CARIBBEAN REGIONAL FINANCIAL STABILITY REPORT

2021

Table of Contents

LIST OF CONTRIBUTORS

Regional Financial Stability Coordination Council (RFSCC) Members

John Rolle (Chairman)	Central Bank of The Bahamas
Ramnarine Lal	Bank of Guyana
Sherene Bailey	Bank of Jamaica
Sharon Branch	Central Bank of The Bahamas
Anton Belgrave	Central Bank of Barbados
Barrington Sutherland	Central Bank of Belize
Kevin Finch	Central Bank of Trinidad and Tobago
Kelvin Kleist	Central Bank van Curacao en St. Maarten
Allister Hodge	Eastern Caribbean Central Bank
Rosminie Warsosemito	Central Bank of Suriname

Regional Individual Contributors

Steve McLean	Bank of Guyana
Tamika Morris	Bank of Jamaica
Katherine Bell	Bank of Jamaica
Justine Cork	Bank of Jamaica
Julia Jhinkoo-Ramdass	Caribbean Economic Research Team
Jewel Pratt	Central Bank of The Bahamas
LaShawn Edwards	Central Bank of The Bahamas
Carlon Walkes	Central Bank of Barbados
Anwar Juan	Central Bank of Belize
Ryan-Anthony Prince	Central Bank van Curacao en St. Maarten
Sumaya El Hage	Central Bank van Curacao en St. Maarten
Euredice Werson	Central Bank of Suriname
Dave Seerattan	The University of the West Indies, St. Augustine

ABBREVIATIONS

ACH	Automated Clearing House
AFSI	Aggregate Financial Stability Index
AML/CFT	Anti-Money Laundering/ Countering Financing of Terrorism
B-FXITT	Bank of Jamaica Foreign Exchange Intervention & Trading Tool
BoJ	Bank of Jamaica
BSA	Banking Services Act
BSI	Bank Stability Index
CAR	Capital Adequacy Ratio
CARICOM	Caribbean Community
CARTAC	Caribbean Regional Technical Assistance Centre
CBDC	Central Bank Digital Currency
CBR	Correspondent Banking Relationship
CBvS	Central Bank of Suriname
CDD	Customer Due Diligence
CFATF	Caribbean Financial Action Task Force
CGBS	Caribbean Group of Banking Supervisors
CLICO	Colonial Insurance Company
CRFSR	Caribbean Regional Financial Stability Report
CSD	Central Securities Depository
D-SIBS	Domestic Systemically Important Banks
ECCU	Eastern Caribbean Currency Union
ELA	Emergency Liquidity Assistance
ERPS	Electronic Retail Payment Services
EU	European Union
FATF	Financial Action Task Force
FDI	Financial Development Index
FIA	Financial Institutions Act
FINTECH	Financial Technology
FOMC	Financial Oversight Monitoring Committee
FSAC	Financial Stability Advisory Committee
FSI	Financial Soundness Index
FSD	Financial Stability Department
FSC	Financial Services Commission
FSR	Financial Stability Report
FSSA	Financial Sector Stability Assessments
FSSC	Financial System Stability Committee
FVI	Financial Vulnerability Index
FX	Foreign Exchange
GDP	Gross Domestic Product
IA	Insurance Act
ICT	Information and Communication Technologies
IFSA	International Financial Services Act
IMF	International Monetary Fund

JMMB	Jamaica Money Market Brokers
KYC	Know Your Customer
LAC	Latin America and the Caribbean
LCR	Liquidity Coverage Requirement
ML/TF	Money Laundering/Terrorist Financing
MPIs	Macroprudential Indicators
NOP	Net Open Position
NPL	Non – Performing Loan
NPSA	National Payments System Act
OECD	Organization for Economic Co-operation and Development
PSPs	Payment Service Providers
RFSR	Regional Financial Stability Report
ROA	Return on Asset
ROE	Return on Equity
RoW	Rest of World
RTGS	Real Time Gross Settlement
SIBs	Systemically Important Banks
SIFIs	Systemically Important Financial Institutions
TA	Technical Assistance
TTSEC	Trinidad and Tobago Securities and Exchange Commission
USA	United States of America
WECI	World Economic Climate Index

PREFACE

This edition of the Regional Financial Stability Report (RFSR) covers 2021, a period when the global economy began to recover from the COVID-19 pandemic. The expected V-shaped global economic recovery generally materialized in 2021 but it has been relatively uneven and characterized by high uncertainty. In the Caribbean, the high level of uncertainty is compounded by challenges of high sovereign debt overhangs, fiscal sustainability issues, problems on the current account of the balance of payments and the susceptibility to external shocks, including natural disasters. These risks pose huge challenges to the monetary and regulatory authorities to maintain financial stability in the Caribbean.

The reality of the legacy of the Pandemic unfortunately means higher debt and weaker balance sheets in the financial and non-financial sectors. The monetary and regulatory authorities in the Region must therefore be on high alert to prevent any emerging risks from this dynamic from generating sharp corrections in financial asset prices and in the disruption of financial markets in the Region, which would threaten financial stability and complicate the recovery of Caribbean economies.

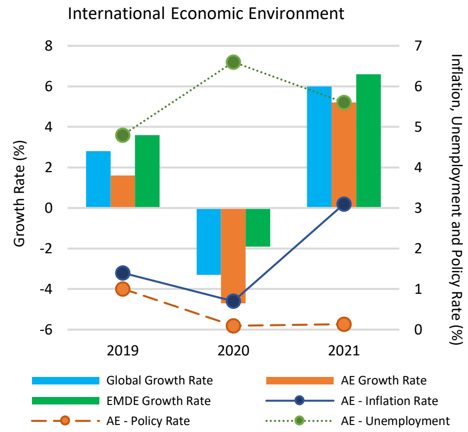
In this environment, risks to the Caribbean's financial stability remain elevated and unevenly distributed, as some sectors and countries are disproportionately impacted by global economic challenges and idiosyncratic problems of their own. The unprecedented policy support to deal with the pandemic also means that there is growing interconnectedness between sovereigns, households, non-financial corporations and financial institutions. This RFSR therefore focuses on the impact of the global economic recovery, emerging risks to financial stability in this environment and structural weaknesses that could pose problems for the maintenance of financial stability in the Region. This Report also highlights the policies deployed by the monetary and regulatory authorities in the Caribbean during 2021 to deal with emerging risks to financial stability in the Region.

The 2021 RFSR therefore covers several areas that are required for a comprehensive financial risk assessment for the Caribbean financial system. Chapter 1 provides an overview of the international and regional macro-prudential developments that affect regional financial stability. The performance of financial institutions within the Region is discussed in Chapter 2, with a focus on key financial soundness indicators for commercial banks and insurance companies and the implication of these indicators for regional financial stability. Chapter 3 provides an update on the stress testing frameworks employed within the Region and assesses the Caribbean banking sector's potential credit, interest rate, foreign exchange and liquidity risks flowing from the major shocks that impacted the Region in 2021. Chapter 4 considers several important issues regarding regional systemic risks such as regional credit to GDP gaps, regional financial stability indices, regional systemic risks, systemically important financial institutions (SIFIs) and cross-border banking system exposures. Finally, Chapter 5 discusses policy initiatives for the support and maintenance of financial stability in the aftermath of the pandemic.

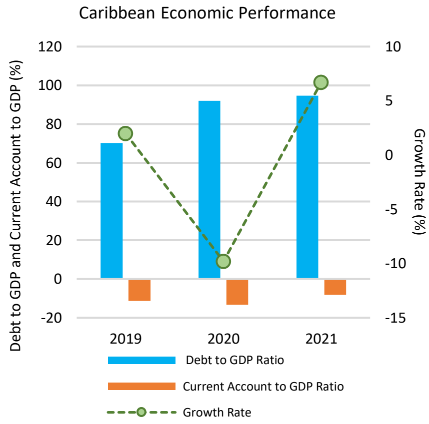
The RFSR complements the annual national financial stability reports produced by regional central banks, to provide a panoramic and comprehensive view of financial stability across the Region. The RFSR is prepared under the guidance of the Regional Financial Stability Coordination Council (RFSCC) set up by the CARICOM Committee of Central Bank Governors.

Caribbean Regional Financial Stability Report 2021- Key Highlights

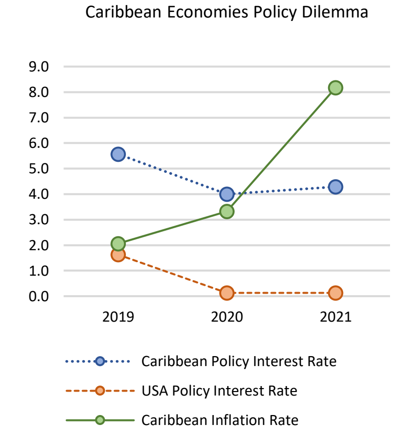
The global economic environment has improved but growth prospects are subject to high uncertainty and downside risks



Caribbean economic growth has recovered to pre-pandemic levels but debt sustainability and external sector problems restrain growth prospects



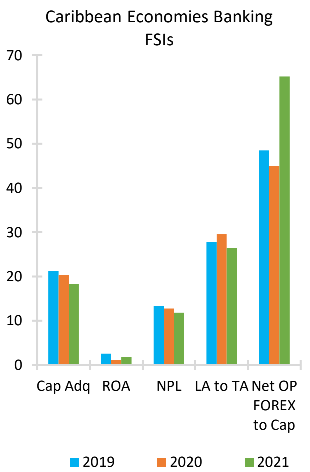
Rising inflation and interest rates create a trilemma - a challenge to balance economic recovery, inflation control and FX market pressures

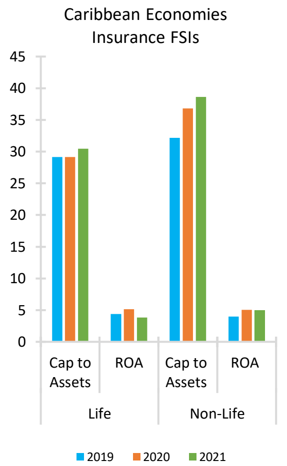


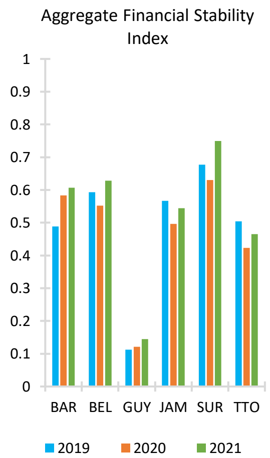
Banking FSIs generally indicate strength – capital adequacy concerns in a few jurisdictions

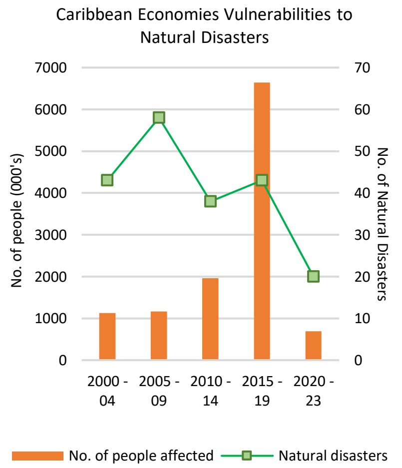
Insurance companies are strongly capitalised but some concerns with profitability in the life insurance sector – overall improvement in aggregate FSIs

High and rising vulnerability to climate-related natural disasters – needs to be incorporated more centrally in financial risk assessments









Improvements to the regional financial stability architecture in 2021

New regulatory and legislative enhancements

- The Bank of Jamaica (Amendment) Act 2020 has paved the way for an independent and modernized central bank
- Guyana's National Payments System Act 2018 came into force in 2020/2021
- Guyana established its Deposit Insurance Scheme with the enactment of the Deposit Insurance Act in January 2021
- Trinidad and Tobago's new Insurance Act, 2018 was proclaimed and became effective on January 2021

Implementation of the Basel II and III Capital Frameworks for banks

- The Central Bank of Belize made significant progress towards implementing Pillar 2 for banks
- The Central Bank of Trinidad and Tobago (CBTT) issued its draft Leverage Ratio Guidelines, Reporting Framework and Instructions to the Basel II/III Technical Working Group in December 2021
- The Bank of Guyana sent the Pillar II fundamental guidelines to the industry for comments
- The Bank of Jamaica concluded the consultation process of its Phase I Basel III Programme

Implementation of the International Financial Reporting Standards (IFRS 9- Banks) and (IFRS 17-Insurance)

- The Central Bank of Belize launched phase two of the International Financial Reporting Standard 9 Project
- The Central Bank of the Bahamas released revised Credit Risk Guidelines to replace Impaired Assets Guidance in the IFRS 9
- The Bank of Guyana continued implementing a Risk-Based Capital Regime in light of the risk-based principles incorporated in the Insurance Act 2016 to promote compliance with the IFRS 17

Modernizing and development of national payment systems

- Many central banks made headway in their development of central bank digital currency (CBDC) with pilots of their CBDC

EXECUTIVE SUMMARY

The Region's financial system remained resilient in 2021 as the global economic recovery gathered pace and regional economies improved. This resilience was achieved despite high global economic uncertainty driven by concerns about the trajectory of the pandemic, supply chain disruptions, rising inflationary pressures, geopolitical tensions and idiosyncratic structural weaknesses in many Caribbean countries. The overall strength and resilience of the financial system in the Caribbean was underpinned by extraordinary policy interventions by central banks, financial regulators and governments across the Region. Additionally, significant support from multilateral organisations was a key factor driving this outcome. Resilience built up over time in areas such as asset quality, capital adequacy and liquidity has also been a critical aspect of the strength of the financial system during this period. Very importantly, the continual reform and strengthening of the regional financial stability architecture, particularly those reforms introduced in the wake of the financial crisis in 2007/2008 and the CL Financial crisis in 2009, were key factors in the continuing resilience of the regional financial system.

The main risks to regional financial stability in 2021 included the following:

1. The growing dominance of financial conglomerates in the Caribbean has led to the amplification of concentration risks and this coupled with high interconnectedness implies that the risk of contagion is elevated. This risk is being mitigated by the strengthening of the regulatory architecture in place for these entities, but this must be continuously upgraded to effectively manage their increasing centrality to regional financial stability;
2. High sovereign debt overhangs and the financial system's relatively high exposure to sovereigns have been accentuated by the need for sovereigns to fund pandemic support measures;
3. Elevated inflation pressures from problems in supply chains;
4. Sharp increase in policy interest rates amongst developed economies and the knock-on effects on capital flight and elevated foreign exchange market pressures in the region further complicate the monetary policy dilemma faced by regional central banks by adding these considerations to the challenge of trying to balance inflation control and sustaining the recovery;
5. The escalation of the use of digital technologies in the financial sector has increased the Region's exposure to cyber risks and cyber-attacks;
6. Elevated climate risks in the form of the increased frequency and intensity of adverse weather events;

Banks and insurance companies generally continued to exhibit resilience in 2021 despite a challenging environment. A review of the financial stability indicators for banks showed that asset quality was generally stable over the review period as the ratio of non-performing loans to total loans increased marginally from 6.8 per cent to 6.9 per cent between 2020 and 2021. This slight increase was attributable to service-based economies as their commodity-based counterparts recorded a marginal increase in asset quality. This is a positive development when viewed in the context of the fears that there would have been a sharp decline in asset quality once support measures were removed.

Profitability in the banking sector, which had declined significantly when the Pandemic struck, increased across the Region in 2021 as the moratoria on loan payments was discontinued and as credit demand rose. The Region's capital adequacy levels continued to be significantly above the regulatory minimum but average regional capital to risk-weighted assets declined from 20.4 per cent to 18.2 per cent over the review period as the performance of service-based economies weakened in this area. It is important to note also that these regional averages can mask problems in individual jurisdictions and the fact that the minimum capital adequacy ratio was 11.8 per cent and 12.4 per cent in 2020 and 2021 respectively, indicates that at least one jurisdiction was uncomfortably close to the regulatory minimum. A major shock could therefore push their capital adequacy ratio (CAR) below that regulatory benchmark. Liquidity also continued at healthy levels even though there was a slight decline as credit demand increased.

In terms of the insurance sub-sector, both life and non-life companies remained highly capitalized and the level of capitalization increased for both classes of insurance companies over the review period. In terms of profitability, however, there was a significant decline amongst life insurance companies both on an ROA and ROE basis. Profitability of the non-life insurance also declined over the review period but marginally so.

In 2021, regional regulators continued to assess the resilience of their respective financial sectors to the various extraordinary events, namely the COVID-19 pandemic and, in some instances, elevated inflation and climate-related events. Stress test coverage remained predominantly confined to the banking system – the sector that accounts for the most significant proportion of financial sector assets. While most jurisdictions reported that the banking sector remained resilient in the face of COVID-19, inflation and climate-related shocks, there appeared to be increased susceptibility to credit risk. The fact that asset quality has deteriorated only marginally and capital adequacy ratios are in most cases relatively high in the context of the scaling back of support measures, indicates that the Region is in a relatively strong position to deal with credit risks. Jurisdictions where there is a combination of relatively high NPLs and capital adequacy ratios are relatively close to the regulatory minimum must monitor the situation closely and prioritise increasing capital and reducing NPLs.

The Region remains highly interconnected with regional counterparts and the rest of the world, with significant banking and funding exposures to North America in particular. Barbados, Jamaica and Trinidad and Tobago continued to be the dominant jurisdictions in terms of their size and importance in the regional financial system, in part because of the financial conglomerates and systemically important financial institutions (SIFIs) domiciled there. Network analysis also suggests that these countries are important nodes in the regional financial system and problems in those jurisdictions could easily spread to the rest of the Region causing major disruptions to the regional financial network. The fact that the regional financial network has a relatively high level of fragility is also a risk factor. In this context, any existing gaps in the regional architecture for financial stability must therefore be urgently addressed.

The outlook for financial stability in the Region is complicated by high levels of uncertainty underpinned by inflationary pressures, high sovereign debt overhangs, vulnerability to climate change risks, as well as, a high degree of financial interconnectedness underpinned by the dominance of SIFIs and regional financial conglomerates. The transition to higher interest rates is also a major challenge as it intensifies the dilemma of balancing the critical objectives of sustaining the recovery, controlling inflationary pressures and limiting capital flight and foreign exchange market pressure.

In this environment, the challenges concerning asset quality and capital adequacy may linger in a few jurisdictions. Capital may therefore need to increase in a few jurisdictions where NPLs are relatively high and where capital adequacy ratios are still above international regulatory norms, but there is the potential for the scale and duration of shocks to push capital below the regulatory threshold.

The digitalisation of the financial services industry, which accelerated during the pandemic, has resulted in electronic platforms being rolled out and entrenched on an unprecedented scale. In this environment, cyber risks and cyber-attacks are likely to escalate, it is critical in this setting that regulated institutions and regulators ensure that appropriate cybersecurity protocols and systems are in place. The regulatory process therefore has to ensure that cybersecurity is an important dimension evaluated during the regulatory examination process. This process must ensure that cybersecurity governance systems at regulated institutions are fit for purpose and meet international best practices.

The increasing market concentration due to the dominance of large conglomerates combined with high levels of financial interconnectedness in the Region will require close monitoring of the regional dimension of these stakeholders' exposures to preempt any emerging problems and potential for contagion. The financial regulatory authorities in the Region have responded and are responding to these challenges in an increasingly effective way. Regionally, the regulatory and supervisory authorities in the financial sector have made enhancements to their Anti-Money Laundering/Countering Financing of Terrorism (AML/CFT) guidelines, as well as, the development of frameworks to address the emergence of private digital currencies and other Fintech developments. Some of them have introduced or are planning to introduce national digital currencies. They have also improved the more traditional elements of their payment systems. The growing importance of large integrated financial firms in the regional financial space has also spurred the development of regional regulatory colleges for institutions with a large Caribbean footprint.

Nevertheless, there is room for improvement in terms of the macro-prudential regulation of the cross-border dimension of systemic risk. These include the finalization of architectural elements such as a regional financial institution resolution framework, more formal memoranda of understanding to backstop cooperation in areas such as information sharing amongst regulatory agencies and the harmonization of minimum prudential standards and licensing requirements. This will go a long way to ensuring the regional architecture in place for sustaining financial stability is sufficiently comprehensive to meet emerging challenges.

Chapter 1: Overview of the Regional Macro-Financial Environment

The tumultuous nature of the global economy has driven economic outcomes in Caribbean countries over the period 2020 to 2021. The global economy improved as expected in 2021 underpinned by the easing of lockdowns, vaccine rollouts and unprecedented policy support on the fiscal and monetary/financial policy fronts. This recovery was hampered by the resurgence of infections driven by different COVID-19 variants, which forced the resumption of restrictions and created financial market volatility in the 4th quarter of 2021. These developments have resulted in significant economic scaring in some countries, which suggests that there may be longer-term challenges for global growth flowing from the pandemic. The recovery has also lagged in developing countries due to challenges relating to vaccine supply, limited fiscal space for pandemic support, idiosyncratic vulnerabilities and lingering structural weaknesses from the legacy of the 2007/2008 international financial crisis. In this environment, growth has improved in the Caribbean but downside risks related to the trajectory of the pandemic, rising inflation and pre-existing vulnerabilities related to fiscal sustainability and natural disasters must be carefully managed.

1.1 International Economic Developments

Global growth rebounded to 6.3 per cent in 2021 from -3.1 per cent in 2020, driven by vaccine rollouts, the easing of lockdowns and unprecedented policy measures to support economies at the national and international levels. This recovery in growth happened despite a resurgence in COVID-19 infections linked to the emergence of new variants, labour market problems, rising inflation and supply disruptions. Domestic support in the form of fiscal injections, supportive monetary policy and much higher levels of development financing were key factors in the recovery.

The recovery was also driven by a strong rebound in developed market economies and China, a boom in demand for consumer durables underpinned by COVID-19 income support, excess household savings from suppressed spending during lockdown periods and higher growth by commodity-based economies. These unprecedented support measures across the world have supported demand, sustained the private sector's risk appetite and effectively mitigated risks to the international financial system. However, negative developments in the second half of 2021 such as higher energy prices, continuing supply disruptions particularly in the US and Europe, as well as, longer than expected problems in the real estate sector in China and that country's zero-COVID policy led to a slower than expected recovery in global growth.

Future global growth is forecast to slow to below the long-term average of 3.9 per cent, falling from 3.5 per cent in 2022 to 3.0 per cent in 2023 and further to 2.9 per cent in 2024. This dynamic is expected to be driven by the normalization of policy in all countries, more persistent scarring from the pandemic, as well as, a lower capacity for policy support and pre-existing vulnerabilities in many developing countries (Table 1.1).

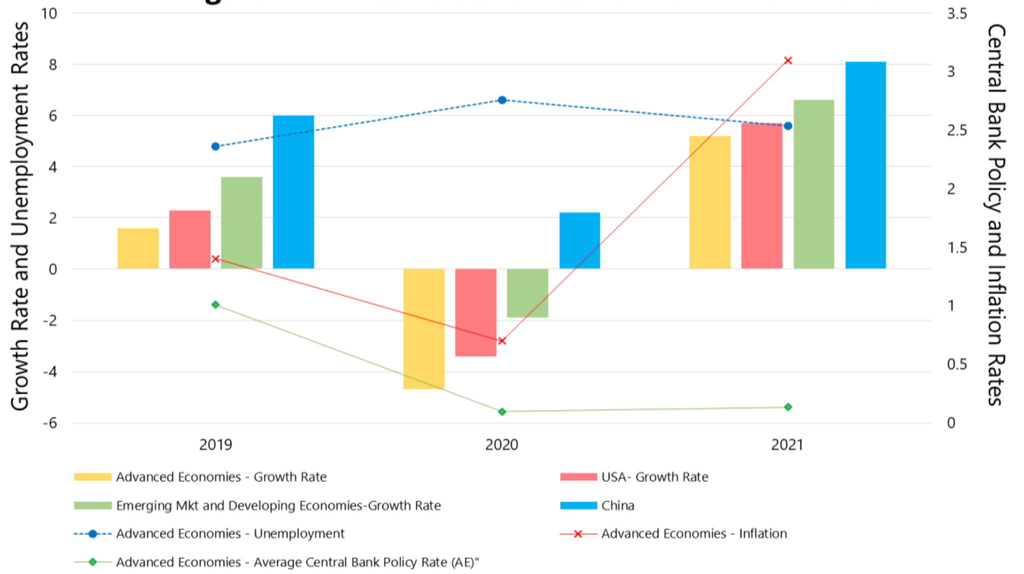
Table 1.1: Global Economic Growth (%)

Country/Region	2017	2018	2019	2020	2021	2022	2023	2024
World	**3.8**	**3.6**	**2.8**	**-2.8**	**6.3**	**3.5**	**3.0**	**2.9**
Advanced economies	**2.5**	**2.3**	**1.6**	**-4.7**	**5.2**	**2.6**	**1.5**	**1.4**
USA	2.3	2.9	2.3	-3.4	5.7	2.1	2.1	1.5
Japan	1.7	0.6	-0.4	-4.6	1.7	1.1	1.3	1.0
Canada	3.0	2.4	1.9	-5.2	4.5	3.4	1.5	1.5
UK	2.1	1.7	1.7	-9.3	7.4	4.0	-0.3	1.0
Germany	2.7	1.0	1.1	-3.7	2.6	1.8	-0.1	1.1
Korea	3.2	2.9	2.2	-0.7	4.1	2.6	1.5	2.4
Singapore	4.5	3.6	1.3	-3.9	8.9	3.6	1.5	2.1
Euro area	**2.6**	**1.8**	**1.6**	**-6.1**	**5.2**	**3.3**	**0.7**	**1.4**
Emerging markets and developing economies	**4.8**	**4.5**	**3.6**	**-1.9**	**6.6**	**4.1**	**4.0**	**4.2**
Russia	1.8	2.8	2.2	-2.7	4.7	-2.1	0.7	1.3
Emerging and developing Asia	**6.6**	**6.4**	**5.2**	**-0.6**	**7.2**	**4.5**	**5.2**	**4.8**
China	6.9	6.8	6.0	2.2	8.1	3.0	5.0	4.2
India	6.8	6.5	3.7	-6.6	8.7	7.2	6.3	6.3
Latin America and the Caribbean	**1.3**	**1.2**	**0.2**	**-7.0**	**6.9**	**4.1**	**2.3**	**2.3**
Brazil	1.3	1.8	1.2	-3.9	4.6	2.9	0.9	1.5
Middle East and North Africa	**2.1**	**2.0**	**1.0**	**-3.1**	**4.3**	**5.6**	**2.0**	**3.4**
Source: World Economic Outlook Dataset, October 2023.								

The recovery in 2021 was characterised by relatively weak increases in employment and unevenness across countries and sectors. Unequal access to vaccines, vaccine hesitancy, the differential impact of the pandemic on various sectors, the unequal capacity of countries to provide support and pre-COVID-19 vulnerabilities have driven the uneven nature of the recovery. In particular, sectors dependent on personal contact such as the hospitality and tourism industries were the most severely affected in 2020 as tourism arrivals fell by 72.1 per cent across the world. There are encouraging signs, however, as international tourist arrivals increased by 9.0 per cent in 2021 as most regions benefitted from the easing in restrictions. The major exception in this regard was the Asia and the Pacific region, which continued to record huge declines in tourist arrivals as infections surged and restrictions tightened. The longer the duration of the pandemic the greater the risk of longer-term scarring to economies so it's critically important that governments and international institutions put in place the required policy framework as quickly as possible to facilitate the re-opening of economies and the recovery process.

On average, the risks to global economic growth prospects are downside risks driven by issues such as the potential for a resurgence in infections as new variants emerge, continued supply disruptions, and the possibility that the authorities may need to tighten policy sooner than expected because of rising inflationary pressures. In particular, some countries have already begun tapering as inflation risk and fiscal sustainability issues arise, but major economies are yet to raise rates (See Figure 1.1). The policy dilemma many countries face is the challenge of balancing the need to keep interest rates low to help the recovery process against the need to tighten policy rates to contain inflationary pressures. The possibility of faster monetary policy normalisation in developed economies in the context of overextended international financial asset prices could lead to a rapid shift in investor sentiments. This would undo the supportive international financial conditions on which the current global growth projections depend. Adverse developments in the two largest economies such as higher and more broad-based inflation dynamics and continued supply disruptions in the US and, a longer than expected retrenchment in the real estate sector in China and the zero COVID policy could also have negative consequences for global growth prospects.

Figure 1.1: International Economic Environment



Source: World Economic Outlook Dataset, IMF, October 2022.

There is also the risk of permanent scarring amongst developing countries from the scale and duration of the crisis. The possibility of the escalation in trade tensions between the US and China, increased cyberattacks, as automation and virtual work arrangements become more entrenched, and the possibility of social unrest caused by pandemic responses are also significant risks to the recovery.

On the financial stability policy front, the monetary and financial authorities have been careful in calibrating macro-prudential policy tools in a way that does not precipitate a general tightening in financial conditions. Moving forward, they should streamline credit guarantees, debt moratoria and capital and liquidity buffers to facilitate a narrower focus on more vulnerable financial institutions, while more broadly limiting the buildup of balance sheet mismatches. Concerns about asset quality and profitability in financial institutions should drive efforts at balance sheet repair, but not in a way that leads banks to adopt a highly risk-averse posture, which could hamper the recovery process.

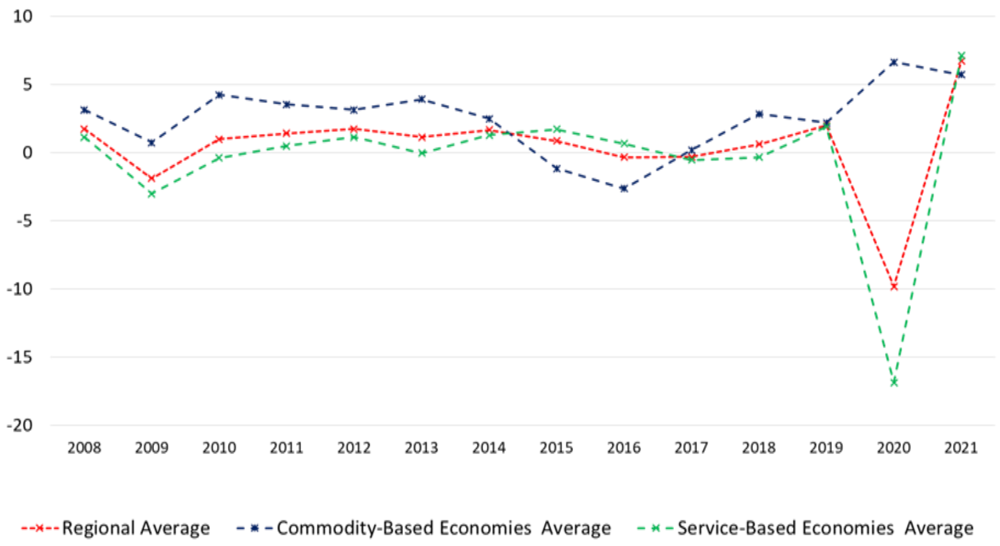
1.2 Regional Macroeconomic Developments

1.2.1 Economic Growth

The V-shaped economic recovery anticipated in the Caribbean materialized in 2021 as the global economy rebounded. Most countries recorded strong growth except in cases where there were pre-existing structural challenges before the onset of the pandemic.

Average regional growth recovered from -9.8 per cent in 2020 to 6.7 per cent in 2021. This improvement was driven in large part by service-based economies, which as a group recovered from average growth of -16.9 per cent in 2020 to 7.1 per cent in 2021, as these countries opened up their tourism sector. Lingering problems related to remaining travel restrictions, COVID-19 protocols and high-risk aversion on the part of potential tourists continue to pose problems to the full recovery in these countries. The average growth performance for the commodity-based economies was skewed by the extraordinary performance of Guyana. Commodity-based producers as a group recorded growth of 6.6 per cent in 2020 which declined to 5.7 per cent in 2021 as very high growth in Guyana in 2020 moderated in 2021 (See Figure 1.2).

Figure 1.2: Real GDP growth rate (%)

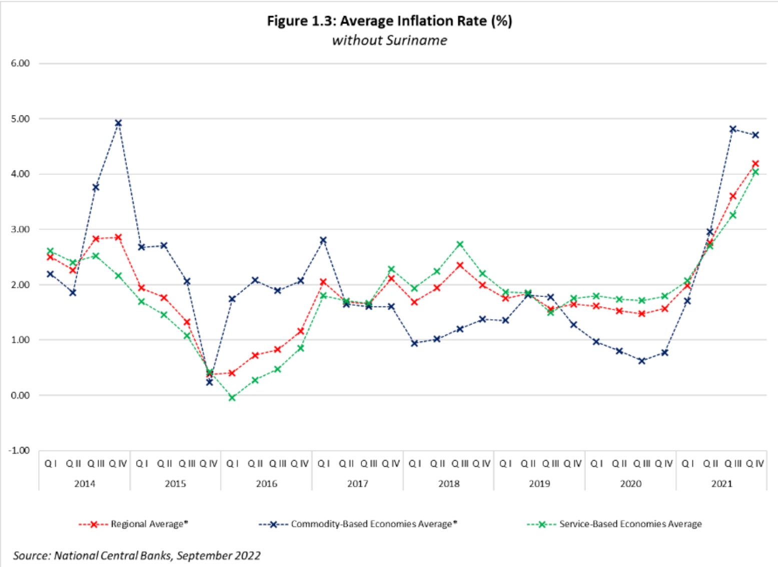


Source: National Central Banks, September 2022

The recovery was driven by improvements in vaccination rates, the easing of restrictions, the opening up of the tourism sector and robust growth in Guyana. On the other hand, episodic spikes in infections and the threat of the re-imposition of restrictions generated high levels of uncertainty that have proven to be a significant drag on growth.

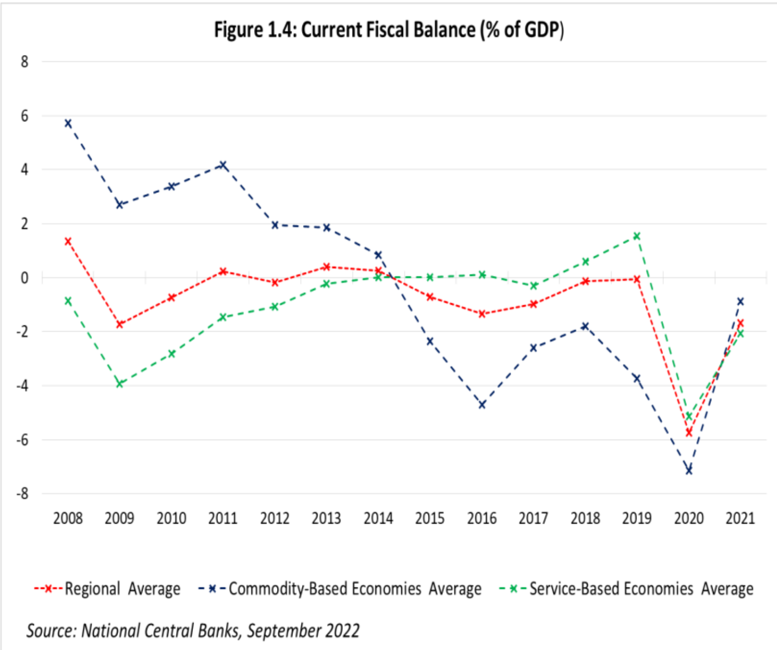
1.2.2 Inflation

Inflation pressure in the Region was relatively muted in the review period (except Suriname). On an annual basis, price pressure increased in 2021 as supply bottlenecks and increases in commodity prices began to dominate price dynamics in the global economy. If you excluded Suriname, which implemented some significant structural adjustments, the average inflation rate would have increased from 1.1 per cent to 3.3 per cent with both commodity and service-based economies at relatively similar levels. This was a remarkable performance in the context of international developments. On a quarterly basis, average regional inflation (without Suriname) moved from 1.6 per cent in the 4th quarter of 2020 to 4.2 per cent in the 4th quarter of 2021 (See Table 1.3).



This performance was due in large part to policies that eased the pass-through to consumers such as subsidies on gas and the temporary suspension of taxes on some food items, as well as, low energy prices in 2020. This allowed the monetary authorities to keep interest rates low so as not to worsen the drastic fall-off in demand brought on by the lockdowns.

1.2.3 Fiscal Balance



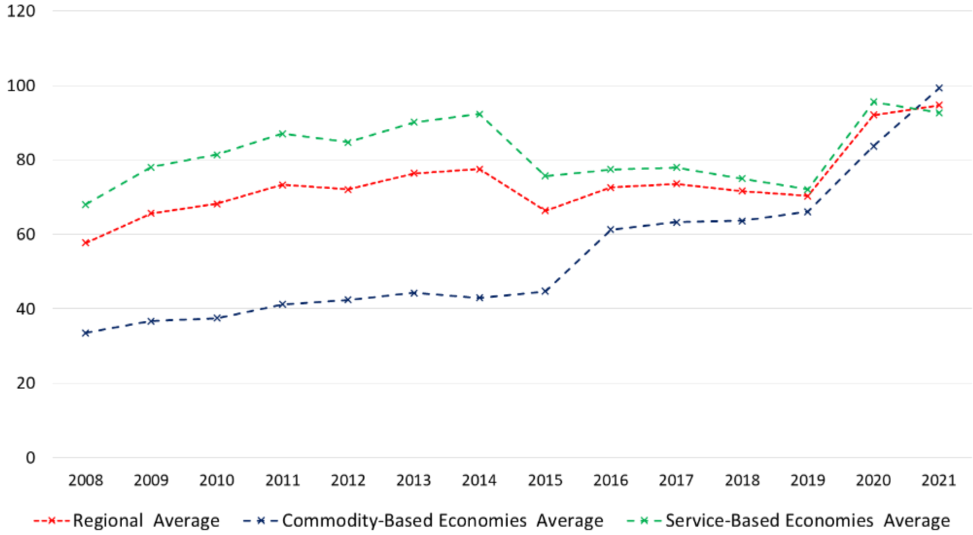
The fiscal situation of the Region improved significantly with the current account as a percentage of GDP moving from -5.7 per cent in 2020 to -1.7 per cent in 2021. Commodity-based economies' current account balance improved significantly by 6.3 percentage points while their service-based economies improved by 3 percentage points between 2020 and 2021 (See Figure 1.4). This improvement was due largely to the scaling back of the exceptional expenditures for COVID-19 support measures, increased tax revenues and the rebound in economic activity as pandemic lockdowns eased. This helped to attenuate the financial stability risks flowing from the government finance/financial institution nexus.

1.2.4 Sovereign Debt

The regional average total Debt/GDP ratio, which had increased sharply by 21.7 percentage points to reach 92.0 per cent in 2020, rose moderately to 94.7 per cent in 2021. The increase in 2021 was driven by commodity-based economies which as a group recorded an increase in their debt ratio from 83.7 per cent in 2020 to 99.3 per cent in 2021 while service-based economies recorded a decline from 95.6 per cent in 2020 to 92.6 in 2021 (See Figure 1.5). This increase in 2021 was due mainly to disbursements for countries already on IMF programmes, additional borrowings to backstop COVID-

19 support measures and the fact that commodity-based economies were not as far along the fiscal consolidation cycle as their service-based counterparts.

Figure 1.5: Total Debt (% of GDP)

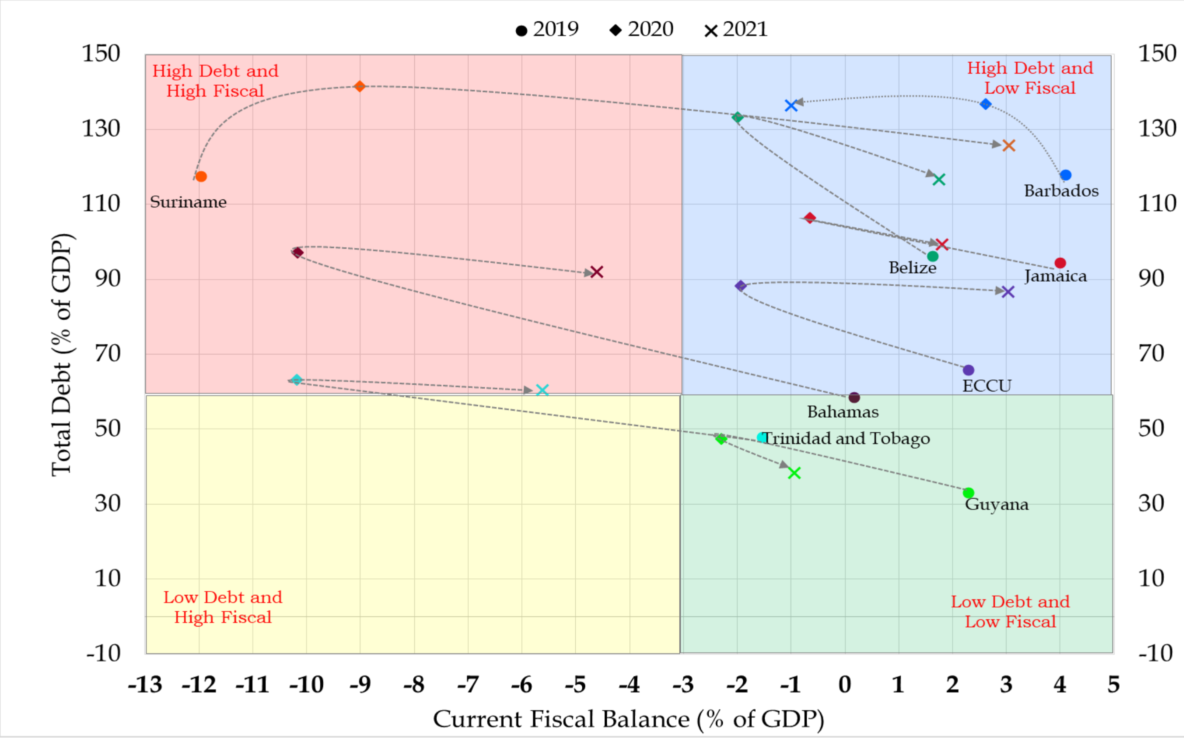


Source: National Central Banks, September 2022

The debt service burden is an important metric for debt sustainability and financial stability. In terms of domestic debt service for the Region, the total payment on domestic debt as a percentage of government revenue improved over the review period, falling from 28.5 per cent in 2020 to 21.3 per cent in 2021, with service-based economies registering a more significant improvement relative to their commodity-based counterparts over the review period. On the external debt front, the ratio of external debt payments to export earnings increased from 22.5 per cent in 2020 to 31.9 per cent in 2021. However, this was driven by a one-off balloon payment in one jurisdiction, which threw the regional average off. Excluding this jurisdiction, the external debt service ratio in the review period would have improved from 21.9 per cent in 2020 to 15.3 per cent in 2021, with commodity-based producers moving from 7.5 per cent to 5.1 per cent while their service-based counterparts moved from 32.8 per cent to 23.0 per cent respectively. It is noteworthy that two jurisdictions in the review period were above the 15 per cent benchmark thought to be the threshold beyond which problems with debt sustainability arise.

The nexus between the fiscal accounts and sovereign debt is an important dynamic underpinning the economic vulnerability of Caribbean economies. The pandemic led to a considerable deterioration in these critical accounts. The global economic recovery has helped most countries to partially reverse some of the negative developments in these areas.

Figure 1.6: The Fiscal Balance/Sovereign Debt Nexus



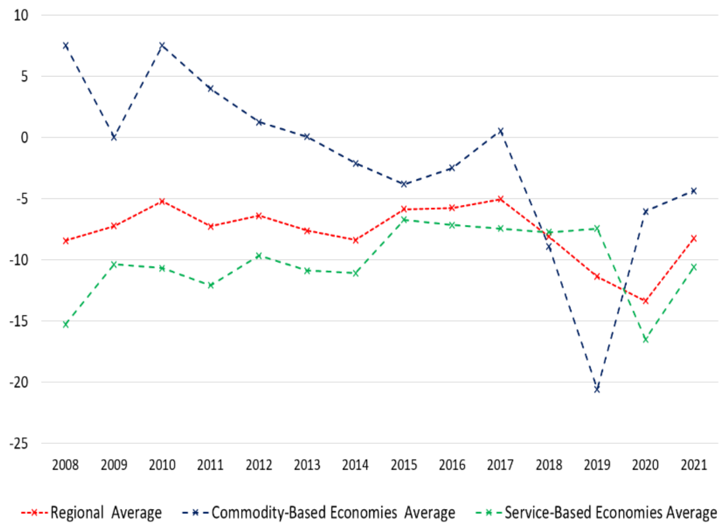
In particular, most jurisdictions (Belize, The Bahamas, the ECCU, Guyana, Jamaica and Trinidad and Tobago) have made significant headway in recovering to where they were before the pandemic in these critical areas. Indeed, Suriname has made significant progress in both areas relative to 2020. Barbados is the only jurisdiction that has not made significant progress in these critical areas (See Figure 1.6).

1.2.5 External Current Account

The external current account as a percentage of GDP improved from -9.7 per cent in 2020 to -8.3 per cent in 2021 (See Figure 1.7). This improvement was driven by both commodity and service-based economies over the review period as economies recovered with the opening of the tourism sector and as commodity prices increased.

The performance of Guyana had an important impact on regional performance in this area. A huge transitory increase in imports of machinery and transport equipment for the oil and gas industry in 2021 generated a much higher current account deficit for that country but the improved performance of other economies ensured that the overall regional

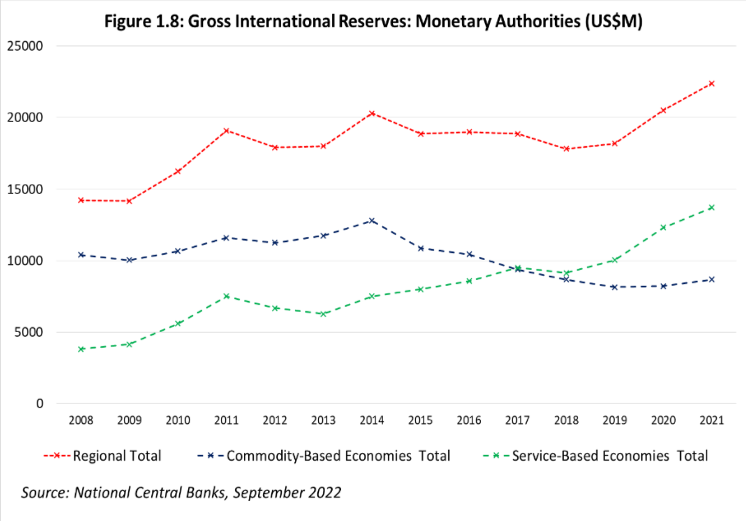
Figure 1.7: External Current Account (% of GDP)

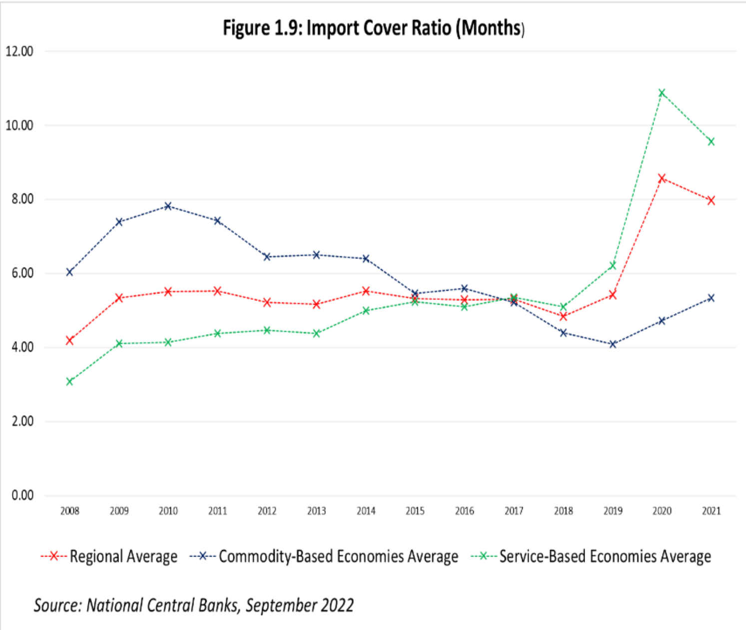


Source: National Central Banks, September 2022 average improved over the review period. The expected normalization in imports in Guyana would significantly improve performance in this area for Guyana and the Region as a whole. It is noteworthy, that service-based economies continue to exhibit weakness in this area, which has important implications for financial stability through the foreign exchange market channel.

1.2.6 External Reserves

Regionally, the total gross international reserves of the monetary authorities increased from US$21.6 billion in 2020 to US$23.8 billion in 2021. International reserves increased in both commodity and service-based economies by US$ 0.5 billion and US$ 1.7 billion respectively in the review period (See Figure 1.8).





This performance was, however, built mostly on debt flows and the benefits that flow from increased foreign exchange reserve buffers must be viewed in the context of increasing vulnerability on the debt sustainability front. It is noteworthy also, that international reserves at central banks increased over the period by US$ 1.2 billion with the increases distributed fairly equally amongst commodity and service-based economies.

Relatedly, average monthly import cover decreased slightly from 7.3 months in 2020 to 6.7 months in 2021 as regional imports jumped by approximately 93.6 per cent over the review period[1], driven by a sharp rebound in demand (See Figure 1.9). All countries except one exceeded the 3-month benchmark for reserve adequacy.

[1] Excludes data for Haiti and Suriname

1.3 Financial System Structure

Financial sectors within the Region remain predominantly commercial bank-centric (Table 1.2). Other important financial sub-sectors include insurance companies, credit unions and pension funds. Financial markets such as foreign exchange, bond and stock markets are also still relatively underdeveloped and small, but they are still important to the maintenance of financial stability since they can be important channels for contagion.

The banking sectors within the Region include a balance of local and foreign-owned entities. Foreign-owned banks are usually subsidiaries or extensions of Canadian parents. Regional financial conglomerates with extensive cross-border operations are headquartered in Barbados, Jamaica and Trinidad and Tobago. This implies that these countries and the conglomerates domiciled there are important nodes in the regional financial network and you cannot maintain financial stability in separate national jurisdictions without reference to these regional dynamics.

Table 1.2: Structure of CARICOM Economies Financial Systems 2021
(Total Assets as % of GDP)

	Bahamas	Barbados	Belize	ECCU	Guyana	Jamaica	Suriname	Trinidad and Tobago	Caribbean
Banks	140.71	199.29	93.09	209.89	39.44	127.61	88.8	94.87	116.64
Credit Unions	4.22	42.67	25.93	35.45	0.61	9.10	0.1	12.61	12.11
Insurance Companies	19.31	55.22	9.91	18.70	6.81	30.31	15.2	29.92	24.58
Other	39.46	89.53	11.20	107.21	41.02	96.36	14.1	117.54	83.89
Total	207.32	386.71	140.13	371.24	87.89	263.38	118.2	254.94	237.22

Source: National Central Banks for Caribbean Countries; World Council of Credit Union Statistical Report,2021; Eastern Caribbean Currency Union Country Report, International Monetary Fund, July 2022

The insurance market is a vital component of the financial structures within the Region. The holding company structure of some of the large insurers in the Caribbean also implies that these entities create regional exposures which must be monitored. There also exists significant common exposure to Caribbean sovereigns amongst these institutions which given the high sovereign debt overhang can be a source of vulnerability which can amplify regional contagion risks.

1.4 Financial Infrastructure

Financial market infrastructures are at varying levels of development across the Region (Table 1.3). There has been some progress in the establishment of credit bureaus in the Region. In 2020, the Region only had four jurisdictions that had legislated credit bureaus. The process of passing credit bureau legislation to give legal cover to firms that offer credit information was at an advanced stage in The Bahamas, Barbados, the ECCU and Suriname. Credit bureaus were established in all those countries except Barbados in 2021. In Barbados, the Fair Credit Reporting Act was approved by the House of Assembly in 2021 and will soon be promulgated.

Table 1.3: Financial Market Infrastructure 2021

	Deposit Insurance	Credit Bureau	RTGS	Central Securities Depository	Stock Exchange
Bahamas	Yes	Yes	Yes	Yes	Yes
Barbados	Yes	Yes	Yes	Yes	Yes
Belize	No	No	Yes	Yes	No
ECCU	No	Yes	Yes	Yes	Yes
Guyana	Yes	Yes	Yes	Yes	Yes
Haiti	No	Yes	Yes	No	No
Jamaica	Yes	Yes	Yes	Yes	Yes
Suriname	No	Yes	Yes	No	Yes
Trinidad and Tobago	Yes	Yes	Yes	Yes	Yes
Sources: Caribbean Central Banks; Financial Stability Reports of Caribbean countries					

Concerning payments system infrastructure, all jurisdictions have upgraded to a Real Time Gross Settlement System (RTGS). In terms of the securities market infrastructure, only Haiti and Suriname do not as yet have Central Securities Depositories (CSDs), while only Belize and Haiti do not have stock exchanges. Five countries had explicit deposit insurance schemes in 2020, which was still the case in 2021. There has been some progress, however, as Belize's scheme was given legislative cover in 2021 but still has not been operationalized. Additionally, work to launch deposit insurance schemes in The ECCU and Suriname is at an advanced stage. These concerted efforts to improve the financial infrastructure underpinning the operation of the financial system in the Caribbean increased the Region's capacity to mitigate financial risks.

1.5 Financial Market Developments

The equity, bond and foreign exchange markets in the Region are still relatively small, with a limited number of agents involved in trading, underdeveloped mechanisms for price discovery and gaps in the market infrastructure. The Region has, however, made significant progress in developing its financial market infrastructure over time.

In terms of equities markets in the region, they generally rebounded in 2021 from weak share prices in 2020 as the global economic recovery gathered steam. Stock markets in Trinidad and Tobago, increased by 10.3 per cent in 2021 relative to 2020. The shallow nature of the equity market and the concentration of trading in a few entities implies that problems amongst this group have serious implications for the stability of the market. The concentration of assets of collective investment schemes in Trinidad and Tobago government securities and foreign securities also suggests that there are significant exposures to international equity price movement and sovereign risk.

In Jamaica, the lifting of restrictions led to improvements in the stock market. The Jamaica Stock Exchange index increased by 0.6 per cent between 2020 and 2021 with the correlation between this local index and international markets such as the S&P 500 declining significantly as a result. The Jamaica Stock Exchange's private market trading portal was launched in early 2021. At the close of 2021, the market had generated approximately J$38.2 billion in trading volume with a market capitalisation of J$ 17.8 billion. This helped to deepen the local stock market and increase pricing efficiency.

The most significant development in the Region in 2021 in regional financial markets was the change in the exchange rates regime in Suriname from a managed float to a flexible exchange rate regime in June 2021, as part of the requirements to facilitate the signing of an IMF Extended Fund Facility in

December 2021. Before this policy adjustment, the Central Bank of Suriname had devalued the local currency on several occasions in 2020 and up to June 2021 to deal with the overvaluation of the local currency. These policy changes resulted in significant foreign exchange volatility, which is a significant risk factor for financial institutions due to the high level of dollarization in the economy. The Central Bank has responded to these challenges by boosting foreign exchange reserves, operationalizing a foreign exchange auction system to address disorderly market movements and the expansion of open market operations by the issuance of Central Bank Certificates to large investors to control liquidity in the system.

In terms of the foreign exchange markets in the Region generally, flexible exchange rate regime markets experienced relatively subdued exchange rate pressure due to central bank interventions in the market. The problem of excess demand in the foreign exchange market however continues to be a challenge in both flexible and fixed exchange rate regime countries because of a series of international shocks including natural disasters but also because of structural economic weaknesses across the Region. These structural weaknesses and shocks can have significant impacts on the health of the financial system so the monetary authorities must continue to be vigilant by monitoring these risks, assessing their threat to the health of the financial system through appropriate stress tests and implementing appropriate policies to mitigate these risks.

Chapter 2: Performance of the Financial Institutions in the Region

2.1 Broad State of Financial Sector Performance in the Region

Banks and insurance companies generally continued to exhibit resilience in 2021 despite a challenging environment. These institutions had to confront the challenges related to the ending of their moratoria on loan payments and the re-imposition of central banks' standards for the classification of non-performing loans. They also had to navigate the return to face-to-face operations and a business environment where inflation and interest rates were on the increase.

A review of the financial stability indicators for banks showed that asset quality was generally stable over the review period as the ratio of non-performing loans to total loans increased marginally from 6.8 per cent to 6.9 per cent between 2020 and 2021. This minor regional deterioration was attributed to service-based economies, as their commodity-based counterparts recorded a small improvement in asset quality. This is a positive development when viewed in the context of the fears that there would have been a sharp decline in asset quality once support measures were removed. Profitability in the banking sector increased across the Region in 2021 as the moratorium on loan payments was discontinued and as credit demand rose. The Region's capital adequacy levels continued to be significantly above the regulatory minimum but average regional capital to risk-weighted assets declined from 20.4 per cent to 18.2 per cent over the review period as the performance of service-based economies weakened in this area. It is important to note also that these regional averages can mask problems in individual jurisdictions and the fact that the minimum capital adequacy ratio was 11.8 per cent and 12.4 per cent in 2020 and 2021 respectively indicates that at least one jurisdiction is uncomfortably close to the regulatory minimum. A major shock could therefore push their CAR below that regulatory benchmark. Liquidity also continued at healthy levels even though there was a slight decline as credit demand increased.

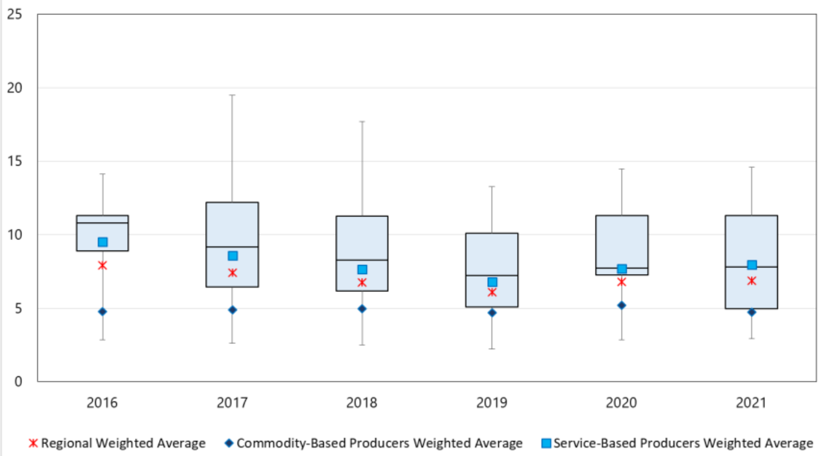
In terms of the insurance sub-sector, both life and non-life companies remained highly capitalized and the level of capitalization increased for both classes of insurance companies over the review period. In terms of profitability, however, there was a significant decline amongst life insurance companies both on an ROA and ROE basis. Profitability of the non-life insurance also declined over the review period but marginally so.

2.2 Banking Sector Soundness Indicators

2.2.1 Asset Quality

The cumulative level of non-performing loans to total loans was on a downward trajectory from 2016 until the spike due to the onset of the COVID-19 pandemic. The regional weighted average of non-performing loans to total loans increased from 6.1 per cent in 2019 to 6.8 per cent in 2020 and then to 6.9 per cent in 2021. The overall performance in this area was driven by the service-based economies which recorded a slight increase in their NPL ratio from 7.7 per cent to 8.0 per cent while their commodity-based counterparts recorded a reduction in non-performing loans to total loans from 5.2 per cent in 2020 to 4.7 per cent in 2021 over the same period (See Figure 2.1).

Figure 2.1: Non-Performing Loans to Total Gross Loans for Commercial Banks (%)



Source: : National Central Banks for Caribbean Countries, March 2023
Notes : Haiti data not available ; Weighted Averages weighted by Banking systems assets.

Figure 2.2 : Non-Performing Loans Net of Provisions to Capital for Commercial Banks (%)

Source: : National Central Banks for Caribbean Countries, March 2023
Notes : Haiti data not available ;Data for Curacao & Sint Maarten only available from 2017; Weighted Averages weighted by Banking systems assets.

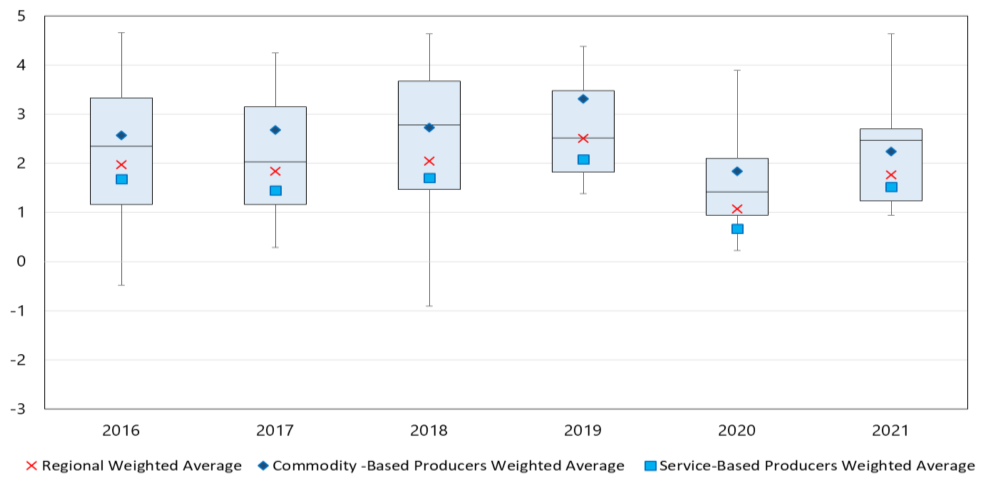
The marginal increase in the service-based economies' NPL ratio was due in part to the scaling back of moratoria on loan payments by banks and regulatory forbearance by central banks. The fact that there was only a slight deterioration in asset quality amongst some service-based economies allayed fears that the Region could have had a serious problem with asset quality when the exceptional policy measures were scaled back. This needs to be monitored closely since service-based economies have always had bigger problems with asset quality relative to their commodity-based counterparts.

In this context, the regional weighted average of non-performing loans net of provisions to capital for banks ratio declined from 12.7 per cent in 2020 to 11.8 per cent in 2021. Both commodity and service-based economies exhibited the same trend (See Figure 2.2).

2.2.2 Earnings and Profitability

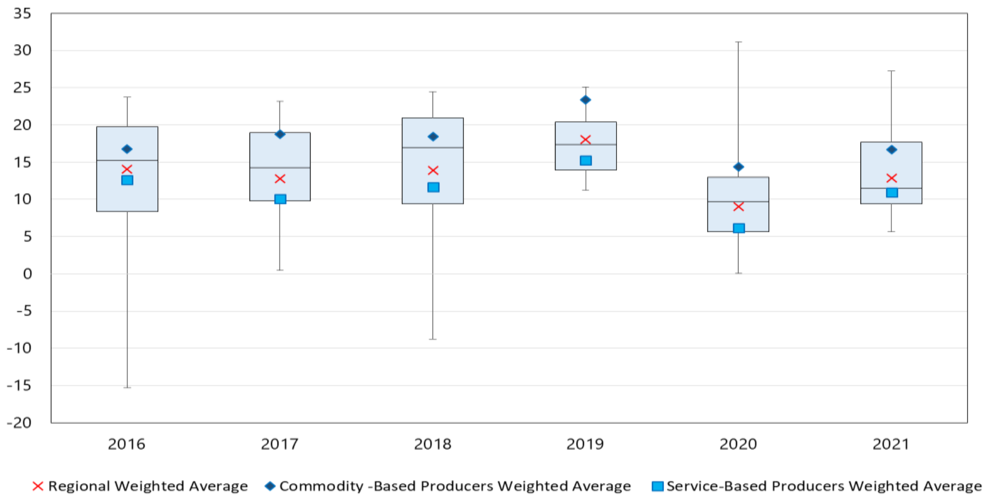
The average profitability of regional commercial banks, as measured by the regional weighted average return on assets (ROA), rose from 1.1 per cent in 2020 to 1.8 per cent in 2021, as economies recovered and moratoria on loan payments were phased out. Performance improved in both service-based and commodity-based economies with ROA in the former moving from 0.7 to 1.5 per cent and 1.8 to 2.2 per cent in the latter over the review period. Other profitability measures also improved with the average regional return on equity (ROE) improving from 9.0 per cent in 2020 to 12.4 per cent in 2021. Again, performance improved in both commodity and service-based economies (See Figures 2.3 and 2.4).

Figure 2.3 : Return on Assests for Commercial Banks (%)



Source: : National Central Banks for Caribbean Countries, March 2023
Notes : Haiti data not available ; Weighted Averages weighted by Banking systems assets.

Figure 2.4 : Return on Equity for Commercial Banks (%)



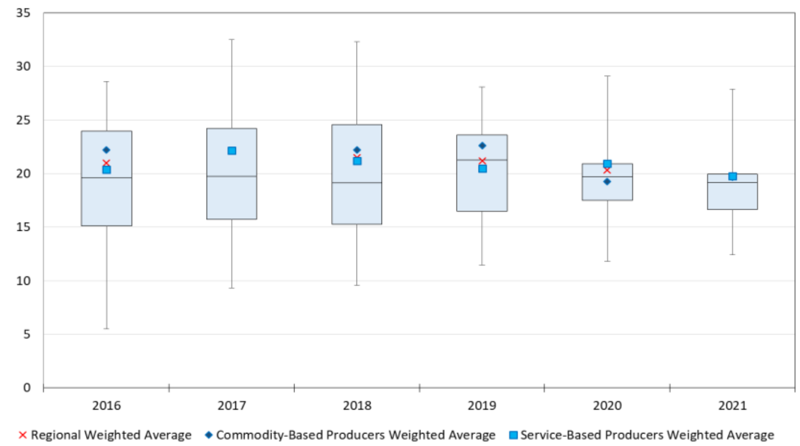
Source: : National Central Banks for Caribbean Countries, March 2023
Notes : Haiti data not available ; Weighted Averages weighted by Banking systems assets.

Commodity-based economies have consistently outperformed their service-based counterparts in this area. This performance gap is generally correlated with commodity price cycles with the gap widening when commodity prices are high and falling when commodity prices are low due to the asymmetric response of these two types of economies to commodity price shocks.

2.2.3 Bank Capital Adequacy

Across the Region, the capital adequacy ratio (CAR) remained above the regulatory minimum, averaging over 20.0 per cent consistently for the period 2016-2021 (see Figure 2.5). The average regional CAR fell slightly from 20.4 per cent in 2020 to 18.2 per cent in 2021. This trend was driven in large part by the service-based economies which saw their CAR fall from 20.9 per cent in 2020 to 17.5 per cent in 2021 while their commodity-based counterparts improved slightly from 19.3 per cent to 19.7 per cent in the same period.

Figure 2.5: Regulatory Capital to Risk Weighted Assets for Commercial Banks (%)

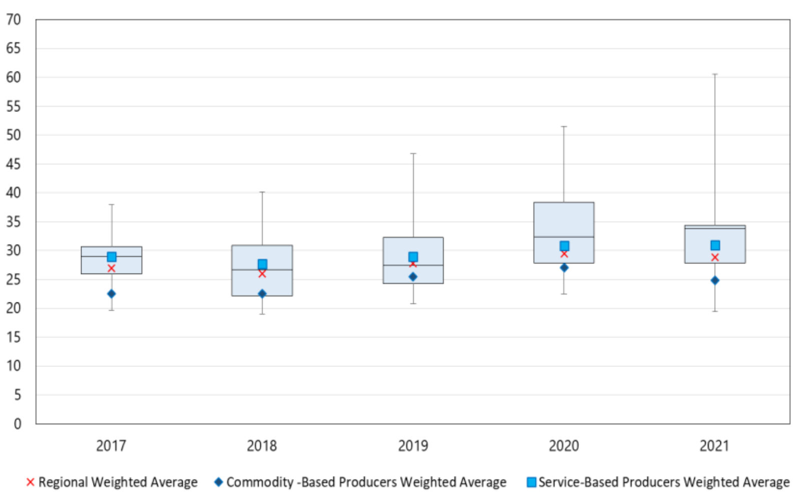


Source: : National Central Banks for Caribbean Countries, March 2023
Notes : Haiti data not available ; Weighted Averages weighted by Banking systems assets.

This strong position at the regional level based on aggregate averages often masks idiosyncratic weaknesses in individual jurisdictions. These aggregate indicators should be supported by some measure of dispersion. In this context, it is noteworthy that the maximum and minimum CAR in the Region were 29.1 per cent and 11.8 per cent in 2020 and this gap only narrowed very slightly in 2021 with the maximum and minimum CAR at 27.9 per cent and 12.4 per cent respectively. This indicates that despite the healthy overall regional average a few jurisdictions may be closer to the regulatory minimum and therefore closer monitoring may be warranted.

2.2.4 Bank Liquidity

Figure 2.6 : Liquid Assets to Total Assets for Commercial Banks (%)

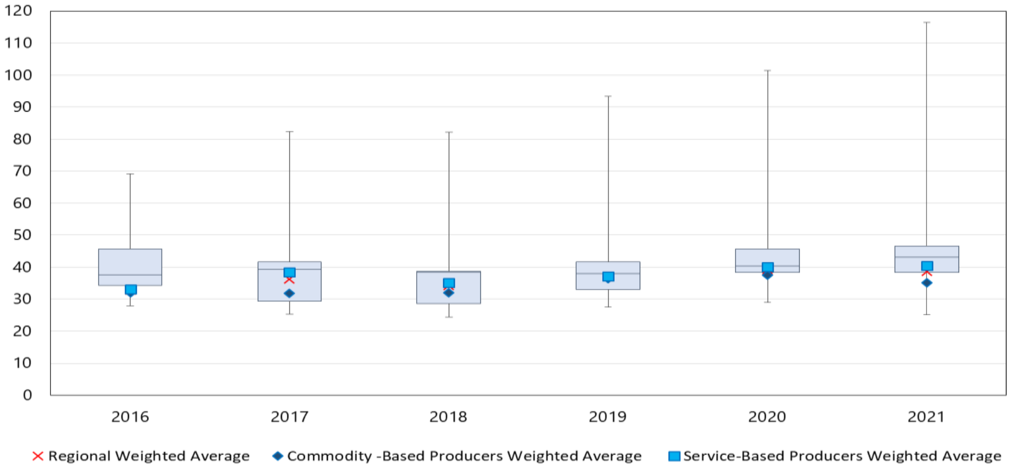


Source: : National Central Banks for Caribbean Countries, March 2023
Notes : Haiti data not available ; Data for Curacao & Sint Maarten only available from 2017; Weighted Averages weighted by Banking systems assets.

The average liquid assets to total assets ratio for the Region has remained above 20.0 per cent for the period 2016-2021. Liquidity levels in the banking sector fell marginally from 27.1 per cent in 2020 to 26.4 per cent in 2021, as economies recovered and credit demand improved. The performance over the review period was largely attributable to commodity-based economies whose average liquid assets to total assets ratio declined from 27.1 per cent to 24.8 per cent while service-based economies as a group increased slightly from 27.0 per cent to 27.2 per cent (see Figure 2.6).

The average ratio of liquid assets to short-term liabilities exhibited similar trends, as the regional average ratio declined from 39.2 per cent in 2020 to 35.4 per cent in 2021. (See Figure 2.7).

Figure 2.7 : Liquid Assets to Short-Term Liabilities for Commercial Banks (%)



Source: : National Central Banks for Caribbean Countries, March 2023.
Notes : Haiti data not available ; Data for Curacao & Sint Maarten only available from 2017; Weighted Averages weighted by Banking systems assets.

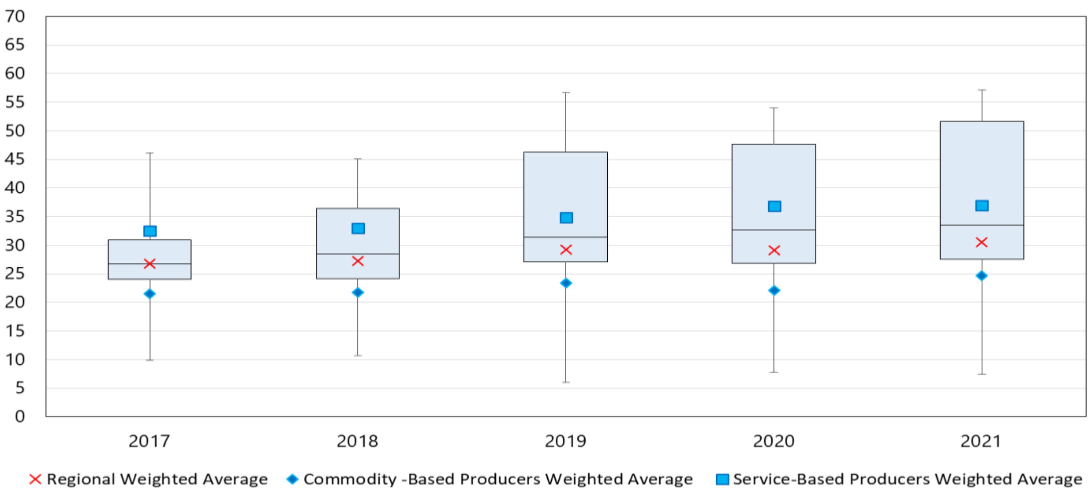
2.3. Life Insurance

2.3.1 Capital Adequacy

In the insurance sector, the life insurance component remained dominant across the Caribbean, accounting for more than 70.0 per cent of the Region's average total insurance assets.

Insurance companies across the Region continued to be highly capitalized relative to total assets, averaging over 24.0 per cent and above throughout the review period. The average regional capital-to-asset ratio for life insurance companies increased from 29.2 per cent in 2020 to 30.5 per cent in 2021. This performance was driven by both commodity and service-based economies, with the former increasing from 22.1 per cent to 24.7 per cent and the latter increasing from 36.9 per cent to 37.0 per cent between 2020 and 2021 (See Figure 2.8).

Figure 2.8: Capital to Total Assets Life Insurance (%)



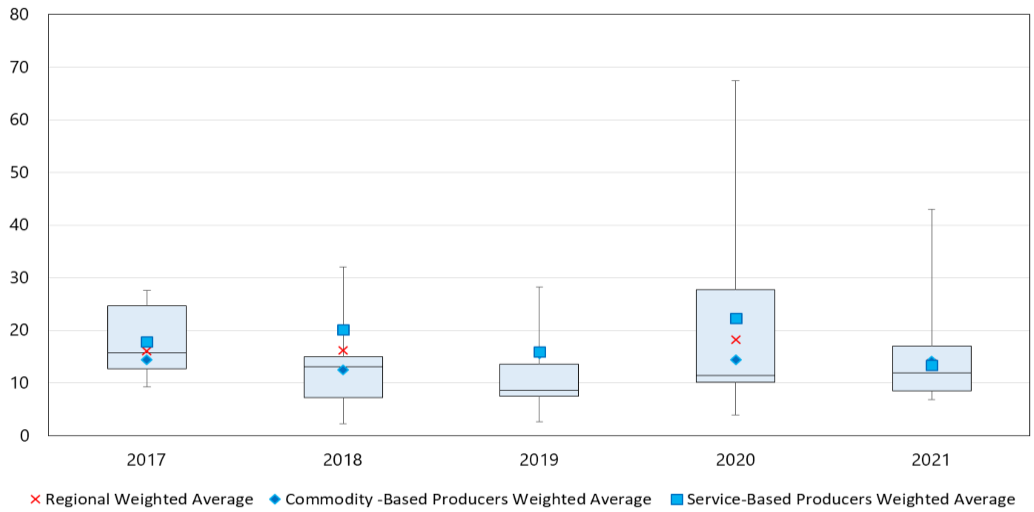
Source: : National Central Banks for Caribbean Countries, March 2023
Notes : ECCU and Haiti data not available ; Weighted Averages are weighted by Insurance systems assets, for 2021 data was not available for Guyana, Barbados and Belize and their 2020 data used as a proxy.

2.3.2 Profitability

The average return on equity (ROE) for the Region fell significantly from 18.2 per cent in 2020 to 13.8 per cent in 2021 (See Figure 2.9). The service-based economies drove this outturn, as their average ROE declined from 22.3 per cent in 2020 to 13.4 per cent in 2021 while the average ROE for commodity-based economies fell slightly from 14.4 per cent in 2020 to 14.1 per cent in 2021.

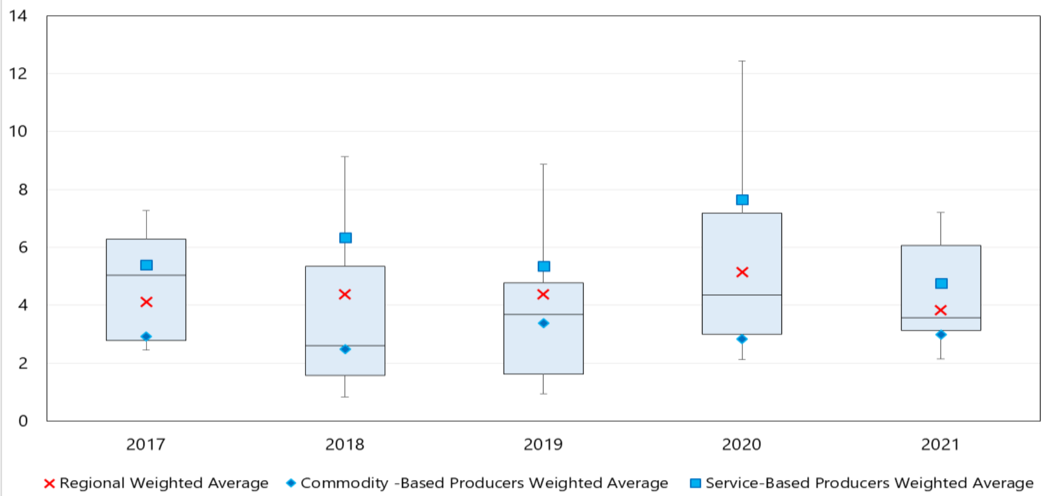
The average return on assets (ROA) essentially mirrored trends in ROE declining from 5.1 per cent in 2020 to 3.8 per cent in 2021. The performance was again reflective of the performance of service-based economies whose ROA declined from 7.7 per cent in 2020 to 4.8 per cent in 2021 while their commodity-based counterparts recorded a slight increase in their average ROA from 2.8 per cent in 2020 to 3.0 per cent in 2021 (See Figure 2.10).

Figure 2.9 : Return on Equity Life Insurance (%)



Source: : National Central Banks for Caribbean Countries, March 2023
Notes : ECCU and Haiti data not available ; Weighted Averages are weighted by Insurance systems assets, for 2021 data was not available for Guyana, Barbados and Belize and their 2020 data used as a proxy.

Figure 2.10 : Return on Assets Life Insurance (%)



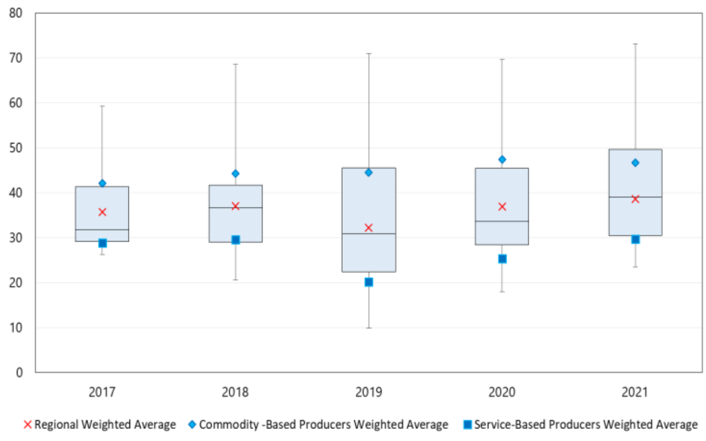
Source: : National Central Banks for Caribbean Countries, March 2023
Notes : ECCU and Haiti data not available ; Weighted Averages are weighted by Insurance systems assets, for 2021 data was not available for Guyana, Barbados and Belize and their 2020 data used as a proxy.

2.4 Non-Life Insurance

2.4.1 Capital Adequacy

Throughout the Region, non-life insurers maintained adequate stocks of capital relative to their assets, as the regional capital to total asset ratio averaged above 32.0 per cent for the period 2016 to 2021 (See Figure 2.11). The regional average of the capital to total assets ratio for non-life insurance in the Region increased from 35.9 per cent in 2016 to 38.6 per cent in 2021.

Figure 2.11 : Capital to Total Assets Non-Life insurance (%)



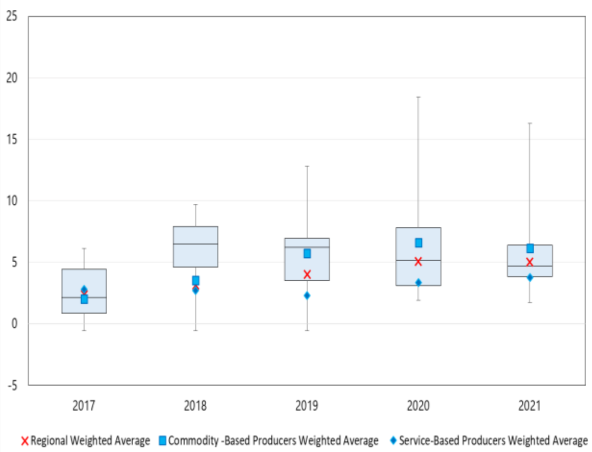
Source: : National Central Banks for Caribbean Countries, March 2023
Notes : ECCU and Haiti data not available ; Weighted Averages are weighted by Insurance systems assets, for 2021 data was not available for Guyana, Barbados and Belize and their 2020 data used as a proxy.

The commodity-based producers in the Region had relatively higher ratios, with this group recording an average capital-to-total asset ratio of 46.7 per cent and 46.7 per cent in 2020 and 2021 respectively. The average ratio of the service-based producers also rose from 25.4 per cent in 2020 to 29.6 per cent in 2021.

2.4.2 Profitability

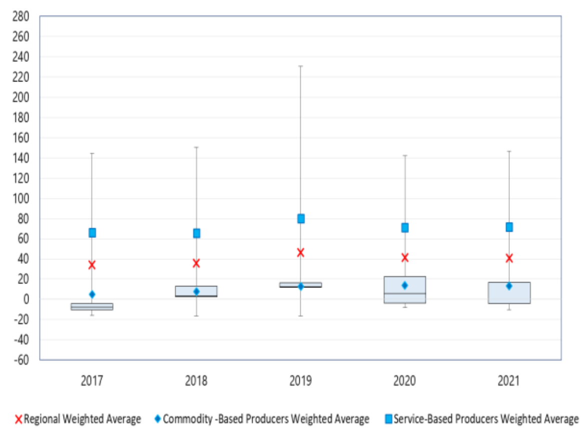
The regional average for the ROA for non-life insurance companies declined marginally from 5.1 per cent in 2020 to 5.0 per cent in 2021. The same trends were observed when profitability was defined by ROE, with service-based economies having significantly higher profitability metrics relative to commodity-based economies (See Figures 2.12 and 2.13).

Figure 2.13 : Return on Assets Non-Life Insurance (%)



Source: : National Central Banks for Caribbean Countries, March 2023
Notes : ECCU and Haiti data not available ; Weighted Averages are weighted by Insurance systems assets, for 2021 data was not available for Guyana, Barbados and Belize and their 2020 data used as a proxy.

Figure 2.12: Return on Equity Non-Life Insurance (%)



Source: : National Central Banks for Caribbean Countries, March 2023
Notes : ECCU and Haiti data not available ; Weighted Averages are weighted by Insurance systems assets, for 2021 data was not available for Guyana, Barbados and Belize and their 2020 data used as a proxy.

Chapter 3: Regional Financial Sector Risks

3.1 Overview

In 2021, regional regulators continued to assess the resilience of their respective financial sectors to the various extraordinary events, namely the COVID-19 pandemic and, in some instances, elevated inflation and climate-related events. Stress test coverage remained predominantly confined to the banking system–the sector that accounts for the most significant proportion of financial sector assets. While balance sheets were subjected to the usual spectrum of interest rates, credit and liquidity shocks, the emphasis in 2021 was on shock transmission via the macroeconomic and liquidity channels. While most jurisdictions reported that the banking sector remained resilient in the face of the COVID-19 shock, there appeared to be increased susceptibility to credit risk. Several regulators would have extended forbearance to assist financial institutions in mitigating the fallout from the COVID-19 shock. Given that these measures may have ended in some jurisdictions, a key concern for regulators was ensuring that non-performing loans (NPLs) did not increase to levels that threatened financial stability.

3.2 Updates to Regional Stress Testing Frameworks

With several countries having upgraded their stress testing frameworks over the past few years, there have not been major amendments to underlying frameworks since the last report. However, in early 2021 Suriname received technical assistance on stress testing from CARTAC. As a result, The Central Bank of Suriname indicated that the assumptions/coefficients of several shocks have been modified, while more research is suggested on, for example, the field of probabilities of default and provisioning.

In the case of Jamaica, while the framework did not change during 2021, shocks were calibrated to account for elevated inflation and climate risks. The COVID-19 stress tests captured two scenarios, specifically an adverse scenario and a severely adverse scenario. Meanwhile, in The Bahamas, the stress-test calibration and monitoring continued to be influenced by the COVID-19 pandemic. Liquidity, credit and market risks were assessed based on historically adverse events, with a COVID factor applied to the shocks examined in each scenario based on the anticipated severity and duration of the impending crisis.

The Central Bank of Barbados also revamped its liquidity stress test. Given the prevailing low deposit rate environment, the same shock parameters were applied equally across all the deposit categories. The liquidity stress tests, which simulate deposit runs at varying rates over five days, revealed that finance and trust companies would need support earlier than in prior iterations.

The Central Bank of Trinidad and Tobago continued work on developing a macroprudential stress testing framework alongside its conventional regional stress tests for commercial banks. The stress testing framework for insurance companies was issued for industry consultation in October 2020, and discussions continued with an international solutions provider on the stress testing of the payments system. Preliminary discussions were also held with the Trinidad and Tobago Securities and Exchange Commission, the securities market regulator, to conduct joint stress tests on an annual basis.

A new macro stress testing framework was developed for the Central Bank of Belize with assistance from CARTAC in June 2022. The stress test was built using explicit macroeconomic scenarios and credit risk satellite models for non-performing loans (NPLs) for each type of institution (domestic banks, international banks and credit unions). The macroeconomic data and the corresponding scenarios serve as inputs to the NPL satellite models to project NPLs and the subsequent credit losses under three result scenarios. These scenarios are the standard baseline, moderate and severe categories used in the previously utilised static stress test. The whole tool provides scenario-specific macroeconomically consistent projections of institutions' key balance sheets, profit and loss, and capital adequacy indicators for up to three years. No market risk impact is assumed in the operation of the stress testing tool.

Stress test results projected for the end of 2021 show one institution falling below the regulatory capital adequacy minimum for each type of institution. The aggregate capital adequacy of domestic banks declined from 17.4 per cent in December 2021 to 16.5 per cent and 13.8 per cent by the end of 2022 under the moderate and severe scenarios, respectively. The results indicated that one of the five domestic banks would fail under the severe scenario, requiring US$0.8 million in capital injection to return the bank to the regulatory minimum. The international banks are projected to see an expansion in their capital adequacy ratio from 24.6 per cent in December 2021 to 24.7 per cent in December 2022 while falling to 24.0 per cent under the severe scenario for the same end period. One of the three international banks would fail, requiring capital injections of US$1.2 million and US$1.6 million for the moderate and severe scenarios, respectively. The aggregate capital adequacy ratio for credit unions appears the most resilient to macroeconomic shock, increasing from 12.0 per cent in December 2021 to a projected 13.0 per cent for both the moderate and severe scenario in December 2022. However, one credit union fails under moderate and severe stress requiring capital injections of US$0.5 million and US$ 0.7 million for the respective scenarios. Total capital injections for all institutions would equal 0.5 per cent of the 2022 projected GDP for the severe scenario.

3.3 Regional Stress Test Results

3.3.1 Credit Risk Shocks

For Jamaica, at end-2021 deposit-taking institutions (DTIs) were sufficiently capitalised to absorb a hypothetical increase in non-performing loans (NPLs) of 110 per cent. This represented a weaker performance compared to the previous year, where DTIs were resilient to an increase of up to 171.0 per cent. However, despite this moderation in resilience, DTIs remain sufficiently resilient to the standard credit risk stress test implemented by the Bank of Jamaica (BOJ). Stress simulations were conducted at end-2021 on the interbank funding network to ascertain the outcome if one institution defaulted on its credit obligations and the affected entities were only able to recover 70.0 per cent of their losses in funding. The index of contagion (IoC) signalled that any institution that defaulted would cause, on average, a 3.1 per cent loss in the capital of the financial institutions within the network due to their default. However, the maximum average capital loss caused by an institution in the simulation was 12.7 per cent compared to a minimum of no capital loss.[2] Using end-2021 data, elevated inflation scenarios showed that the financial sector was broadly resilient to credit-related shocks. Under the severely adverse scenario, the CAR of the DTI sub-sector would decline by 0.5 percentage points to 13.7 per cent. The reduction in the CAR was primarily due to its credit risk exposure to households.

[2] An assessment of this kind was not carried out previously, so there is no comparison to be made.

The results of the climate-related scenarios also indicated that the DTI sub-sector would maintain its capital adequacy ratio above prudential benchmarks under both scenarios. Notably, under the adverse scenario, the DTI sub-sector recorded a decline in the CAR of 3.5 percentage points. The decline in the CAR mainly reflected the impact of shocks on non-performing loans of the sub-sector.

In the case of The Bahamas, credit stress test scenarios considered NPL shocks of 100 per cent, 150 per cent and 200 per cent over a two-year forecast horizon (the forecasted years are 2022 and 2023). The consequent impact of these shocks is assessed through the statement of income and ultimately, capital. The consolidated results, which produced simulated declines in banks' capital levels of up to 7.95 per cent, consistently yielded no capital injection requirement. At all levels of shocks, the capital remained well above the established trigger and target ratios of 14.0 per cent and 17.0 per cent respectively. In particular, the banking sector's average capital-to-risk-weighted assets ratio fluctuated between 26.87 per cent and 32.14 per cent.

For Barbados, using data for March 2021, credit stress tests for DTIs incorporated shocks to provisioning and NPLs. The first provisioning shock scenario saw 100 per cent provisioning applied to all mortgage-backed NPLs. Under this scenario, CAR remained resilient, falling by only 1.5 per cent. Another scenario increased the provisioning on the existing stock of NPLs to 100 per cent. The results indicated that the aggregate post-shock CAR declined from 15.9 per cent to 14 per cent for the banks and 19.1 per cent to 11 per cent for the deposit-taking trust and finance companies. In another simulation, NPLs were increased in 50 percentage point increments, with the additional NPLs all carrying provisions of 50 per cent. Commercial banks could withstand up to a 200 per cent increase in NPLs, without breaching the regulatory minimum at an aggregate level. With a lower existing provisioning coverage of 27 per cent, the finance and trust sub-sector could withstand the 150 per cent increase in NPLs but fell below the 8 per cent standard when a 200 per cent increase was applied. Meanwhile, large exposure stress tests highlighted that the CAR of DTIs in aggregate could withstand defaults from their five largest creditors (with provisioning requirements up to 50 per cent).

The Central Bank of Belize assessed scenarios for current and projected levels of non-performing loans (NPLs), including the impact on commercial banks' capital. Bank's capital adjustment test indicated that the commercial banking sector was under-provisioned as of December 2021 and the additional specific provisioning needed will result in a new adjusted CAR of 18.4 per cent[3]. In a moderate scenario stress test, the CAR would decrease from 19.3 per cent to 15.9 per cent, with three commercial banks unable to meet the minimum CAR of 9.0 per cent. In a severe stress test, the CAR would recede to 9 per cent, with four commercial banks unable to meet the minimum requirement. In addition, the reverse stress test results suggest that a severe shock/loss of 30 per cent of loans becoming NPLs would be needed to reduce the sector's CAR to a 10.5 per cent minimum requirement.

In the case of Trinidad and Tobago, using data for December 2021, the general credit risk shock resulted in a post-shock CAR of 11.9 per cent. Though the domestic outlook has been improving, higher inflation could restrict disposable incomes and translate into increased credit risks for banks. Regarding the large exposure credit shocks applied to the banking sector, the material impact on the post-shock CAR suggested some vulnerability. The credit shock to the Government of the Republic of Trinidad and Tobago (GORTT) Group, which accounts for 65 per cent of total large exposures, had the largest impact on the adjusted CAR. The ratio declined by double-digits, resulting in a post-shock CAR

[3] Capital adjustment test (excluding branches of foreign banks).

falling significantly below the regulatory minimum of 10 per cent. On a sectoral basis, a 50 per cent shock to the lending portfolio saw exposures to the "Other Services" sector cause CAR to dip below the minimum of 10 per cent.

In Guyana, the large exposure stress tests assessed the potential defaults of the largest borrowers under three default levels: (1) the top borrower of each institution; (2) the top three borrowers of each institution; and (3) the top five borrowers of each institution. The industry passed the large exposure stress test under all three levels, with the post-stress CAR well above 8.0 per cent. However, seven institutions failed the level 3 shock. Further, the Bank of Guyana's COVID-19 stress test indicated a resilient industry, with the potential rise in NPLs being the highest risk factor to bank solvency.

Suriname's credit risk stress tests were conducted using various percentage increases in NPLs (ranging from 50 to 200 per cent). Based on December 2021 data, the credit risk stress test results indicated that the banking system remained resilient through all the shocks, as the aggregate CAR remained above the regulatory 10 per cent minimum. However, under the mild and adverse shocks, two additional banks (one systemic bank and one non-systemic bank) fell below the minimum CAR under all shocks. In addition, the banking system would also become insolvent in case the largest borrower across all banks fails to meet their respective obligations. The results suggest heavy credit concentration risk in Suriname's banking sector.

3.3.2 Interest Rate Risk Shocks

Interest rate risk is a key concern for the Trinidad and Tobago commercial banking sector. The results of the December 2021 interest rate stress test showed that the sector appeared highly vulnerable to significant upward interest rate movements. A 500 basis points increase in interest rates caused the system CAR to fall close (10.2 per cent post-shock) to the regulatory minimum of 10 per cent on a Basel II basis. However, the sector appeared more resilient to a 100 basis point decline in interest rates, with the CAR hovering around 18 per cent. For The Bahamas, the 2021 stress test results showed that commercial banks are resilient to interest rate risks partly owing to the infrequent movement in the Bahamian dollar prime lending rate and the robust capital levels for the sector. In Jamaica, the results of interest rate risk stress tests showed that the DTI sector resilience to hypothetical shocks improved at the end of 2021 relative to end-2020 due to their strong capital positions[4]. The vulnerability of DTIs to interest rate risk declined with four entities failing to meet the prudential minimum after the shock, relative to six in end-2020. The DTIs were resilient under both baseline and adverse shocks for the elevated inflation and climate-related tests. Meanwhile, in Barbados, the use of the short-term maturity gap to highlight the potential impact of rising deposit rates on institutions' funding costs revealed a more resilient DTI sector. As of March 2021, DTIs could withstand a 35 per cent increase in deposit rates without breaching the regulatory minimum. This was an improvement from a 30 per cent threshold one year earlier.

3.3.3 Foreign Exchange Risk Shocks

In relation to the climate-related risk scenario for Jamaica, the DTI sector remained robust to the contemplated climate risks that translate to a depreciation of the exchange rate. However, it would

[4] This interest rate stress test is characterised as interest rate increases of 1100 bps/ 100 bps & 275 bps/ 15 bps on domestic and foreign rate sensitive assets

require a depreciation of 102.0 per cent for the first DTI to fall below the 10.0 per cent prudential minimum. The standard stress test showed that the DTIs sector's CAR remained robust in response to hypothetical depreciation (ranging from 10 to 50 per cent) of the Jamaica Dollar vis-à-vis the U.S. dollar at the end of December 2021.[5] This result was obtained despite most DTIs holding short positions at the close of the year. DTIs generally held short positions during the review period in anticipation of potential liquidity needs. Through the purchase of BOJ Indexed Bonds and new foreign currency forward contracts, the average net open position (NOP) in foreign currency for the system, which is the primary measure of foreign exchange risk, reflected a net long position of 4.0 per cent of regulatory capital. This was well within the required limit of 15.0 per cent for long positions and 25.0 per cent for short positions[6]. All DTIs were resilient up to an appreciation shock of 30 per cent at end-2021. These institutions were further resilient to a depreciation shock of up to 50 per cent during the same period. The same result was obtained in end-2020.

Trinidad and Tobago's banking sector appeared to be resilient to significant exchange rate shocks. Stress test results as of December 2021 revealed that CAR measured 18.2 per cent following a 40 per cent depreciation to the exchange rate. Foreign currency stress tests conducted by the Bank of Guyana estimated the impact on the banks' capital of a depreciation or appreciation of the Guyana dollar against the four major trading currencies (US$, EURO, GBP & CAN), as well as all other foreign currencies in which the banks have assets and liabilities. The system remained resilient to exchange rate changes, requiring a 73.3 per cent appreciation (27 percentage points below December 2021) of the Guyana dollar to reduce CAR to the prudential minimum. Only two banks showed vulnerability to this extreme shock.

Suriname's banking system appears able to withstand large currency depreciations (that is, USD/SRD and EUR/SRD depreciation) due to its long aggregate NOP. However, some individual banks would not be able to withstand currency depreciations. This is due to a high share of dollarised RWA in their total RWA. Under mild and adverse shocks, two additional banks (one large bank and one small bank) fall below the minimum CAR. Under a severe shock, four additional banks fall below the minimum CAR. Adding the exchange-rate-induced credit risk i.e. foreign exchange (FX) NPL increase, will lead to a lower CAR, when compared with the first test, but still above the minimum CAR in all shocks.

3.3.4 Liquidity Risk Shocks

In Jamaica, as it relates to funding sources, deposits continued to dominate the DTIs' funding base. Against this backdrop, liquidity risk stress tests were used to examine hypothetical declines in deposits. Following a hypothetical shock of a 10.0 per cent decline in average deposits, the sector

[5] Shocks are applied first to the exchange rate between the Jamaica Dollar and the US dollar. The corresponding exchange rates of the Jamaica Dollar vis-à-vis the Euro, the Canadian dollar, and the Pound Sterling are then incorporated based on historical correlations with the selling rate for the US dollar between the January and May 2003 foreign exchange crisis period.

[6] On 18 November 2021, Bank of Jamaica advised that the limit on the foreign currency net open positions (FXNOP) of Authorised Dealers will be adjusted, effective 06 December 2021. The adjustments include: The limit for short positions will be 25% of regulatory capital denominated in Jamaica Dollars, or J$7.0 billion (whichever is lower). The limit for long positions will be 15% of regulatory capital denominated in Jamaica Dollars, or J$4.5 billion (whichever is lower).

maintained the regulatory minimum. Similar to the previous year, a decline of 40.0 per cent would be enough to push the first institution below the prudential benchmark at end-2021.

Under its new liquidity stress test framework, banks in Barbados did not require any liquidity support with daily 5 per cent deposit runs over five days. However, at deposit run rates of 10 per cent and 15 per cent, two banks required liquidity assistance from day four and day three, respectively. Notably, all five banks required support from day five under the 15 per cent run-off scenario.

In Trinidad and Tobago, as of the end of December 2021, the banking sector appeared comfortable, with all banks performing above the 30-day deposit run benchmark. However, the sector became illiquid in 21 days when reserves were excluded from the pool of liquid funds that may be drawn down to meet a run on deposits, 11 days sooner than if reserves were available. The Bank of Guyana's 2021 liquidity stress test, which applies run-off rates and a percentage of liquidity drawn from 'other assets', were standardised to reflect three scenarios: 5/5, 3/7 and 0/10, respectively. Across all three scenarios the industry, on average, could withstand a run on total deposits for five days. However, when only demand deposits were assessed, the system, on average across the three scenarios, endured 19 days. When savings and time deposits were assessed, the industry endured, on average, 10 days. In the case of The Bahamas, the stress test results for banks indicated that the risk of near-term liquidity depletion was negligible. The results were underpinned by the high level of excess liquidity in the sector, a continued cautious lending posture, and limited investment opportunities to channel surplus liquidity.

Suriname's liquidity stress test is carried out using two methodologies on December 2021 data. The first liquidity stress test assesses risks arising from the concentration of funding, that is, what would happen with banks' liquidity position in case large depositors withdraw their funds. The second assesses banks' ability to withstand a sustained deposit outflow, applying different run rates and haircuts due to fire sales of liquid assets[7]. The results of both tests suggest that the banking system appears to be broadly resilient, as it would survive deposit outflows of up to five days.

[7] The liquidity drain affects all banks proportionally, depending on their volumes of demand and time deposits. The daily outflow of deposits would be 5 per cent per day for the first three days and 10 per cent per day for the remaining two days. The daily fire sales of liquid assets will be 80 per cent, while the daily fire sales of non-liquid assets will be 1 per cent.

Box 1: Climate Change and Financial Stability in the Caribbean

Channels of contagion

Climate change generally affects the financial sector through physical and transition risks. Physical risks as its name implies relate to physical damage to assets, operations and institutions from the increasing frequency of CMH hazards such as storms, hurricanes, floods and droughts. Physical risks include both the direct impact of the losses incurred from the damage caused by climate hazards, as well as, the second-round effects on the economy from the disruption to the production system and markets. In this case, climate hazards do not create a new category of financial risk but rather amplify traditional risks such as credit risks. Transition risks refer to losses and disruptions to markets, businesses and economies driven by changes in policy, technological advances and evolving consumer and business preferences during the long-term adjustment to a lower carbon economy. This would include the phenomenon of stranded assets, which are assets that have lost value prematurely because of policies designed to address climate change.

A growing body of research and policy has focused on the issue of climate change and its impact on financial stability over the last two years. In particular, numerous reports have been prepared and presented to the IMF's executive board in 2021 alone. These include the Comprehensive Surveillance Review, the 2021 FSAP Review, and the 2021 IMF Climate Strategy[8]. A review of financial stability reports across the world also shows that this issue is increasingly being incorporated into financial stability assessments[9]. Climate change is expected to affect the Region and its financial stability in the short term primarily via the physical risk[10] channel as the combination of climatological, meteorological and hydrological (CMH) disasters[11] become more frequent and intense. CMH hazards are considered together because they are all underpinned by climate change dynamics. In this context, we focus on physical risks in this assessment of the impact of climate change on financial stability in the Caribbean.

The Impact of CMH Disasters

CMH disasters can have a huge impact on economic development itself, which in turn creates an economic environment ripe for the propagation of financial risks[12]. The actual economic impact however seems to be conditional on a range of factors related to resilience. The structural features of Caribbean countries such as the dependence on a few dominant sectors which are vulnerable to natural disasters, the fact that much of the productive structures (plant and equipment) are on the coast and the fact that in many countries most of the population live in coastal zones predispose the Region to high vulnerability to these events. The Caribbean is therefore one of the most exposed regions to CMH disasters on a per capita or average land mass basis (Figure 1).

[8] See International Monetary Fund (IMF). 2021a. *2021 Comprehensive Surveillance Review—Overview Paper, IMF Policy Paper,* International Monetary Fund (IMF). 2021b*. 2021 Financial Sector Assessments Program Review-Towards More Stable and Sustainable Financial System* and *IMF Policy Paper* and International Monetary Fund (IMF). 2021c. *IMF Strategy to Help Members Address Climate Change Related Policy Challenges: Priorities, Modes of Delivery, and Budget Implications. IMF Policy Paper.*

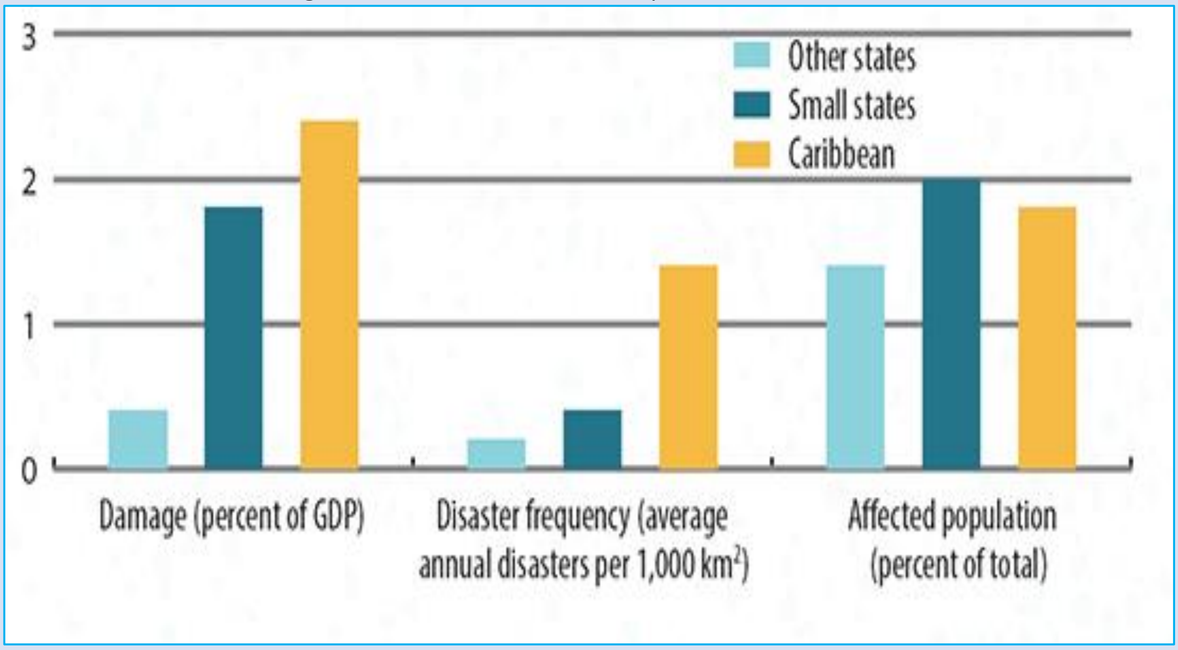
[9] European central Bank (2021), Federal Reserve 2021 and Bank of Jamaica 2021

[10] Physical risks are easier to measure and construct probabilities of impact than transition risks. This channel therefore is more amenable to being incorporated in financial risk assessment without the large degree of uncertainty and reputational risks associated with incorporating transition risks. Transition risks also evolve over very long periods while financial stability policy is more focused on short to medium term horizons.

[11] CMH disasters accounted for approximately 91 per cent of all natural disaster in the Caribbean over the period 2000 to 2023.

[12] Otker, I and K. Srinivasan. 2018. Bracing for the Storm: For the Caribbean, building resilience is a matter of survival. Finance and Development, Vol 55, March 2018, pp 49-51.

Figure 1: Caribbean Vulnerability to Natural Disasters



Source: Otker, I and K. Srinivasan. 2018. Bracing for the Storm: For the Caribbean, building resilience is a matter of survival. Finance and Development, Vol 55, March 2018.

In particular, according to an IMF report[13], of the 511 natural disasters amongst small states over the period 1950-2017, 324 were in the Caribbean. Indeed, some countries have been impacted more than once a year. For example, in 2005 Haiti was impacted by five Hurricanes. The economic costs of these disasters are also very high, for example, Hurricane Maria caused damage in Dominica of up to 253 per cent of GDP in 2017 while a category 3 hurricane struck Grenada in 2004 and the destruction was estimated at US$800 million or 200% of Grenada's GDP[14]. This damage of course is very different across the Region depending on the severity of the event, the size of the economy and the level of resilience in the form of disaster-resistant infrastructure, as well as, the level of insurance and foreign exchange buffers[15]. For example, it is estimated that Trinidad and Tobago's average loss from CMH disasters is approximately 1 per cent of GDP while damage in the case of Dominica is approximately 74 per cent.

Moreover, the conventional wisdom that the impact of disasters is short-lived or can even boost short-term growth is questionable. One study finds that a small but decade-long persistent decline in economic growth caused by hurricanes generates significant cumulative reductions in per capita incomes up to two decades later, which effectively reverses years of development investment[16]. The gradual nature of these losses means that they tend not to be noticed but, simulations indicate that they have a significant impact over the long run, which can reverse years of investments in development in countries that are exposed to frequent CMH disasters. The mitigation of climate risks is therefore one of the key policy challenges in the Caribbean and should be one of the central priorities for policymakers in the Region.

[13] Otker, I and K. Srinivasan 2018 op cit.
[14] Barnichon, Regis. 2009. "The Optimal Level of Reserves for Low-Income Countries: Self Insurance against External Shocks." IMF Staff Paper, 56(4): 852-875.
[15] Seerattan, D. 2023. Optimal foreign-exchange reserves in small open economies: the case of the Caribbean. In Foreign Exchange Constraints and Developing Economies, edited by Aleksandr Gevorkyan. Edward Elgar Publishing, Northhampton, MA.
[16] Hsiang, S. and A. Jina. 2014. The Causal Effect of Environmental Catastrophe on Long-Run Economic Growth: Evidence from 6,700 Cyclones. NBER Working Paper No. 20352.

Very importantly, the effect of climate change is likely to have an asymmetric impact on financial stability in the Region. In particular, service-based economies (SBEs) accounted for 90.9 per cent of CMH events over the period 2000 to 2023 while their commodity-based economies (CBEs) accounted for only 9.1 per cent[17]. This fact means that exposure is concentrated amongst a group of countries that are generally more at risk for more severe damage because they are smaller and depend on the tourism sector which is very sensitive to adverse CMH events. These countries therefore need to have much more robust mitigation and risk management systems in place relative to their commodity-based counterparts. This seeming dichotomy on the financial stability front is, however, illusory because of the high degree of financial interconnectedness in the Region. Indeed, some of the highly exposed SBEs are important nodes in the regional financial system and problems in those jurisdictions have negative financial stability implications for the Region, including their commodity-based counterparts.

Regional Financial Stability Implication for CMH Disasters

Climate risks that manifest themselves in the form of CMH disasters do not necessarily lead to increased financial stability risks. These events can cause financial agents, institutions, markets and economies to experience losses without threatening the stability of the financial system. If financial systems have vulnerabilities that these events push over the threshold that is considered consistent with stability then this could lead to system-wide losses, volatility, and disruptions to financial markets. The likelihood of this happening is dependent on several characteristics of the market, as well as the strength of the financial architecture in place to maintain financial stability. In this regard, a lack of information amongst regulators and market participants on climate-related exposures, the absence of accounting standards for climate-related financial risks, under-estimation and the mispricing of climate change-related financial risks and a lack of understanding of the correlation of climate change risks across the financial system are key weaknesses in the regional financial architecture.

In this context, a recent BIS report in 2020[18], which surveyed member countries, revealed the following:

1. A large majority of respondents do not have an explicit mandate concerning climate-related financial risks;
2. The majority of respondents reported that they have conducted research related to the measurement of financial risks related to climate change – stress testing of climate-related financial risks;
3. Data availability – insufficient data for climate-related financial risks assessment;
4. Methodological challenges - lack of a harmonised and robust analytical framework for assessing climate-related financial risks;
5. Capacity/resources – lack of in-house expertise in the area of climate-related financial risk;

These deficiencies mitigate against research and evidence-based assessment of climate-related risks to financial stability. On this front, many central banks have begun modifying their financial sector stress tests with shocks based on the magnitude of previous CMH disaster events to gauge the impact on the institution to remain above capital standards. These approaches though useful, do not take into account the multiple and interrelated factors that could lead to CMH disasters pushing the financial system over the threshold into instability. In this context, more analytical work is needed to assess the Region's exposure to these events, their impact on the regional financial system conditional on structural economic features and to assess whether these events push financial stability indicators over the threshold considered consistent with overall financial stability.

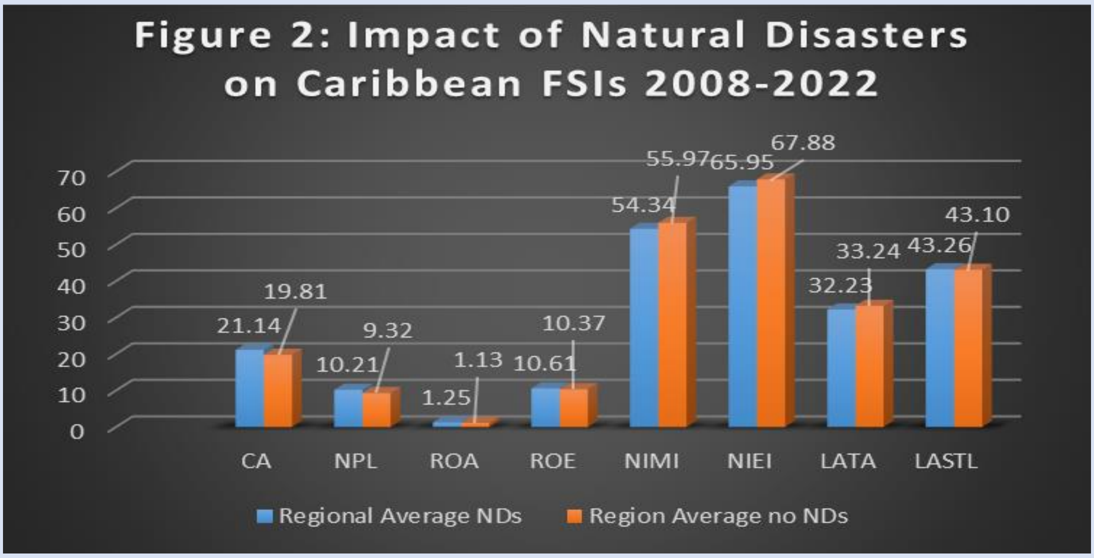
A review of the Region's experience with CMH disasters and its impact on financial stability over the period March 2008 to June 2023 indicates that 113 such events affected the Region. That is approximately 7.1 events each year. This is down from the 9.0 events a year in the 2000 to 2007 period. This is likely the result of cyclical factors such as the ebb and flow of the El Nino weather phenomenon so the trend increase will likely continue in the future. The impact of these events on financial stability

[17] EM-DAT database.

[18] Basel Committee on Banking Supervision. 2020. *Climate-Related Financial Risks: A Survey on Current Initiatives.* BIS.

was mixed. An assessment of the average annual financial indicators for 13 countries in areas such as capital adequacy, asset quality, profitability and liquidity indicated generally weaker performance in the CMH disaster impact years relative to the non-disaster years in most areas.

In particular, capital adequacy (capital to risk-weighted assets), asset quality (NPLs to total loans) and Liquidity (liquid assets to total assets) were all weaker in the disaster impact years by 6.7 per cent, 9.5 per cent and 3.0 per cent respectively. Surprisingly, the return on assets (ROA) improved by 10.6 per cent in the impact years relative to the non-impact years. This was puzzling since the net interest margin to total income ratio also declined by 3.0 per cent in the disaster impact years relative to the non-disaster years (See Figure 2).



The regional impact also appeared to vary across the Region based on the type of economy. In particular, SBEs that have tended to have higher NPL ratios recorded much smaller increases in their NPL ratios relative to CBEs. Also, SBEs recorded bigger increases in their capital adequacy ratios relative to CBEs during the disaster impact years, probably in response to higher risks. Profitability also paradoxically improved in SBEs in disaster impact years while it decreased in CBEs as expected. On the liquidity front, however, liquidity increased in CBEs while it declined in SBEs. The jurisdictions with higher CMH disaster risks were less negatively impacted by disaster events except in the area of liquidity.

Table 1: Asymmetric Impact on Service and Commodity-Based Economies

Caribbean	CA	NPL	ROA	ROE	NIMI	NIEI	LATA	LASTL
SBEs ND Average	21.59	10.46	1.26	10.38	55.37	66.08	31.65	41.31
SBEs No ND Average	20.07	9.88	1.02	9.40	56.26	68.15	34.55	42.63
SBEs percentage change	**7.57**	**5.85**	**23.44**	**10.36**	**-1.60**	**-3.03**	**-8.40**	**-3.09**
CBEs ND Average	19.25	9.14	1.20	11.57	50.05	65.38	34.68	51.47
CBEs No ND Average	18.98	7.45	1.52	13.56	55.02	67.02	28.96	44.66
CBEs percentage change	**1.39**	**22.68**	**-20.82**	**-14.64**	**-9.04**	**-2.44**	**19.75**	**15.25**
Regional Average NDs	21.14	10.21	1.25	10.61	54.34	65.95	32.23	43.26

Source: Caribbean Central Banks.

Notes: CA - capital adequacy, NPL - non-performing loan ratio, ROA - return on assets, ROE - return on equity, NIMI – Net interest margin to gross income, NIEI – non-interest expense to gross income, LATA – liquid assets to total assets, LASTL – liquid assets to short-term liabilities.

The overall results suggest that CMH risks do impact financial stability in the Region but so far the authorities have limited the fallout from these events in a way that has prevented these events from pushing jurisdictions over the threshold of instability. In light of the likely increase in the frequency and intensity of these events, however, the authorities in the Caribbean should increase efforts to build resilience to climate change-related financial risks, in addition to including climate shocks in financial institutions’ stress testing exercises.

Other important policy priorities include:

1. Effortsrts to increase the availability of climate change-related financial risk indicators;
2. The development of suitable analytical frameworks for the assessment of climate change-related risks on financial stability;
3. Building in-house experience in the assessment of financial risk assessment related to climate change; and
4. Ensuring central banks have a clear mandate for climate-related financial risk assessment and policy response.

Chapter 4: Regional Systemic Risk

4.1 Overview

During 2021, the jurisdictions in the Region recorded a notable improvement in credit and macro-financial conditions. The number of systemically important financial institutions (SIFIs) identified in each jurisdiction has fallen for the review period. This signalled a slight reduction in systemic risk for the Region, as there is less chance of contagion resulting from the reliance of financial institutions on a few institutions in the Caribbean region. However, concentration risks in the Region persist.

The technical capabilities and regulatory surveillance of Caribbean financial regulators to identify, assess and curb systemic risk have strengthened during the review period. Jurisdictions have continued to move forward in their efforts to formalize their overall financial stability and macroprudential structures. The Bahamas and Jamaica have begun to establish resolution and recovery planning frameworks as part of their crisis management tools. Trinidad and Tobago has made major advancements in the regulatory reforms associated with the domestic systemically important financial institutions (D-SIFI) framework. A consultative paper, "*Framework for Determining a Domestic Systemically Important Bank (D-SIB) and Higher Loss Absorbency Requirement*" was issued by the Central Bank of Trinidad and Tobago to the financial sector in 2021. This document outlines the methodology to be used to determine whether a local bank is systemically important, as well as the derivation of the corresponding additional capital charge to be applied to identified D-SIBs. The full implementation of Trinidad and Tobago's capital surcharge on D-SIBs to curb systemic risk and build financial system buffers is scheduled to be completed by end-2023. Similarly, Jamaica's work on a macroprudential toolkit continues and will also include a framework for the identification and capital penalty on D-SIFIs. The framework to be implemented by the Bank of Jamaica will begin consultations within the financial sector in 2023 for full implementation of the additional capital requirement scheduled for 2024. Notably, Suriname has increased its surveillance of contagion risk by utilizing an interbank stress testing model during the review period.

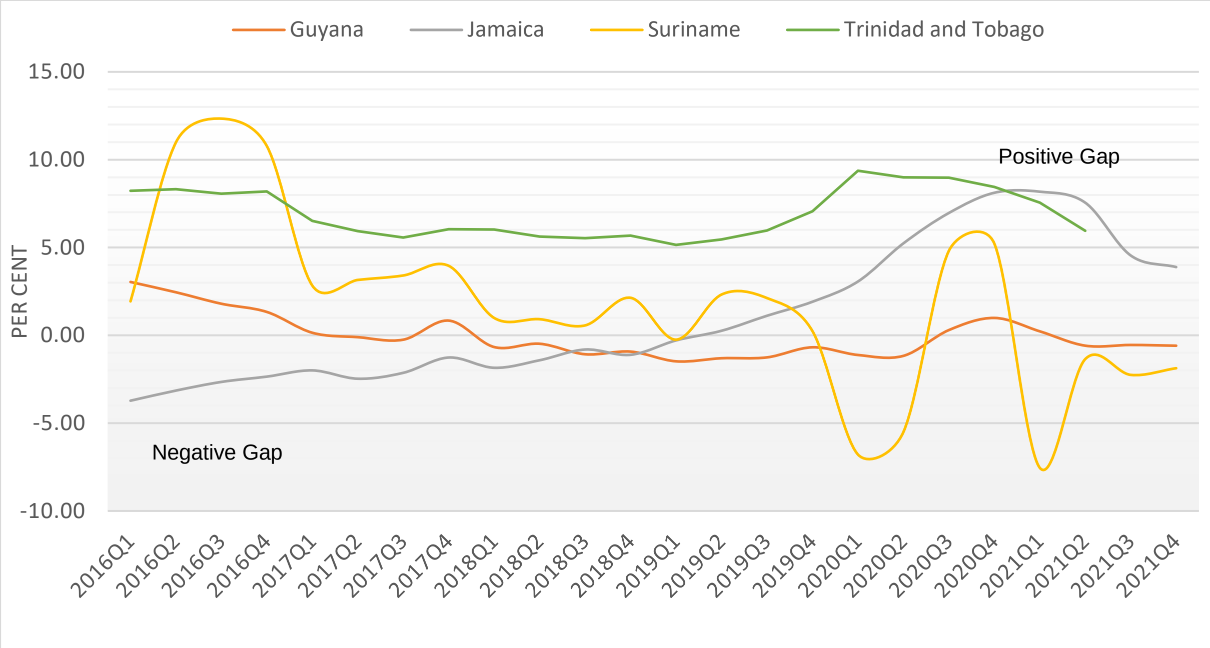
In this regard, this chapter highlights the footprint of SIFIs in the region. Barbados, Jamaica and Trinidad and Tobago continued to be the most dominant as it relates to financial services compared to the rest of the region. Furthermore, macroprudential surveillance of the cross-sectional dimension of systemic risk, which continues to suffer from data gaps, will be examined for the review period. The chapter also assesses cross-border funding relationships in the region and the systemic importance of specific countries in the Caribbean region as well as the strong dependence on external economies.

4.2 Systemic Risk Assessment in the Caribbean

4.2.1 Regional Credit-to-GDP Gaps

The credit-to-GDP gap metric captures the build-up of a country's total credit-to-GDP ratio relative to its long-term trend. This indicator is used to signal whether credit risks to the financial system are elevated. At the end of 2021, the data indicated reduced credit risks in most reporting Caribbean countries when compared to the 2020 Caribbean Regional Financial Stability Report (Figure 4.1).

Figure 4.1: Caribbean Credit-to-GDP Gaps

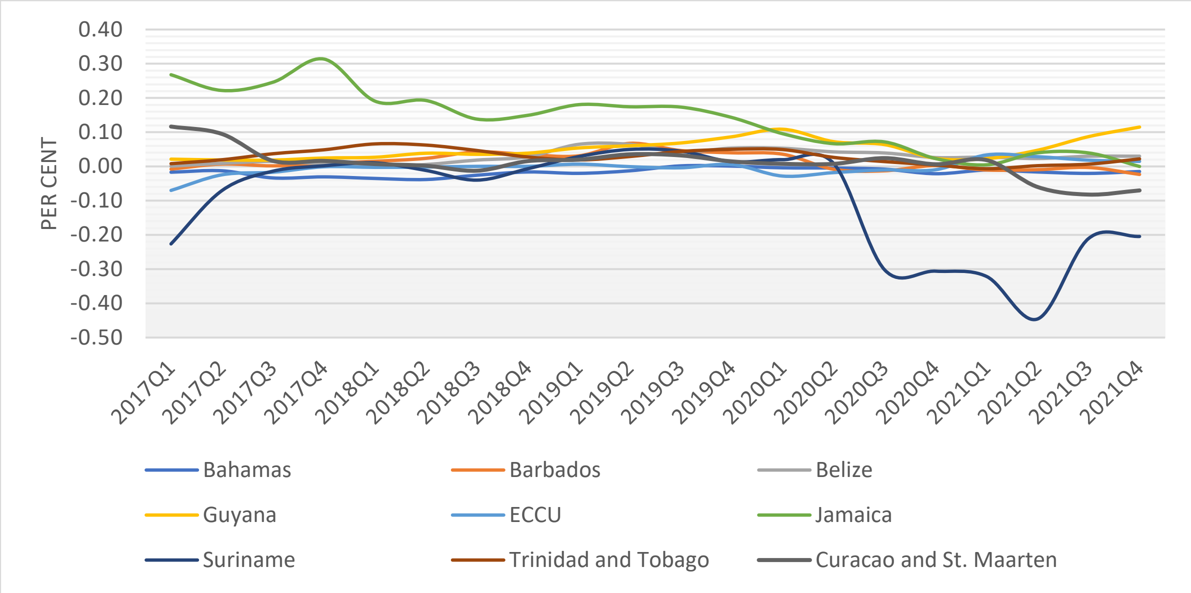


Source: Regional Central Banks, CERT

In Jamaica, the credit-to-GDP gap fell from 8.12 in 2020 to 3.8 per cent in 2021. In 2021 Guyana's credit-to-GDP gap improved to negative 0.59 percentage points from 0.99 percentage points in 2020, indicating that the credit-to-GDP ratio was just below its long-run trend, and therefore there were no heightened risks from rapid credit growth or slow down as the gaps were close to zero. The credit-to-GDP gap for Suriname remained negative while the gap for Trinidad and Tobago improved relative to 2020.

Further, the Region's data showed an improvement in credit conditions since the last reporting period in 2020. Positive credit-to-GDP gaps have increasingly characterized both service-based producers and commodity exporters. This was due in large part to the uptick in economic activity influenced by the relaxation of COVID-19 containment measures in the various jurisdictions. The performance of Jamaica was a result of increased private sector credit as well as continued recovery in economic growth. In the case of Suriname and Guyana, macroeconomic challenges resulted in negative credit-to-GDP gaps. The economic recovery was, however, accompanied by increased volatility in financial markets as well as heightened financial stress arising from the uncertainty due to the ongoing COVID-19 pandemic. More specifically, the easing of travel restrictions positively impacted the tourism sector and economic growth as a whole. The annual growth in private sector credit remained relatively stable for all reporting jurisdictions, (Figure 4.2). Notably, private sector credit grew by 12.0 per cent in Guyana compared to growth of 2.0 per cent in 2020.

Figure 4.2: Private sector Credit Growth

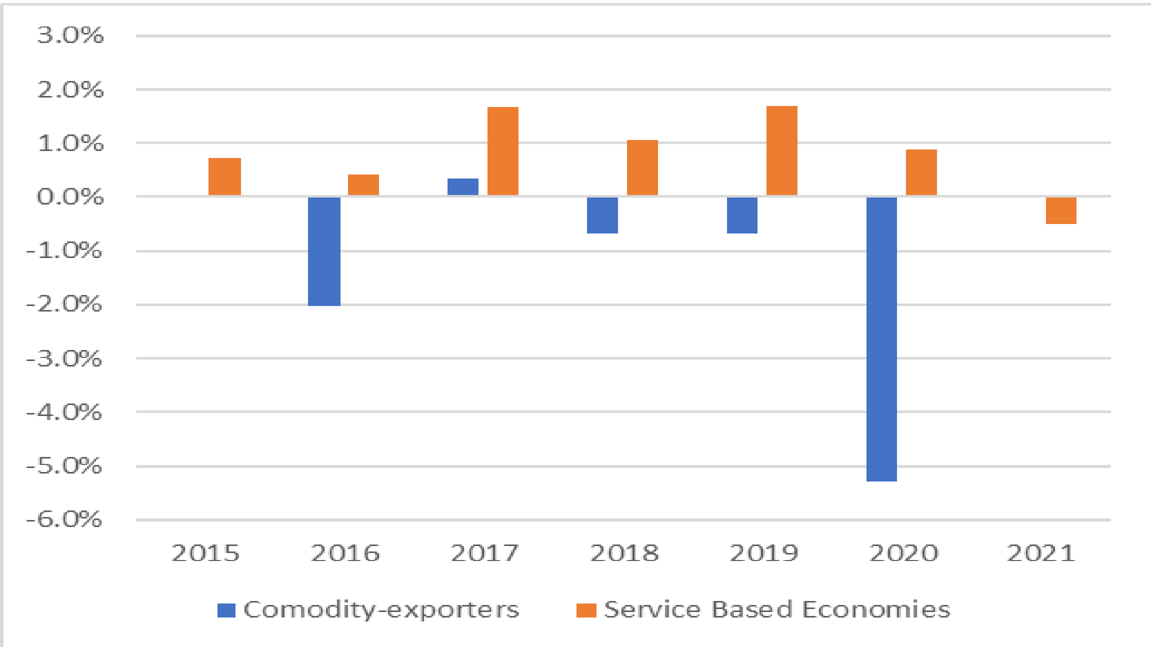


Source: Regional Central Banks, CERT

4.2.2 Other Credit Cycle Indicators

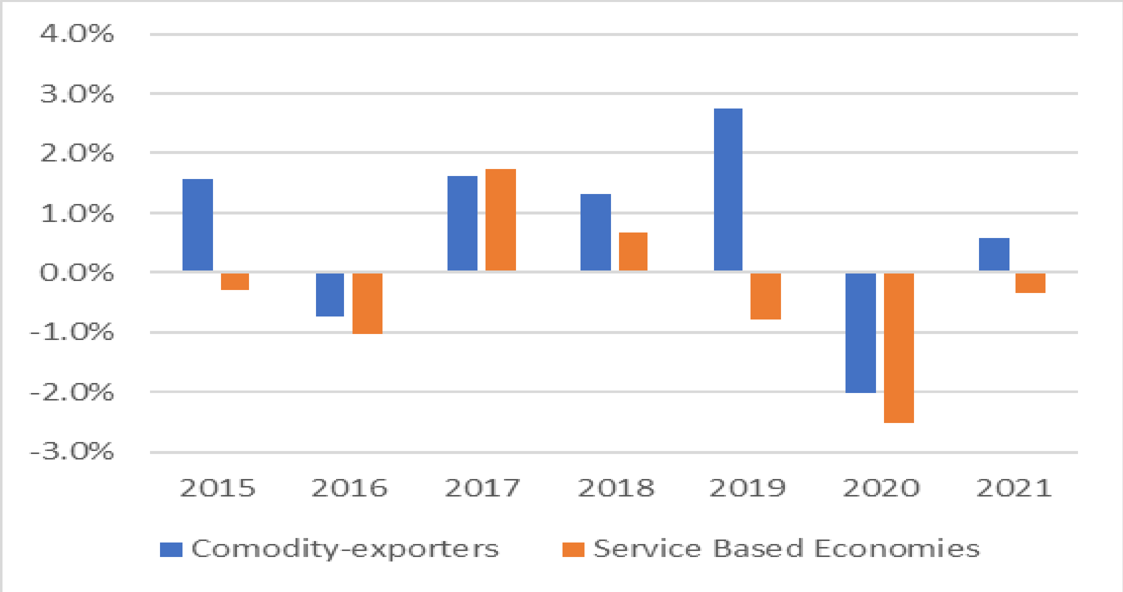
Growth rates for private sector credit, as well as consumer, business and real estate loans, are also critical aspects of credit cycle assessments. In 2021, service-based economies experienced a decrease in the growth of business and real estate credit (Figures 4.3 and 4.4) while commodity-based economies continued to experience negative consumer credit growth (Figure 4.5). Notably, business credit growth continued to decelerate, on average, across commodity exporters in the Region in 2021.

Figure 4.3: Business Credit Growth in the Caribbean



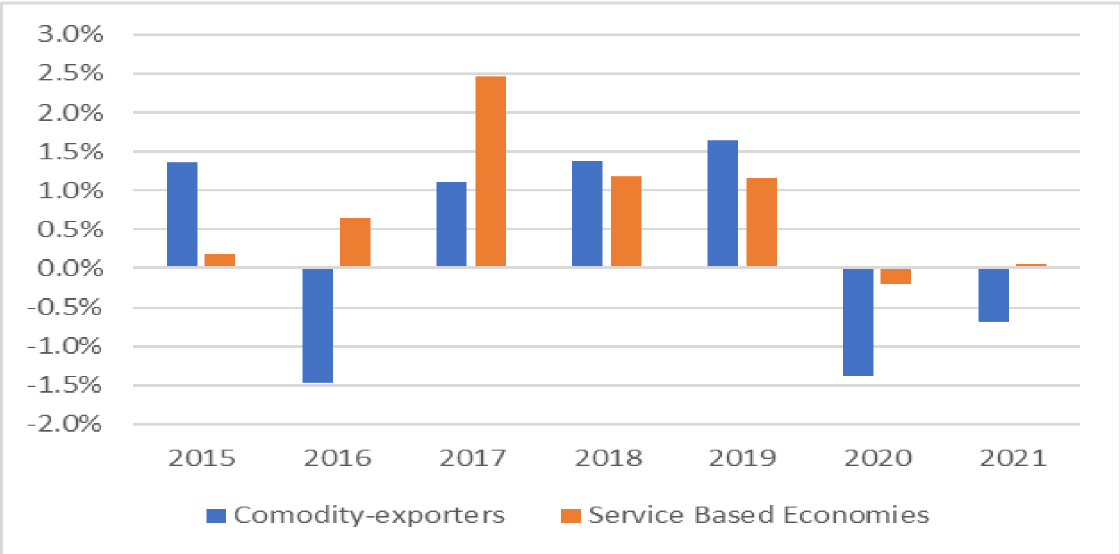
Source: Regional Central Banks, CERT

Figure 4.4: Real Estate Credit Growth in the Caribbean



Source: Regional Central Banks, CERT

Figure 4.5: Consumer Credit Growth in the Caribbean



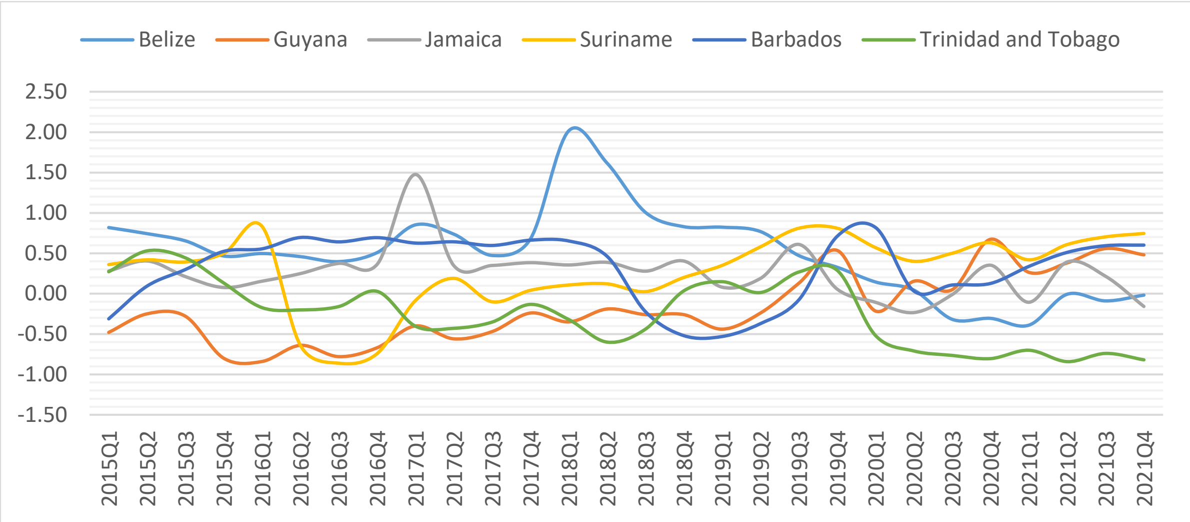
Source: Regional Central Banks, CERT

4.3 Key Macroprudential Indicators

4.3.1 Banking Stability Index (BSI)

From 2020 to 2021, the BSI deteriorated slightly for half of the reported Caribbean countries, including Jamaica, Trinidad and Tobago and Guyana, but improved for Barbados, Belize and Suriname (Figure 4.6). In the case of Jamaica, the BSI declined due to marginal declines in soundness, profitability, liquidity and foreign exchange risk indicators. However, a further decline in the index was partially offset by stable asset quality and an improvement in interest rate risks.[19] For Trinidad and Tobago, the BSI declined due to higher market risk, as well as lower capital adequacy and liquidity ratios. Despite this, conditions remained stable throughout the period, with indicators remaining above international averages. In the case of Guyana, the BSI declined due to slight deteriorations in the liquidity, profitability and interest rate indicators. Notably, the BSI for Barbados improved as a result of increases in all components of the index, except interest rate risk, which reflected a narrowing of the spread between interest rates on loans and deposits. The sub-index for profitability registered the largest increase due to a rise in pre-tax profits relative to equity and total assets.

Figure 4.6: Banking Stability Index



Source: Regional Central Banks, CERT

4.3.2 Aggregate Financial Stability Index (AFSI)

The Aggregate Financial Stability Index (AFSI)[20] for most reporting Caribbean countries improved despite a range of financial stability risks over the period 2020 to 2021 (Figure 4.7). The AFSI for Jamaica, Barbados, Suriname, Belize and Trinidad and Tobago increased marginally over the review period, while the AFSI for Guyana remained stable.

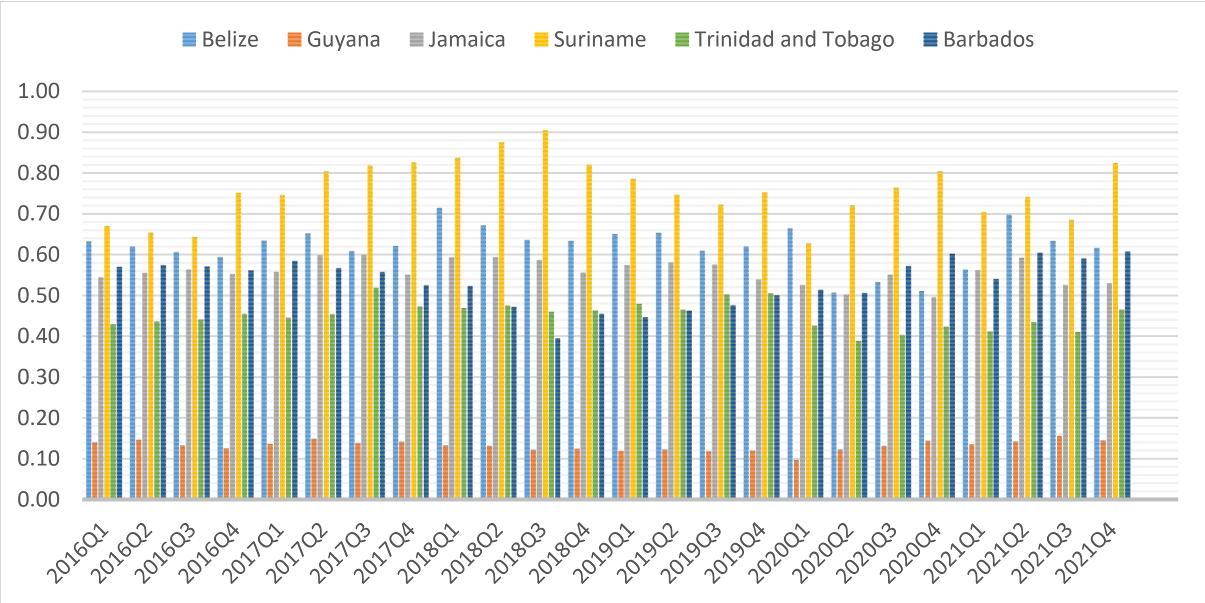
Despite increased inflationary pressures, the AFSI for Jamaica increased slightly, reflecting increases in the financial development and the world economic climate sub-indices which were driven by improvements in the Jamaican stock market, domestic interest rate spread and total credit to GDP relative to 2020, as well as stronger global growth and improvements in the economic climate indicators. For Barbados, the marginal increase in the AFSI was due to faster growth in the World

[19] The BSI is an aggregate financial stability indicator, which combines partial indicators: Soundness, Asset Quality, Profitability, Liquidity, Interest Rate Risk and, Foreign Exchange Risk. The index assesses each in terms of standard deviations from its historical average (effectively standardizing or normalizing each partial indicator such that it has a mean of zero and standard deviation of 1. averages are computed for a 10-year period. In the absence of a 10-year series, the available data was used.

[20] The Aggregate Financial Stability Index is computed as a weighted average of normalized balance sheet and macroeconomic partial indicators, capturing financial development (FDI), financial vulnerability (FVI), and financial soundness (FSI).

Economic and Financial Stability sub-indices, indicating improved perceptions about the world economy, lower volatility in the US stock market, and stronger capital positions of local banks. In relation to Trinidad and Tobago, the AFSI increased from 0.42 to 0.47 reflecting the fact that macro-financial conditions are in the nascent stages of recovery, but downside risks persist. In the case of Guyana, the stability of the AFSI can be credited to the gradual recovery from the COVID-19 pandemic as the economy returned to a sense of normalcy. Notably, Belize's AFSI exhibited the most significant improvement over the review period, increasing from 0.51 in 2020 to 0.62 in 2021, as the economy rebounded.

Figure 4.7: Aggregate Financial Stability Index



Source: Regional Central Banks, CERT

4.4 Systemically Important Financial Institutions in the Caribbean

Systemically important financial institutions (SIFIs) are financial institutions whose failure can trigger material disruptions to the entire financial system and ultimately to the real economy due to their size, lack of substitutability, complexity and interconnectedness. These institutions are not only "too big to fail" but "too systemic to fail" which highlights the risks posed to financial stability and the importance of establishing proper resolution regimes for these institutions in the various jurisdictions and the Region as a whole.

The footprint of regional D-SIFIs continues to expand even as the number of institutions designated as SIFIs in the various jurisdictions decreased marginally during the review period. This was mainly due to changes in the methodology that assesses whether institutions fit the SIFI classification criteria in the various jurisdictions. The business models of dominant regional insurance companies and complex conglomerate structures continued to be a vulnerability for regional financial stability. This also complicates some jurisdictions' ability to identify and mitigate systemic risks. Against this backdrop, some jurisdictions have strengthened regulation and supervision to address these risks.

Based on available information, the number of deposit-taking institutions designated as SIFIs in the region is outlined in Table 4.1.

Table 4.1: SIFIs in the Caribbean 2021

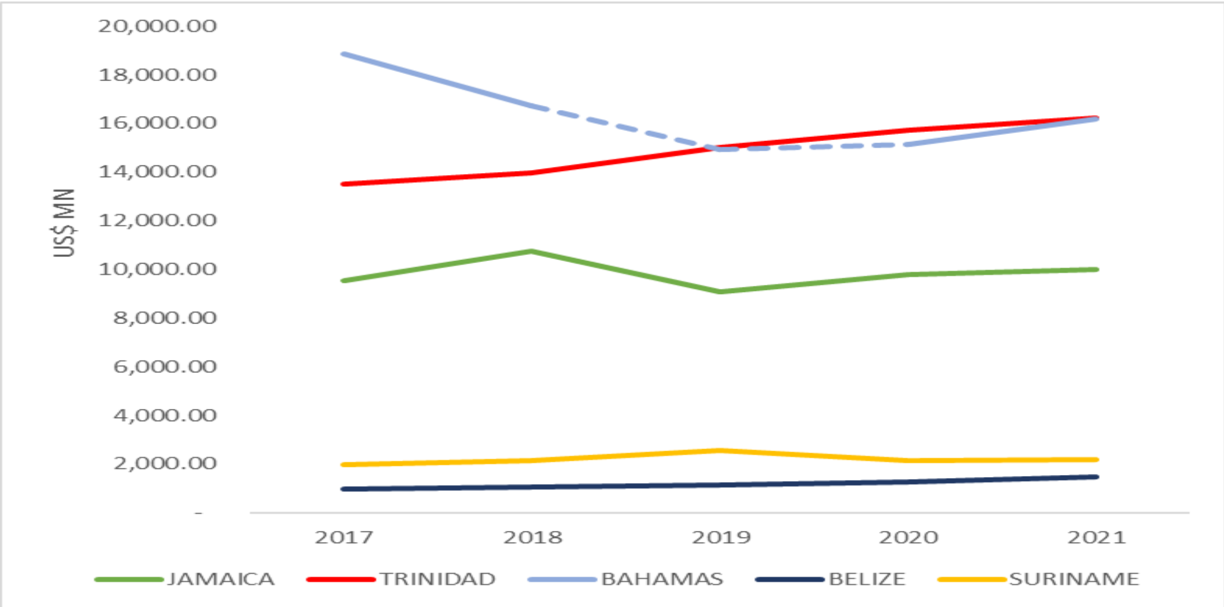
Country	Deposit-taking Institution[21]	
	2020	**2021**
Bahamas	7	7
Belize	3	3
Barbados	NA	NA
ECCU	NA	NA
Guyana	3	3
Jamaica	3	3
Suriname	4	4
Trinidad and Tobago	4	2
Total	**24**	**22**

Source: Regional Central Banks, CERT

In total, twenty-two DTIs were identified as SIFIs within the region in 2021. The Bahamas, continued to have the highest total number of D-SIFIs for any country within the Region with seven banks designated as SIFIs, while Trinidad and Tobago's D-SIFIs decreased to two for the review period (see Table 4.1). All other countries in the region reported having three D-SIFIs except Suriname, which had four.

Total SIFI assets for the Region amounted to US$46.1 billion in 2021, which reflected an increase of 4.4 per cent relative to the previous year. Furthermore, because most jurisdictions have not identified any systemically important insurance companies, approximately 97.6 per cent of all SIFI assets belong to SIBs (see Figure 4.8).

Figure 4.8: Total Assets of Systemically Important



Source: Regional Central Banks, CERT

[21] Deposit-taking institutions include commercial banks, building societies, merchant banks and credit unions.

Total SIFI assets remained relatively stable over the review period with both The Bahamas and Trinidad and Tobago recording moderate increases. Trinidad & Tobago continued to account for the largest share of total SIFI assets in the Region at US$16.22 billion in 2021, an increase of 3.2 per cent relative to the previous year. The Bahamas is a close second in regional SIFI asset shares at US$16.18 billion, which may be due to this jurisdiction having the largest number of designated SIFIs.

The Basel approach was utilised to identify which countries in the Caribbean region are the "most systemically important" for the smooth functioning of the regional financial system. The score was calculated using the dimensions of size, complexity, structure and substitutability. Trinidad and Tobago, Jamaica and Barbados, ranked accordingly, continued to be the systemically important jurisdictions in the Caribbean region. Notably, Trinidad and Tobago's systemic importance score remains significantly higher than the jurisdictions that ranked second and third. This result was driven by the fact that Trinidad and Tobago dominated all categories for the score computation. For 2021, Jamaica continued to reflect high scores in the size and structure criteria while Barbados' significance was mainly attributable to the complexity criterion.

Notably, some risks to individual jurisdictions and the regional financial system reported in the 2020 report remain a threat and/or have not been resolved. Potential sources of contagion and overall systemic risks in the Caribbean identified in 2021 include:

- Supply chain issues and high inflation domestically and globally due to the pandemic recovery process;
- The potential for a global recession, which is exacerbated by central banks' increase in policy rates;
- Potential of liquidity squeeze and credit crunch and the potential for these stressed conditions to spill over into the Region via regional financial groups;
- Inadequate financial group supervision across borders;
- Contagion from the activities of non-deposit-taking institutions that are members of financial groups;
- Common asset market exposures across regional FIs including sovereign instruments, corporate bonds, equities and foreign currencies;
- Inadequate cross-border regulatory cooperation and capacity to effectively control network risk between groups;
- Bank runs resulting from cases of fraud identified in the financial system.

4.5 Cross-Border Banking System Exposures

An analysis of the cross-border exposures of four Caribbean countries was conducted based on data availability, where a cross-border banking exposure is a claim on or a liability to a counterparty bank located in another country. In 2021, most of the countries assessed continue to have significant banking exposures with economies such as the United States of America (USA) and Canada. There were also notable exposures to the United Kingdom, Europe and other countries outside the Western Hemisphere. Countries outside of the Caribbean region are referred to here as the Rest of the World (RoW). Analysis showed that all four countries that reported had exposure to Trinidad and Tobago, while three were also exposed to Jamaica.

Belize's most significant exposures were to the USA and the UK. Regionally, its main exposure was to Barbados (Figure 4.9). Jamaica recorded significant exposure to other Caribbean countries, with The Bahamas, Barbados, the ECCU, and Trinidad and Tobago making up part of its top five funding system exposures (Figure 4.10). The RoW countries to which Jamaica was exposed varied, with the USA being the most significant along with countries such as Canada, the UK and the Cayman Islands. The Bahamas recorded significant exposures to the RoW, specifically a greater exposure to the USA, United Kingdom and Canada.

Figure 4.9: Belize Banking System's "Funding To" Exposure Composition

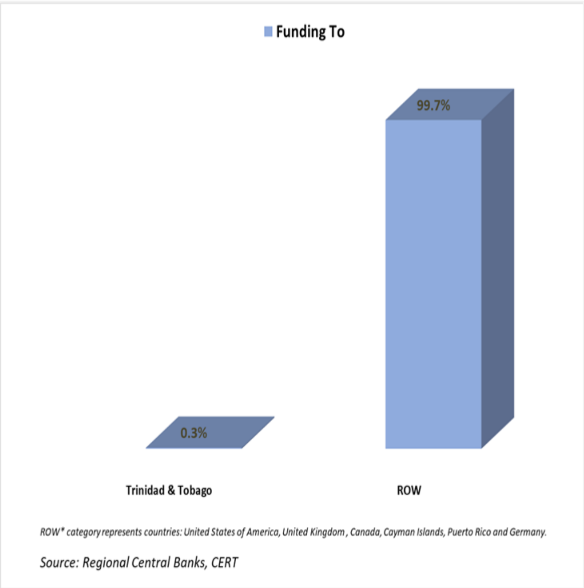
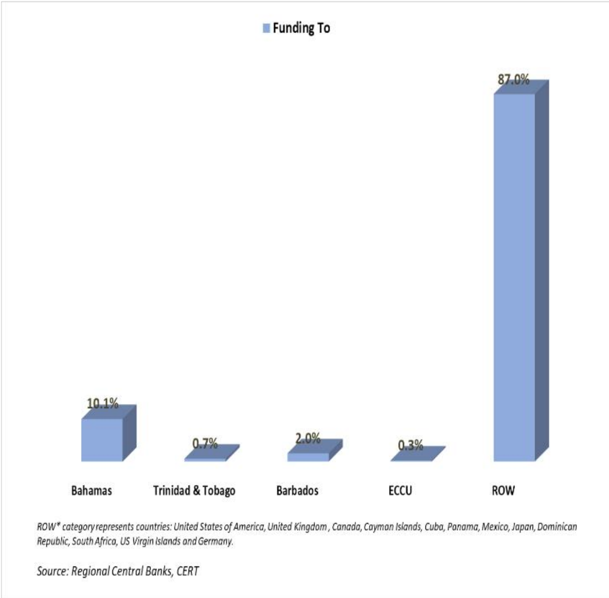


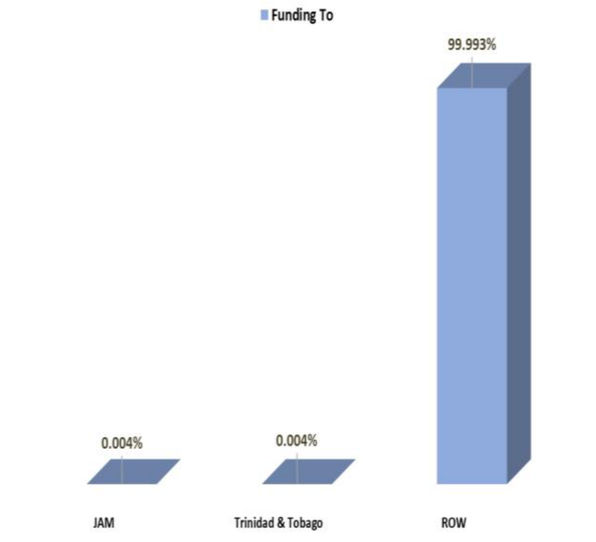
Figure 4.10: Jamaica Banking System's "Funding To" Exposure Composition



Notably, The Bahamas also had funding relationships with Jamaica and Trinidad and Tobago (Figure 4.11). Further, Guyana recorded exposures to most countries of the sample examined for 2021 (Figure 4.12). More specifically, Guyana's exposure to Trinidad and Tobago was the highest in the region at 8.4 per cent followed by its exposure to RoW at 79.7 per cent. Guyana also had more significant funding relationships with countries in the Caribbean region and Latin America, compared to Jamaica, Belize and The Bahamas. When exposures for the four Caribbean[22] countries assessed for 2021 were aggregated, their total banking system exposure relative to their commercial banking total assets was 24.6 per cent. For 2021, the largest exposure or vulnerability continued to be to the North American region, which emphasizes its importance to the Region's banking system, with the RoW exposure totalling 99.9 per cent of exposures.

[22] Caribbean region here refers to the select Caribbean countries: Aruba, Bahamas, Barbados, Belize, Curacao and Saint Maarten, ECCU, Guyana, Haiti, Jamaica, Suriname and Trinidad & Tobago

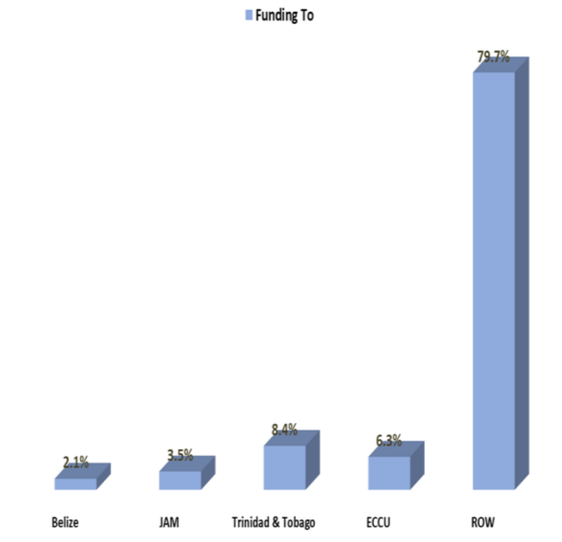
Figure 4.11 Bahamas Banking System's "Funding To" Exposure Composition



ROW category represents countries: United States of America, United Kingdom , Canada, Cayman Islands, Cuba, Panama, Mexico, Japan, Dominican Republic, South Africa, US Virgin Islands and Germany.*

Source: Regional Central Banks, CERT

Figure 4.12: Guyana Banking System's "Funding To" Exposure Composition



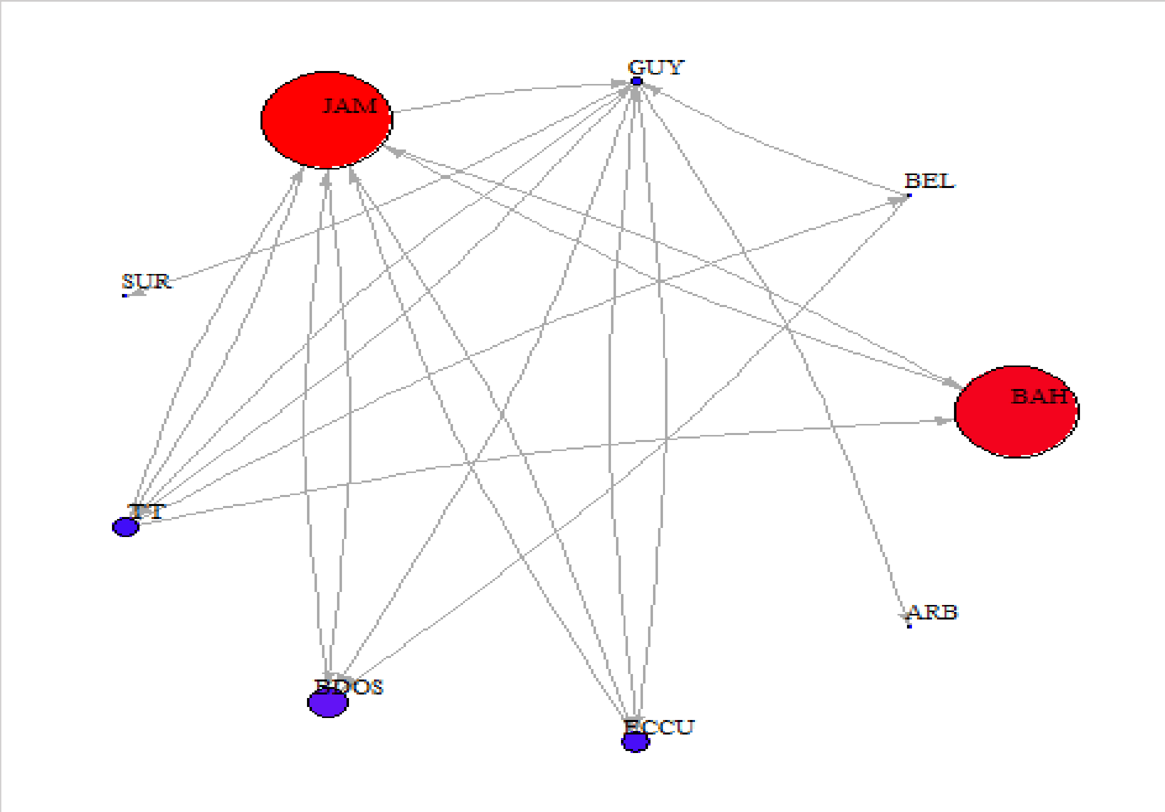
ROW category represents countries: United States of America, United Kingdom , Canada, Cayman Islands, Cuba, Panama, Mexico, Japan, Dominican Republic, South Africa, US Virgin Islands and Germany.*

Source: Regional Central Banks, CERT

4.6 The Caribbean Cross-border Banking System Network

The interconnectedness of the region was further assessed using network analysis. This analysis was performed on gross cross-border banking exposures. The results support the central role Jamaica plays in the regional banking system, also highlighting the Bahamas' significance in the cross-border funding system (Figure 4.13). The network also showed that Barbados and the ECCU played notable roles. Analysis showed that there was a high level of reciprocity at 60.0 per cent and that the network had a relatively high fragility score of 6.3[23].

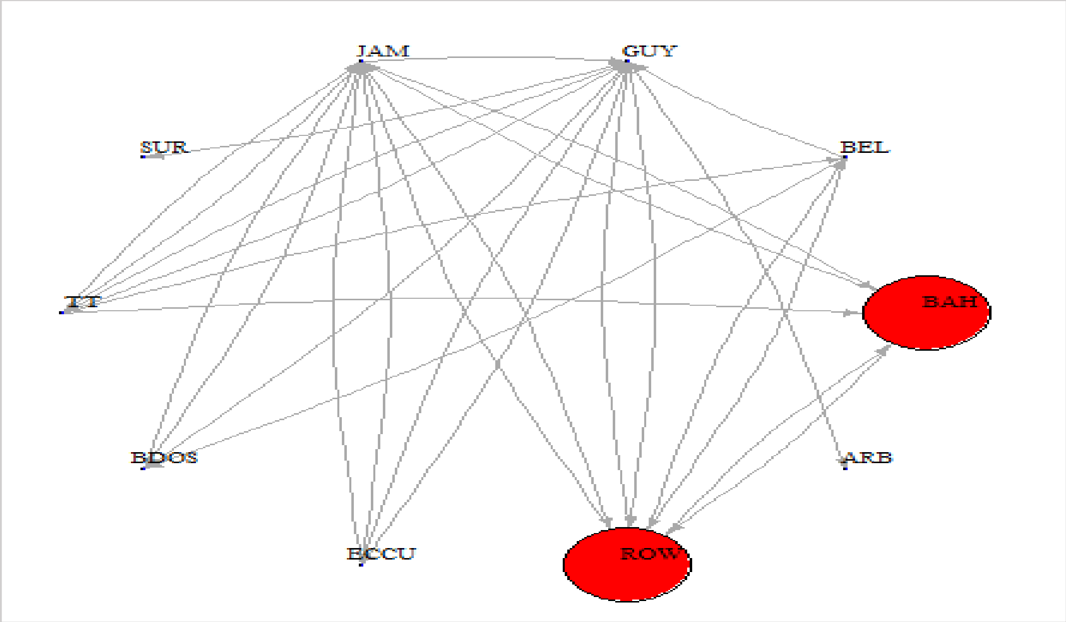
Figure 4.13: Gross Cross-border Exposure Network for the Caribbean Countries Assessed



When external exposures were incorporated into the network, The Bahamas was seen as the most central Caribbean participant. Jamaica's funding relations with countries outside the Caribbean were found to be stronger than those within it, emphasizing the crucial role of the RoW in funding the Caribbean as a whole. The reciprocity and fragility scores increased to 71.4 and 7.6, respectively (Figure 4.14). The network illustrates that countries were prepared to engage in financial activities as the economy recovered from the pandemic. However, the Caribbean region faces greater contagion risks due to the high level of interdependence among countries and their dependence on external markets.

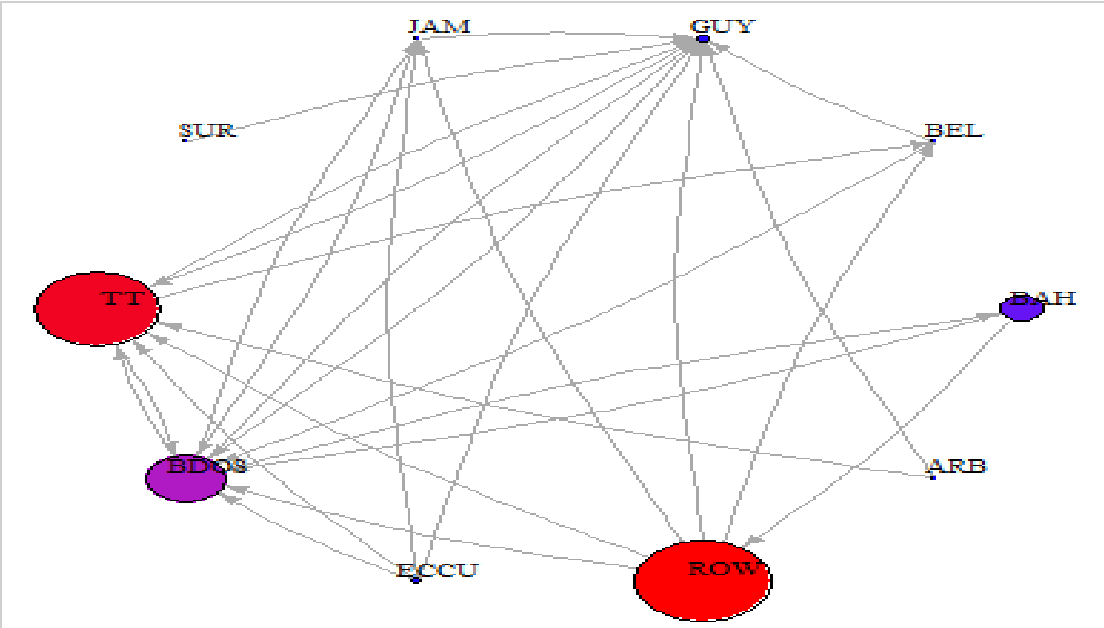
[23] A network with a fragility score above 2 is considered fragile.

Figure 4.14: Global Gross Cross-border Exposure Network



Comparatively, the interconnectedness of the region was further assessed using the network of gross cross-border banking exposures[24]. Contrary to the results of the gross funding network, this network reflects the central role Trinidad and Tobago and Barbados play in the regional banking system. Notably, the Bahamas continued to exhibit significance in the cross-border funding system, while Guyana showed an increased role (Figure 4.15). Furthermore, the influence of RoW transactions was emphasized in this network. The assessment showed that there was a low level of reciprocity in this network at 37.0 per cent but had a high fragility score of 7.3.

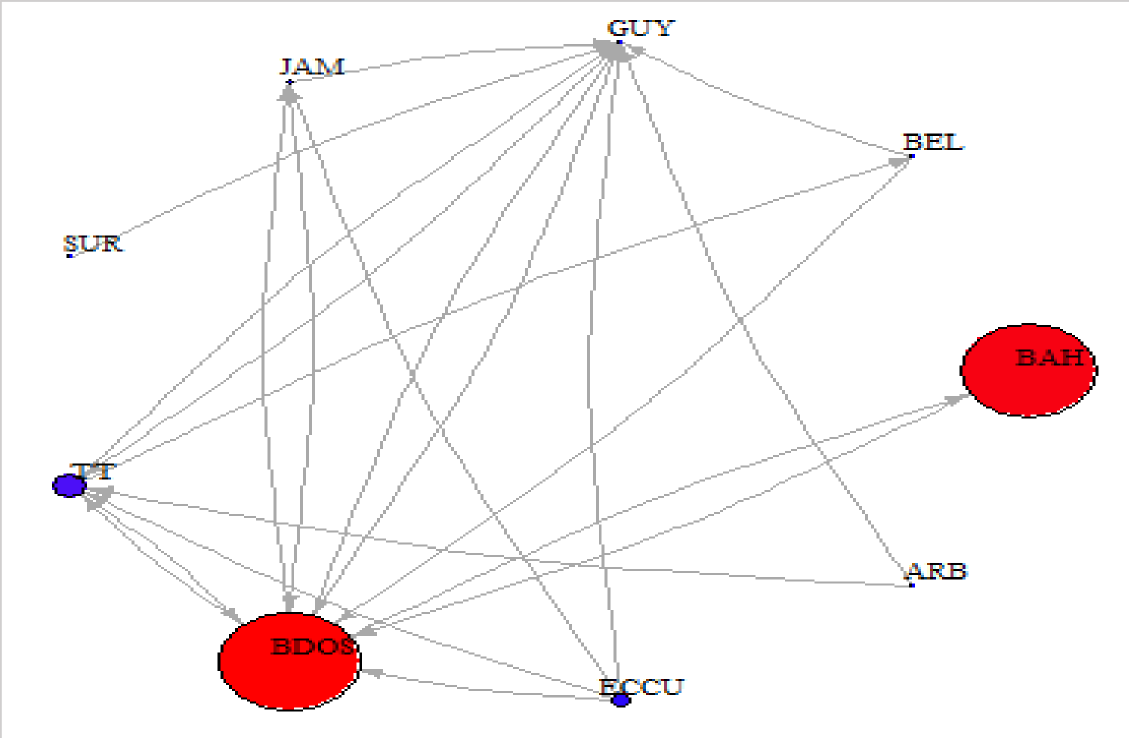
Figure 4.15: Global Gross Cross-border Banking Exposure Network



[24] Banking exposures here refers to investments, loans and equity.

When RoW exposures were removed, Barbados and The Bahamas were seen as the most central Caribbean participants. Notably, the ECCU played an increased role in intra-Caribbean banking exposures. The reciprocity increased to 47.6 while the fragility of the network fell to 6.7 (Figure 4.16).

Figure 4.16: Gross Cross-border Banking Exposure Network for the Caribbean Countries Assessed



These networks illustrate that the Caribbean region faces greater contagion risks due to the higher level of interdependence among a few countries and their dependence on external markets. Furthermore, the two networks compared indicate the importance of a more central granular database, as the omission of data from key jurisdictions resulted in noticeable differences in the results recorded.

Chapter 5: Policy Initiatives for Maintaining Financial Stability

5.1 Overview of Policy Initiatives

The Caribbean has faced several financial stability challenges in the last decade. It is now fifteen years since the international financial crisis in 2007/2008. The Region learnt some important financial stability lessons from that event, painful though it was. The improvements to the regional financial stability architecture since then have served the region well and helped significantly in the successful navigation of the unprecedented shock of the COVID-19 pandemic.

The Caribbean remains disproportionately impacted by international shocks because of its small size. The high exposure to climate risks which manifests itself in the increasing frequency and intensity of hurricanes remains one of the most serious structural vulnerabilities for the Region. Additionally, the phenomenon of dis-risking and the need to adjust the AML/CFT and capital standards to comply with more comprehensive and intrusive international standards have placed additional burdens on the limited resources in the Caribbean. The Region has also had to respond to the increasing importance of Fintech and respond to the opportunities, as well as, the regulatory challenges that this entails. Increasing interconnectedness in the financial system has also created elevated contagion risks along with the benefits of a larger and more efficient financial sector.

In response to these opportunities and risks, countries have been making AML/CFT enhancements, implementing the required infrastructure and legislative framework for Fintech, improvements in their regulatory and supervisory architecture, especially as it relates to SIFIs, updating prudential standards to meet Basel standards, enhancements to national payments systems infrastructure and legislation and, conducting national risk assessments (NRAs).

5.2 Financial Stability Policy Responses

5.2.1 Fintech Ecosystem

The critical importance of financial technology in the financial sector, the acceleration of digitalization in the wake of the pandemic and the increasing frequency of cyber-attacks have required that countries in the Region prioritize the development of the enabling environment and the regulatory architecture for Fintech. Most jurisdictions have been developing their systems to address the emergence of private digital currencies, rolling out Fintech-based experiments and studies, pilot projects and launch of central bank digital currencies. In this context, The Bahamas, the ECCU and Jamaica have already begun rolling out their national digital currencies and have at least completed pilot testing of their systems.

The Central Bank of The Bahamas also developed and circulated draft Regulations for the digital currency for public consultation in February 2021. The draft Regulations are intended to enhance the existing legislative framework governing Payment Services Providers, specific to their provision of central bank digital currency-linked services. The Joint Regulatory Innovation Hub in Trinidad and Tobago has been actively used by entities that need guidance on the regulatory requirements for their products and services. Regulators received 28 queries and submissions while the Central Bank reviewed six applications for registration as a PSP and electronic money issuer via the Hub by

December 2021. The Bank of Jamaica announced their intention in May 2020 to launch. In August 2021, the BOJ announced that it had minted its first batch of Jamaica's CBDC. The Jamaican CBDC will be issued to deposit-taking institutions and authorised payment service providers during the CBDC pilot exercise in 2021. The pilot programme for the Central Bank Digital Currency (CBDC) was successfully carried out during the last eight months of 2021.

The ECCB has done extensive work in the development and testing of the applications through which the ECCB will issue its CBDC. These apps have benefitted from feedback provided through extensive collaborative engagements with various key stakeholders, including financial institutions, merchants, government agencies and focus end-user groups. The ECCB's live pilot was launched in March 2021, and by the end of 2021, the pilot was expected to have been implemented in all member countries. The Central Bank of Trinidad and Tobago is in the final stages of completing its review of cyber risk in the banking sector. Several reports have already been issued to individual banks. Upon completion and issuance of the remaining reports to other entities, an industry report will be generated.

5.2.2 AML/CFT

The Microcredit Act, 2021 was passed in January 2021 and took effect in July 2021 in Jamaica. This Act aims to strengthen the AML/CFT initiatives as well as increase the effectiveness of the market conduct oversight of the financial sector by bringing microcredit institutions under the BOJ's regulatory umbrella. Also in December 2021, the Miscellaneous Provisions (Proceeds of Crime, Securities, Insurance and Miscellaneous Provisions [FATF Compliance]) Act 2021 was enacted in Trinidad and Tobago and grants the Minister of Finance the power to make regulations on administrative fines for breaches of AML/ CFT requirements.

In Barbados, work continues to strengthen its national AML/CFT framework. In October 2021, revised guidelines for AML/CFT were issued. The main focus is to improve its level of compliance with the FATF's recommendations. The AML/CFT compliance efforts in Belize used collaboration with other counterparts to strengthen its compliance regime with four projects - Belize's National Risk Assessment, the National Financial Inclusion Strategy, the Caribbean Financial Action Task Force Self-Assessment Exercise and the Financial Action Task Force Implementation Project.

The ECCB's AML/CFT Prudential Return (PR14) became effective in March 2021. The objective of the PR14 is to gather quantitative information from lending financial institutions. Also in December 2021, the Miscellaneous Provisions (Proceeds of Crime, Securities, Insurance and Miscellaneous Provisions [FATF Compliance]) Act, 2021 was enacted in Trinidad and Tobago. The Act includes provisions to grant the Minister of Finance the power to make regulations for administrative fines for breaches of AML/CFT requirements.

5.2.3 Implementation of the Basel II and III Capital Frameworks for Banks

In 2021, the Central Bank of Belize in 2021 issued four guiding principles covering credit risk, operational risk, interest rate risk, and stress testing to formally establish the minimum expectations for risk management. These principles will enable banks to assess capital needs when developing their Internal Capital Adequacy Assessment Process Report.

In keeping with Regulation 6 of the Financial Institutions (Capital Adequacy) Regulations, 2020, licensees and financial holding companies were required to submit their documented international capital adequacy assessment process (ICAAP) to the Central Bank of Trinidad and Tobago by the end of January 2022. Internal guidance for the conduct of the supervisory reviews of ICAAP submissions has been developed. The CBTT issued its draft Leverage Ratio Guidelines, Reporting Framework and Instructions to the Basel II/III Technical Working Group for preliminary review in December 2021. Also, the CBTT's draft Framework for Determining a Domestic Systemically Important Bank and Higher Loss Absorbency Requirement was issued to the industry in August 2021 outlining the methodology to be used to determine whether a local bank is systemically important, as well as derive the corresponding additional capital charge to be applied.

During 2021, Jamaica continued to pursue regulatory reforms to ensure that financial intermediaries were sufficiently liquid and capitalized given the risk exposures. In 2021, the Bank of Jamaica concluded the consultation process of its Phase I, Basel III programme.

5.2.4 Consolidated regulation

The Region is also developing its SIFI identification and monitoring frameworks. In this context, a regional consolidated supervision working group chaired by Jamaica was established in 2021 to facilitate cooperation and collaboration between local as well as regional regulatory authorities. This Working Group continued to work on a regional consolidated supervisory framework document, under the guidance of the Caribbean Regional Technical Assistance Centre (CARTAC).

The Central Bank of Trinidad and Tobago entered into a Memorandum of Understanding (MOU) with the Bank of Guyana on December 22, 2021, to facilitate cooperation and information sharing between the regulators concerning a subsidiary of Republic Bank in Guyana. The MOU also provides a framework for both regulators to exchange information and cooperate regarding the supervision and regulation of any other financial institutions and groups under their authority.

The banking sector in the ECCU underwent significant changes during 2021 with the transfer of the assets and liabilities of Royal Bank of Canada to a Consortium of ECCU national banks, the sale of Bank of Nova Scotia (Antigua and Barbuda) to the Eastern Caribbean Amalgamated Bank and the transition of the National Commercial Bank of Anguilla Ltd from a bridge bank to a licensed commercial bank. As part of the Bank's risk-based supervision approach, keen attention was paid to the implementation of remedial action items and other risk-mitigating strategies to ensure that banks remained adequately capitalised, maintained sufficient liquidity for daily operations and satisfied other stipulated regulatory requirements.

5.2.5 Financial Architecture

In Guyana, the National Payments System Act 2018 and its supporting regulations on Agents, Electronic Funds Transfer, Electronic Money and Oversight were enforced and applied accordingly in 2020/2021. Also, Guyana established its Deposit Insurance Corporation and the Deposit Insurance Fund, with all member institutions having paid the initial premium. This was in keeping with the enactment of the Deposit Insurance Act (2021).

The ECCU is in the process of establishing The ECCU Credit Bureau with the Harmonised Credit Reporting Bill. The ECCB completed the development of an ECCU credit reporting regulatory framework, via the preparation of credit reporting supervisory manuals and tools to accompany the Credit Reporting Bill and Regulations. Work continued with outstanding member countries concerning the passage of the Credit Reporting Bill and issuance of the Regulations in member countries.

5.3 Policy Recommendations

The Region has generally acted swiftly to stem the negative fallout from emerging risks and maintain financial stability. There are, however, still several ways in which the Region can improve its policy response. In particular, there is a need for more frequent, granular and complete information to inform central bank policy. Up-to-date information on non-bank financial institutions is still a problem area in some jurisdictions. The Region should increasingly focus on key nodes within jurisdictions and across the Caribbean, which could disrupt the financial system whether they be institutions, markets or countries. The interconnectedness data is therefore even more important now since the pandemic has intensified interconnectedness between sovereigns, households, corporates and financial institutions and the associated exposures. In this regard, institution-specific information rather than information aggregated by jurisdiction is the gold standard in the development of interconnectedness maps. The Region should therefore be aiming to eventually get to this stage. Developments in the household, real estate and corporate sectors are also increasingly important for financial stability analysis and the Region's data collection system should incorporate these elements in our data collection efforts. Very importantly, the collection of indicators related to climate risks is a matter of urgency given the Region's vulnerability in this area. In this context, the development of data release calendars at all central banks will help streamline the collection and development of regional databases on financial stability.

In terms of the analytical framework for financial stability analysis in the Region, the inherent heterogeneity across the Region requires some enhancement of the analytical framework for financial risk assessment. In particular, regional or institutional averages commonly used can mask important granular information for identifying emerging risks. Augmenting the average indicators normally used with measures of dispersion can help upgrade and increase the precision of financial stability analysis. Also, the systematic development of Caribbean-specific thresholds for financial stability indicators beyond which financial risks increase to imprudent levels would help improve the sophistication and accuracy of financial risk assessment.

In terms of the regulatory and supervisory systems, regional central banks should all build out a ladder of sequential intervention options to help organise their response to shocks that could potentially disrupt the regional financial system. The ongoing enhancement of the regulatory and supervisory framework for SIFIs must be accelerated and national resolution frameworks must also be integrated into a regional framework and finalized. Moreover, cyber security protocols to maintain information security are even more important now due to the greater use of electronic platforms. Importantly, in this highly uncertain environment, central banks' communication strategy has to be more frequent and carefully calibrated to prevent cognitive dissonance amongst important agents in the financial sector, in an environment often characterized by misinformation.