms of PIT have taken two routes. One route consists of accepting the comprehensive income model but simplifying the tax system with lowered

maximum marginal rates and broadening the tax base. The other route is to replace the comprehensive model with either a flat rate or a Nordic-Dual PIT. Under the flat tax, everyone pays the same tax rate on all income, typically above a zero-income bracket, with no deductions or exemptions allowed other than the zero rate. The Dual PIT option divides income into two categories (labor and capital) and applies different rates. Wages and labor income attributable to sole proprietorships and partnerships, the two dominant legal forms of firms in the Caribbean, are taxed at progressive rates. In contrast, capital income is taxed at a flat rate.

Revenue gains from adopting a dual income tax would likely be more significant in those countries where two conditions hold: (i) the prior tax treatment of capital income was ineffective or non-existent (as in the Caribbean) and (ii) the change to a dual income tax might reduce the size of the informal economy (which is a fundamental problem in the Caribbean). Further, in countries like those in the Caribbean with relatively ineffective taxation of capital income, a dual income tax may produce some progressivity gains. Such gains occur if the reforms reduce taxes on the income of low-wage earners and increase taxes on the income of higher-wage earners and their capital income.

Social security contributions are typically made in the form of payroll taxes paid by the employer and the workers. Two main issues arise. First is the impact on employment of the “tax wedge” (i.e., the difference between average labor costs to the employer and workers’ take-home pay after deducting their share of the social security contribution). Second is who bears the tax burden of the employer’s contribution. Employer social contributions can be borne by firms (reducing their after-tax profits), or they can be shifted back to employees (reducing net wages of their workforce) or shifted forward to consumers (increasing the price of their products). A policy option to reduce the unemployment effect is a fiscal devaluation (i.e., a fiscal reform in which there is a change in tax composition with the immediate objective of lowering labor costs rather than wages as in an internal devaluation), increasing competitiveness and economic growth. The modern version of this policy recommendation is to reduce payroll taxes and increase VATs. If unemployment benefits are not adjusted to compensate for the price effect of the increased VATs, and if payroll tax reductions are focused on the lower wage levels, structural unemployment may fall.

Chapter 5, Taxes, Their Structure, and the Role of Tourism, Tax Havens, and Non-Renewable Resources in Revenues, examines the specific issues of tourism- and commodity-dependent countries and the ramifications for their taxes and revenues.

The analysis highlights several significant differences by looking more closely at the two groups of countries (tourism dependent vs. commodity

exporting). Because tourism-dependent countries offer a similar “product,” the various islands compete for investment in the sector, resulting in a race to the bottom regarding taxes. Thus, in practice, the sector is lightly taxed. The governments rely on a mix of instruments to capture some of the rents generated by tourism businesses, including the widely used surcharge on hotel rooms, entry and exit taxes, and numerous other fees for hotel and tour licenses, airport usage, security, beach and park admission, hunting and fishing permits, and so on. Furthermore, while the number of tourists has generally increased over time, actual expenditure per tourist has stagnated or fallen in some Caribbean countries.

Caribbean countries, particularly tourism-dependent ones, also have an essential offshore sector. Offshore financial centers (OFCs, or tax havens) play a crucial role in the Caribbean, particularly in tourism countries. In the Bahamas and Barbados, total financial assets exceed GDP by ratios of 35:1 and 17:1, respectively. However, international institutions view OFCs as a source of severe problems—including tax evasion and money laundering—due to the lack of transparency and the opaque and convoluted regulations under which OFCs operate. The latter has led to several global initiatives to reduce the adverse effects of OFCs.

The Global Minimum Tax (GMT) agreement signed in October 2021 by 137 of the 141 member countries of the OECD/G20 Inclusive Framework on BEPS represents the most substantial recent shock to the tax haven business. This agreement has the effect of setting a minimum global tax rate and reallocating taxing rights to countries where economic activity occurs rather than where firms choose to book profits. An Organisation for Economic Co-operation and Development (OECD) assessment released in January 2024 concludes, “The GMT is estimated to reduce global low-taxed profit by about 80 percent, from 36 percent of all profit globally to about 7 percent. This reduction stems from the decrease in profit shifting and the application of top-up taxes” (OECD, 2024, 2).

The tax structure in commodity-exporting countries is different from that of tourism-dependent countries. Like tourism-dependent countries, commodity exporters have sector-specific taxes; however, unlike tourism taxes, these special taxes and other non-tax revenue such as royalties constitute a significant source of revenue for these countries. Research on the ramifications for fiscal policy of resource-revenue dependence in countries that export non-renewable resources shows that this dependence hurts non-resource income. Specifically, non-resource revenues are lower than in comparator countries, and the gap between the two groups of countries has widened over time. The revenue streams also tend to be more volatile. Given that resource exporters face fiscal vulnerabilities to external shocks and sustainability issues, the policy

implications are that non-resource revenues need to be strengthened to create adequate fiscal space. Four specific measures are proposed for resource-dependent countries: (i) maintain appropriate levels of stabilization savings, (ii) promote effective spending policies, (iii) ensure effective use of taxation to reduce revenue volatility, and (iv) support a robust institutional framework, partly through the adoption of fiscal rules and the creation of a sovereign wealth fund (SWF).

Chapter 6, Jamaica: The Role of Tax Reform in the Economy's Evolution, presents a case study that uses a DCGEM to estimate ex post the contribution of Jamaica's tax reforms to the country's main economic variables.

Jamaica stands out in the Caribbean as the country with the most comprehensive stabilization-cum-structural reform in the recent past. Tax reform was a central component of these improvements. Before the 2013 tax reform, Jamaica's tax system was characterized by high statutory tax rates and a complex structure of exemptions, incentives, and waivers that severely negatively impacted tax policy, tax revenue, and tax and customs administrations. Due to deficient administration, tax compliance was low, control of tax fraud was ineffective, and no meaningful increase in the tax base had occurred. The tax departments created along functional lines had evolved into silos operating as single entities when the reality of the environment required a more integrated approach to tax collection.

The main objectives of the tax reform were broadening the tax base, reducing tax expenditures, and promoting economic growth and formal employment. Several broad principles guided the comprehensive reforms, including simplicity and transparency, horizontal and vertical equity, a broadened tax base with lower rates, and maintenance of revenue adequacy while facilitating private sector savings and investment. The government drastically reduced the incidence of discretionary waivers and started publishing a tax expenditure budget report, a significant step toward transparency of the tax system. Tariff rates were also reduced as the first step toward an efficient tariff system. However, CARICOM's CET has limited opportunities to reduce the dispersion of customs tariffs.

A DCGEM was constructed to reproduce the performance of the Jamaican economy during the historical pre-reform years of 2012–16 and then to simulate the direct and indirect effects of alternative reform measures during the post-reform years of 2017–18. The model found that the tax reform's benefits in terms of poverty and inequality were not instantaneous. At the beginning of the tax reform, poverty and inequality levels increased. With time, compensating measures including increased social assistance (Program of Advancement through Health and Education [PATH] and other safety net programs), less inflation, more GDP growth, and less unemployment are factored in to reduce poverty

levels and inequality. Specifically, compared to the no-reform scenario, GDP growth with reform was found to be 4.79 percent higher over the simulation period (equivalent to an average annual increase of 0.94 percent), inflation was reduced by 0.79 percent per year, unemployment fell by 0.47 percent per year, the poverty level decreased by 2.8 percent over the simulation period, tax revenue increased 1.89 percent per year, and the ratio of public debt to GDP declined by 4.8 percent per year.

In general, the ex post assessment of the direct and indirect impacts of the tax reform reveals an overall positive result. Notwithstanding the delays in the implementation of tax policy measures and the strengthening of tax and customs administration, the progressive nature of the tax reform has positively impacted the economy and the average Jamaican household. On-time filing has improved, and collection of tax arrears has increased.

A second case study is presented in Chapter 7, Barbados: Stabilization and Tax Reform, where a DCGEM is used for an ex ante simulation of tax reforms. The assessment of the direct and indirect effects of the main components of the tax reform illustrates the pitfalls of only estimating the direct impact of reform and ignoring the indirect effects.

Barbados, another tourism-dependent economy, had remained mired in the aftermath of the 2008 global financial crisis, with a slow recovery underway before the COVID-19 pandemic hit. Tourism, offshore financial services, and the construction sectors were especially hard hit by the external shock of 2008 and again in 2020. To limit employment losses and shield vulnerable groups, the government increased social spending, putting pressure on public finances and raising public debt further. In 2018, the authorities embarked on the comprehensive Barbados Economic Recovery and Transformation (BERT) plan to regain macroeconomic stability and boost economic growth. They initiated a debt restructuring and reformed the CIT, unifying rates levied on local firms with the rates charged to offshore companies. The authorities revisited their medium-term fiscal strategy to improve budgetary outcomes, mainly by reducing spending and introducing comprehensive tax reform.

A DCGEM of the Barbadian economy was constructed to assess the direct and indirect effects of the main components of the tax reform. Simulation exercises were carried out for five different scenarios:

- Scenario 1: changes to direct taxes
- Scenario 2: changes to indirect taxes
- Scenario 3: changes to both direct and indirect taxes
- Scenario 4: other proposed tax measures
- Scenario 5: all proposed tax measures

The common findings of the five simulation exercises were that the removal of tax expenditures represents a significant increase in transfers of resources from the private sector to the government. This transfer follows from a net reduction in disposable private expenditure of 28.9 percent of the baseline scenario levels. The need to complement the removal of tax expenditures with the reduction of statutory tax rates is a clear message from the simulation exercises. In other words, any reform that seeks to remove tax expenditures must also implement a reduction in the statutory rates or tax burden. The model simulations also demonstrated that (a) the tax measures implemented as of 2018 were not enough to attain reasonable GDP growth rates and reduce poverty levels, (b) the low levels of net tax revenue increase did not significantly reduce the debt-to-GDP ratio, and (c) eliminating tax expenditures resulted in regressive reforms because indirect taxes are regressive by nature and have a direct incidence of inflation; however, (d) unemployment levels were shown to be lower than the baseline scenario due to relatively higher growth rates in all sectors once the tax expenditures favoring the hotel and financial sectors were reduced.

Chapter 8, *The Bahamas: Preparing for Accession to the World Trade Organization*, estimates, *ex ante*, the potential economic effects of the Bahamas' accession to the World Trade Organization (WTO) using a DCGEM. The Bahamas is a small open archipelagic economy dependent on both tourism and financial services. It was hit hard, with a sharp fall in tourism, by the global financial crisis of 2008–9. The crisis led to a fall in domestic activity and, consequently, a rise in unemployment and a deterioration in the fiscal position initially primarily financed by public debt, which rose sharply. Recovery was cut short by the COVID-19 shock of 2020, which hit tourism-dependent countries particularly hard. The macroeconomic disequilibrium also revealed the economy's underlying structural weaknesses.

Before introducing the excise tax in FY 2008/09 and the VAT in 2015, Bahama's tax-to-GDP ratio of 15.7 percent was less than that of countries with a similar GDP per capita and less than CARICOM's average of 22 percent. Tax effort was low and was characterized by a heavy dependence on international trade taxes and the nonexistence of corporate and personal income taxes. The tax structure relied heavily on import duties, representing about 27 percent of total taxes. The share of trade taxes (primarily import duties) in total taxes was relatively low despite relatively high statutory rates. The latter was due to the generalized use of exemptions and waivers for import duties (i.e., tax expenditures).

After introducing the excise tax and VAT, tax revenue as a percentage of GDP increased from 11.3 in 2007 to 15.96 in 2017. Also, the composition of tax revenue changed from predominantly international taxes to domestic sources. As a percent of total tax revenue, international taxes fell from 57.1 in 2007 to 31.1

in 2017. If excise taxes are deducted, they fall to 15.4. The hotel occupancy tax, 2.7 percent of total revenue in 2007, almost disappeared.

In the context of these tax reforms and anticipating the country's accession to the WTO, an updated version of the DCGEM was prepared in FY 2017/18 to assist the Bahamas' negotiations and identify unintended indirect effects (such as the potential for an increase in poverty). The findings of these simulations guided the authorities on the need to implement other policy measures simultaneously. Four scenarios were simulated with the DCGEM:

- Scenario 1: a WTO Goods Offer without VAT rate increase
- Scenario 2: a VAT rate increase alone
- Scenario 3: a combination of the previous two scenarios equivalent to the impact of WTO Goods Offer accession plus VAT rate increase
- Scenario 4: Scenario 3 plus the impact of the WTO Services Offer

(It should be noted that all the simulations were carried out assuming that tax expenditures continued during the historical period.)

The overall finding of the simulation exercise performed for 2018–22 was that the increase in government revenue obtained with the VAT rate increase (Scenarios 2, 3, and 4) would represent a transfer of resources from the private sector to the government. This transfer would not be fully compensated by the mitigation measures implied by the tariff rate reduction of the WTO Goods Offer (Scenario 3). In the scenario with a VAT rate increase alone (Scenario 2), there was a reduction in net expenditure for Quintile 1 (Q1, the poorest 20 percent of the population). With the WTO Goods Offer alone (Scenario 1), there was an increase in net expenditure in Q1. However, the combined effect of Scenarios 1 and 2 (Scenario 3) generated a reduction in net expenditure in Q1. Therefore, the model demonstrates that a VAT increase combined with WTO Goods and Services Offer (Scenario 4) has the following effect: although it leaves poverty levels unchanged, it does reduce Q1 expenditures; thus, it does not eliminate the need for a compensating social safety net program.

Chapter 9, *A Shock Like No Other: COVID-19*, discusses the policy responses and economic effects of COVID-19 in the region. Detailed results are provided through an updated annual DCGEM to simulate the impact of a COVID-19 pandemic scenario on the economies of Barbados and Suriname.

In 2019, most Caribbean countries expanded, and it was forecasted that they would continue their expansion in 2020. COVID-19, which arrived in the Caribbean in March 2020, changed that and sharply declined tourism, remittances, FDI, and commodity prices. The countries closed their borders, introduced quarantine measures, and imposed social distancing protocols. However,

these necessary health containment measures compounded the negative external shock to the economies. Growth in the region was projected to contract in 2020 for tourism- and commodity-dependent countries, although less so in the latter, while Guyana enjoyed an oil boom. Compared to OECD countries, the announced measures in the Caribbean states were generally smaller due to the countries' larger debt ratios that constrained their scope for extraordinary budgetary measures.

To better understand how COVID-19 affected one of the countries in the region, an updated annual DCGEM was used on the economy of Barbados. The forecast scenario covers 2020–25 and encompasses the following two exogenous events directly attributable to the pandemic: (i) tourism shock and (ii) FDI shock. The simulation also considered the effects of the mitigating fiscal stimulus package consisting of (a) transfers to persons and support to businesses, (b) additional funding for the health sector for goods and services, and (c) additional government capital spending.

The DCGEM estimated that the overall impact of the combined shocks and mitigating measures would result in GDP real growth declining in 2020. By 2021, there was expected to be a rebound in GDP growth. The simulation showed a substantial negative impact on unemployment, but it was expected to return to pre-pandemic levels in the years following the forecasting exercise. Poverty levels were expected to rise in 2020. As recovery started, the poverty level was expected to go down.

In Suriname, the COVID-19 pandemic exacerbated an already declining macroeconomic and fiscal stability: GDP fell in 2020 and 2021, while the fiscal deficit reached 13.4 percent and 7.3 percent of GDP in the same years. Further, significant parallel market exchange rate premiums, bouts of monetary financing, and a large exchange rate devaluation caused spiraling inflation to an average of 60.7 percent in 2019–20. The imbalances in the fiscal accounts led to increased public debt (from 85.2 percent to an average of 141.5 percent of GDP in 2019–20).

In response to these dire circumstances, the authorities embarked on a comprehensive economic reform program in 2021 that included tightening the fiscal policy. One of the primary measures supported by the program has been the introduction of a VAT, which replaced the country's sales tax. To better understand the direct and indirect impacts of VAT under different policy scenarios, the DCGEM was elaborated on for Suriname. The model enabled the quantification of outcomes under four scenarios:

- Scenario 1: VAT standard rate of 10 percent without the safety net program
- Scenario 2: VAT standard rate of 10 percent with the safety net program

- Scenario 3: VAT standard rate of 12.5 percent without the safety net program
- Scenario 4: VAT standard rate of 12.5 percent with the safety net program

The overall findings from the four simulation exercises are that the net increase in government revenue brought by the introduction of the VAT represents a transfer of resources from the private sector to the government that is not fully compensated by the elimination of the sales tax. In the case of Scenario 1 with a VAT rate of 10 percent, the fall in disposable income for Quintile 1 (Q1, poorest 20 percent of the population) amounts to 4.1 percent of the levels of the baseline scenario; it is recovered only in the out years of the simulation horizon. In the case of Scenario 3 with a VAT rate of 12.5 percent, the fall amounts to 7.5 percent and recovers to -3.0 percent in the out years. The need to complement the introduction of the VAT with a social safety net program is a clear message that emerges from the simulation exercises. The introduction of VAT also leads to higher growth rates under all scenarios, even with the institution of social safety net programs.

The COVID-19 crisis had a significant impact on economic activity and transformed the fiscal outlook in Barbados, Suriname, and, more broadly, throughout the Caribbean. While there was still massive uncertainty about the path of the pandemic, a likely scenario was one of repeated lockdowns and broader economic distress. Fiscal deficits were expected to rise due to increased COVID-19 expenditure and decreased revenue. Thus, public debt would be higher. In addition, this situation was expected to exacerbate two existing problems. The first is the composition of public expenditure: high current expenditure with low capital expenditure. Countries could shift their public spending away from the less urgent but more profitable capital expenditure. Second, governments could turn to state-owned enterprises (SOEs) for funds, worsening the SOEs' bad finances. These effects would be more significant the more prolonged the crisis remained and would accentuate another existing problem, namely the unsustainability of the financial situation of SOE projects.

COVID-19 may have changed tax policy and administration in three critical ways. First, and almost immediately, the very different economic impact across social groups, with the lower socioeconomic strata suffering disproportionately, provides an additional argument for progressive taxation. By the same token, large taxpayers' aggressive tax minimization (avoidance)—however legal it may be—will become even more intolerable to society. Second, countries with limited fiscal space going into the crisis were hit harder than those with greater flexibility. This highlights the importance of mobilizing revenues after a crisis by supporting longer-term tax capacity building by strengthening tax administration. Finally, the crisis reinforces the need for fundamental reform and building

governance capacity, including greater transparency as part of the development process.

Given the unprecedented nature of the COVID-19 crisis and in anticipation of similar future crises, some exceptional measures, such as new revenue sources or modified tax structures, should be kept in mind. While significant political-economic challenges exist, introducing new taxes is less complicated during major policy reforms when countries strive to increase their tax-to-GDP ratios. Reforms of the prevailing tax structure could be considered anew, such as base broadening and tackling inefficient tax expenditures. Rising pressure on public finances may strengthen the push for effective minimum taxation of micro and small enterprises. Increased revenue needs should prompt investments in strengthened tax administrations. The current crisis also calls for assessing required changes in tax administration, including upgrading digital financial services.

Chapter 10, Leapfrogging the Inherited and Emerging Challenges of the Tax System, examines inherited and emerging tax policy problems and outlines how the Caribbean could leapfrog to the frontier of tax policy and administration by exploiting new technologies.

The countries in the Caribbean region are at different stages in reforming their taxes. Nonetheless, to enhance the transparency, equity, and efficiency of the tax system, improve competitiveness, and simplify tax administration, a comprehensive tax reform still needs to be on the agenda for all Caribbean countries to a greater or lesser extent. The road to improvement is relatively straightforward and can be followed if a political commitment to reform and public buy-in can be obtained. On this road, tax reform should pursue four objectives: (i) broaden the tax bases; (ii) reduce statutory rates and tariffs consistent with a responsible fiscal situation; (iii) simplify the tax system—including reducing tax expenditures—to facilitate compliance, enforcement, and transparency; and (iv) strengthen tax administration.

The critical question for tax reform in the Caribbean is not necessarily whether to reform but whether to adopt an incremental or big-bang approach. It has long been held that small, gradual changes—the incremental approach—in the tax system are best, in the sense of being the politically viable option. Choosing the best option is essentially a political decision, and the Caribbean countries typically take the incremental route as the most politically expedient one. Not all tax reforms necessarily produce clear winners and losers. Hence, policymakers are constrained in implementing the most efficient reform because they must simultaneously create a compensation mechanism for losers. The persistence of tax inefficiency may be seen as a divergence between economic and political costs and benefits.

Jamaica is an example of a big-bang comprehensive reform where most tax codes were rewritten, transparency increased, tax expenditures reduced, and tax and customs strengthened. Suriname is at the other extreme of the reform continuum; change was just initiated recently (in 2022) to its tax code and administration. The Bahamas and Barbados are between the two extremes in types of tax reform: procrastination has been prevalent, but some significant specific reforms have been undertaken.

Reforms to overcome the inherited deficiencies of the current tax systems in these countries include the following:

- Expand the VAT before raising standard rates.
 - Strengthen and use the social safety net to protect the most vulnerable as needed rather than establish VAT rate differentiation.
- Broaden the PIT base.
 - Quantify all tax expenditures and recognize that increased inequality requires increased progressivity, implying policies that result in higher marginal effective tax rates.
- Social security contributions should not be increased; instead, consider combining a cut in the contribution with an increase in consumption taxation, thereby achieving a fiscal devaluation of the currency (particularly useful in countries with fixed exchange rate regimes).
- For the CIT, quantify and review tax expenditures, avoiding further inappropriate base erosion and pressure to cut statutory rates, and reduce the tax bias toward debt finance.
- Increase property taxes, especially recurrent charges on residential properties, and simultaneously scale back property transaction taxes.
- Weak tax administrations also have severe constraints on reform.
 - In part, this weakness is due to legal constraints on tax enforcement such as the absence of power to establish mandatory filings and tax payments and to regulate e-notifications, and the lack of power to seize delinquent taxpayers' assets including bank accounts.
 - On the operations side, preparing and filing tax returns is just one part of tax compliance (as discussed in Chapter 3). After tax filing, concerns include the time to request and obtain VAT refunds and to correct corporate tax returns. Hence, these are suitable areas for implementing measures to improve the efficiency of tax administrations.

Several emerging problems and opportunities exist for “leapfrogging” over current systems and constraints to develop more equitable tax policy and efficient administration. However, such new approaches must accommodate

digital transactions and platforms, the gig economy, automation, the explosion of digital data, cyberattacks, and global trade shifts from goods to services.

There are three critical technological changes and associated new business models that imply tax BEPS. The first is the change in the cross-jurisdictional scale without mass. Digitalization allows businesses to locate different stages of their production processes across various countries and simultaneously access more customers worldwide. This is a problem because tax laws in the Caribbean are still based on the physical location of the taxpayer, while new business reliance is on intangible assets. Second, digitalized enterprises are characterized by the intense investment in intangibles, where assets such as software and algorithms supporting platforms and websites are directly owned or leased from third parties. Third, digitalized businesses are essentially characterized according to how and by whom their data are used (e.g., customer participation, network effects, and user-generated content).

These changes in technology and business models represent opportunities for tax administrations that go beyond digitizing invoices or the tax filing process. The digital transformation of tax administration could solve the inherent problems of an outdated system that is filled with loopholes and hard to enforce fully. Digitalization represents an opportunity to exploit the mountains of data that tax administrations now administer or that they could access from third-party sources. Concerning digitizing interactions with taxpayers, there are two opportunities: (i) service differentiation, which allows for mapping taxpayers' service experiences with the tax administration across channels of communication, and (ii) developing an integrated taxpayer account-management system, in which the tax authorities create central digital workflows across departments such as processing, audit, and collections. The authorities can also use advanced analytics to create early-warning systems and practice extreme modeling to segment taxpayers, prioritize investigations, and choose the appropriate examination approach. That is a shift to using a "light touch" rather than full audits.

An inherited problem that may be ameliorated by promoting digital technology is the large informal sector. Policies to reduce the size of the informal sector include enforcement measures (i.e., punishing participants in the shadow economy), digital payment measures (i.e., proactively stimulating engagement in the formal economy), and financial inclusion measures (i.e., promoting access to the formal financial sector).

In short, digitalization brings a wide range of opportunities to improve the tax system's efficiency and taxpayers' experience. However, with great options come significant challenges, and the taxation of new business models brought by digitalization is one of them. Overcoming these challenges will depend on tax administrations' capacity to absorb disruptive changes. On the one hand, taking

advantage of new sources of information in real time and installing tools for their analysis, such as data analytics, will demand high technological capabilities from tax administrations. On the other hand, an adequate technical infrastructure will not be enough. Tax legislation must contain the necessary provisions for new forms of monetary transactions (e.g., e-invoicing, e-payments, electronic communication, personal data collection). Furthermore, operational frameworks need to be established to implement them.

Even after updating their information technology (IT) systems in recent years, tax authorities in the Caribbean countries are still at the first level of digitalization (e-filing). They have a long way to go down a path on which they are already behind. The authorities in Guyana have just established their e-facilities for the first time, and others like Suriname are on the way to doing so. Although tax agencies in Jamaica use third-party data to cross-check information, their use is still nascent. Furthermore, as mentioned previously, the region is already lagging in undertaking long-needed reforms. This situation offers the opportunity to leapfrog and catch up with pending reforms while introducing further necessary changes to take the tax authorities and the taxpaying public on the road toward digitalization.

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ANNEX A.

Using the DCGEM Methodology to Answer Policy Questions

Introduction

Answering policy questions requires having some empirically rooted idea of the effects of policy options in addition to qualitative analysis. Because tax reform is often considered during an economic crisis or downturn, the central question is the direct and indirect impact on tax revenue and policy action. However, policymakers are not just interested in the potential effects on revenue. They are also interested in the proposed reform's total effects on economic growth, both in aggregate and sectoral, inflation, employment, poverty, and income distribution. In addition, they are interested in the time profile of these effects, mainly when reforms are implemented (i.e., where in the business cycle the country is and if the reform is staggered over time). Estimating these potential effects requires developing a model of the economy and using it to simulate the proposed policy action in question.

However, according to Maurin (2002), there is little evidence that empirical modeling has systematically influenced policymakers in the Caribbean. The region's central banks and ministries of finance do not routinely use economic models to prepare budgets or estimate the potential impacts of tax reform. This contrasts with countries at similar GDP levels where such models are used routinely to inform budgetary decisions and for policy reform design (Murphy, 2017). Maurin attributes this relative neglect to several factors: policymakers' skepticism of the validity of quantitative modeling, scant knowledge of their potential use to inform policy choices, lack of staff, and a shortage of (or lack of confidence in) the required data.

Policymakers are the main potential clients for empirical models. Although their needs are heterogeneous, we aim to convince this clientele that their needs can largely be met with a dynamic computable general equilibrium model (DCGEM) approach, which is suited for dealing with most issues that arise from tax reform. The policy question(s) should dictate the choice of methodology. However, in practice, the option of a method is not straightforward. It involves choosing between partial and general equilibrium approaches, econometric estimation, and simulation.

Partial equilibrium analysis focuses on one market or product and ignores the link between factor incomes and expenditures. It focuses on direct effects and ignores indirect impacts that could accentuate or attenuate the direct result. In contrast, general equilibrium models explicitly account for all the links between sectors of an economy: households, firms, governments, and the world. Both direct and indirect effects are considered. In econometric models, parameter values are estimated using statistical techniques and specification of behavioral functions, where specification is determined through statistical tests. In simulation models, behavioral parameters are drawn from many sources and other parameters are adjusted such that the model can precisely reproduce the data of a reference period (i.e., the baseline), which is typically but not necessarily a historical period.¹³⁸

Typically, the policy question requires an *ex ante* simulation: what would happen to the variables of interest if a given policy option were adopted? However, it could also be an *ex post* policy question: how did a given policy measure or shock affect the set of variables of interest in the past? Thus, *ex ante* and *ex post* approaches are typically used to answer “what if” questions. The general equilibrium model acts as the counterfactual. Counterfactuals are relevant in the case of tax expenditure reduction or elimination because the indirect impact of reducing tax expenditures is often more significant than the direct impact. The simulation results are typically compared to historical data (i.e., the reference period). The model is calibrated by defining additive exogenous variables (“add factors”) to each behavioral equation of the model. Add factors are set to reproduce the exact historical values for each of the years of the simulation horizon. The use of add factors to calibrate the model contributes to making the simulation results more realistic. In this case, the benchmark used to measure the impact of proposed tax measures corresponds to the historical figures for all variables.

¹³⁸ The use of random trial experiment techniques is not often feasible for evaluating the impact of tax reforms because reforms involve the entire universe of taxpayers and there is no easy way to identify the control group as the counterfactual.

This book illustrates using a DCGEM as an input for policy discussions for ex ante and ex post policy questions. The focus is tax policy (although the COVID-19 shock is also considered). As previously noted, policymakers are often interested in more than the direct revenue effect of tax policy measures. They are also interested in the temporal path of the impact on economic growth, inflation, inequality, and poverty—that is, both the direct and indirect temporal path of the effects on tax revenue. If the undesired effects of a policy variable are simulated, then additional policies can be adopted to mitigate the undesired negative impact. These effects depend critically on the particular phase of the business cycle during which the reforms are enacted.

DCGEMs explicitly trace each variable modeled through time, typically annually. The DCGEM generates a definitive time path for the economy following the change in policy or a supply-side or demand-side shock. The path differs depending on when the reforms are implemented during the business cycle. The path comprises a series of simulations across a sequence of years linked by intertemporal equations describing investment decisions and capital accumulation. This feature is critical in policy discussions. For policymakers, the adjustment path taken by economic variables of interest following the shock or policy change being analyzed is perhaps more important than the end ergodic results. This is particularly true in parliamentary political systems like those in the Caribbean, where there is typically a four-year period between general elections. Hence, the typical non-dynamic general equilibrium models limited to long-term questions have reduced usefulness (i.e., long term in the sense of new equilibrium).¹³⁹ Traditional general equilibrium models do not deal with adjustment processes and associated costs. Instead, the simulation results are presented as if the economy immediately adjusted to any exogenous change. This is unsatisfactory because, for many important policy decisions, the transition problems are crucial and dominate the decision-making process. As Auerbach and Kotlikoff (1987: 49) put it:

“Simple blackboard models can convey neither the timing nor the magnitude of responses to short- and intermediate-term fiscal policies. ... There is also a range of issues, such as deficit finance and the relative efficiency of alternative tax structures, that cannot be properly addressed without solving for the economy’s transition path.”

The term “computable” in DCGEM describes that this type of model, based on an underlying economic representation of an economy, is to quantify the effects of a shock on an economy. The term “general” means that it includes multiple economic agents interacting simultaneously. “Equilibrium” in a computable

¹³⁹ For an early distinction between diachronic (i.e., time) versus synchronic (without time), see Samuelson (1947).

general equilibrium (CGE) model occurs at that set of prices at which all producers, consumers, workers, and investors are satisfied with the quantities of goods they produce and consume, the number of hours they work, the amount of capital they save and invest, and so on, in a Harberger type of process as the economy reallocates factors and relative prices.

However, a crucial practical problem when building a DCGEM is the data requirements to calibrate the model. Reliable and consistent data are necessary for all aspects of economic activity modeled. These data are not available in most countries, especially in Caribbean countries. Further, even if all required data are available, the problem of data consistency remains because the data will be from different sources. For example, production data will be based on input-output tables used in national accounts that typically have been extended to a social accounting matrix, consumption and saving data come from an expenditure survey, statistics on foreign trade are from customs administrative data, and data on taxes and government expenditure are government administrative data. Data on investment, either by sector of origin of the investment goods or by sector of destination of the new capital, are often absent. Thus, the major problem is related not only to the availability of the data but to the compatibility of data from different sources at different points in time.¹⁴⁰ The classification of goods and services used in production data differs from what is used in consumption and foreign trade data. Often, the aggregates obtained from one source do not coincide with those from another. It is necessary to have entirely consistent data for all the aspects of the economy represented in the model for the same period. Thus, adjusting the data to make them compatible with the rest is necessary.¹⁴¹ This type of work is time consuming, but it has already been done for many Caribbean countries (although it will require updates).

Thus, DCGEMs are a class of economic models that allow economists to systematically analyze the most critical policy challenges and economic shocks on an intertemporal basis.¹⁴² The structure of a DCGEM is like that of computable general equilibrium (CGE) models with the added feature of being dynamic to allow the impact analysis of a given policy or shock through several years. This feature is essential when analyzing policies introduced over a given period of years.

DCGEMs overcome many of the shortcomings associated with static general equilibrium models (SGEMs). Tariffs and tax reforms have a macroeconomic impact on savings and investment decisions over time that affect total factor supply and reallocation among economic sectors and the distribution of

¹⁴⁰ The time period to estimate reasonable elasticity values usually spans 25 years.

¹⁴¹ We use the RAS method in determining missing values and to ensure consistency. For more on the RAS method see Chapter 7.4 in Miller and Blair (2009).

¹⁴² For a technical discussion of these models, see Heer and Maussner (2009).

resources between generations that will not be captured by an SGEM. Another critical shortcoming of an SGEM is its inability to consider the initial conditions of the business cycle when measuring the impact of a set of fiscal policy measures. It matters if a reform or a shock occurs during a downturn or boom, and DCGEMs can factor this in.

Traditional SGEMs only address the problem of factor reallocation among economic sectors. Modern DCGEMs, however, use Harberger's methodology in the context of the neoclassical growth model and the real business cycle hypothesis (Deng, 2009). Income taxation (government transfers) reduces (increases) savings for each income bracket category in different proportions. In turn, equilibrium values for capital and labor are modified per the parameters of the neoclassical production function. The speed of adjustment to the new equilibrium conditions will depend on the starting conditions of the business cycle.

In addition, import tariffs, taxation, and government transfers directly impact savings in overlapping generations' life cycle models. Changes in taxation from income taxes to consumption taxes have a different incidence on younger and older generations depending on the assets held by each generation once the tax reform has been introduced.

Finally, static models of tax incidence cannot accommodate the possibility of a tax rate increase being implemented stepwise over several years. Expected adjustment trajectories of macro variables influenced by tax policy measures are challenging to analyze with static models. The solution to these problems is using DCGEMs.

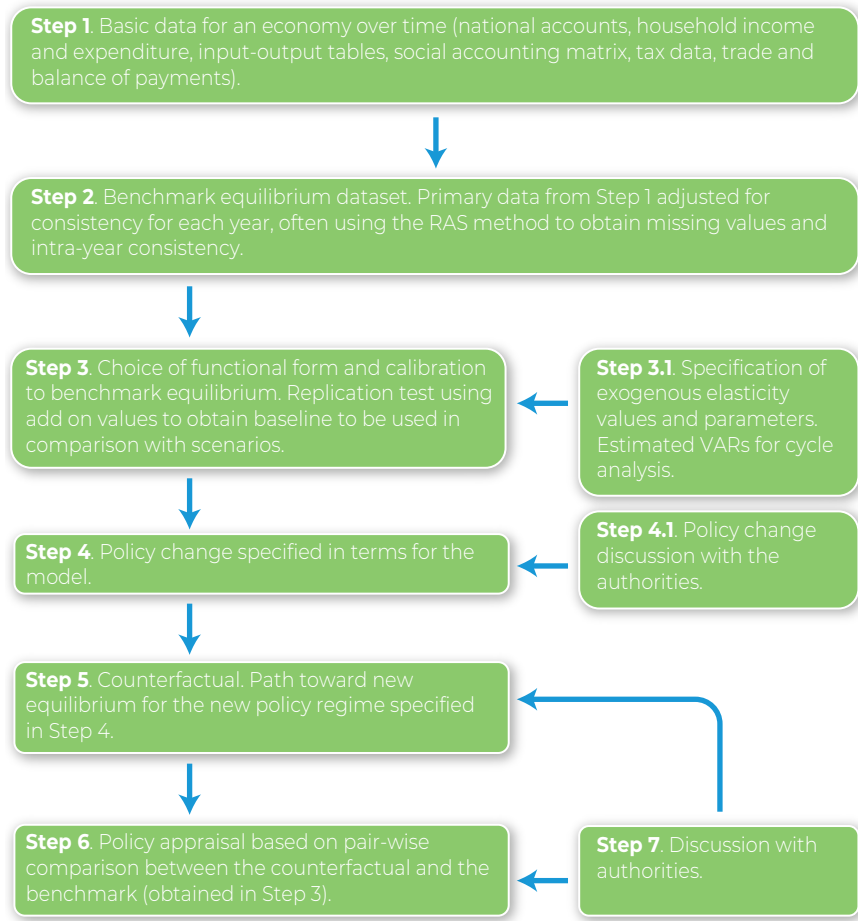
A general description of the DCGEM used in this study follows. The DCGEMs have the same logical structure for any country but are adjusted to reflect the unique features of each country's tax system. They follow common steps (see Figure A.1).

The Model

This section provides an overview of the DCGEM; the different blocks and their interrelation are presented schematically in Figure A.2. Our DCGEM is an "economy-wide" model because it describes the behavior of producers and consumers and their linkages. Producers are depicted by four Cobb-Douglas dynamic production functions (for the four sectors: primary, transformation, tourism, and other services¹⁴³) and consumers by 10 consumption categories mapped to a linear expenditure system for five consumption brackets (quintiles).

¹⁴³ As noted in the previous chapters reporting on DCGEM findings for the respective countries, the specific economic activities included in each sector may vary somewhat from one country to the next.

FIGURE A.1 Steps toward Constructing and Using a DCGEM



Source: Authors' elaboration.

The income generated by factors of production (capital and labor) and other sources of income (remittances from abroad, transfers, and other sources) is discriminated by income distribution categories (quintiles). This structure allows for the analysis of policy impact on poverty levels and income distribution in addition to sector economic growth and employment.

The model's main dynamic elements are the annual investment level in each sector, population growth, and sectoral dynamic production functions. Sectoral investment is divided into public and private investment. The closure of the model is done through the equilibrium between savings and investment and the equilibrium between each sectoral production function and its corresponding sectoral demand. In the latter case, equilibrium is guaranteed by the capital utilization factor embodied in each Cobb-Douglas production function.

The four dynamic production functions describe the long-term behavior of the potential output of each sector and the short-term behavior of each sector's corresponding business cycles. The evolution of the potential GDP of each of the four sectors (obtained through the Hedrick-Prescott filter) is done with Cobb-Douglas production functions. The evolution of the business cycles is done with a vector autoregressive (VAR) model of the four business cycles plus the evolution of the observed production taxes along its potential level.¹⁴⁴

The equilibrium conditions of the economy are reflected in the potential values of the variables. The dynamic nature of the adjustment of the initial conditions to the potential values of the model explains the business cycle. The business cycle of the entire economy is the combination of the business cycles of each economic sector and the production taxes. A matrix of the parameters obtained from a VAR model measures the degree of correlation among the different business cycles and the speed of adjustment of the initial conditions to the equilibrium conditions defined by the potential values of the endogenous variables.

The dual nature of the dynamic production functions (long-term potential values and short-term business cycle) allows the model to capture the long-term and short-term impact of a given set of tax measures or any group of external shocks. It matters whether the policy is implemented during a downturn or an expansion, and in one year or over several years.

To conduct policy experiments with the DCGEM, we first elaborate a base scenario of a given economy based on the most recent performance (i.e., calibrate the model). Then, we define alternative policy scenarios and measure the differences between the alternative scenarios and the base scenario to conclude the impact of the proposed policies on economic growth, poverty levels, income distribution, tax revenue, and other indicators. Such options are discussed with policymakers to obtain their particular concerns. Hence, the model is not a forecasting model but allows us to study the impact of alternative policy scenarios on a given economic path (the base scenario).

The model has been implemented in EViews 10¹⁴⁵ and consists of 10 blocks: (i) population, (ii) production, (iii) income, (iv) consumption, (v) prices, (vi) external sector, (vii) fiscal sector, (viii) public debt, (ix) monetary sector, and (x) equilibrium. The 10 blocks interact among themselves to generate general equilibrium solutions yearly. As noted above the DCGEM has been the primary analytical tool used to assess the impact of alternative policies on economic growth,

¹⁴⁴ VAR models are used for multivariate time series. The structure is that each variable is a linear function of past lags of itself and past lags of the other variables.

¹⁴⁵ "EViews is [one of] the main macroeconomic forecasting and analysis toolset[s] used by central banks, national banks, and government agencies around the world" (EViews, n.d.).

unemployment, poverty, and income distribution. The structure and logical framework of each of the 10 blocks of the model is briefly described in the following paragraphs (see Figure A.2 for a schematic presentation).

The population block describes population dynamics grouped by five-year age brackets (0–4 years, 5–9 years, and so on, up to 80-plus years) to model the evolution of the working-age population, the labor force, and the total population depending upon net survival rates by age bracket, net fertility rates, and expenditure on health.

The production block comprises four Cobb-Douglas dynamic production functions corresponding to each of the four sectors of the economy under analysis. Capital stocks and labor employed for each production function have been estimated to obtain capital-output and capital-labor ratios. Factor elasticity for capital and labor and total factor productivity (TFP) have been calculated and analyzed for each economic sector. A VAR model depicts the simultaneous behavior of the business cycles of the four economic sectors and indirect taxes.¹⁴⁶ This block will determine employment levels at each of the four sectors and the economy-wide unemployment level.

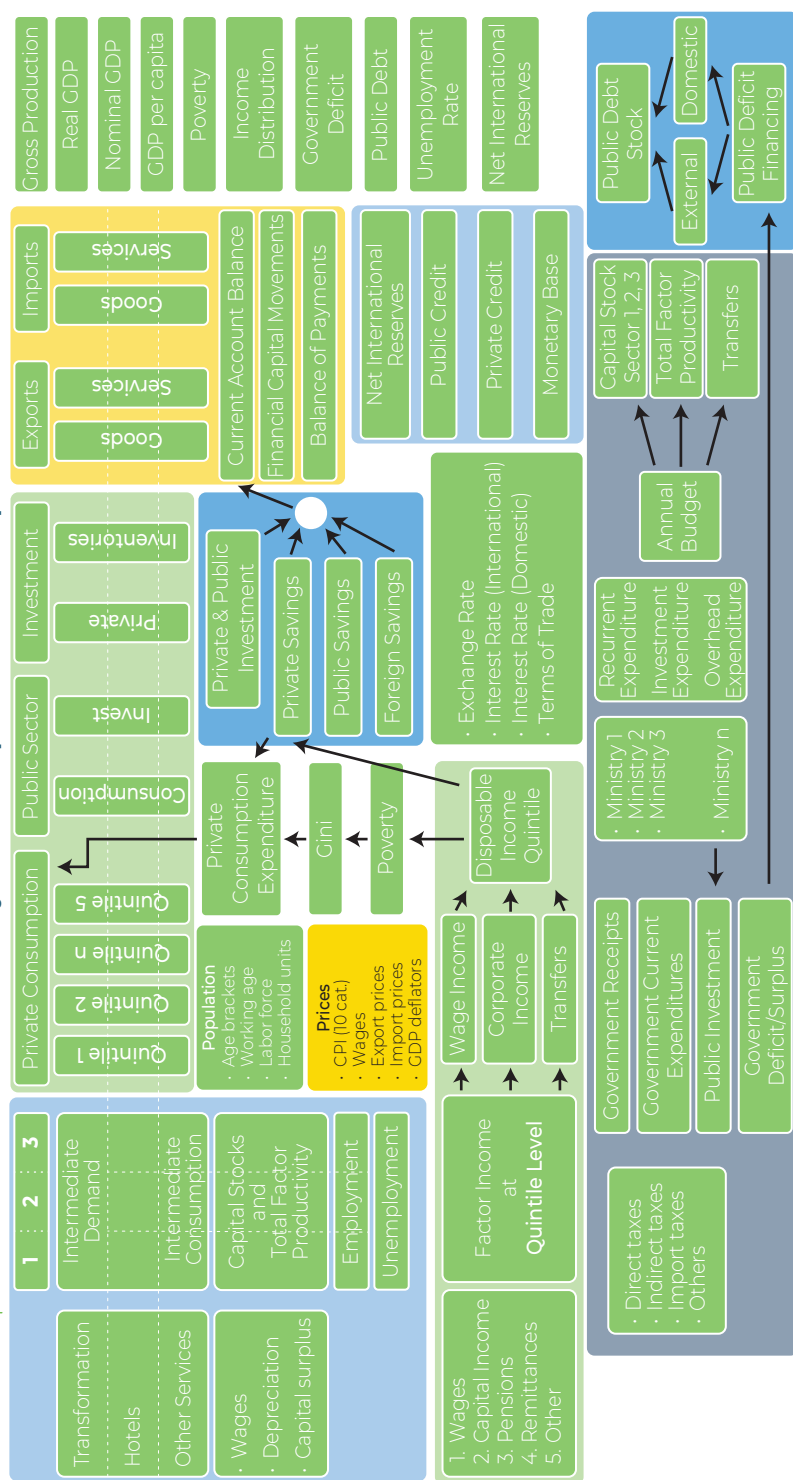
The income block describes the income distribution among the quintiles of each of the eleven types of income considered in the model (wages for each sector, operating surplus for each sector, pensions, remittances, and other income). Income distribution for each quintile was obtained from the expenditure distribution of the household expenditure survey, and savings estimation for each quintile was added. These values have been reconciled with the importance of each income category to obtain data consistency between the expenditure side (consumption) and the national income side. This block will be crucial to study the impact on poverty and income distribution of removing preferential tax treatments.

The consumption block consists of five linear expenditure system consumption functions estimated to correspond to each quintile included in the model. Income elasticity for each quintile and price elasticity for each of the 10 categories of consumption reported in the household expenditure survey has to be estimated. This block would allow measuring the impact of changes in relative prices (changes in indirect tax rates) and income (changes in direct tax rates) on income distribution.

The prices block comprises price indices for each of the 10 consumption categories. This component also describes each sector's exchange rate, average wage, and interest rates. The price indices of the 10 consumption categories

¹⁴⁶ VAR is a stochastic process model used to capture the linear interdependencies among multiple time series.

FIGURE A.2 Schematic Presentation of a Dynamic Computable General Equilibrium Model



Source: Authors' elaboration.

are explained in terms of international price indices (U.S. price index), exchange rates, and domestic public-sector borrowing requirements (public-sector credit). The nominal exchange rate is adjusted to maintain purchasing power parity. Average wages and interest rates are exogenous to the model. GDP deflators are weighted averages of the 10 consumption categories of price indices and adjustment factors to preserve equilibrium conditions between nominal supply and demand.

The external sector block covers exports and imports of goods and services and the main items of the balance of payments. Exports and imports of goods and services are modeled on current and constant terms to link with the demand side of GDP. The exchange rate and terms of trade play an essential role in the dynamics of this component. The export component is exogenous to the model (Lofgren and Cicowiez, 2018). The import component is modeled as a reaction function to the GDP levels of the different economic sectors.

The fiscal sector block describes each government receipt by tax type and the main items of government expenditures to explain the financing gaps (surplus/deficit) and the nature of financing requirements (domestic/external debt). It also encompasses the fiscal expenditures by the ministry to discriminate the allocation of public capital expenditures to the three different economic sectors of the model. It also considers expenditures on education and health that link improvements in the TFP parameter of the four Cobb-Douglas production functions and on the net survival rates of each of the age brackets of the population block of the model.

The debt block links with the fiscal sector block to describe the external and domestic debt dynamics, including amortization, interest payments, and new loans. The link allows for estimating debt-to-GDP ratios and their impact on risk levels.

The monetary block comprises the net international reserves linked to the balance of payments block, the public and private credit aggregates, and other items of total liquidity, including the monetary base, M1, M2, and M3.

The equilibrium block encompasses three different equilibrium conditions that guarantee a consistent closure of the model, making possible the conditions of a general equilibrium model. The first condition is the equilibrium between total investment and savings. This condition guarantees that the total investment level equals the three savings sources: external, fiscal, and private. The second equilibrium condition is the equilibrium between the real GDP on the production side and the real GDP on the demand side. This equilibrium is realized at the level of each economic sector contemplated in the model. The capital utilization factor guarantees the equilibrium in the four Cobb-Douglas production functions. The third equilibrium condition is the equilibrium between

nominal GDP on the production side and nominal GDP on the demand side. This equilibrium is realized by adjusting the price deflators of the different economic sectors of the model.

A Black Box?

A large model that cannot be solved analytically, such as a DCGEM, is often criticized as a black box. It is not. The transmission mechanisms of simulated tax policy changes can be traced.

The impact of modifying tax rates of direct taxes (business and personal licenses and income taxes) is not the same as the impact of changes in indirect taxes (VAT, excise, and import duties). In the case of changes linked to direct taxes, the impact goes directly to the income distribution on each of the five quintiles considered in the model. In this case, knowing the income distribution nature of each direct tax assessed in the study is relevant.

Changes linked to indirect taxes require a different approach than the one used for direct taxes because indirect tax expenditures are applied to economic activities, not individuals as direct taxes are. Because the final consumer assumes the tax burden of indirect taxes, it is essential to insert into the model the transmission mechanism of how statutory taxes paid by firms are transferred to the final consumer. Furthermore, the VAT case requires a different treatment than the rest of the indirect taxes due to the debit-credit mechanism inherent to the VAT.

Thus, direct and indirect taxes have different transmission mechanisms in the DCGEM. Direct taxes directly impact personal disposable income at the quintile level. The direct tax incidence of each direct tax will depend on the income distribution structure. Indirect taxes directly affect the price level of each of the different economic sectors of the DCGEM. The DCGEM assumes that indirect taxes are passed on to the final consumer. The indirect impacts of both direct and indirect taxes are estimated using the general equilibrium properties of the DCGEM.

The transmission mechanism for the impact of changes in indirect taxes (VAT, import duties, excises, and typical hotel tax in the Caribbean) has two lines of action in the model. The first line of action—the income effect—increases/lowers the sectoral GDP evaluated at factor prices; hence, wages and operating surplus for each sector will be higher/lower. These changes in turn increase/reduce gross income for each quintile. The second line of action—the price effect—works through the consumption functions of each quintile (we use a linear expenditure system for each quintile). The model assumes that the introduction of VAT or changes in other indirect taxes is transmitted to the final consumer

via changes in relative prices. This transmission is done by transforming the statutory changes of indirect taxes into equivalent consumer expenditures through the transformation matrix that relates economic sectors to expenditure categories. This mechanism is comparable to a price increase/decrease for each category of consumption expenditure.

Each quintile's representative consumer will adjust each consumption category's share. This will impact the distribution of expenditures and affect poverty and inequality (the Gini coefficient). As in the case of the transmission mechanism of direct taxes, the extra revenue perceived by the government will reduce the public debt and will have an impact on inflation. The equilibrium condition of the model will then define the final impact on sectoral growth, inflation, and income distribution. An equal increase in social safety expenditure can compensate for reducing the income of the poor (Quintile 1). This gives a first approximation of the amount required by the safety net program to maintain the poverty level of the baseline solution. However, this is not the end of the story because the transfer of resources (from the government to Quintile 1) implied by the safety net program has feedback effects on the rest of the economy. Hence, an iterative procedure (i.e., multiple successive solutions to the model) is required until the conditions (poverty and income distribution) are attained.

The increase or reduction of tax revenue reduces or increases total fiscal borrowing requirements that will be reflected on the public debt level and, by the crowding-out condition, will increase or reduce private investment. In turn, the ensuing increase/decrease of capital stock, assuming a constant ratio of capital utilization, generates a lower/higher labor demand (capital-labor ratios) in each sector proportional to the investment incurred in each sector. Each sector's resulting value added (GDP) generates intermediate consumption factors used to obtain the gross production in each sector. The gross production of each sector is used to establish an equilibrium with the demand-side components of the model (intermediate demand, private consumption, government consumption, public and private investment, change of inventories, exports, and imports).¹⁴⁷ The equilibrium between the supply and demand sides is established by adjusting each economic sector's capital stock utilization rate. The equilibrium in nominal terms between the supply and demand sides is set by adjusting each sector's GDP deflators.

¹⁴⁷ When working with multisector models it is necessary to work with gross production instead of value added because intermediate demand is not equal to intermediate consumption at the sector level.

Conclusions

Policymakers are able to make informed decisions about tax reform when they have quantitative information about the reform's impact on tax revenue, economic growth, poverty, and inequality. This includes information on how those effects differ and their time profile (i.e., when they occur) according to different options within a proposed reform, complemented by qualitative analyses.

We have argued that although policymakers' needs are heterogeneous, most of them can, to a large extent, be met with a DCGEM approach, which is suited to dealing with most issues that arise from tax reform. In particular, a DCGEM (a) assesses both the direct and indirect impact of tax reform; (b) explicitly takes into consideration business cycle analysis by taking into account the starting point of tax reform; (c) allows for differentiation between impacts of direct taxes, indirect taxes, and tax expenditures measures; and (d) allows for the incorporation of staggered reforms over time and for the temporal profile of their impacts. Although not a panacea for policymakers, it provides the most comprehensive data-based analytical framework to help design reform.

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ANNEX B.

Supplementary Tables and Text

BOX B.1

THE BAHAMAS: TAXES AND FEES PAID BY THE OFFSHORE SECTOR

By way of illustration, the offshore sector in the Bahamas, as of 2019, paid the following taxes and fees. Offshore banks and trust companies licensed under the Bank and Trust Companies Regulation Act were subject to annual business license fees that ranged from B\$450,000 to B\$3,750,000 per license depending on the value of the assets under management. In addition, banks and trusts were subject to tax at 3 percent of turnover.

International business companies (IBCs) paid an annual license fee based on authorized capital. Government fees related to creating an IBC were B\$400 for capital up to B\$50,000 and B\$1,200 for capital over B\$50,000. IBCs were subject to value added tax (VAT). For 20 years from their registration date, IBCs were exempt from all other taxes and stamp duties except for those on transactions involving real estate in the Bahamas. Investors typically created IBCs through service providers that charged separate fees for their services.

Limited duration companies (LDCs) paid an application fee of B\$850 and an annual license fee based on authorized capital. Insurance companies incorporated in the Bahamas paid stamp tax on authorized capital. They also paid the fees.

Limited offshore insurance companies paid an initial registration fee of B\$2,500 and an annual fee of B\$2,500 in subsequent years. Unrestricted companies paid an initial registration fee of B\$3,500 and a yearly fee of B\$3,500 in the following years. Offshore insurance companies also paid an annual fee of B\$1,000 for each licensed resident insurance manager who provided underwriting as a service. Offshore insurance companies were exempt from all other taxes for 20 years from registration.

BOX B.2

TRINIDAD AND TOBAGO: TAXES, FEES, AND LEVIES PAID BY THE PETROLEUM SECTOR

The following taxes, fees, and levies apply to companies engaged in the exploration and production of oil and gas in Trinidad and Tobago.

- Petroleum profits tax (PPT): 50 percent of taxable profits (petroleum operations in deep-water blocks pay 35 percent)^a
- Unemployment levy (UL): 5 percent of taxable profits
- Supplemental petroleum tax (SPT): the applicable rate of tax is based on the weighted average crude price and is applied to the gross income from the disposal of crude oil, less specific incentives (not applicable on gas sales)
- Petroleum production levy (PPL): the lower of 4 percent of income from crude oil or the share of the subsidy prescribed by the Ministry of Energy and Energy Industries (MOEEI) for producers of more than 3,500 barrels of oil per day (BOPD) or proportionate share of local petroleum subsidy
- Petroleum impost (PI): proportionate share to defray expenses of the MOEEI
- Royalties: 12.5 percent of crude oil and natural gas won and saved from the licensed or contract area
- Green Fund Levy (GFL): 0.3 percent of gross revenue
- Capital allowances (accelerated depreciation)
- Investment incentives (capital uplift or credit, where losses can be carried forward indefinitely, only with regard to PPT)

^a Generally, companies engaged in business activities in Trinidad and Tobago are subject to corporation tax of 30 percent on chargeable profits. Companies engaged in the business of manufacturing petrochemicals, liquefying natural gas, and transmission of natural gas are subject to corporation tax of 35 percent.

BOX B.3

GUYANA: SPECIAL REGIME PAYMENTS COLLECTED BY VARIOUS GOVERNMENT AGENCIES OTHER THAN THE GUYANA REVENUE AUTHORITY

Guyana Geology and Mines Commission (GGMC) receives most of the gold mining companies' revenue. Royalties and withholding taxes paid by gold miners and dealers go to the Guyana Gold Board (GGB), which transfers these revenues to the GGMC and Guyana Revenue Authority (GRA). Royalties paid by Aurora Gold Mines (AGM) and Troy Resources Guyana Inc. are collected directly by the Ministry of Finance (MoF). The other payments from the mining sector are made to GRA, the Environment Protection Agency (EPA), and the National Insurance Scheme (NIS). The MoF also forms part of the revenue collection framework through investments in some Guyanese mining companies. GYETTI (2022) states that the GGB receives approximately 26 percent, MoF 18 percent, GGMC 6 percent, NIS 3 percent, and EPA 0.11 percent of mining revenue.

Source: GYEITI (Guyana Extractive Industries Transparency Initiative). 2022. Guyana 2019 EITI Report. Available at <https://eiti.org/documents/guyana-2019-eiti-report>.

BOX B.4

TRINIDAD AND TOBAGO: HERITAGE AND STABILISATION FUND

Trinidad and Tobago's Heritage and Stabilisation Fund (HSF) was established in 2007. The HSF's savings (withdrawal) rule is triggered when actual petroleum revenue exceeds (falls below) budgeted energy revenue by at least 10 percent. The savings rule requires that 60 percent of excess petroleum revenue be transferred to the HSF in any fiscal year. The withdrawal rule stipulates that in the event of a shortfall in petroleum revenue by at least 10 percent, the government can withdraw up to 60 percent of the shortfall or 25 percent of the value of the HSF, whichever is lower.

The Heritage and Stabilisation Fund Act was amended in 2020 to permit withdrawals from the fund in exceptional circumstances. Section 15A(1) of the amendment specifies that these circumstances include (a) a disaster area is declared under the Disaster Measures Act; (b) a dangerous infectious disease is declared under the Public Health Ordinance; or (c) there is, or is likely to be, a steep decline in budgeted revenues based on the production or price of crude oil or natural gas. Section 15A(2) of the 2020 amendment limits withdrawals to US\$1.5 billion.

Several issues regarding the HSF rules should be highlighted:

- Deposits are limited to oil revenues, which does not allow the HSF to leverage revenues generated throughout the energy value chain in a low oil price environment;
- Only a fraction of excess oil revenue is required to be deposited into the HSF;
- The HSF is not rooted in a medium-term fiscal strategy with clear fiscal rules; and
- Although the HSF has dual heritage and stabilization objectives, in practice it has served more as a heritage fund.

BOX B.5

SURINAME: TAX EXPENDITURES OF DIRECT TAXES

When estimating tax expenditures related to direct taxes in Suriname, the following tax types were considered: corporate income tax (CIT), personal income tax (PIT), and wages tax. Due to a lack of data, we were not able to accurately estimate tax expenditures associated with direct taxes. Most of the figures reported are related to waivers and remissions of tax arrears accumulated through the years. Individual tax returns are kept in folders and are not digitized. The new tax system software being implemented will allow a better estimation of tax expenditures of direct taxes.

Total tax expenditures of all direct taxes amounted to Sr\$287.9 million in 2017, equivalent to 1.2 percent of GDP (see Table B.1). This figure increased to Sr\$291.9 million in 2021, comparable to 0.5 percent of GDP. These figures do not include tax expenditures on exemptions or deductions and allowances incurred with the three direct taxes; they were not estimated due to the lack of reliable data. The current design of the CIT and PIT tax return forms does not include explicit information on tax expenditure; therefore, the tax expenditures associated with deductions, allowances, tax credits, and discretionary waivers cannot be directly estimated. Traditional income statement information is not included in the CIT tax returns. Instead, balance sheet information is used.^a

Tax expenditures associated with the category of waivers on arrears for the three direct taxes were estimated from data on remissions (waivers on tax arrears) kept by the direct taxes division. These numbers also consider the impact of inflation on tax arrears for each of the three tax types.

Data on direct tax expenditures are unreliable because CIT and PIT tax returns are not fully digitized. The possibility of hiring university students to digitize the 2021 CIT and PIT tax

(continued on next page)

BOX B.5 *(continued)***SURINAME: TAX EXPENDITURES OF DIRECT TAXES**

returns was considered. Having digitized tax returns could significantly enhance the quality of information about direct taxes and help identify sources of tax evasion and estimate direct tax expenditures.

TABLE B.1 Suriname: Tax Expenditures of All Direct Taxes
(2014–21, millions of Sr\$)

Tax Type	2015	2016	2017	2018	2019	2020	2021
Corporate Income Tax	11.30	25.90	53.70	53.70	53.70	53.70	53.70
Personal Income Tax	247.00	88.90	168.70	169.70	170.70	171.70	172.70
Wages Tax	38.10	127.30	65.50	65.50	65.50	65.50	65.50
Total	296.40	242.10	287.90	288.90	289.90	290.90	291.90
as % of GDP	1.69%	1.17%	1.07%	0.97%	0.92%	0.76%	0.51%

^a The direct taxes division keeps the paper income statements submitted with CIT tax returns, but they have not been digitized or entered into the system.

