



CENTRAL BANK OF
TRINIDAD & TOBAGO

2024



MONETARY POLICY
REPORT

MAY 2024

VOLUME XXVI No. 1

Central Bank of Trinidad and Tobago
P.O. Box 1250
Port of Spain
Republic of Trinidad and Tobago
www.central-bank.org.tt

© Copyright 2024 Central Bank of Trinidad and Tobago

Central Bank of Trinidad and Tobago

Monetary Policy Report

MAY 2024

VOLUME XXVI NUMBER 1

The Central Bank of Trinidad and Tobago conducts monetary policy geared towards the promotion of low inflation and a stable foreign exchange market that is conducive to sustained growth in output and employment. This Report provides an account of how monetary policy actions support this objective, in light of recent economic developments.

Preface

The Central Bank of Trinidad and Tobago's monetary policy framework is guided by the objectives of maintaining low and stable inflation in an environment conducive to economic growth and financial system development. The Central Bank employs a range of instruments (direct and indirect) to effect monetary policy. Prior to the 1990s, the Central Bank utilised direct policy tools such as reserve requirements and direct credit controls. However, the onset of trade and financial liberalisation in the 1990s brought about a greater emphasis on market-based instruments such as Open Market Operations. Since mid-2002, the Central Bank's monetary policy framework was revised to include the use of a Repurchase ('Repo') rate as a key policy tool. The Central Bank utilises the Repo rate to signal to the banking system the direction in which it wishes short-term interest rates, and ultimately, the structure of interest rates, to move. Open Market Operations involve the purchase and sale of Government securities by the Central Bank to impact the level of liquidity in the domestic financial system.

The Monetary Policy Committee (MPC) develops and communicates the Central Bank's overall monetary policy stance. The MPC currently comprises members of the Central Bank's Senior Management and is chaired by the Governor. The Committee issues quarterly Monetary Policy Announcements (MPA), which provide insights into the MPC's deliberations, and oversees the preparation of the semi-annual Monetary Policy Report (MPR). The MPC is assisted by the Monetary Policy Secretariat (MPS), made up of staff from various Departments, which undertakes ongoing economic and financial analysis. The Central Bank utilises the MPR to communicate to the public its views on economic and financial developments and the main factors that influence the Central Bank's monetary policy decisions.

TABLE OF CONTENTS

	List of Abbreviations	9
	Key Messages	12
	Overview and Outlook	13
CHAPTER ONE	The International Economic Context	16
	Recent Economic Developments and Outlook	16
CHAPTER TWO	Domestic Economic Activity and Prices	27
	Recent Economic Developments and Outlook	27
	Domestic Financial Conditions	34
	Liquidity Conditions and Interest Rates	34
CHAPTER THREE	Private Sector Credit	37
	Foreign Exchange Market Developments	40
	Capital Markets	41
BOX ONE	An Analysis of Recent Interest Rate Developments	48
CHAPTER FOUR	Monetary Policy Assessment (November 2023 - May 2024)	55
FEATURE ARTICLE	Incorporating Climate Risk into Monetary Policy Frameworks- Initial Considerations	60

TABLE OF CONTENTS

CHARTS

Chart 1.1	Global Growth: Annual Real GDP Growth	16
Chart 1.2	Selected Economies: Headline Inflation	18
Chart 1.3	Natural Gas and Crude Oil Prices	20
Chart 1.4	FAO Real Monthly Food Price Index	21
Chart 1.5	Advanced Economies Equity Market Indices	26
Chart 2.1	Non-Energy Indicators (Cement Sales, Vehicle Registrations)	29
Chart 2.2	Consumer Price Index	31
Chart 2.3	Trends in Exports and Imports	33
Chart 3.1	Commercial Banks' Excess Reserves	34
Chart 3.2	3-Month and 10-Year TT-US Differentials	36
Chart 3.3	Commercial Banks' Interest Rates	37
Chart 3.4	Private Sector Credit	38
Chart 3.5	Sales of Foreign Currency by Authorised Dealers to the Public	41
Chart 3.6	Secondary Government Bond Market Activity	43

TABLE OF CONTENTS

CHARTS CONT'D

Chart 3.7	Trinidad and Tobago Central Government Treasury Yield Curve	44
Chart 3.8	Movements in the Composite Price Index and Stock Market Capitalisation	45
Chart 3.9	Trinidad and Tobago Mutual Funds Under Management by Fund Type	47
Chart 4.1	Repo Rate	58
Chart 4.2	Liquidity Management	59
Chart 4.3	Forecast Error Variance Decomposition	61

TABLES

TABLE 1	Authorised Dealers' Purchases and Sales of Foreign Currency	40
TABLE 2	Primary Debt Security Activity	42

LIST OF ABBREVIATIONS

ABBREVIATION	NAME
AEs	Advanced Economies
ATI	All Trinidad and Tobago Index
AUM	Assets Under Management
BMI	Index of Retail Prices of Building Materials
BoE	Bank of England
BoJ	Bank of Japan
BOJ	Bank of Jamaica
BP	Basis Points
CBR	Central Bank of Russia
Central Bank	Central Bank of Trinidad and Tobago
CIS	Collective Investment Scheme
CLI	Cross Listed Index
COF	Commercial Banks' Cost of Funds
COVID-19	Coronavirus Disease 2019
CSO	Central Statistical Office
ECB	European Central Bank
ECCB	Eastern Caribbean Central Bank
ECPI	Energy Commodity Prices Index
EMDEs	Emerging Market and Developing Economies
FAO	Food and Agriculture Organisation
FEVD	Forecast Error Variance Decomposition
FOMC	Federal Open Market Committee
FSI	Financial Soundness Indicator
GDP	Gross Domestic Product
GORTT	Government of the Republic of Trinidad and Tobago
GOVB	Government Borrowing
IMF	International Monetary Fund
IRF	Impulse Response Function
LA	Latin American
LNG	Liquefied Natural Gas
LPR	Loan Prime Rate
mmbtu	Million British Thermal Unit
MPA	Monetary Policy Announcement
MPC	Monetary Policy Committee

LIST OF ABBREVIATIONS CONT'D

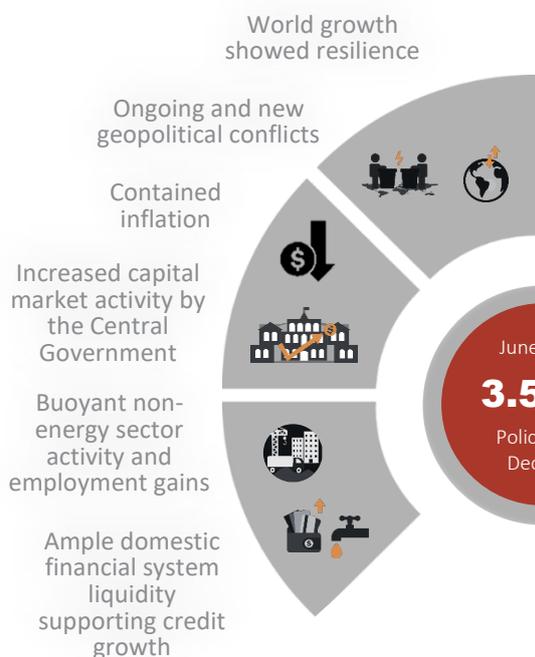
ABBREVIATION	NAME
MPR	Monetary Policy Report
MPS	Monetary Policy Secretariat
MFM	Mundell-Fleming Model
NAV	Net Asset Value
NIF	National Investment Fund
NGFS	Network For Greening the Financial System
OMOs	Open Market Operations
PBoC	People's Bank of China
PPI	Producer Price Index
REO	IMF Regional Economic Outlook
REPO	Repurchase Rate
the Fed	Federal Reserve
TTSE	Trinidad and Tobago Stock Exchange
TTSEC	Trinidad and Tobago Securities and Exchange Commission
US	United States
VIX	Volatility Index
WALR	Weighted Average Lending Rate
WEO	World Economic Outlook
WTI	West Texas Intermediate
XSL	Commercial Banks' Excess Liquidity

KEY MESSAGES

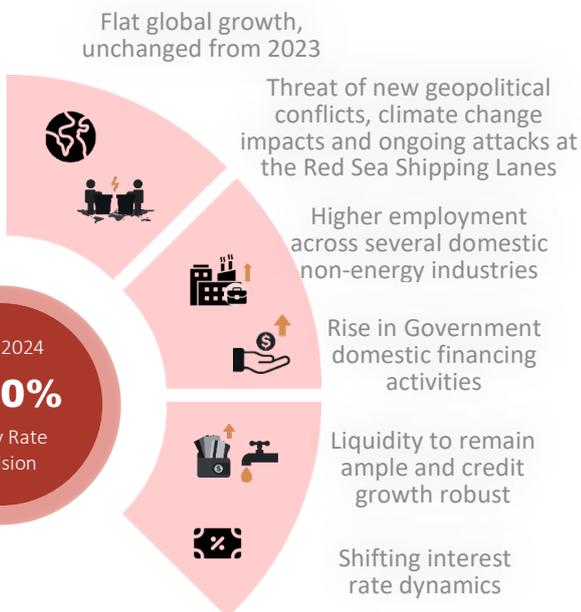
- The global economy, in part, has shown resilience despite earlier concerns of possible recession.
- The International Monetary Fund (IMF), in its April 2024 World Economic Outlook (WEO), estimates global growth will remain unchanged from 2023 at 3.2 per cent in 2024.
- Although inflation rates remain above targets, central banks in major Advanced Economies (AEs) maintained their benchmark policy rates. However, monetary policy actions in Emerging Market and Developing Economies (EMDEs) have been mixed thus far in 2024, reflecting varying inflation and growth outcomes.
- Domestically, following prior evidence of a sustained economic recovery, the latest data published by the Central Statistical Office (CSO) points to a slip in domestic economic activity. Meanwhile, headline inflation drifted upwards in May 2024, but remained contained.
- Commercial banks' excess reserves edged down in May 2024, amidst buoyant private sector credit and a pickup in Government borrowing activity.
- At its meetings in December 2023, March and June 2024, the Monetary Policy Committee (MPC) maintained the Repo rate at 3.50 per cent – unchanged since March 2020.

MONETARY POLICY OVERVIEW AND OUTLOOK

OVERVIEW



OUTLOOK



Overview

Central banks continue to balance their monetary policy actions in response to divergent inflation and growth outcomes. Many countries experienced broadly disinflationary trends in the latter half of 2023 and into 2024 owing to softer food and fuel prices. Amid converging inflation rates and tepid growth, AEs central banks, such as the United States (US) Federal Reserve (the Fed), the Bank of England (BoE), and the European Central Bank (ECB), maintained their benchmark policy rates. However, the Bank of Japan raised its policy rate in March 2024, ending eight years of negative interest rates. In EMDEs, central banks monetary policy actions have been mixed thus far in 2024, reflecting varying inflation and growth outcomes.

Domestically, following prior evidence of a sustained economic recovery, the latest data published by the CSO points to a slip in economic activity in the third quarter of 2023. The non-energy sector remained buoyant, while the energy sector continued to experience challenges. As a result, real Gross Domestic Product (GDP) growth was flat over the first three quarters of 2023. Indicators monitored by the Central Bank suggest that the non-energy sector drove economic activity over the fourth quarter of 2023 and the first quarter of 2024. The strong performance of the Trade and Repairs (excluding Energy) sector continued to shore up activity over the period. Additionally, on the inflation front, domestic prices remained contained in May 2024. Meanwhile, official labour market data from the CSO suggests improved labour market

conditions in the fourth quarter of 2023.

Thus far in 2024, the monetary policy stance has remained unchanged.

At its meetings in December 2023, March and June 2024, the MPC maintained the Repo rate at 3.50 per cent – unchanged since March 2020. Favourable financial conditions, characterised by still ample liquidity, tempered commercial lending rates. Though commercial banks' excess reserves slipped to \$4.3 billion in May 2024, liquidity remained sufficient to support the ongoing expansion in private sector credit. In April 2024, private sector credit expanded by 6.7 per cent, buttressed by consumer and business lending, while real estate mortgage lending slowed.

Government domestic financing activity contributed to an increase in short-term interest rates.

In particular, the TT 91-day treasury rate increased by 35 basis points over November 2023 to May 2024 to reach 1.40 per cent. Shorter-term US interest rates edged up, but the momentum has slowed considerably since the pause in interest rate hikes by the Fed. As a result, the TT-US 91-day differential improved to -406 basis points in May 2024 compared with -440 basis points in November 2023.

Outlook

Central banks in major AEs are expected to commence slowly lowering benchmark interest rates in the second half of 2024, despite evidence of inflation persistence.

The IMF forecasts global inflation to decelerate to 5.9 per cent in 2024, down from 6.8 per cent in 2023, albeit slower than initially

forecasted in January 2024. The downward path of inflation mainly reflects a decline in global core inflation, partly driven by the impact of tight monetary policies, and a softening of labour markets. Against this backdrop, the IMF anticipates that among the AEs, the Fed, the BoE and the ECB will reduce policy interest rates by the fourth quarter of 2024.

Following a moderation in global growth in 2023, economic activity is expected to grow at the same pace in 2024.

With output still falling short of pre-pandemic levels, the IMF, in its April 2024 WEO, forecasts global growth of 3.2 per cent in 2024 – unchanged from 2023. Several forces are shaping the moderate growth outlook. These include subdued activity in China, mounting geopolitical conflicts in the Middle East and tight financial conditions amid narrowed fiscal space.

Risks to global growth will be broadly balanced with both downside and upside risks.

Some of the downside risks in the near-term include: an escalation of geopolitical conflicts in the Middle East with spillovers to neighbouring countries; increased geoeconomic fragmentation which may result in reduced cross-border flows of goods and capital; more volatile commodity prices; and a deepening of China's real estate crisis which could further impede growth in the near-term. On the other hand, upside risks to the global growth outlook include: a short-term fiscal boost from a series of upcoming national elections, and faster-than-anticipated disinflation leading central banks to accelerate monetary policy easing.

On the domestic front, the non-energy sector is anticipated to boost economic activity. Business activity and consumer demand will support the expansion in the non-energy sector in the short to medium-term. Specifically, the Manufacturing sector is anticipated to ramp up activity as efforts to penetrate additional markets ensue. On the other hand, output from the energy sector is expected to remain lacklustre, due in part to constrained gas supplies, despite the pending start-up of several projects.

Meanwhile, a boost in employment is expected across a number of non-energy industries. Employment gains are anticipated in the Construction and Manufacturing sub-sectors. Notwithstanding, inflation is likely to remain low in 2024. However, external and domestic factors such as ongoing geopolitical tensions, unfavourable weather conditions, higher cement prices, and possibly higher electricity tariffs can place upward pressure on prices.

Treasury rates may experience some upward pressures owing to frequent capital market activity conducted by the Central Government. The trajectory of external benchmark rates was expected to stabilise since the Fed signalled that rates would remain near current levels. However,

US interest rates are anticipated to decline by late 2024 as inflation reverts toward its target. On the other hand, domestic interest rates are expected to increase. This suggests there may be some improvement in TT-US differentials across all tenors.

With inflation broadly contained, monetary policy will likely have to consider managing the volatility in banking system liquidity and mitigating external imbalances. While short-term capital market rates have increased in recent months due to the tightening effect of Government borrowing on liquidity conditions, commercial bank lending rates have not moved in tandem due to increased competition among banks to expand their loan portfolios. The Central Bank of Trinidad and Tobago remains vigilant and is poised to take necessary action as conditions dictate.

1. THE INTERNATIONAL ECONOMIC CONTEXT

Following an extended period of monetary policy tightening to curb inflation, a slowdown in price pressures allowed some monetary authorities to halt their tightening cycles. However, although global economic conditions are anticipated to remain steady, downside risks exist from shifting financial conditions, geopolitical tensions, labour shortages, and commodity price risks.

Recent Economic Developments and Outlook

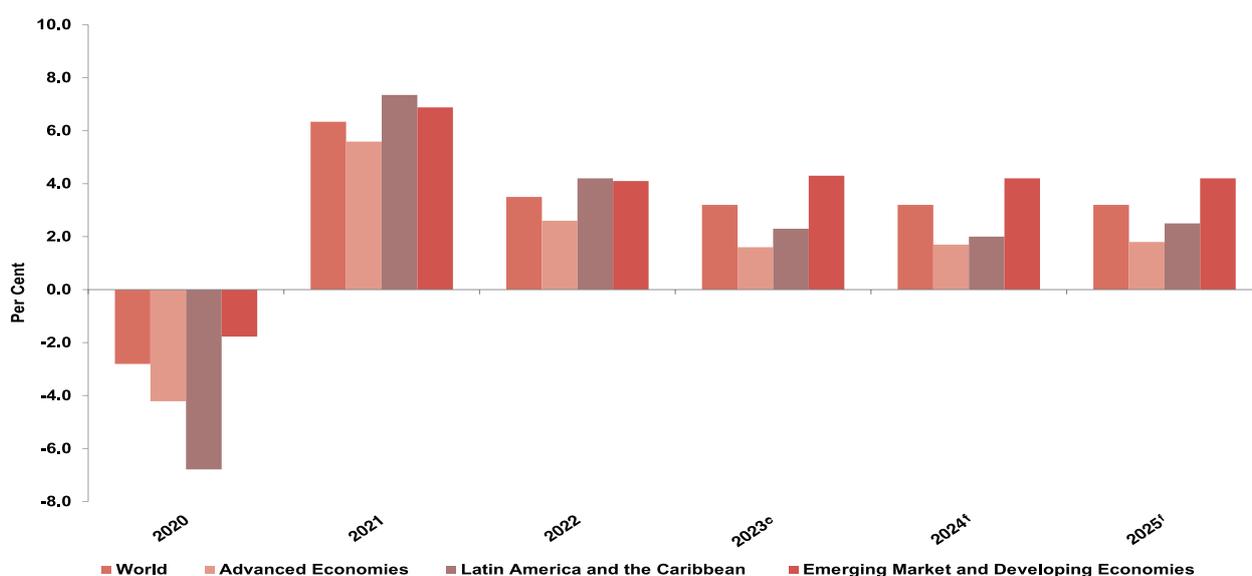
Monetary policy remained cautious even as the global environment faced less pronounced challenges on the inflation front. During the latter half of 2023 and early 2024, some central banks paused their interest rate hikes. Inflation gradually decelerated, owing to softer food and energy prices. Despite

shocks emanating from geopolitical conflicts, world growth showed signs of resilience as the likelihood of a soft landing became more evident. Notwithstanding growth undershooting its pre-pandemic path, many countries avoided slipping into an economic downturn – a risk of restrictive monetary policy.

Against this background, the IMF, in its April 2024 WEO, estimated that the world economy expanded by 3.2 per cent in 2023. This follows growth of 3.5 per cent in 2022 (Chart 1.1). This performance was largely supported by EMDEs registering an outturn of 4.3 per cent, up from 4.1 per cent in 2022, as countries experienced strong consumption and investment activity. Meanwhile, AEs recorded a more pronounced slowdown, moving from 2.6 per cent growth in 2022 to 1.6 per cent in 2023, impacted by still elevated inflation and high interest rates.

CHART 1.1

Global Growth: Annual Real GDP Growth



Source: International Monetary Fund, World Economic Outlook, April 2024
 e estimated
 f forecasted

Despite some deceleration, most inflation rates still remain above central bank targets

While inflation rates decelerated in the AEs, price pressures kept rates above-target.

The US Personal Consumption Expenditure price index remained steady at 2.5 per cent (year-on-year) in January and February 2024, down from 2.6 per cent in December 2023, primarily reflective of lower energy costs. However, in March 2024, inflation inched up slightly to 2.7 per cent and remained unchanged in April 2024 (Chart 1.2). Increased prices for food, energy and services contributed to uptick in inflation. Although still above-target, inflation in the UK slowed to 2.3 per cent (year-on-year) in April 2024, from 3.2 per cent in the previous month. This outturn was largely due to declines in gas and electricity prices, which were underpinned by the lowering of the energy price cap by its Office of Gas and Electricity Markets (Ofgem) in April. Slower prices for food, and recreation and culture also contributed to the deceleration.

Consumer prices in the Euro area remained above-target.

Inflation in the Euro area inched up to 2.6 per cent (year-on-year) in May 2024, up from 2.4 per cent one month earlier on account of increased prices for energy and services. Japan's inflation persistently surpassed its 2.0 per cent target for the past year. Inflation decelerated marginally to 2.5 per cent (year-on-year) in April 2024, from 2.7 per cent in the prior month, on account

of slower price increases for food, furniture and household utensils, healthcare and culture.

Inflation outcomes varied among the EMDEs.

China's inflation rose modestly to 0.3 per cent (year-on-year) in April 2024, from 0.1 per cent one month earlier, owing to higher consumer prices for non-food products and transport. More recently, inflation remained unchanged at 0.3 per cent in May 2024. In Russia inflation increased by 7.8 per cent (year-on-year) in April 2024, a slight increase from 7.7 per cent in the previous month. Consumer prices in India eased to 4.8 per cent (year-on-year) in April 2024, down from 4.9 per cent in the previous month, reflective of slower price increases for housing, clothing and footwear, and fuel.

In early 2024, inflation rates continued to trend downward in the Latin American (LA) region, aligning with objectives of convergence to central bank target ranges.

Inflation decelerated in Brazil (3.7 per cent) in April 2024 to within the Central Bank of Brazil's target range¹, due to slower price increases in major categories. In Peru, inflation slowed (2.0 per cent in May 2024) to within the Reserve Bank of Peru's target range. For the thirteenth consecutive month Colombia's inflation rate decelerated in April 2024 (7.2 per cent), despite being almost double the upper bound of its Central Bank's target range. Meanwhile, Chile's inflation rate rose to the upper bound of the Central Bank's

¹ Target ranges for selected central banks in the Latin America region; Mexico (2.0-4.0 per cent), Colombia (2.0-4.0 per cent), Chile (2.0 -4.0 per cent), Peru (1.0-3.0 per cent) and Brazil (1.5-4.5 per cent).

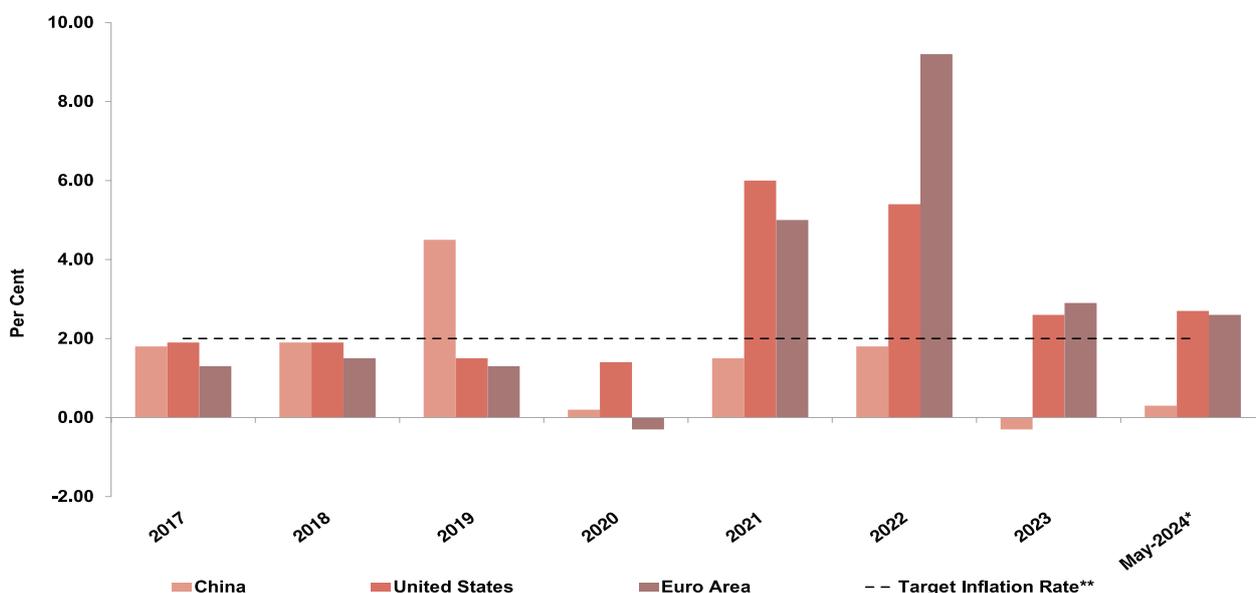
target range (4.0 per cent in April 2024), from 3.7 per cent the month prior. Mexico’s inflation rate accelerated in April 2024 (4.7 per cent) largely owing to price increases for food and non-alcoholic beverages.

Inflation remains a concern in some Caribbean countries

In spite of some deceleration, elevated inflation remains a challenge for some Caribbean economies. Although Jamaica’s rate of inflation continued to trend within the

inflation target range (4.0-6.0 per cent) set by the Bank of Jamaica, it still remained elevated. Inflation edged down to 5.3 per cent in April 2024, from 5.6 per cent one month earlier, mainly due to movements in the categories of food and non-alcoholic beverages, transport, and housing, water, gas and other fuels. In Barbados, inflation moderated to 4.2 per cent (year-on-year) in February 2024, from 4.8 per cent one month earlier, as a result of lower international energy prices and slower price increases for some commodities.

CHART 1.2
Selected Economies: Headline Inflation
(Year-on-Year Per Cent Change)



Source: Bloomberg

* Data for the United States uses the Personal Consumption Expenditure Index. Data is at April 2024.

** The Target Inflation Rate represents the rate for the US and Euro area as China’s Target Inflation Rate is set at 3 per cent.

Lower energy commodity prices helped to temper inflation, however, geopolitical uncertainty can add upward pressure to energy prices

The Energy Commodity Prices Index (ECPI) decreased over the eight months ending May 2024.

On a year-on-year basis, the ECPI fell by 14.4 per cent to average 113.53 over October 2023 to May 2024, as most commodities included in the index recorded lower prices.

Crude oil prices declined in the fourth quarter of 2023 before recovering modestly in the first five months of 2024.

West Texas Intermediate (WTI) prices averaged US\$78.69 per barrel over October 2023 to May 2024, representing a marginal increase of 0.2 per cent when compared to the corresponding period one year prior ([Chart 1.3](#)). Brent crude prices also experienced a moderate increase of 0.4 per cent to an average of US\$83.98 per barrel.

Geopolitical tensions and concerns around crude oil demand resulted in major price fluctuations over the period.

After peaking in September 2023, prices moderated in the fourth quarter of 2023. Despite a temporary uptick in October 2023 following conflict in the Middle East, prices maintained a downward trajectory to the end of the year. Crude oil prices moved higher in early 2024 due to strong demand, and lower global production—particularly from OPEC+ members. Despite the slight improvement in crude oil prices, most crude oil derivative

prices registered double digit year-on-year declines over the eight-month period ending May 2024. Gas oil prices fell by 12.2 per cent, while jet fuel and motor gasoline prices contracted by 10.6 per cent and 7.9 per cent, respectively.

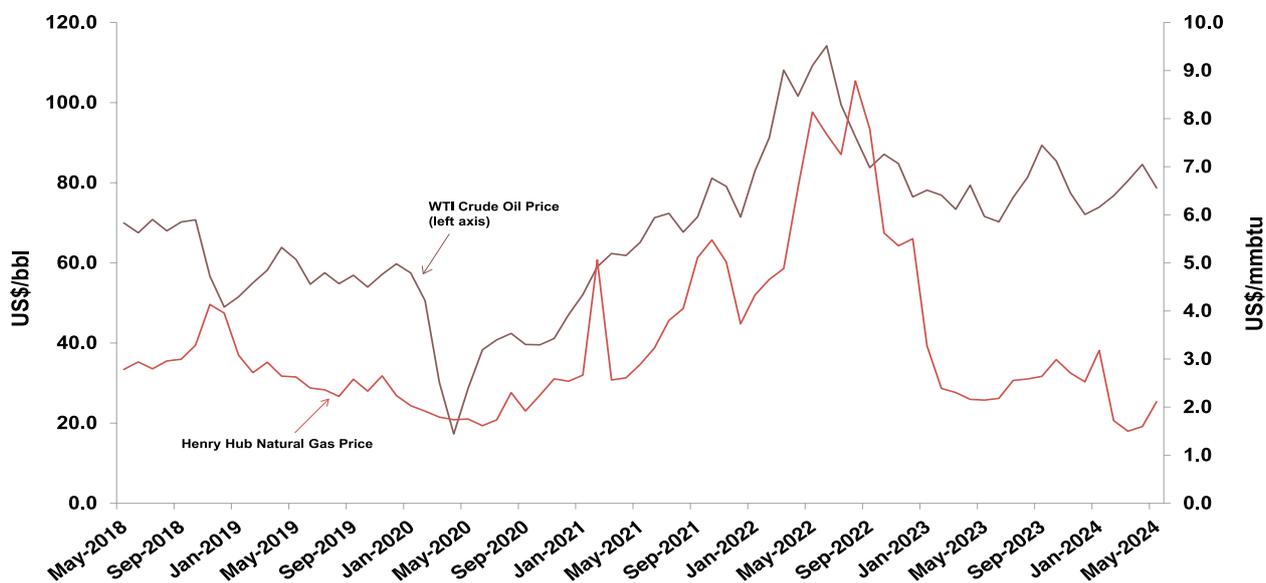
The US Henry Hub natural gas price experienced major contractions over the period.

Over October 2023 to May 2024, the price fell by 36.2 per cent (year-on-year) to an average of US\$2.29 per million British Thermal Units (mmbtu). The decline in natural gas prices was partially due to a base effect as prices were uncharacteristically high one year prior, on account of elevated demand and geopolitical tensions surrounding the Russia-Ukraine conflict. Natural gas prices were generally stable during October 2023 to January 2024, but experienced a large fall off in February and March 2024. Prices averaged US\$1.50 per mmbtu in March 2024, with daily prices dipping to a low of US\$1.25 per mmbtu; the lowest price recorded since 1997.

High US gas production rates seen in 2023 continued into 2024, leading to robust inventory levels.

This coupled with low gas demand, given a warmer winter, kept prices below \$2.00 per mmbtu for most of February and all of March and April 2024. Lower natural gas prices over the period were transmitted to all other derivative commodity prices in the index such as ammonia (-37.2 per cent), urea (-20.8 per cent), methanol (-5.3 per cent), propane (-4.9 per cent), and natural gasoline (-4.2 per cent).

CHART 1.3
Natural Gas and Crude Oil Prices



Source: Bloomberg

International food prices also slid, easing price pressures across markets

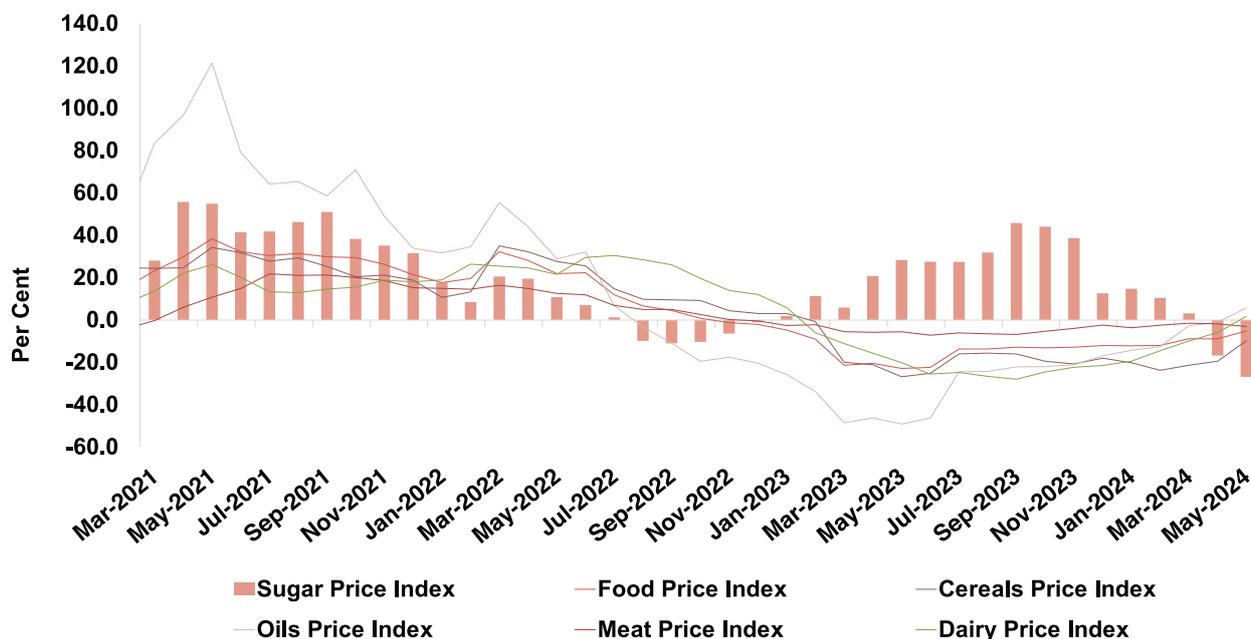
International food prices recorded declines, albeit at a much slower pace.

The United Nations Food and Agriculture Organisation (FAO) Real Food Price Index fell by 5.1 per cent in May 2024 (year-on-year), reflecting a continued decline in the index, which contracted by 12.8 per cent in November 2023 (Chart 1.4). Fashioning the fall were declines across most categories including; Sugar (-26.8 per cent in May 2024 compared to 38.7 per cent in November 2023), Cereal (-9.8 per cent in May 2024 compared to -21.1 per cent in November 2023), and Meat (-3.0 per cent in May 2024

compared to -3.9 per cent in November 2023). Notably, the significant drop in international sugar prices was mainly driven by larger export availabilities. Meanwhile, the Oil (5.8 per cent in May 2024 compared to -21.1 per cent in November 2023) and Dairy (1.7 per cent in May 2024 compared to -22.3 per cent in November 2023) sub-indices recorded an uptick in prices, tempering the overall decline in the index. A rebound in world soy oil prices, coupled with stronger sunflower and rapeseed oil prices and renewed import demand for spot supplies of milk - especially from some countries in the Near East and Northern Africa, contributed to the increase in oil and dairy prices.

CHART 1.4

FAO Real Monthly Food Price Index
(Year-on-Year Per Cent Change)



Source: Food and Agriculture Organisation

Economic activity was mixed in the AEs but remained resilient in the EMDEs

Real GDP growth varied among the AEs, with the US surpassing pre-pandemic growth levels. Strong consumer confidence and spending continue to drive economic activity in the US, which expanded by 2.9 per cent (year-on-year) in the first quarter of 2024, a similar outturn to the fourth quarter of 2023 (3.1 per cent). Economic growth in the UK expanded by 0.2 per cent (year-on-year) in the first quarter of 2024, reflective of a recovery in the services and production sectors. This follows a contraction of 0.2 per cent in the previous quarter. On the other hand, high inflation and rising borrowing costs kept Euro

area growth modest into 2024. Euro area's real GDP increased by 0.4 per cent (year-on-year) in the first quarter of 2024, up from 0.2 per cent (year-on-year) in the fourth quarter of 2023. In Japan, falling domestic demand was responsible for a contraction in real GDP of 0.1 per cent (year-on-year) in the first quarter of 2024, from growth of 1.1 per cent in the previous quarter.

Economic activity appeared promising in EMDEs. China's economic activity increased during the first quarter of 2024, expanding by 5.3 per cent (year-on-year), from 5.2 per cent in the fourth quarter of 2023, supported by measures to stimulate activity and spending related to the Lunar New Year holiday. India's

economic activity continued to be resilient, supported by growth in manufacturing, construction, and public administration, defence and other services. During the first quarter of 2024, real GDP grew by 7.8 per cent (year-on-year), following an expansion of 8.6 per cent in the previous quarter. Russia's real GDP expanded by 5.4 per cent (year-on-year) in the first quarter of 2024, up from 4.9 per cent one quarter prior, reflecting a rebound in output.

Some LA region economies displayed signs of improved economic conditions while others experienced decelerations

Economic performances improved in the LA region during the first quarter of 2024 following a slowdown in 2023. In its April 2024 WEO, the IMF estimated growth in the Latin American and Caribbean region slowed to 2.3 per cent in 2023, following an expansion of 4.2 per cent one year earlier.

Following growth of 0.3 per cent in the fourth quarter of 2023, Colombia's real GDP recorded a larger expansion of 0.7 per cent (year-on-year) in the first quarter of 2024, attributable to increased investment. During the first quarter of 2024, Chile's economy expanded by 2.3 per cent (year-on-year) due to increased investment and consumption activity. Conversely, Mexico's real GDP slowed to 1.6 per cent compared to 2.3 per cent in the previous quarter, due to lower output in secondary activities as well as services.

Meanwhile, after four consecutive quarters of contraction, Peru's economy expanded by 1.4 per cent (year-on-year) in the first quarter

of 2024 on account of increases in private consumption and government spending. Brazil remained a bright spot in the region, with real GDP expanding by 2.1 per cent (year-on-year) in the fourth quarter of 2023, led mainly by strong performances in the Industry sector.

In the Caribbean region, growth was led by energy exporters

Economic growth in the Caribbean was led mainly by commodity-exporting countries, particularly Guyana. The IMF, in its April 2024 Regional Economic Outlook (REO), estimated commodity-exporting Caribbean economies expanded by 16.1 per cent in 2023, supported by favourable terms of trade during the year. Economic activity in tourism-dependent economies moderated to 3.5 per cent, despite the recovery in tourism activity.

Robust growth in its oil sector, driven by a rise in crude oil production, supported a positive economic performance in Guyana during the first nine months of 2023. At the same time, improvements in the non-oil sector were attributed to increased output in the Agriculture and Forestry sectors. Favourable weather conditions supported the production of sugar and rice.

In the fourth quarter of 2023, Jamaica's economic activity was boosted by the improved performance of the services sector. Real GDP in Jamaica grew by 1.7 per cent (year-on-year) in the fourth quarter of 2023, following 2.1 per cent in the previous quarter, on account of growth in both goods and services industries.

Barbados' positive economic performance in the first quarter of 2024 stemmed largely from strong tourism activity. Real GDP grew by 4.1 per cent over the three months to March 2024 on account of the continued recovery of the Tourism sector, which spilled over to other economic sectors. This was also further supported by continued activity in the Construction sector.

Major AEs maintained their monetary policy positions amid easing price pressures, but remain cautious as inflation persists above-target

Monetary policy in the US was left unchanged during the first five months of 2024, and is likely to be maintained for much of 2024 given inflation persistence.

The US Fed kept its target range for the federal funds rate steady at 5.25 to 5.50 per cent in May 2024 for a sixth consecutive meeting. The Federal Open Market Committee (FOMC) noted the moderation of inflation, however, did not view reducing the target range as warranted until inflation moves sustainably toward the 2.0 per cent target. Additionally, commencing June 1 2024, the FOMC will continue to reduce its holdings of Treasury securities and agency mortgage-backed securities, albeit at a slower pace².

Disinflation in the UK led the BoE to maintain its benchmark interest rates in the first half of 2024. A slowdown in inflation enabled the BoE to maintain its benchmark rate at 5.25 per cent during January, March and May 2024. However, the BoE indicated that given significant increases in the interest rate since the start of the tightening cycle (December 2021), the current monetary policy stance will remain restrictive until the 2.0 per cent inflation target is achieved.

Above-target inflation rates supported the ECB's decision to maintain the interest rate on its main refinancing operations during the first four months of 2024. In January, March and April 2024, the ECB held its rate steady at a historic high of 4.50 per cent. The Governing Council announced changes to the operational framework for implementing monetary policy and liquidity management^{3,4}. The ECB also signalled its flexibility to reducing its restrictive interest rates as inflation steadily moves toward its 2.0 per cent target.

Following eight years of negative interest rates, the Bank of Japan (BoJ) increased its monetary policy rate in March 2024.

The short-term interest rate was increased to

² The FOMC will slow the pace of decline of its securities holdings by reducing the monthly redemption cap on Treasury securities from US\$60 billion to US\$25 billion. Further, the FOMC will maintain the monthly redemption cap on agency debt and agency mortgage-backed securities at US\$35 billion and will reinvest any principal payments in excess of this cap into Treasury securities.

³ In October 2023, the interest rate on the main refinancing operations and the interest rates on the marginal lending facility and the deposit facility were all increased to 4.50 per cent, 4.75 per cent and 4.00 per cent, respectively.

⁴ On March 13, 2024, the ECB indicated that the spread between the main refinancing operations and the deposit facility rate will be reduced to 15 basis points from 50 basis points from September 18, 2024. According to the ECB, these changes would impact how central bank liquidity will be provided. It is anticipated that excess banking system liquidity, though remaining significant over the coming years, will gradually decline. For more information on changes to the ECB's monetary policy operational framework see [link](#).

around 0.0 to 0.1 per cent from -0.1 per cent. The BoJ indicated that it expects to achieve its inflation target of 2.0 per cent in a sustainable manner. Additionally, the BoJ stated that, to date, its policy framework of Quantitative and Qualitative Monetary Easing with Yield Curve Control and the negative interest rate policy have fulfilled their roles. In light of this, monetary policy would be conducted to achieve the price stability target, with the short-term interest rate as the primary policy tool⁵. More recently, in April 2024, the BoJ kept the range of its short-term interest rate steady at 0.0 to 0.1 per cent.

Monetary policy actions in EMDEs have been mixed thus far in 2024, reflecting varying inflation and growth outcomes

The People’s Bank of China (PBoC) implemented further monetary policy easing during the first five months of 2024 to stimulate economic activity.

The 5-year Loan Prime Rate (LPR) was lowered by 25 basis points to 3.95 per cent in February 2024 to stimulate credit demand and curb the property market downturn. However, the 1-year LPR remained unchanged at 3.45 per cent. Subsequently, in March, April and May 2024, the PBoC maintained the 1-year and 5-year LPRs at 3.45 per cent and 3.95 per cent, respectively.

In April 2024, the Reserve Bank of India left its policy rate unchanged at 6.5 per cent for the seventh consecutive monetary policy meeting. The decision was consistent with inflation convergence to the target

and anchoring inflation expectations, while supporting economic growth.

The Central Bank of Russia (CBR) paused its aggressive interest rate hikes in February 2024.

Following a cumulative increase of 850 basis points since the start of the CBR’s tightening cycle in July 2023, the CBR kept its benchmark interest rate unchanged at 16.0 per cent in February 2024. The CBR noted an ease in inflationary pressures since the fourth quarter of 2023, projecting inflation to marginally surpass the 4.0 per cent target by the end of 2024. In March and April 2024, the CBR maintained its benchmark interest rate at 16.0 per cent and indicated that tight monetary conditions are necessary for an extended period to ensure a sustained return of inflation to target.

The slowdown in inflation in some LA economies encouraged several authorities to pursue accommodative monetary policy

Several Latin American central banks lowered interest rates during the first five months of 2024 to support domestic economic activity amid signs of disinflation.

Many central banks in the region opted to continue downward adjustments to their benchmark interest rates into 2024. In March 2024, the Bank of Mexico cut its policy rate by 25 basis points to 11.00 per cent, marking its first rate cut since March 2023. This decision came amid an easing of inflationary pressures. Following which, the rate was maintained at the May 2024 monetary policy

⁵ The BoJ discontinued its yield curve control for 10-year government bonds as well as the purchases of exchange-traded funds and Japan real estate investment trusts.

meeting. In April 2024, the Central Bank of Chile lowered its policy interest rate by 75 basis points to 6.5 per cent. Meanwhile, the Central Bank of Colombia reduced its benchmark interest rate by 50 basis points to 11.75 per cent in April 2024, citing a downward trend in inflation. More recently, the Reserve Bank of Peru and the Central Bank of Brazil reduced their policy rates by 25 basis points to 5.75 per cent and 10.50 per cent in May 2024, respectively, as inflation aligned with its target.

As inflationary conditions remain a concern in some Caribbean countries, numerous economies kept policy rates unchanged

In the Caribbean, policy interest rates were left unchanged during the first five months of 2024. In February 2024, the Eastern Caribbean Central Bank (ECCB) maintained its minimum savings rate at 2.0 per cent, and the discount rates for short-term and long-term credit at 3.0 per cent and 4.5 per cent, respectively. This follows a 100 basis points increase of both its short-term and long-term rates in November 2023⁶. The ECCB indicated the growth outlook remains positive as the sub-region's economy continues to expand amid easing inflation. Likewise, in May 2024, the Bank of Jamaica (BOJ) kept its policy interest rate⁷ at 7.0 per cent despite

high inflation. The BOJ highlighted that inflation remained elevated due to higher regulated prices, including the increase in public passenger vehicle fares⁸, along with wage increases throughout the economy.

Advanced equity markets improved over November 2023 to May 2024, but downside risks from geopolitical tensions and slower global growth persist

The bullish performance of advanced equity markets at the end of 2023 supported a strong start in the first five months of 2024. In the US, the combination of peak interest rates, declining long-term Treasury yields, sentiments of a soft landing and positive earnings guidance supported a strong rally (25.8 per cent) in the S&P500 over the seven months ending May 2024. At the end of 2023, the S&P500 index saw a significant majority of its stocks surpassing their 50-day moving average⁹, signalling a bullish market trend in terms of market breadth and direction. As inflationary pressures cool, this trend is anticipated to continue supporting market performance. Overall, these conditions resulted in the Chicago Board Options Exchange Volatility Index (VIX)¹⁰ depicting very low levels of volatility, averaging 13.9 over the seven months ending May 2024 (Chart 1.5).

⁶ The first rate hike since the discount rate and long-term lending rates were lowered in April 2020 and February 2021, respectively.

⁷ The rate offered to deposit-taking institutions on overnight placements.

⁸ Represents the first of a two-part increase, effective October 2023.

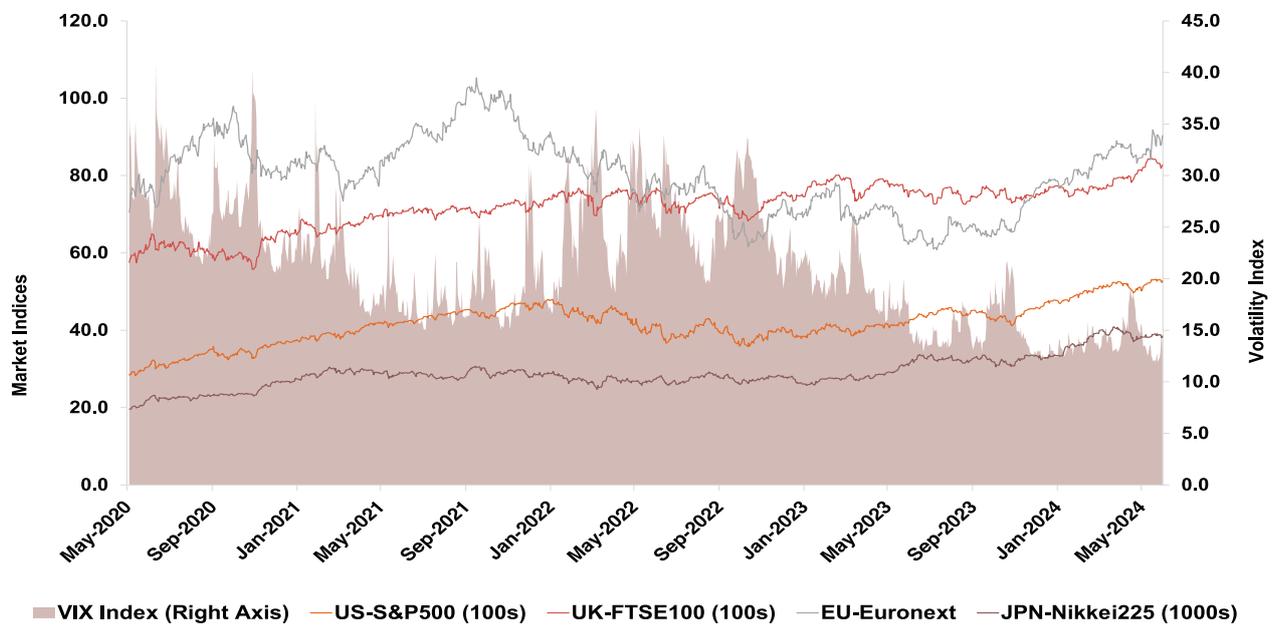
⁹ Slimmon (2024). <https://www.morganstanley.com/ideas/global-equity-market-outlook-2024>.

¹⁰ The VIX is a benchmark index used to measure market expectation of future volatility. The index is based on option trading of the S&P 500 and is considered a main gauge of US equity market volatility. A level above 20 is considered to be high volatility.

Despite moderate growth in Europe, the Euronext index expanded by 37.3 per cent on account of anticipated interest rate cuts amid lower inflation and supportive economic agendas. Similarly, despite sluggish growth in the UK, lower inflation, a soft currency, and the prospects of an easing policy regime supported

a rally in the UK FTSE 100 (13.0 per cent). Despite recent monetary policy tightening by the BoJ, the extended period of ultra-loose monetary policy and the moderate recovery in economic conditions have supported robust growth of the Nikkei 225, ending the period 24.7 per cent higher.

CHART 1.5
Advanced Economies Equity Market Indices



Source: Bloomberg

2. DOMESTIC ECONOMIC ACTIVITY AND PRICES

After a period of recovery, the latest CSO data points to a dip in domestic economic activity in the third quarter of 2023. Nonetheless, indicators monitored by the Central Bank suggest a rebound in the six months to March 2024. Activity in the non-energy sector remained buoyant, supported by robust credit expansion, while inflation was contained. Additionally, employment gains signalled continued favourable labour market conditions.

Recent Economic Developments and Outlook

While the non-energy sector remained buoyant, the energy sector continued to experience production challenges

Following a period of expansion, economic growth in the third quarter of 2023 was stymied by lower output in the energy sector. Data published by the CSO indicated that real GDP fell by 2.3 per cent (year-on-year) premised on a 10.3 per cent contraction in the energy sector, which overshadowed the 1.3 per cent expansion in the non-energy sector.

The energy sector experienced lower output due to contractions in most sub-sectors. The Petroleum support services (-34.8 per cent), Natural Gas Exploration and Extraction (-11.3 per cent), Refining (including Liquefied Natural Gas) (-11.0 per cent), Condensate Extraction (-10.2 per cent), Manufacture of Petrochemicals (-9.9 per cent) and Crude Oil Exploration and Extraction (-9.0

per cent) sub-sectors all experienced declines. Conversely, the Asphalt (20.5 per cent) sub-sector improved. Meanwhile, the buoyancy of the non-energy sector was supported by growth in the Trade and Repairs (excluding Energy) (11.7 per cent), Financial and Insurance Activities (1.6 per cent), Accommodation and Food Services (1.5 per cent) and Domestic Services (1.0 per cent) sectors.

Central Bank estimates suggest that overall economic activity improved over the fourth quarter of 2023 and the first quarter of 2024. Contractions in energy sector output were countered by the strong performance of non-energy sector-related activity.

Upstream activity continued to contract over the final quarter of 2023. Data from the Ministry of Energy and Energy Industries indicated that several key producers reported reduced output over the period. This, alongside other indicators monitored by the Central Bank, suggest a decline in the Mining and Quarrying sector (-5.9 per cent). Over the period, declines occurred in the production of both crude oil (-13.0 per cent) and natural gas (-1.7 per cent). Despite the shortfall in upstream production activity, the Refining sector remained resilient, evidenced by increased production of LNG (1.0 per cent) and NGLs (19.8 per cent). Meanwhile, activity in the Petrochemicals sector declined, as improved methanol production (9.3 per cent) was countered by notable reductions in the production of fertilizers. Ammonia and urea production fell by 23.9 per cent and 71.9 per cent, respectively, reflecting downtime at the

Nutrien complex and a shutdown of the AUM-NH3 facility.

Preliminary data from the Ministry of Energy and Energy Industries suggests a continuation of these trends into 2024.

Over the first quarter of 2024, crude oil production fell by 10.4 per cent and natural gas production dipped by 1.4 per cent when compared to the same period in 2023. Despite the upstream setback, production of NGLS remained resilient, recording a 16.3 per cent year-on-year improvement over the period. Meanwhile LNG output fell by 4.7 per cent. Further, contractions persisted downstream, as both methanol and ammonia production fell by 3.8 per cent and 2.4 per cent, respectively.

Indicators monitored by the Central Bank to gauge economic activity revealed that the non-energy sector drove economic activity in the fourth quarter of 2023 and the first quarter of 2024. Activity in the Wholesale and Retail Trade (excluding Energy) sector improved (5.8 per cent) while activity in the Transportation and Storage sector (7.1 per cent) remained buoyant, supported by increased air travel, land and water transportation.

The CSO's Index of Retail Sales indicated improved economic activity in the fourth quarter of 2023. On a year-on-year basis,

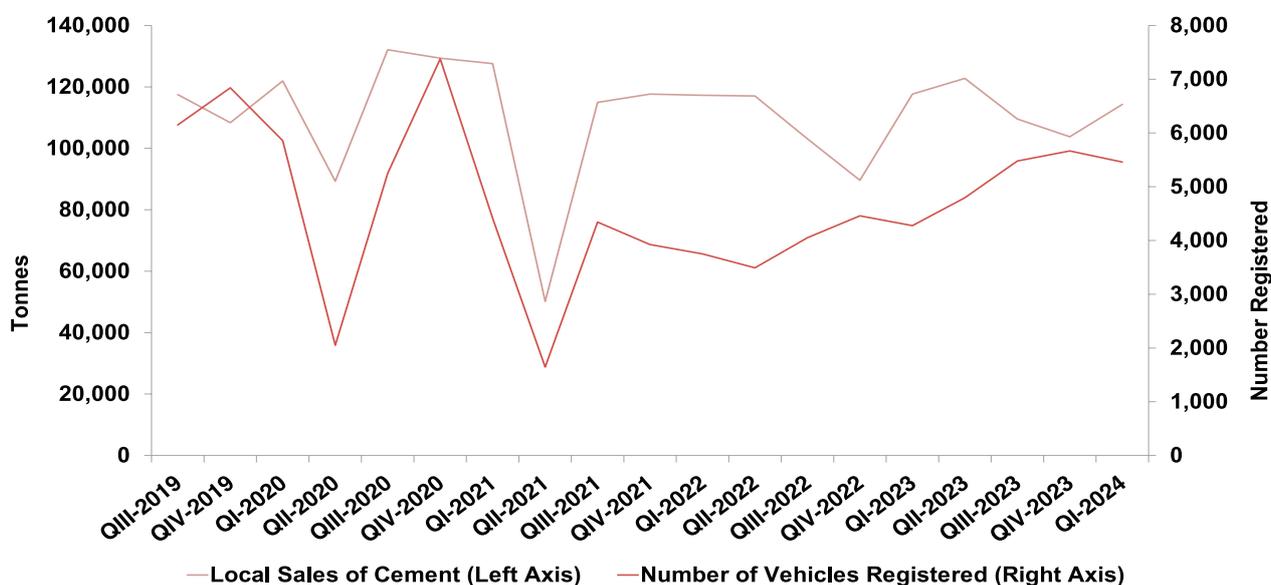
the Index of Retail Sales expanded by 4.8 per cent over the period. Improvements in the Supermarkets and Groceries (8.2 per cent), Textiles and Wearing Apparel (6.2 per cent), Household Appliances, Furniture and other Furnishings (4.7 per cent) and Dry Goods (1.5 per cent), sub-indices drove the expansion in the overall index. Meanwhile, decreased sales in Construction Materials and Hardware (-16.1 per cent) partially offset the uptick in the index.

Strong activity in the non-energy sector was also evidenced by an uptick in some supplementary indicators¹¹ in the first quarter of 2024. Specifically, the Cashless Payments Index advanced by 6.9 per cent, on account of a rise in the volume of ATM and internet banking transactions. Indicators suggest that activity in the Transportation and Storage sector remained strong (7.1 per cent), supported by increased air travel. Moreover, activity improved in the Wholesale and Retail Trade (excluding Energy) (5.8 per cent) and Electricity and Water (excluding Gas) (4.3 per cent) sectors. Meanwhile, reduced local sales of cement point to a contraction in Construction sector activity (-2.9 per cent) (Chart 2.1). Further, contractions are estimated for the Manufacturing (excluding Energy) sector (-2.1 per cent).

11 A cadre of indicators developed by the Central Bank to gauge the performance of the non-energy sector.

CHART 2.1

Non-Energy Indicators (Cement Sales, Vehicle Registrations)



Source: Central Bank of Trinidad and Tobago

Labour market conditions improved in the fourth quarter of 2023, consistent with improvements in the non-energy sector

Supported by growth in the non-energy sector, labour market conditions improved in the fourth quarter of 2023.

Data published by the CSO indicates the unemployment rate measured 4.1 per cent in the fourth quarter of 2023, down from 4.7 per cent in the corresponding period of 2022. The number of persons employed increased by 16.6 thousand persons (year-on-year) while the number of unemployed persons declined by 3.0 thousand persons. Combined, these changes led to an increase in the labour force participation rate to 55.5 per cent in the fourth quarter of 2023 compared to 54.6 per cent one year prior.

Several sectors witnessed gains in employment over the fourth quarter of 2023.

In particular, the Agriculture (including Forestry, Hunting and Fishing) (7.6 thousand persons); Wholesale and Retail Trade, Restaurants and Hotels (6.6 thousand persons); Community, Social and Personal Services (4.5 thousand persons); and Transport, Storage and Communication (1.4 thousand persons) sectors. Meanwhile, lower employment numbers were recorded in the Financing, Insurance, Real Estate and Business Services (8.6 thousand persons); and Construction (including Electricity and Water) (2.3 thousand persons) sectors.

Supplementary indicators used by the Central Bank indicate that labour market conditions remain positive in early 2024. Retrenchment notices¹² filed with the Ministry of Labour for the first quarter of 2024 revealed 84 persons were retrenched compared to 115 persons one year prior, a 27.0 per cent decline (year-on-year).

Over the period November 2023 to May 2024, headline inflation broadly decelerated

Domestic inflation as measured by the CSO's Consumer Price Index decelerated over the period November 2023 to May 2024. Headline inflation slid to 0.9 per cent in May 2024 (year-on-year) from 1.1 per cent in November 2023 (Chart 2.2).

Food inflation accelerated moderately over the reference period. After slipping into negative territory in December 2023 (-1.1 per cent) and January 2024 (-1.9 per cent), food inflation rose in May 2024 by 3.1 per cent.

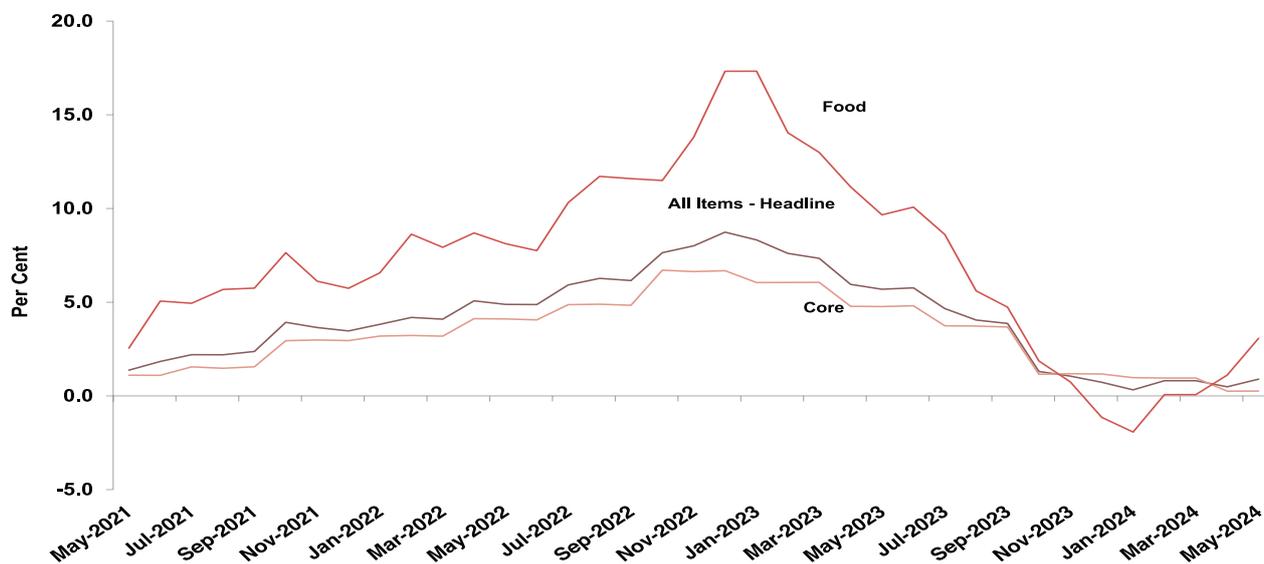
The acceleration in retail food prices between November 2023 and May 2024 was fashioned by jumps in a few sub-indices. A combination of domestic and international conditions caused an uptick in the Vegetables, Sugar, Jam and Confectionery, and

Food Products Not Elsewhere Classified (NEC) sub-indices. Notably, the uptick in prices in the Vegetables sub-index was primarily due to higher prices for tomatoes, carrots and green (sweet) peppers owing to reduced availability as farmers experienced lower yields as a result of unfavourable weather conditions. Meanwhile, the Sugar, Jam and Confectionery and Food Products NEC sub-indices were impacted by higher prices for brown and white sugar and celery, mixed fresh seasoning and garlic, respectively. Prices in the Meat sub-index also strengthened increasing by 1.5 per cent in May 2024 compared to a decline of 1.1 per cent in November 2023.

Despite the pickup in food inflation, price declines and softer price increases occurred across major categories. There were price declines in the Bread and Cereals (-3.2 per cent in May 2024 compared to -2.6 per cent in November 2023), Fish (-1.8 per cent in May 2024 compared to -3.7 per cent in November 2023) and Fruits (-0.1 in May 2024 compared to 6.2 per cent in November 2023) sub-indices. Additionally, slower price increases were recorded in the Milk, Cheese and Eggs sub-index (1.3 per cent in May 2024 compared to 4.8 per cent in November 2023).

12 This indicator of job separation is limited since it only includes registered retrenchment notices and does not account for various forms of job separation, for example the non-renewal of contracts for short-term workers. Retrenchment refers to the termination of employment of a worker at the initiative of an employer for the reason of redundancy based on the Retrenchment and Severance Benefits Act (No. 32 of 1985).

CHART 2.2
Consumer Price Index
 (Year-on-Year Per Cent Change)



Source: Central Statistical Office

Core inflation, a measure of underlying inflation, slowed from 1.2 per cent in November 2023 to 0.3 per cent in May 2024.

Continued price declines in the Clothing and Footwear (-1.7 per cent in May 2024 compared to -4.5 per cent in November 2023), Furnishing, Household Equipment and Routine Maintenance (-2.0 per cent in May 2024 compared to -1.3 per cent in November 2023) and Housing, Water, Electricity, Gas and Other Fuels (-1.7 per cent in May 2024 compared to -1.3 per cent in November 2023) contributed to the slowdown in core inflation. Additionally, slower price increases in the Alcoholic Beverages and Tobacco (2.2 per cent in May 2024 compared to 7.2 per cent in November 2023) sub-index and price declines in the Transport (-0.4 per cent in May 2024 compared to 0.8 per cent in November 2023) and Recreation and Culture (-1.9 per

cent in May 2024 compared to 7.4 per cent in November 2023) sub-indices accounted for the slowdown in core inflation. Notably, reduced prices for rum, whisky and other spirits, and cigarettes accounted for the deceleration in the Alcoholic Beverages and Tobacco sub-index. Consistent with the lower prices for rum, whisky and other spirits, the Hotels, Café and Restaurants sub-index also recorded reduced prices in alcoholic drinks served at restaurants, cafes and bars.

Despite softer retail prices and easing building material prices, wholesale prices continued to climb

The CSO’s Index of Retail Prices of Building Materials (BMI) declined further in the first quarter of 2024, falling into negative territory. The BMI registered a decline of 2.2 per cent (year-on-year) in the first quarter of

2024 after easing to 0.1 per cent in the fourth quarter of 2023. Lower prices were noted across all categories of the BMI, including, Site Preparation, Structure and Concrete Frame (-3.9 per cent in the first quarter of 2024 compared to -1.8 per cent in the fourth quarter of 2023), Walls and Roofs (-1.6 per cent in the first quarter of 2024 compared to -0.9 in the fourth quarter of 2023), and Windows and Doors (-2.5 per cent in the first quarter of 2024 compared to -0.3 per cent in the fourth quarter of 2023).

Wholesale prices, as measured by the CSO's Producer Price Index (PPI)¹³, held momentum in the fourth quarter of 2023.

The PPI increased by 3.4 per cent (year-on-year) in the fourth quarter of 2023, unchanged from the third quarter of 2023. Steady price increases in the Printing, Publishing and Paper Converters (17.5 per cent), Chemical and Non-Metallic Products (7.1 per cent) and Drink and Tobacco (5.3 per cent) industries supported producer prices. Notably, stable price increases within newspaper publishing (55.0 per cent) buttressed wholesale prices in the Printing, Publishing and Paper Converters industry. Similarly, increased prices for industrial gases and paint shored up prices in the Chemical and Non-Metallic Product industry. Conversely, the Food Processing industry recorded steady price declines of 1.5 per cent in the third and

fourth quarters of 2023 on account of lower cost associated with the processing of flour.

Exports fell more than imports

Export earnings declined in the fourth quarter of 2023 as a result of a reduction in energy exports, underpinned by lower international commodity prices, and non-energy exports.

The decline in energy export earnings was reflected across most energy commodities, of which the largest was petrochemicals (-46.7 per cent), followed by gas (-30.5 per cent), and petroleum crude and refined products (-6.1 per cent). Compounding this position was a reduction in non-energy exports, which fell by 18.0 per cent (year-on-year) to US\$387.9 million, reflective of lower international demand for domestic products. Total exports fell by 31.6 per cent (year-on-year) to US\$2,351.2 million.

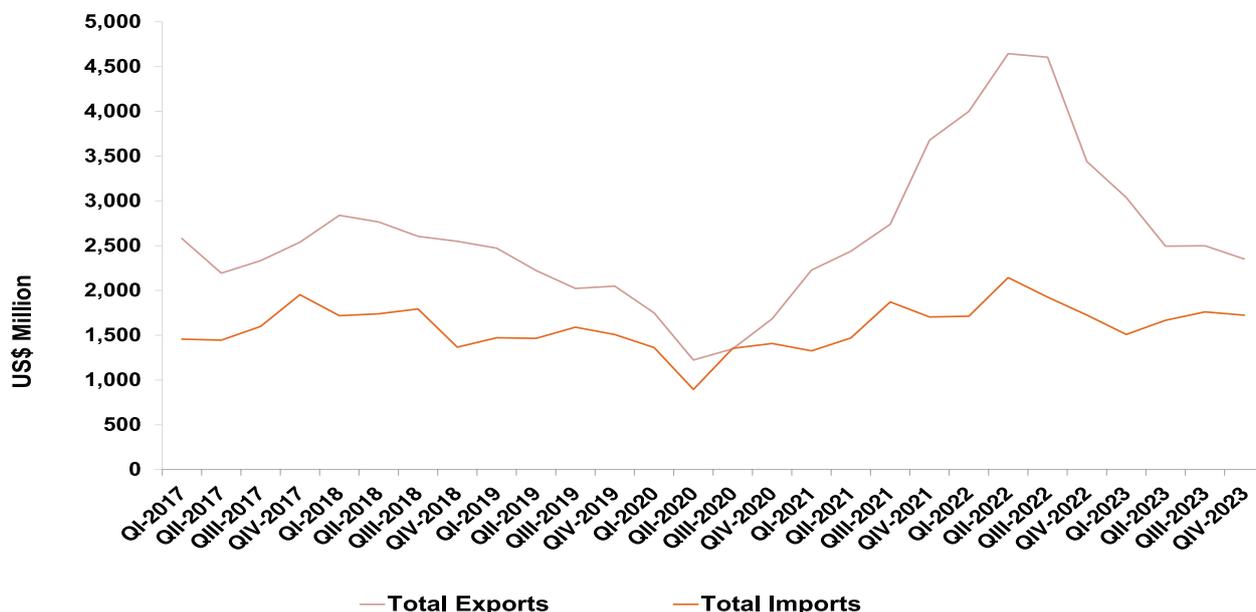
Total imports decreased by a marginal 0.1 per cent (year-on-year) to US\$1,723.1 million during the fourth quarter of 2023 (Chart 2.3).

Fuel imports declined by 10.7 per cent, primarily reflecting lower international energy commodity prices. At the same time, non-fuel imports rose by 2.5 per cent to US\$1,416.3 million.

¹³ Producer price indices show the rate of change in prices producers receive for their goods before the goods are sold at the retail level.

CHART 2.3

Trends in Exports and Imports*



Source: Central Bank of Trinidad and Tobago

* Energy goods data comprise estimates by the Central Bank of Trinidad and Tobago.

The portfolio investment account registered a net inflow in the fourth quarter of 2023

Reduced holdings of foreign assets were mainly responsible for a net inflow of US\$88.4 million in the portfolio investment account over the period September to December 2023. The decline

in portfolio assets of \$88.2 million reflected a decrease in holdings of foreign long-term debt securities mainly by domestic banks, the Heritage and Stabilisation Fund (HSF), and other local financial institutions. However, this was somewhat offset by a rise in holdings of equity securities abroad by domestic pension funds and the HSF. Portfolio investment liabilities registered a modest inflow of \$0.2 million as non-resident investors increased their holdings of domestic debt securities.

3. DOMESTIC FINANCIAL CONDITIONS

The Central Bank’s monetary policy stance in late 2023 and during the first half of 2024 has remained broadly unchanged. Excess liquidity was managed in the face of an increase in domestic financing by the Government. Business credit continued to expand as system liquidity, though skewed across commercial banks, remained ample. However, short-term interest rates in the domestic capital markets inched upwards. With these considerations in mind, at its December 2023, March and June 2024 meetings, the MPC held the Repo rate at 3.50 per cent.

Liquidity Conditions and Interest Rates

Financial system liquidity fluctuated, but levels remained supportive of credit growth

Liquidity levels in the financial system decreased from November 2023 to May 2024 (Chart 3.1).

Fiscal operations, usually the main driver of excess liquidity, resulted in net withdrawals of \$2,194.8 million from the financial system over November 2023 to May 2024, compared to injections of \$6,385.6 million in the same period one year earlier. Furthermore, the Central Bank’s Open Market Operations (OMOs) resulted in net injections of \$2,310.0 million over November 2023 to May 2024, compared to net injections of \$2,727.0 million over the same period one year earlier. Also, Central Bank’s foreign exchange sales to authorised dealers indirectly removed \$4,877.9 million from the system, compared to \$4,817.8 million in the same period a year earlier. As a result of these developments, daily average excess liquidity decreased to \$4,261.3 million by May 2024 compared to \$4,901.5 million in November 2023. During the period, excess liquidity also exhibited greater volatility.

CHART 3.1

Commercial Banks’ Excess Reserves



Source: Central Bank of Trinidad and Tobago

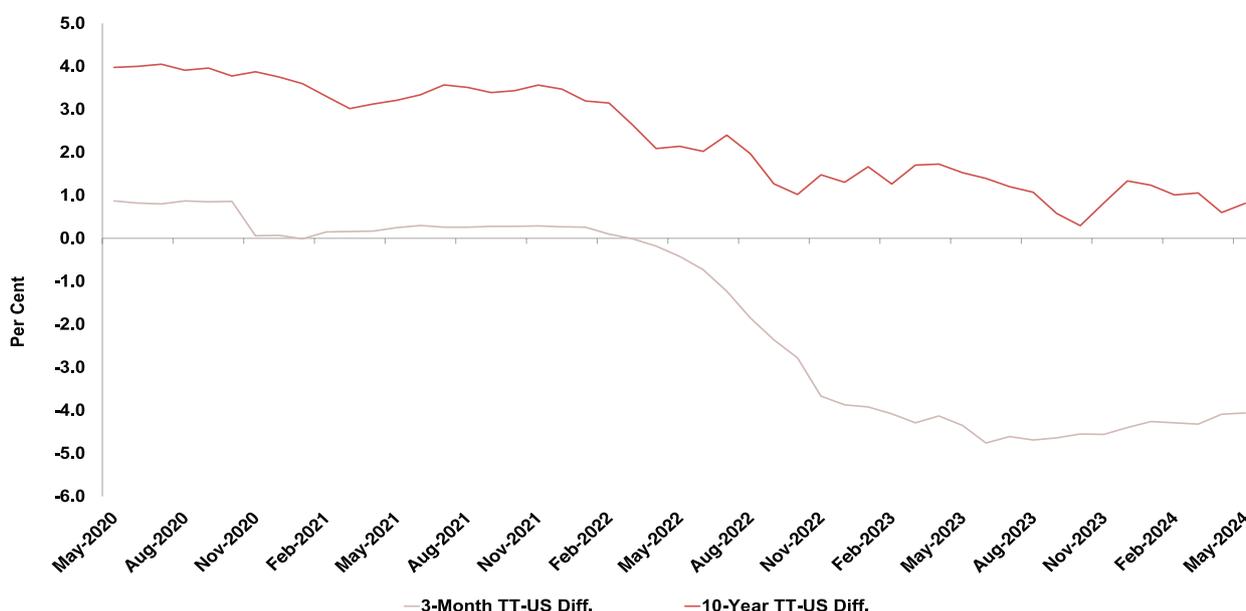
Daily interbank borrowing averaged \$168.2 million over November 2023 to May 2024, compared to \$28.8 million over the same period a year prior. The notable increase in activity in the interbank market was directly related to the large fiscal withdrawals associated with Central Government borrowing. While accessed infrequently, activity on the Repurchase Facility extended to banks for overnight liquidity reached a daily average of \$19.6 million over November 2023 to May 2024, mainly due to activity in January and May. There was no Repo activity in the same period a year prior.

Despite an unchanged Repo rate, short-term interest rates edged upward over late 2023 into early 2024 as excess liquidity declined. The TT 91-day OMO Treasury bill rate increased by 35 basis points over November 2023 to May 2024 to reach 1.40 per cent. The US 91-day short-term benchmark yield reached 5.46 per cent by the end of May 2024, from 5.45 per cent in November 2023. As a result, the TT-US 91-day differential improved to -406 basis points in May 2024 compared with -440 basis points in November 2023 (Chart 3.2). The TT 1-year Treasury rate, however, increased by 135 basis points over the reference period, settling at 3.05 per cent in May 2024. The US 1-year Treasury rate increased by 2 basis points over November 2023 to May 2024 to reach 5.18 per cent. These movements resulted in a TT-US 1-year differential of -213 basis points in May 2024, from -346 basis points in November 2023.

The US 10-year Treasury rate increased over November 2023 to May 2024, gaining 14 basis points over the period to reach 4.51 per cent. The increase was broadly reflective of guidance by the Fed that policy rates will remain near to current levels, as US inflation crept up in the first quarter of 2024. The TT 10-year Treasury rate increased by 13 basis points over the period to reach 5.32 per cent, resulting in the 10-year yield differential moving from 82 basis points to 81 basis points over the period.

CHART 3.2

3-Month and 10-Year TT-US Differentials



Sources: Central Bank of Trinidad and Tobago and the US Department of Treasury

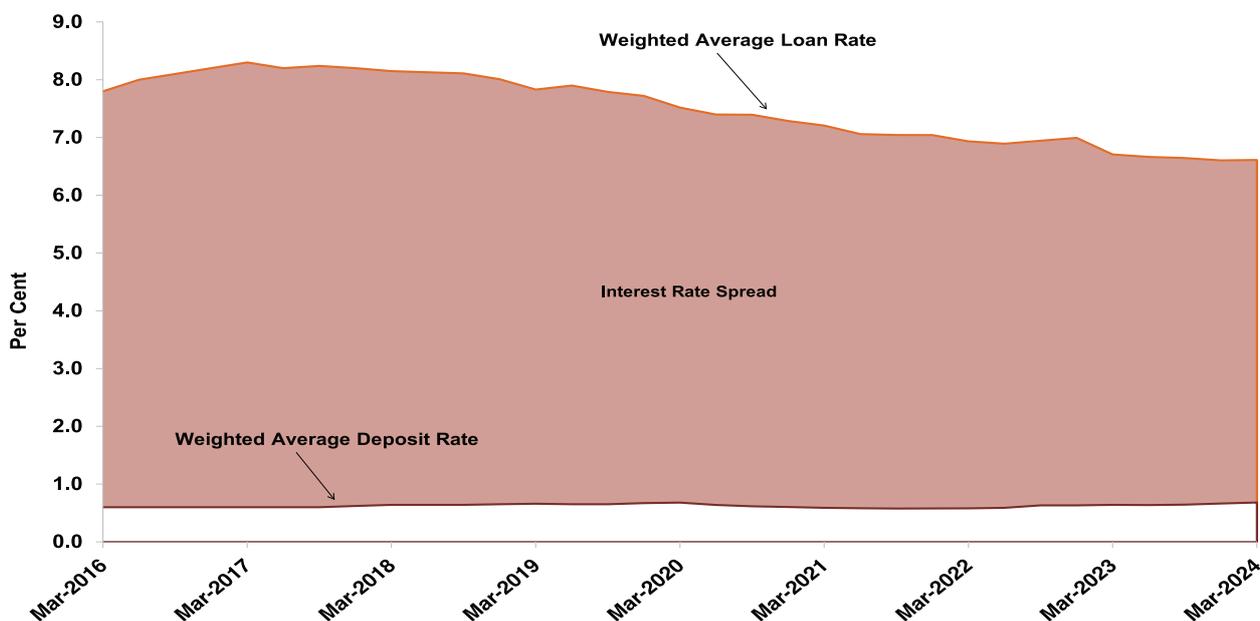
Commercial banking rates decreased by March 2024.

Financial conditions, characterised by still ample liquidity, tempered commercial lending rates over the period. In March 2024, commercial banks’ weighted average lending rate (WALR) decreased to 6.61 per cent, 3 basis points lower than in September. This change reflected an increase of 1 basis point from the December 2023 level. Additionally, the weighted average deposit rate reached 0.68 per cent over the same period (4 basis points higher than September). As a result, the rounded banking spread decreased by 7 basis points to 5.93 per cent over the period September 2023 to March 2024

(Chart 3.3). Meanwhile, commercial banks’ median prime lending rate remained at 7.50 per cent. Commercial banks’ return on assets increased from 2.2 per cent to 2.4 per cent over September 2023 to March 2024, while return on equity increased from 11.6 per cent to 12.4 per cent. However, both indicators declined from December 2023 (2.5 per cent and 13.9 per cent, respectively). Interest margin-to-gross income increased from 65.1 per cent to 69.5 per cent over the period and, thus far the interbank borrowing rate remained unchanged at 0.50 per cent.¹⁴

14 Effective January 2024, the Central Bank of Trinidad and Tobago migrated the compilation of the Financial Soundness Indicators (FSIs) from the 2006 International Monetary Fund Compilation Guide to the 2019 Guide. The FSIs based on the 2019 Guide were introduced in the January 2024 Economic Bulletin, see pages 110-117 at <https://www.central-bank.org.tt/sites/default/files/latest-news/economic-bulletin-january-2024.pdf>.

CHART 3.3
Commercial Banks' Interest Rates



Source: Central Bank of Trinidad and Tobago

Private Sector Credit

Credit demand remained buoyant, reflecting favourable financing and labour market conditions

The uptrend in consolidated system credit continued into 2024. On a year-on-year basis, credit to the private sector recorded an increase of 6.7 per cent in April 2024, lower than October 2023 (7.7 per cent). Over the period, consumer lending picked up, outpacing business and real estate mortgage lending (Chart 3.4).

Reflecting favourable financing conditions and generally lower economic uncertainty, the demand for business loans strengthened. In April 2024, business lending grew by 9.5 per

cent (year-on-year), up from 7.6 per cent in October 2023. Commercial bank lending to businesses accelerated (9.3 per cent), and, albeit at a slower pace than six months prior, non-bank lending maintained a robust level of growth (11.9 per cent). The gains observed in business lending over the period were mainly on account of increases in Discount loans, Lease Financing and Bridge Financing loans, Time loans and Credit Card loans to finance retooling, refurbishments and seasonal events. According to sectoral business credit data, all categories expanded in the first quarter of 2024. Loans to the Manufacturing (9.8 per cent), Petroleum (52.8 per cent)¹⁵, Other Services (10.5 per cent), Agriculture (47.4 per cent) and Distribution (11.1 per cent) sectors drove the pickup in business lending.

¹⁵ As at March 2024, the share of Petroleum loans to total business loans is 6.0 per cent. According to top banks, lending to upgrade and invest in environmental, social, and corporate governance were cited.

CHART 3.4
Private Sector Credit



Source: Central Bank of Trinidad and Tobago

For consumers, credit continued to grow at an accelerated pace.

With labour market conditions still supportive and favourable lending standards on Instalment loans, consumers' appetite for borrowing remained robust, surpassing pre-pandemic levels. In April 2024, consumer lending observed a year-on-year increase of 10.2 per cent, up from 8.9 per cent six months prior. Similar to business loans, consumer lending extended by banks accelerated (10.7 per cent) and slowed down for non-banks (4.8 per cent). Based on sectoral data, in the first quarter of 2024, Motor Vehicle loans (14.7 per cent), Other Purpose loans (9.6 per cent), Home Improvement/Renovation loans (15.3 per cent), Consolidation of Debt

loans (8.7 per cent) and Refinancing loans (6.0 per cent) mainly accounted for the rise in consumer borrowing. In recent months financial institutions have been aggressively pushing motor vehicle financing, resulting in an upswing in motor vehicle loans. Furthermore, under Other Purposes, Credit Card loans are also creeping back up (4.6 per cent). Despite the pickup in lending, the quality of banks' consumer lending portfolio remained relatively sound.¹⁶

Meanwhile, real estate mortgage lending decelerated.

Real estate mortgage loans grew by 4.5 per cent in April 2024, down from 5.8 per cent recorded in October 2023.

¹⁶ In March 2024, the non-performing loan ratio for consumer loans inched down to 2.41 per cent from 2.52 per cent one quarter earlier.

Slower growth in commercial banks' real estate mortgage lending (4.5 per cent in April 2024 compared to 5.8 per cent in October 2023) coupled with continued declines in non-banks' real estate mortgage lending (-1.2 per cent in April 2024, compared to -3.3 per cent in October 2023) underpinned the slowdown. Admst the slowdown in real estate mortgage loans, the interest rate environment improved. Interest rates on new real estate mortgages reached 4.94 per cent at the end of March 2024, from 5.09 per cent in December 2023.

In terms of foreign currency credit, the performance was mixed. Lower foreign currency conversions by energy sector companies affected foreign currency market conditions. Consequently, heightened demand for foreign exchange continued to fuel foreign currency borrowing and suppress foreign currency deposits. On a year-on-year basis, foreign currency credit¹⁷ recorded an increase of 25.4 per cent in April 2024 (up from 17.8 per cent in October 2023). Over the period, despite a deceleration in the growth of non-bank foreign currency credit (32.1 per cent), commercial banks ramped up their supply of foreign currency credit (24.8 per cent). For business foreign currency loans, which also strengthened, anecdotal evidence suggests lending was used as an avenue to fill the gaps in foreign currency market supply. In April 2024, lending to businesses grew by 33.4 per cent, up from 24.6 per cent six months prior.

For foreign currency deposits, contractions ceased. In April 2024, foreign currency deposits expanded by 1.5 per cent (year-on-year), an improvement from the uptick recorded in October 2023 (0.2 per cent). Business foreign currency deposits recovered in the fourth month of 2024 (3.5 per cent) after entering 2024 in negative territory, though down from October 2023 (13.4 per cent). Consumer foreign currency deposits continued to decline, despite improvements in the first four months of 2024. Compared to a 9.5 per cent contraction in October 2023, consumer foreign currency deposits fell by 2.5 per cent in April 2024.

Monetary aggregates expanded over the period reflecting a shift towards holding longer-term deposits. M1-A, which comprises currency in active circulation plus demand deposits, rose— an increase of 1.2 per cent was observed in April 2024, slightly up from an increase of 0.2 per cent six months prior. Currency in active circulation and demand deposits expanded (1.1 per cent and 1.2 per cent, respectively). Similarly, the pace of growth in M-2 picked up (3.5 per cent) in April 2024, up from 2.6 per cent in October 2023. Growth continued to be supported by robust expansion in time deposits (26.6 per cent) and moderate growth in saving deposits (1.6 per cent).

¹⁷ Includes loans and investments to resident individuals and businesses.

Foreign Exchange Market Developments

The local market for foreign currency remained tight thus far in 2024

Purchases of foreign exchange by authorised dealers from the public amounted to US\$1,831.5 million over January to May 2024, a decrease of 8.5 per cent relative to the same period a year earlier. Decreased purchases followed a 13.1 per cent decline in conversions by energy companies relative to the same period in 2023. For the period January to May 2024, purchases from the energy sector accounted for 72.0 per cent of total foreign currency purchases over US\$20,000 in value.

Sales of foreign exchange by authorised dealers to the public reached US\$2,371.8 million over January to May 2024, a decrease of 11.4 per cent relative to the same period a year prior.¹⁸ Based on reported data for transactions over US\$20,000, credit cards (44.5 per cent), energy companies (17.6 per cent), retail and distribution (15.4 per cent), and automobile companies (6.2 per cent) made up the bulk of foreign exchange sales by authorised dealers to the public. The net sales gap reached US\$540.3 million during the period. To support the market, the Central Bank sold US\$500.0 million to authorised dealers (Table 1).

TABLE 1
 Authorised Dealers' Foreign Exchange Market Activity¹
 (US\$ Millions)

Date	Authorised Dealers Purchases from Public	Authorised Dealers Sales to Public	Authorised Dealers Net sales	Authorised Dealers Purchases from CBTT ¹
2019	4,285.6	5,939.8	1,654.2	1,504.0
2020	3,298.2	4,504.1	1,206.0	1,292.2
2021	4,148.9	4,969.4	820.5	1,212.1
2022	5,528.8	6,551.2	1,022.4	1,270.6
2023	4,614.6	6,228.4	1,613.7	1,341.9
Jan - May 2023	2,000.8	2,676.2	675.3	500.0
Jan - May 2024	1,831.5	2,371.8	540.3	500.0
Y-o-Y Per cent Change	-8.5	-11.4	-20.0	0.0

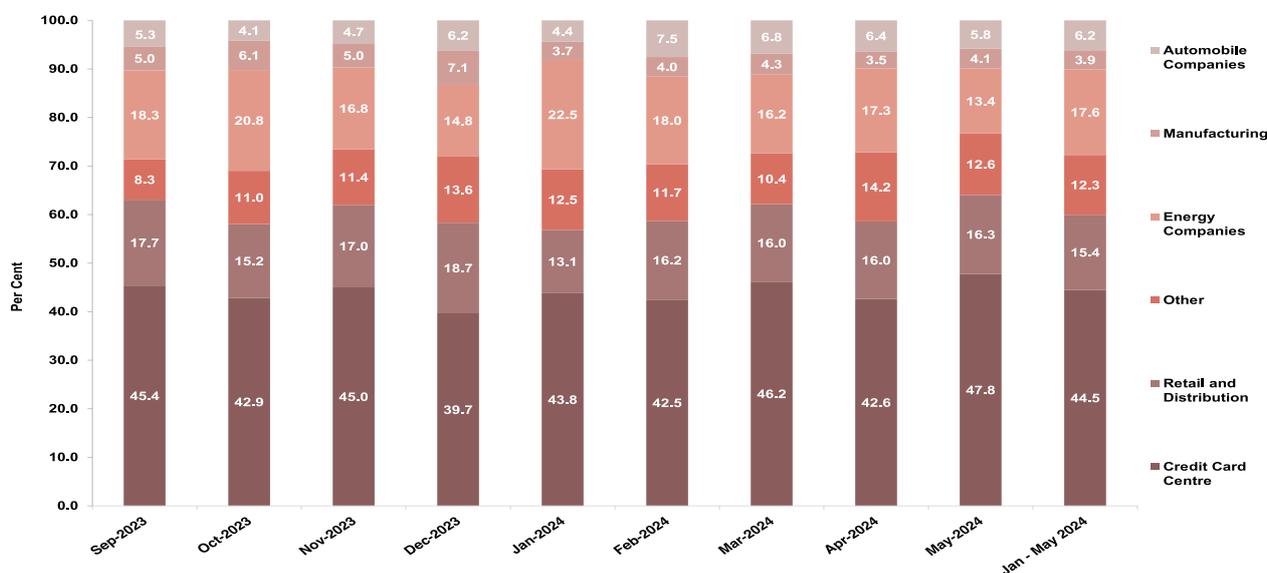
Source: Central Bank of Trinidad and Tobago

¹ Purchases from the Central Bank of Trinidad and Tobago include transactions under the Foreign Exchange Liquidity Guarantee facility, and excludes sales under the EXIM Bank and Other Public Sector provisional facilities.

¹⁸ Note, sales of foreign currency to authorised dealers by the Central Bank are consistently smaller than sales of foreign exchange by authorised dealers to the public and tends to approximate the net sales gap. Over January to May 2024, interventions by the Central Bank accounted for 21.1 per cent of total sales of foreign exchange by authorised dealers to the public, up from 18.7 per cent a year prior.

CHART 3.5

Sales of Foreign Currency by Authorised Dealers to the Public*



Source: Central Bank of Trinidad and Tobago
 * Represent sales in excess of US\$20,000.

Capital Markets

Financing activity on the primary government bond market picked up over October 2023 to May 2024

Provisional data suggests that during the eight months ending May 2024, the primary debt market recorded 14 bond issues, raising \$9,178.1 million (Table 2).

The Government was the primary borrower, issuing 11 bonds at \$8,075.6 million via private placements, while three state enterprises financed \$1,102.5 million. Over the period, the Government accessed the market for budget support and the repayment of existing facilities. The National Investment Fund Holding

Company Limited issued the NIF2 bond in February 2024. The bond was significantly oversubscribed (267 per cent), reflecting the demand for investments of these tenors. The NIF2 bond is fully backed by Republic Bank Holding Company Limited (6,546,417) shares. In comparison, during the same period one year earlier, the market recorded nine bond issues raising a total of \$5,846.0 million, with the Government accounting for five bonds at \$4,736.0 million.

TABLE 2
Primary Debt Security Activity
 (October 2023 to May 2024)^P

Period Issued	Borrower	Face Value (TT\$ M)	Period to Maturity	Coupon Rate Per Annum	Placement Type
Oct-23	First Citizens Investment Services Limited (FCIS)	US\$30.0 Mn (TT\$202.5 Mn)	2.0 years	Fixed Rate 5.75%	Private
	Government of Trinidad and Tobago				
	(Tranche 1 of 3)	1,200.0	5.0 years	Fixed Rate 4.30%	Private
Nov-23	(Tranche 2 of 3)	650.0	10.0 years	Fixed Rate 4.96%	Private
	(Tranche 3 of 3)	650.0	15.0 years	Fixed Rate 5.80%	Private
Jan-24	Government of Trinidad and Tobago	US\$100.0 Mn (TT\$675.6 Mn)	3.0 years	Fixed Rate 6.65%	Private
	Government of Trinidad and Tobago	200.0	3.0 years	Fixed Rate 4.25%	Private
	Government of Trinidad and Tobago	300.0	5.0 years	Fixed Rate 5.20%	Private
	Government of Trinidad and Tobago				
	(Tranche 1 of 2)	150.0	15.0 years	Fixed Rate 6.25%	Private
Feb-24	(Tranche 2 of 2)	100.0	15.0 years	Fixed Rate 5.90%	Private
	Government of Trinidad and Tobago	150.0	5.0 years	Fixed Rate 4.50%	Private
	National Investment Fund Holding Company Limited	400.0	5.0 years	Fixed Rate 4.50%	Public
	Housing Development Corporation (HDC)	500.0	3.0 years	Fixed Rate 5.90%	Private
	Government of Trinidad and Tobago				
	(Tranche 1 of 2)	400.0	5.0 years	Fixed Rate 5.00%	Private
Apr-24	(Tranche 2 of 2)	1,100.0	20.0 years	Fixed Rate 6.80%	Private
	Government of Trinidad and Tobago	300.0	3.0 years	Fixed Rate 4.30%	Private
May-24	Government of Trinidad and Tobago				
	(Tranche 1 of 2)	600.0	5.0 years	Fixed Rate 5.00%	Private
	(Tranche 2 of 2)	400.0	20.0 years	Fixed Rate 6.80%	Private
	Government of Trinidad and Tobago	200.0	20.0 years	Fixed Rate 6.80%	Private
	Government of Trinidad and Tobago				
	(Tranche 1 of 3)	1,000.0*	6.0 years	Fixed Rate 5.30%	Private
	(Tranche 2 of 3)	(Total allocation between the three tranches)	15.0 years	Fixed Rate 6.15%	Private
	(Tranche 3 of 3)		20.0 years	Fixed Rate 6.80%	Private

Sources: Ministry of Finance and Market Participants

^P Provisional

* \$1.0 billion Government Bond issued via three tranches over May 2024 to June 2024

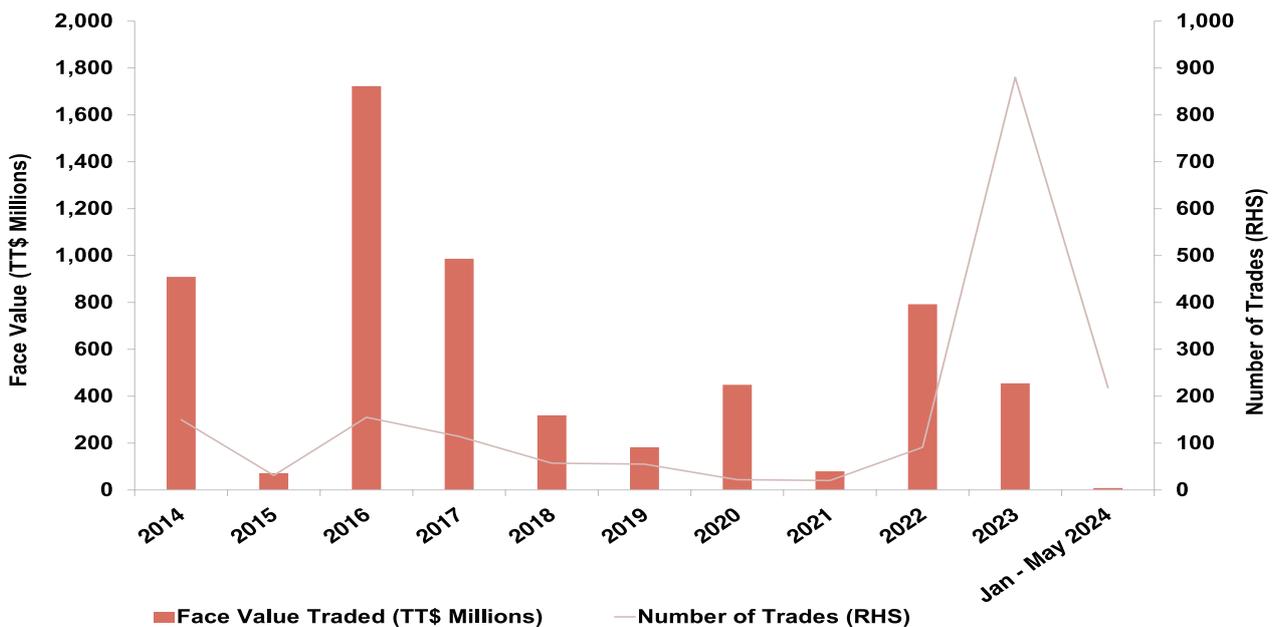
During November 2023 to May 2024 secondary bond market trading activity declined

The Trinidad and Tobago Stock Exchange (TTSE) secondary government bond market recorded 301 trades at a face value of \$39.6 million over the seven months ending May 2024. In comparison, one year prior the market observed 568 trades at a face value of \$668.1 million (Chart 3.6). During the comparable period, the large face

value traded was mainly isolated to activity during November 2022, which was likely due to portfolio rebalancing by investors.

Similarly, activity on the TTSE secondary corporate bond market¹⁹ declined over the seven months ending May 2024, recording 49 trades at a face value of just under \$1.3 million, compared to 74 trades at a face value of \$12.2 million over the comparable period one year prior.

CHART 3.6
Secondary Government Bond Market Activity



Source: Trinidad and Tobago Stock Exchange

¹⁹ Activity on the TTSE corporate bond market records the price and yield movements of the three National Investment Fund Holding Company Limited bonds listed in September 2018.

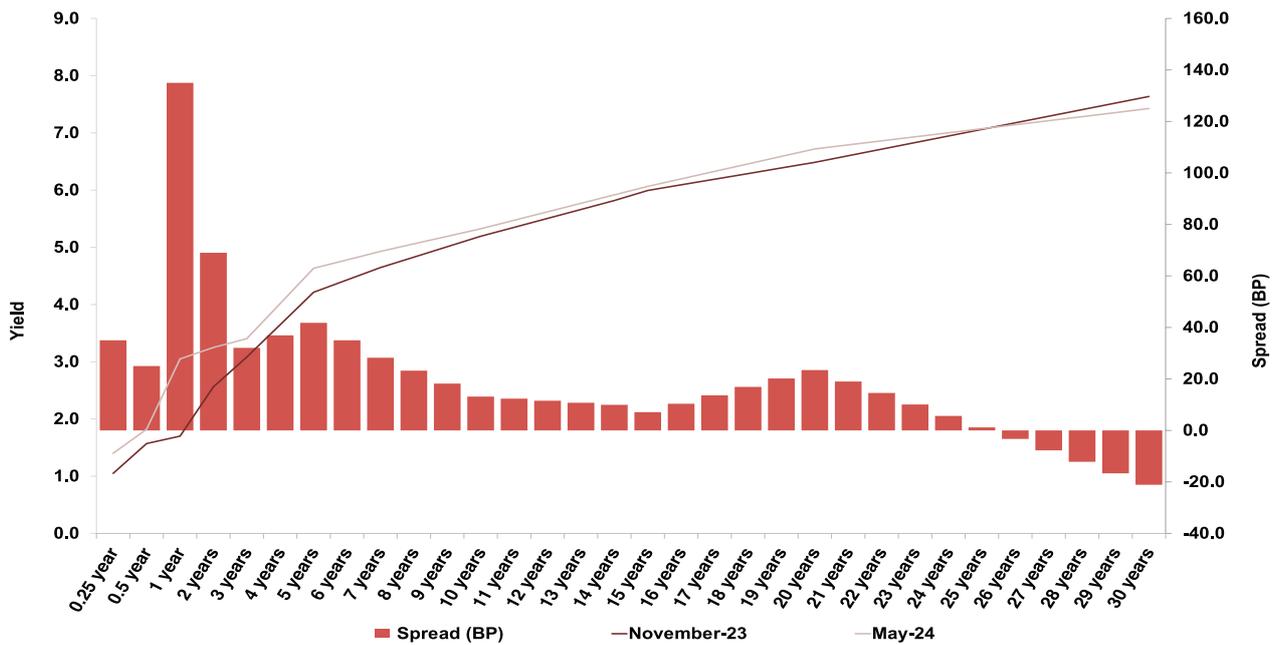
The Government yield curve mostly displayed an upward trend during November 2023 and May 2024

The effects of the decline in commercial banks’ excess reserves which occurred at the end of 2023, continued to influence the curve in 2024. During the period November 2023 and May 2024, the 3-month rate increased by 35 basis points to 1.40 per cent,

while the 1-year rate jumped 135 basis points to 3.05 per cent. Similarly, the medium-term 5-year rate gained 42 basis points to 4.63 per cent, while the long-term 10-year rate increased by 13 basis points to 5.32 per cent (Chart 3.7). Conversely, rates along the very long-term tenors from 26-year to 30-year declined by an average of 12 basis points, likely reflecting the tempering of inflation expectations.

CHART 3.7

Trinidad and Tobago Central Government Treasury Yield Curve
November 2023 and May 2024



Source: Central Bank of Trinidad and Tobago

Note: The spread represents the difference in yield for each tenor along the Central Government yield curve for November 2023 and May 2024.

The domestic stock market declined over the seven months ending May 2024

Over the period, the Composite Price Index fell by 4.8 per cent, resulting in total stock market capitalisation ending the period at \$108.4 billion (Chart 3.8).

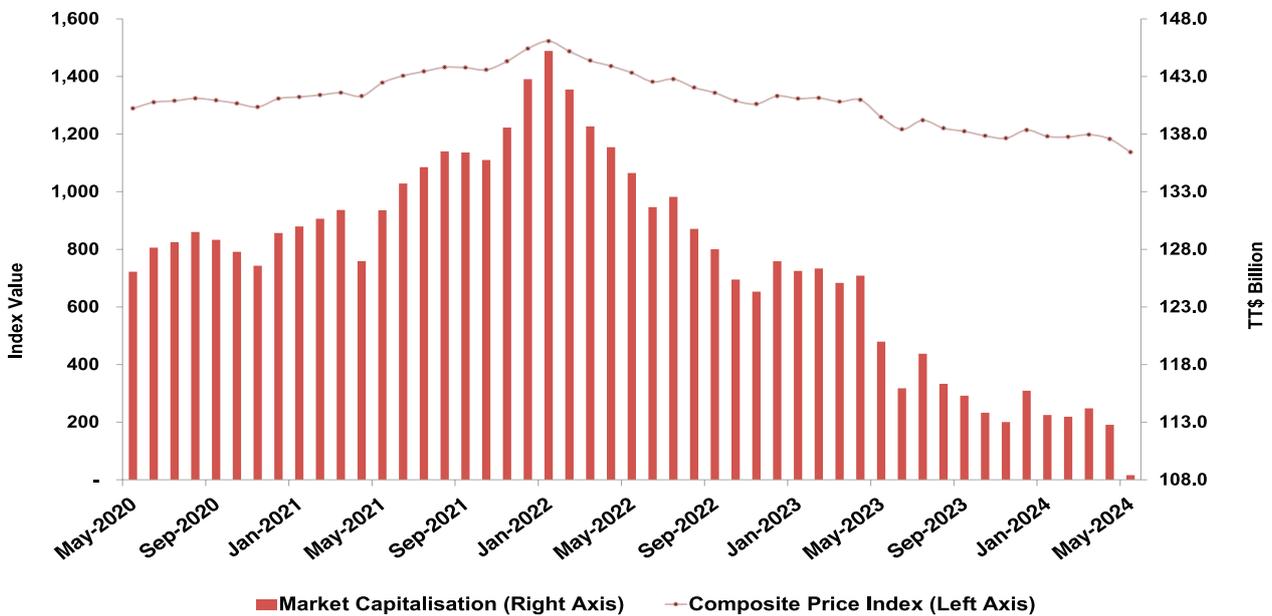
The market decline was driven primarily by a 5.8 per cent decrease in the All Trinidad and Tobago Index (ATI), while the Cross Listed Index (CLI) slipped by 0.8 per cent. Performance of the first tier sub-indices was largely skewed to the downside. The only sub-index to record a positive change was Trading (6.0 per cent), while the Property index remained unchanged. All other indices recorded declines. The Energy index registered the largest deterioration (-30.5

per cent) reflecting the challenges in the domestic energy sector. Additionally, Manufacturing I (-13.6 per cent), Manufacturing II (-12.6 per cent), Non-Banking Finance (-7.9 per cent), Banking (-4.8 per cent), and Conglomerates (-0.4 per cent) all observed declines.

Regional indices recorded mixed performances over the same period. The Caribbean Exchange Index²⁰ declined by 1.6 per cent over the period, driven by the decline in the CLI and a 10.4 per cent plummet in the Guyana stock market capitalisation. On the other hand, the Barbados Stock Exchange index registered a 5.1 per cent increase, while the Jamaica Stock Exchange index gained 1.1 per cent.

CHART 3.8

Movements in the Composite Price Index and Stock Market Capitalisation



Source: Trinidad and Tobago Stock Exchange

²⁰ The Caribbean Exchange Index was launched in October 2022, as a collaborative effort by five regional stock exchanges: Jamaica, Barbados, The Eastern Caribbean, Guyana, and Trinidad and Tobago. The index consolidates the activity of the main market stocks across the different exchanges into a single performance measure and is intended to be an indicator of the performance of the Caribbean region.

Domestic mutual funds grew during October 2023 to March 2024, supported by fixed net asset value (NAV) funds and foreign currency funds

Aggregate funds under management²¹ grew by 1.8 per cent to \$52,780.0 million over the six months ending March 2024²², compared to an expansion of 1.6 per cent in the same period one year prior (Chart 3.9). The industry was supported by

growth in all fund types. Income funds, the largest category, increased by 1.4 per cent to \$28,477.8 million, while Money Market funds expanded by 3.0 per cent to \$15,614.4 million, and Equity funds grew by 0.9 per cent to \$8,237.9 million. The smallest category, funds classified as 'Other'²³, marginally improved by 0.3 per cent to \$449.9 million.

The industry was characterised by growth in fixed net asset value (NAV) funds and foreign currency funds. Over

the period, fixed NAV funds grew by 2.1 per cent to \$39,727.8 million, while floating NAV funds gained 0.6 per cent to \$13,052.2 million. In terms of currency composition, TT dollar-denominated mutual funds increased by 0.6 per cent to \$42,698.3 million, while funds denominated in foreign currency rose notably by 6.1 per cent to \$10,081.6 million. Foreign currency fixed NAV Income and Money Market funds expanded by 7.5 per cent and 7.3 per cent, respectively. Foreign currency Equity

funds (floating NAV) gained 7.6 per cent over the period.

Overall, net redemptions of \$26.0 million were recorded during the six months ending March 2024. This comprised \$8,017.2 million in sales and \$8,043.2 million in redemptions. Conversely, during the same period in 2022, the mutual fund industry observed \$394.4 million in net sales.

Net redemptions were recorded in Equity funds (\$96.2 million) and Income funds (\$338.5 million). However, Money Market

funds registered \$413.3 million in net sales. Additionally, suggesting a flight to safety, fixed NAV funds recorded \$299.1 million in net sales while floating NAV funds registered \$325.1 million in net withdrawals. Furthermore, TT dollar funds observed \$140.1 million in net redemptions, while foreign currency funds recorded net sales of \$114.0 million, reflecting the strength of the US dollar.

Collective Investment Scheme (CIS)²⁴ data published by the Trinidad and Tobago Securities and Exchange Commission (TTSEC) suggests that over the six months ending March 2024, the total value of Assets Under Management (AUM) for all registered funds recorded an increase of 1.7 per cent to \$63,147.1 million. The industry recorded net sales amounting to \$520.1 million.

21 Aggregate funds under management refer to mutual fund information collected by the Central Bank of Trinidad and Tobago, including funds managed by the Trinidad and Tobago Unit Trust Corporation, Royal Bank of Trinidad and Tobago, Republic Bank Limited and First Citizens Bank Limited.

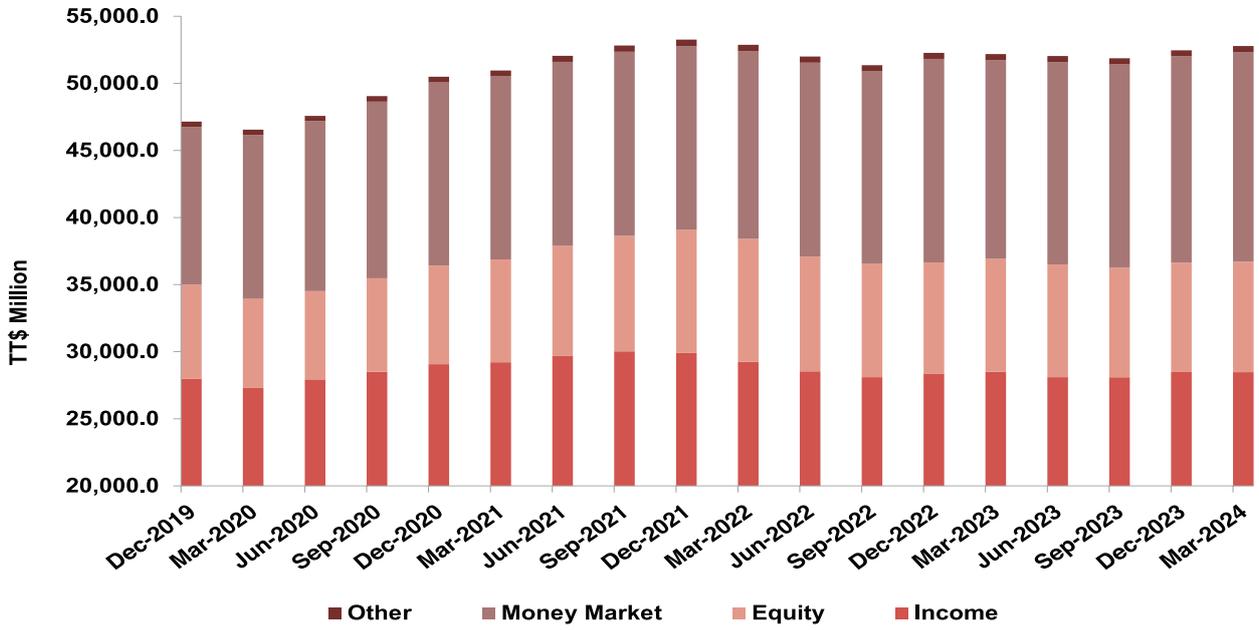
22 As at the end of March 2024, this value accounted for 83.6 per cent of total industry assets under management as given by the Trinidad and Tobago Securities and Exchange Commission (TTSEC) Collective Investment Scheme (CIS) data.

23 Other funds represent high yield funds and special purpose funds.

24 At the end of March 2024, CIS data from the TTSEC represents 79 registered funds from 16 issuers.

CHART 3.9

Trinidad and Tobago Mutual Funds Under Management by Fund Type



Source: Central Bank of Trinidad and Tobago

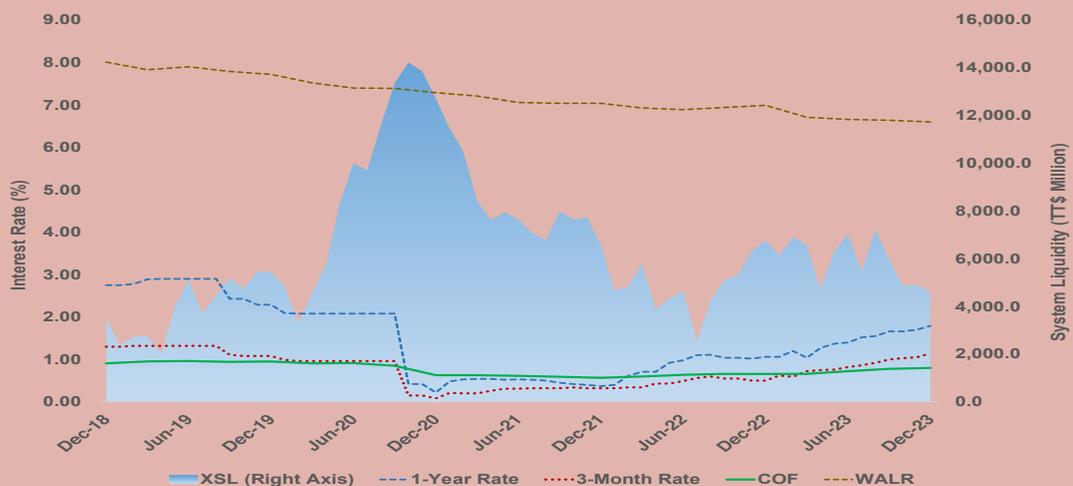
BOX 1 An Analysis of Recent Interest Rate Developments

Calibration of domestic interest rates is a pivotal mechanism through which monetary policy objectives are executed. Following the onset of the COVID-19 pandemic in 2020, the Central Bank of Trinidad and Tobago (Central Bank) adopted an accommodative monetary stance by boosting system liquidity and reducing the policy rate. This position was attuned to indirectly reduce financial system lending rates, with the aim of invigorating the domestic economy. However, sustaining ample liquidity¹ while addressing government domestic financing needs has guided the liquidity management strategy in recent times. The ensuing volatility in excess liquidity (XSL) can lead to an unanticipated increase in short-term interest rates, which extends to commercial banks’ weighted average cost of funds (COF)² and the trajectory of the commercial bank weighted average lending rate (WALR). This Box seeks to review recent interest rate developments under these dynamics.

Trends in Liquidity and Interest Rates

By the end of 2023, liquidity levels fell notably, and dipped below \$3.0 billion in January 2024. The decline in liquidity resulted in a surge in activity in the short-term lending markets³ via the interbank and Repurchase (Repo) Facility. Although the Central Bank’s policy position remained accommodative, the 1-Year Treasury rate jumped to 1.79 per cent in December 2023 from 1.40 per cent six months earlier, reflecting the decline in system liquidity (Chart 1). In response to the increase in the Treasury rate, the COF increased to 0.80 per cent at the end of December 2023. On the other hand, the WALR continued to fall, declining to 6.60 per cent over the same time, reflecting the typical lag in monetary policy transmission⁴.

CHART 1
System Liquidity and Selected Interest Rates



Source: Central Bank of Trinidad and Tobago

BOX 1**An Analysis of Recent Interest Rate Developments (cont'd)****Impact of Increased Government Borrowing on Interest Rates**

Government of the Republic of Trinidad and Tobago (GORTT) borrowing on the domestic bond market can impact interest rates in the financial system via two distinct channels.

1. **Via the risk premium on government debt.** Higher risk premiums on government debt can occur during periods of rising public debt levels and reduced revenue. In the domestic setting, while rising Government borrowing has been shown to increase interest rates on the Government Yield Curve⁵, debt sustainability has not been unduly impacted⁶. As a result, the current risk premium effect from Government debt on the yield curve appears to be limited. However, changes to the expected level of fiscal revenue to support debt repayment can influence this risk premium.
2. **Through the impact on liquidity levels.** When the Government goes to the market for funding, the Central Bank anticipates the increased demand for funds and facilitates sufficient market liquidity. However, at times, Government borrowing on the bond market can exceed the anticipated demand for funds, resulting in a short-run⁷ reduction in liquidity levels. Furthermore, the timing of Government borrowing can also influence interest rates, especially during periods of low levels of excess liquidity.

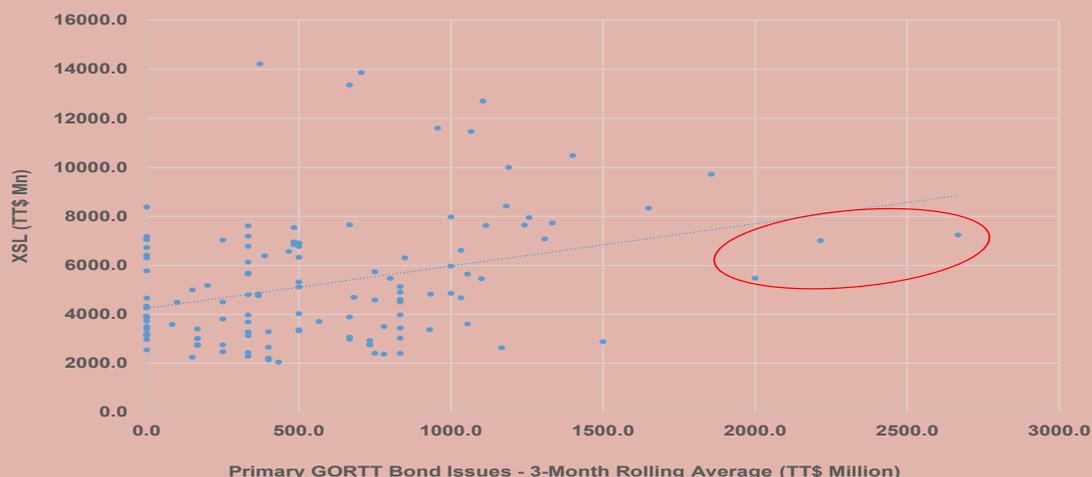
Historically, Government financing on the bond market tended to have a neutral impact on excess liquidity since the funds would usually quickly re-enter the system through net domestic fiscal injections. However, recent developments suggest that the proceeds of Government borrowing have not been re-entering the system as quickly after the settlement of borrowing terms. This has resulted in net fiscal withdrawals from the financial system and a downward impetus on liquidity. These conditions, combined with below ample liquidity levels, can result in significant upward pressures on short-term Treasury rates.

Central Bank liquidity management has been conducted against the backdrop of heightened borrowing activity by the Government. **Chart 2** shows a small positive relationship between GORTT borrowing and system liquidity over December 2013 to March 2024. However, the presence of a few outliers of large GORTT bond issues (circled red) shows that significant Government borrowing can place additional stress on liquidity levels during periods of low system liquidity. Apart from a potential private sector credit displacement effect, under conditions of lower excess liquidity levels (below ample), increased government financing can cause investors to require higher rates in the short-term Treasury market. The liquidity and interest rate movements observed at the end of 2023 and into 2024 tend to reflect this scenario.

BOX 1
An Analysis of Recent Interest Rate Developments (cont'd)

CHART 2

System Liquidity vs. Primary Government Bond Issues (3-Month Rolling Average)



Source: Central Bank of Trinidad and Tobago

During the third and fourth quarters of 2023, the Government increased borrowing on the primary bond market by 100.0 per cent and 150.0 per cent year-on-year, respectively. Provisional information suggests that this trend continued into 2024. As mentioned, roughly over the same period, system liquidity declined, resulting in a surge in activity in the short-term liquidity markets⁸ via the interbank and Repurchase (Repo) Facility as well as an increase in short-term Treasury rates.

Under conditions of lower system liquidity, competition for available funds increases. Considering that the Government’s risk profile and that risk-weights assigned to local currency sovereign exposures are zero⁹, this creates an additional hurdle for private sector credit. Consequently, lending to the private sector could be at higher rates. However, in the domestic setting, private sector credit is yet to face any significant constraints as the effect of higher Treasury rates seems to be confined to the Government Treasury market. Consolidated private sector credit increased by 1.3 per cent, 5.5 per cent, and 7.3 per cent (year-on-year) over 2021, 2022, and 2023, respectively.

In summary, below certain liquidity thresholds an uptick in fiscal financing combined with a slowdown in fiscal expenditure reduces system liquidity. This is shown to increase the short-term Treasury rate and banks’ COF, adding upward pressure on bank lending rates.

BOX 1 An Analysis of Recent Interest Rate Developments (cont'd)

Modelling the Responses of Interest Rates to Fiscal Operations and Liquidity Management

A vector autoregression model was used to show the dynamic impacts of large shocks to excess liquidity (XSL) as well as government borrowing (GOVB) on the 1-Year Treasury Rate, banks' COF and the WALR.¹⁰ Additionally, scenarios testing the effect of both accommodative and hypothetically tight levels of liquidity on commercial banks' lending rates in the context of high government borrowing were undertaken. The results aligned with prior expectations about the relationships between tested variables.

The examination was conducted using two shock scenarios (Shock 1 and Shock 2). For Shock 1, a positive one standard deviation shock to the Beveridge-Nelson¹¹ trend component of liquidity was imposed on the model. Shock 2 represents a one standard deviation increase in GOVB, and is used to determine the impact of government financing on the short-term money market. The resulting impulse response functions (IRFs) are shown in **Chart 3**.

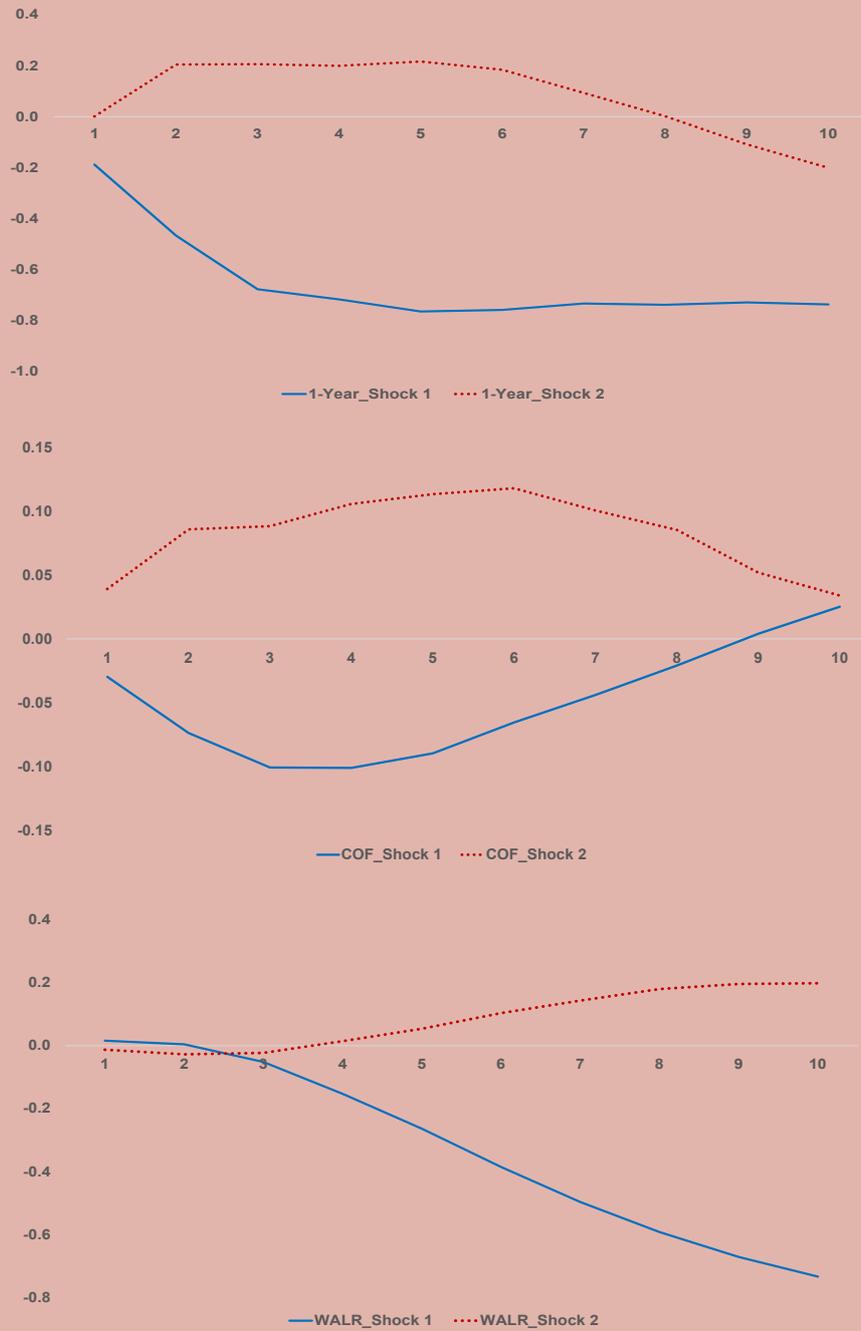
The Central Bank utilises a range of monetary policy tools to influence the level of liquidity in the banking system which indirectly influences the level of interest rates. This interaction is shown in the negative response of the 1-year Treasury rate to the system liquidity shock (Shock 1). Conversely, a shock to Government bond issues results in an increase in the Treasury rate. This effect reflects the heightened demand for government bonds offering higher yields compared to the short-term Treasury rate, especially under conditions of lower system liquidity. Commercial banks' COF initially declines in response to the system liquidity shock (Shock 1). This is likely due to elevated liquidity conditions placing downward pressures on short-term rates, such as the 1-year Treasury rate. However, considering that liquidity is substantially high in this scenario, the small increase in COF in the latter periods could be related to an increase in deposit and other liability funding costs on commercial bank balance sheets. On the other hand, the increase in Government bond issues (Shock 2) results in an increase in COF. This response aligns with the expectation that an increase in Government borrowing has the potential to strain liquidity levels and trigger a rise in short-term rates (a critical component of banks' COF).

As expected, the WALR declines in response to Shock 1, after a short lag. This reflects the substantial availability of excess funds for private sector lending, in addition to heightened competition among financial institutions to deploy surplus capital. Conversely, the increase in Government bond issues results in a slight uptick in the WALR after a few periods. Similar to the impact on COF, the WALR response echoes the influence of higher Government financing requirements on system liquidity levels and the subsequent rise in short-term interest rates.

BOX 1
An Analysis of Recent Interest Rate Developments (cont'd)

CHART 3

Response of 1-Year Treasury Rate, Commercial Bank Cost of Funds and Weighted Average Lending Rate to Shock 1 and 2

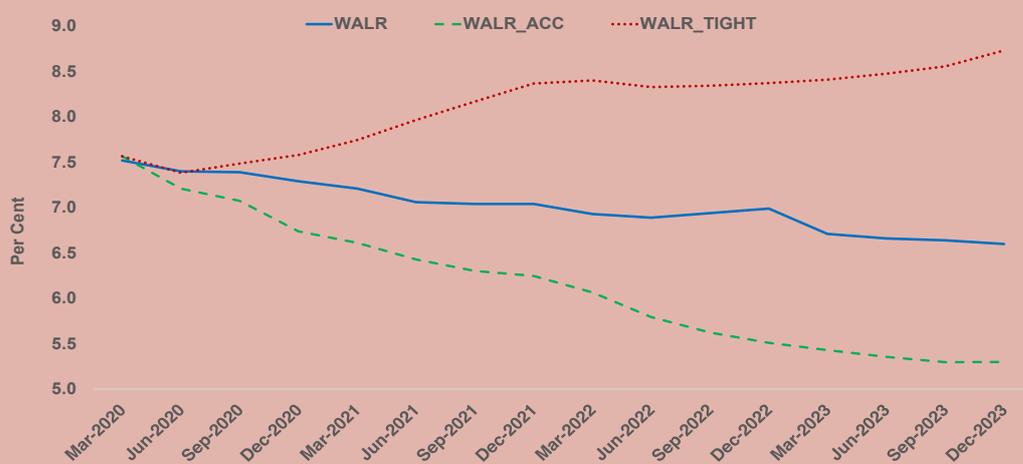


Source: Author's calculations

BOX 1 An Analysis of Recent Interest Rate Developments (cont'd)

Deterministic simulations were also undertaken to compare alternate hypothetical scenarios reflecting the impact of monetary accommodation versus monetary tightening, in the context of a significant increase in GOVB, on the WALR. The forecast period is March 2020 to December 2023, and the model compares the effects of different liquidity policy positions on the WALR, relative to actual values recorded over 2020 to 2023. The increase in government financing represents a sustained two standard deviation increase in the value of government bonds issued over the forecast period. The accommodative liquidity position (ACC) signifies a sustained increase in liquidity reflecting the peak value of the Beveridge-Nelson trend component of liquidity (\$12.5 billion) achieved during the forecast period. The tight liquidity position (TIGHT) denotes a scenario of a gradual reversion over the forecast period to a liquidity level (\$3.2 billion) closer to the historical range. The resulting estimates are shown in **Chart 4**.

CHART 4
Forecast of Commercial Banks Weighted Average Lending Rate (WALR)



Source: Author's calculations

Lending rates resulting from the accommodative policy position (WALR_ACC), denoted by the combination of sustained high liquidity and increased government bond issues, remains significantly below actual values of the WALR. On the other hand, simulated lending rates reached significantly higher levels than actual values under the scenario of an increase in government bond issues where liquidity levels declined toward historical targets (WALR_TIGHT).

BOX 1**An Analysis of Recent Interest Rate Developments (cont'd)****Conclusion and Recommendations**

Following the onset of the COVID-19 pandemic, the Central Bank's objective was to support economic recovery through a reduction in lending rates and the expansion of credit, facilitated by ensuring ample system liquidity. However, Government financing on the domestic bond market has driven large fiscal withdrawals, resulting in tighter excess liquidity conditions and an increase in short-term Treasury rates. As a consequence, upward pressures are being imposed on interest rates, which can pass through to commercial banks' cost of funds and the weighted average lending rate.

In light of these dynamics, close coordination between monetary and fiscal policies is required to ensure a sustained economic recovery can be effectively balanced alongside fulfilment of the Government's financing needs.

-
- 1 Ample liquidity refers to a level of system (excess) liquidity that is adequate to facilitate the smooth functioning of the financial system.
 - 2 The Central Bank calculates a banking system cost of funds variable, which represents a weighted aggregation of average cost of deposits liabilities, cost of other funding liabilities and deposit insurance and reserve costs. The reserve cost component, which represents a policy cost, incorporates the 1-year Treasury rate into its formulation. It should be noted that the cost of funds for each commercial bank would be different and dependent on the institutions asset and liability position. mortgage-market-indicators-december-2023.pdf (<https://www.central-bank.org.tt/>)
 - 3 During the third and fourth quarters of 2023, interbank activity recorded a daily average of \$76.8 million and \$135.6 million, respectively. This trend continued into the first quarter of 2024, registering \$182.9 million in interbank activity. Additionally, following six quarters of zero activity, the repurchase facility was accessed in the fourth quarter of 2023 and first quarter of 2024.
 - 4 The transmission of monetary policy actions through the credit channel typically involves a lag as changes in policy rates gradually influence lending and borrowing behaviour.
 - 5 Dhanessar (2021). "Factors Influencing the Movements in the Central Government (Sovereign) Yield Curve." Central Bank of Trinidad and Tobago, Monetary Policy Report. Feature Article, May 2021. [www.central-bank.org.monetary-policy-report-may-2021.pdf](https://www.central-bank.org.tt/) (<https://www.central-bank.org.tt/>)
 - 6 Credit ratings reports from Moody's and S&P in 2023 suggest that the sovereign displays a less vulnerable or adequate capacity to meet its financial commitments. Additionally, the ratings reports indicate a positive and stable outlook, respectively.
 - 7 Borrowing by the Central Government can result in net fiscal receipts, and thus net fiscal withdrawals for a given time period, especially if the proceeds of borrowing do not quickly re-enter the financial system as deposit-creating fiscal expenditures.
 - 8 Typically, the Central Bank allows system liquidity to expand before the issuance of a Government bond, often occurring a few weeks prior to the bond's release. This ensures that financial institutions have ample funds available to participate in the Government bond offer. Generally, the movement of funds from the bond initially leaves the system and into Government accounts as net domestic fiscal withdrawals. However, historically these funds are pumped back into the system as net domestic fiscal injections soon after.
 - 9 From a regulatory perspective, local currency sovereign exposures carry a zero risk weighting, but internal risk management policies of individual financial entities may suggest varying exposure thresholds for sovereign debt holdings.
 - 10 The model, estimated in five lags, used quarterly data between March 2006 and December 2023, for variables including the banks' cost of funds (COF), 1-year Treasury rate, the weighted average lending rate (WALR), government borrowing (GOVB), the Beveridge-Nelson trended values of net domestic fiscal injections and excess liquidity (XSL). Binary variables accounting for the effect of the pandemic as well as the policy shift following the onset of the pandemic were included. The model was adequate regarding stationarity and serial correlation.
 - 11 The Beveridge-Nelson filter is a decomposition method used to separate a time series into its trend and cyclical components. It describes the underlying long-term trend in a series which may be obscured by short-term fluctuations.

4. MONETARY POLICY ASSESSMENT (NOVEMBER 2023-MAY 2024)

In December 2023, March and June 2024, the MPC considered a number of domestic (contained inflation and the recovery of credit) and external factors (geopolitically-generated economic uncertainty) which informed the monetary policy stance.

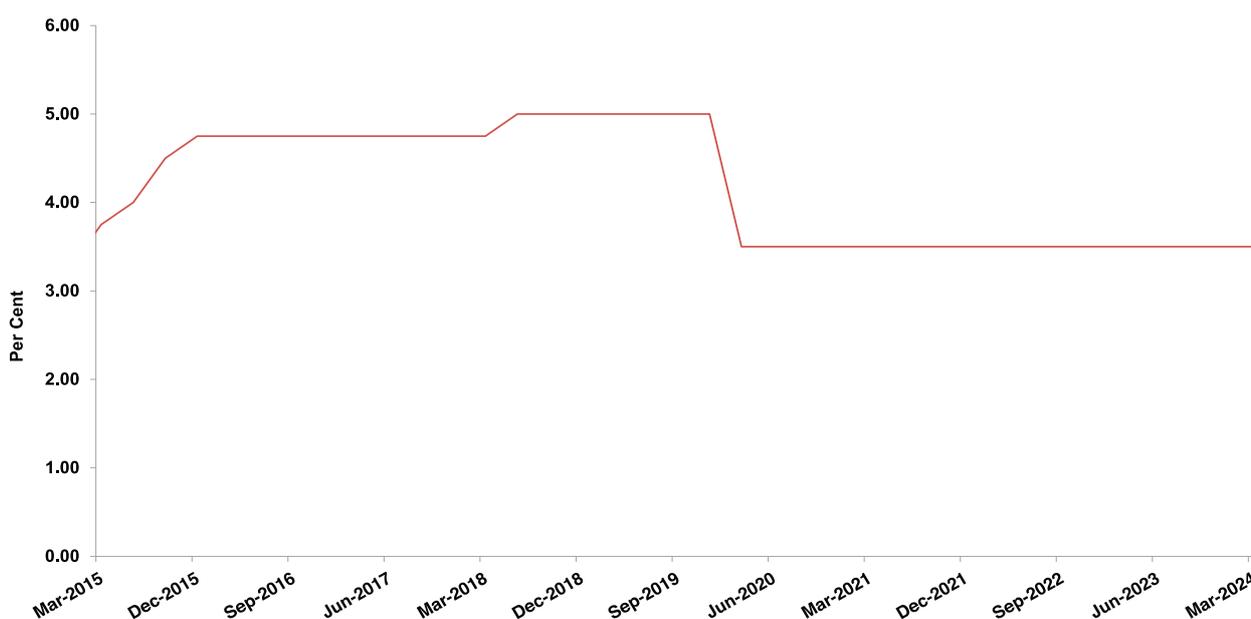
Thus far in 2024, the monetary policy stance has remained broadly unchanged.

The main policy tool of the Central Bank, the Repo rate, remained at 3.50 per cent in March and June 2024 after being lowered by 150 basis points in March 2020, following the onset of the COVID-19 pandemic (Chart 4.1).

The Central Bank influences the wider economy by managing the money supply through the use of direct and

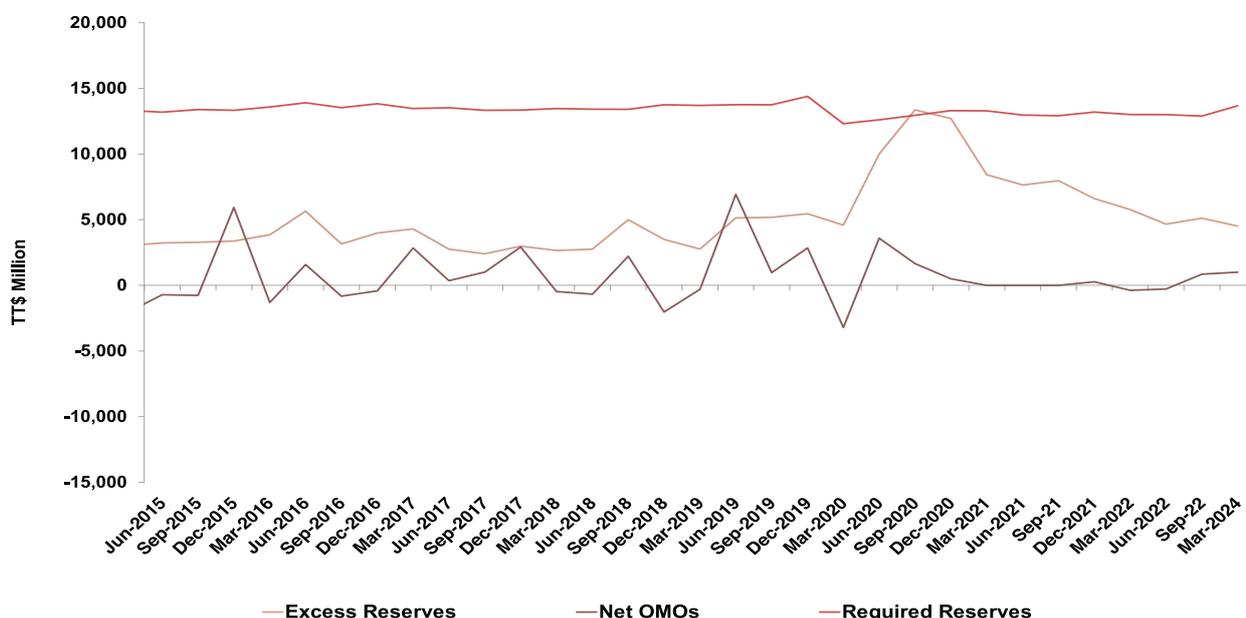
indirect monetary policy tools. The reserve requirement — a direct monetary policy tool — remained at 14.0 per cent since a 300 basis point decline in March 2020. Between November 2023 and May 2024, commercial bank required reserves with the Central Bank averaged \$13.56 billion, suggesting that narrow money remained stable. However, OMOs —an indirect tool —tend to affect broader measures of the money supply than the reserve requirement, and over November 2023 to May 2024, the Central Bank’s OMO activity resulted in a net injection of approximately \$2.31 billion into the financial system. Changes in the money supply from adjustments to the reserve requirement and OMOs translate to changes in excess liquidity. Current levels of excess liquidity reflect the objective of smooth operations in the financial sector, facilitated mainly through broader money channels (Chart 4.2).

CHART 4.1
Repo Rate



Source: Central Bank of Trinidad and Tobago

CHART 4.2
Liquidity Management



Source: Central Bank of Trinidad and Tobago

Bank lending rates trended down amid still ample liquidity

The level of excess liquidity has influenced the trajectory of interest rates. The Central Bank’s continued efforts to facilitate ample liquidity drove increased competition to supply credit, and underpinned the general decrease of the WALR since March 2020, which reached 6.60 per cent by December 2023 compared to 6.99 per cent in December 2022. However, over the latter half of 2023 and into early 2024, liquidity levels declined, moving from a daily average of \$7.0 billion in June 2023 to \$4.3 billion in May 2024. This decline was primarily related to heightened borrowing activity by the Central Government, and in March 2024 the WALR increased by 1 basis point to 6.61 per cent.

Based on the interest rate and money supply channels of transmission, the size and direction of the combined effect of the Central Bank’s monetary policy tools on commercial banking rates can be related. Chart 4.3 shows the historical evolution of the forecast error variance decomposition (FEVD) derived from a model estimating the effect of the Repo rate and excess liquidity on the WALR, against the WALR itself. When the values of the FEVD are positive, policy exerts pressure on the WALR to increase and vice versa. After March 2020, the combined effect of the instruments of monetary policy on the WALR began to decline, lowering upward pressure on the WALR. The combined effect of policy takes negative values after December 2020. Further empirical analysis simulating the effects of tight and accommodative monetary

policy was undertaken.²⁵ The accommodative liquidity shock replicated the level of liquidity achieved following the pandemic, while the tightening shock reflected a gradual reversion to a liquidity level closer to the historical target range. The two scenarios were meant to simulate what alternative policy approaches would have achieved in the post-pandemic era. The model revealed that by December 2023, adopting the hypothetical accommodative policy position would have caused the WALR to remain approximately 130 basis points lower than its actual value. On the other hand, adopting the tight policy position would result in a WALR approximately 213 basis points higher than its actual value in December 2023. Monetary policy has thus underpinned the decline in commercial banking rates observed after the COVID-19 pandemic and delivered the mitigating effect on banking rates into 2024 after the increases observed in late 2022.

The Central Bank has sufficient policy space to use its direct and indirect tools to continue ensuring ample liquidity. Credit risks currently remain low, suggesting that the Central Bank's current support of a credit-based recovery, in the context of contained inflation, remains feasible. Rising interest rates can stymie economic recoveries, particularly those that are credit-based. Additionally, policy and commercial banking rates that rise quickly in tandem have the potential to generate financial instability. While short-term capital market rates have increased in recent months owing to the tightening effect of Government borrowing on liquidity conditions, commercial bank lending

rates remain anchored by the Central Bank's actions to stabilise liquidity.

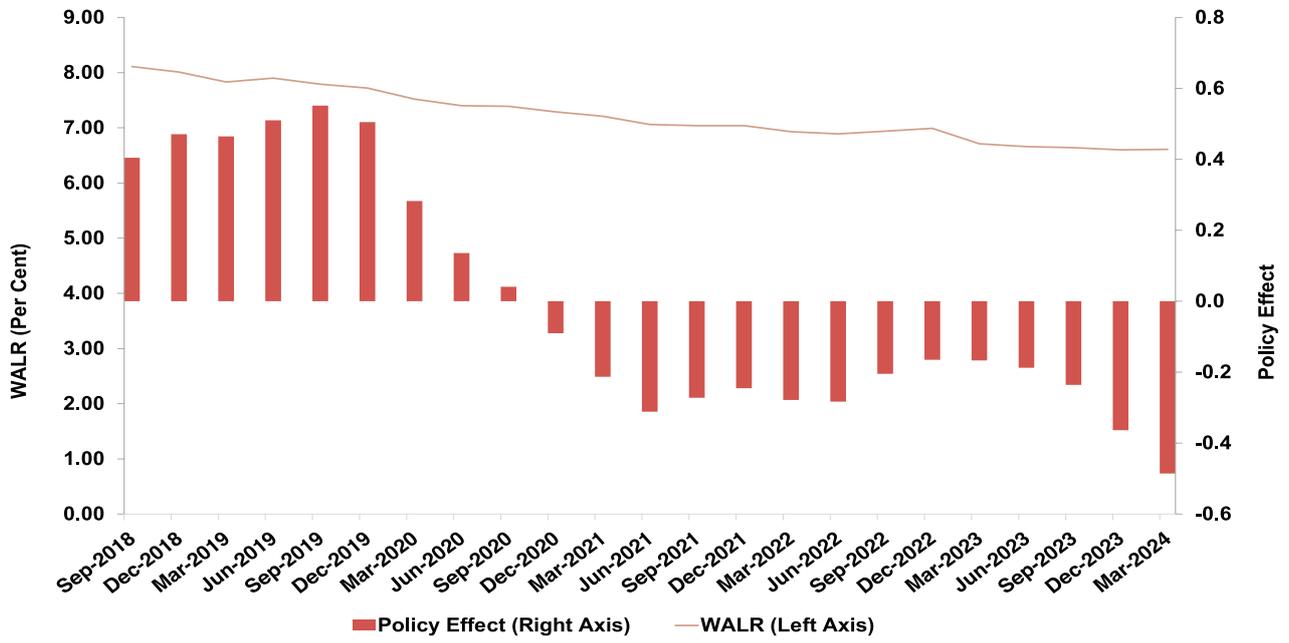
Commercial bank lending rates are expected to remain stable throughout 2024 owing mainly to still ample liquidity. The current policy stance by the Central Bank should continue to have a stabilising effect on lending rates and may likely be able to correct any short-term deviations that emerge. Treasury rates may experience some upward pressures owing to frequent and sizeable capital market activity conducted by the Central Government. The trajectory of increase of external benchmark rates is expected to stabilise since the Fed indicated rate cuts are currently unlikely, as inflation remains above-target.

In summary, despite subdued energy revenues, persistent expansion in private sector credit will likely underpin the continuation of the post-pandemic economic recovery. Monetary policy will likely have to balance considerations about facilitating this recovery alongside safeguarding external sustainability. However, the divergence between domestic capital market rates and bank lending rates may add to complexity. As evidenced by their mitigating influence on banking rates, management of short-term policy rates as well as narrow and broad money channels have proven effective in influencing banking system conditions. As such, the Central Bank will continue to closely review domestic and external market developments and remain data-driven in its policy considerations.

²⁵ Refer to Box 1, An Analysis of Recent Interest Rate Developments.

CHART 4.3

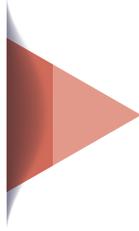
Forecast Error Variance Decomposition



Source: Central Bank of Trinidad and Tobago



FEATURE ARTICLE



INCORPORATING CLIMATE RISKS INTO MONETARY POLICY FRAMEWORKS - INITIAL CONSIDERATIONS

Stefan Edwards, Alon Dhanessar and Tanisha Mitchell²⁷

Summary

Climate change and its mitigation has the potential to impact key macroeconomic indicators and the implementation of monetary policy. In light of this, many central banks began investigating ways in which climate change risks can be managed, while supporting a green economic transition. This has resulted in central banks pioneering 'climate-augmented' monetary policy, or 'green monetary policy'. However, concerns have been raised about central banks' engagement in climate change and the possibility of overburdened policy tools. This study adopts an exploratory approach, delving into the literature on climate change and monetary policy with the aim of informing future policy actions at the Central Bank of Trinidad and Tobago.

Introduction

Climate change has significant effects on global economic conditions, directly impacting the availability of resources, agricultural production, labour productivity, and the cost of financial services. Many central banks are investigating ways in which climate change risks can be managed while supporting a green economic transition. As a result, central banks have become increasingly cognizant of the necessity of integrating climate concerns into monetary policy frameworks.

Domestically, the Central Bank of Trinidad and Tobago (Central Bank) has made strides in the direction of energy efficiency, but more work is required to possibly integrate environmental considerations into the monetary system. Taking into account the complex nature of climate change and its impact on economic conditions, this article:

1. Examines the effect of climate change using the IS-LM framework.
2. Explores the governance framework required for the 'greening' of monetary policy.
3. Evaluates central banks' role in 'greening' the financial system.
4. Investigates the role monetary policy can play in shoring up the green bond initiative.

²⁷ The authors are economists in the Research Department of the Central Bank of Trinidad and Tobago. The views expressed are those of the authors and not necessarily that of the Central Bank of Trinidad and Tobago.

Climate-related Variables in a Mundell-Fleming Framework

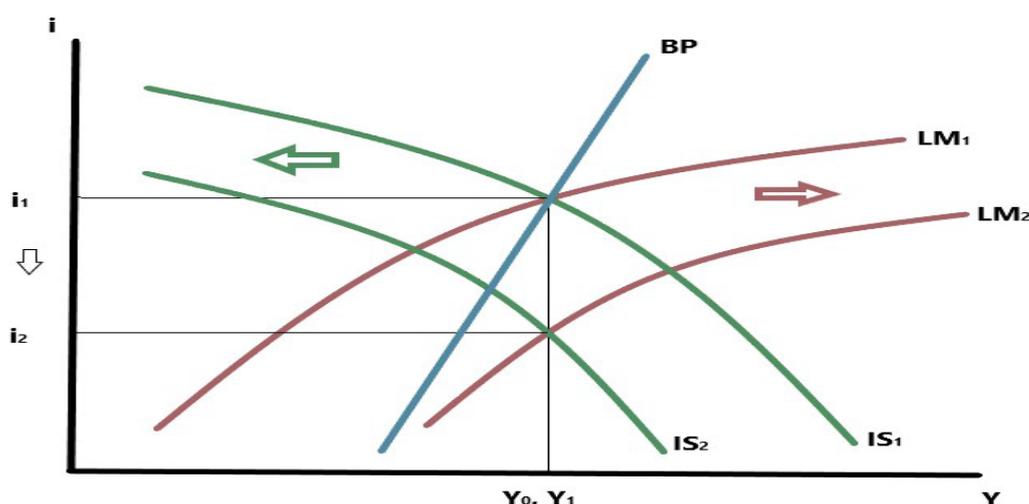
The Mundell-Fleming model (MFM), sometimes referred to as the IS-LM-BP model,²⁸ elucidates the vulnerability of a small open economy to its international trade counterparts and serves as the basis for analysing monetary and fiscal policies.

Theoretically, the IS curve in the model reflects the national income identity, while the LM curve indicates the combinations of interest rates and national income at which money supply is equal to money demand. Introducing foreign commerce, Balance of Payments (BP), results in scenarios that cause a shift of the IS and LM curves. The actions of fiscal authorities primarily affect the IS curve, while monetary authorities primarily affect the LM curve.

The MFM may be used to discern the impacts of climate change and climate policy, primarily due to shifts in the IS and LM curves. The physical hazards associated with climate change can impact the whole economy through productivity losses, decreased rates of capital accumulation, and slowed growth in factor productivity. These impacts lead to a contractionary shift in the IS curve (Figure 1). Extreme events have the potential to have long-lasting negative impacts on the capital base, leading to a decrease in production potential. Additionally, following an extreme event, reduced capital stocks may result in a decrease in aggregate supply.

FIGURE 1

The IS-LM-BP framework reflecting the impact of climate change adaptation measures



28 Note: The IS curve represents the equilibrium path of combinations of national income and the interest rate where savings and investment are equal, and is negatively sloping. This represents equilibrium in the goods market. The LM curve represents the equilibrium path of combinations of national income and interest rates where supply and demand for money are equal, and is positively sloping. The BP curve is the locus of combinations of interest rates and national income where the change in foreign reserves is zero i.e., the BOP is in balance. It is also positively sloping, but preferably has a different gradient and intercept than the LM curve.

Another important impact of climate change is through the Agricultural sector. Agricultural productivity is a significant factor in climate change's impact on pricing, namely as a detrimental supply shock. Additionally, climate policy may impose transition risk on economic activities in the form of taxes or regulation. These forms of policy have the potential to impose leakages and impose a negative shock to aggregate supply. However, there may be an efficiency return associated with adopting renewables, expanding infrastructure, and incorporating new technology.

Climate policy associated with a monetary authority will likely come in the form of asset purchases. A popular prescription is that central banks can potentially 'green' their balance sheets. This can be achieved via asset purchases and collateral framework programmes steered towards low-carbon assets to support the 'greening' of the economy. Portfolios can be adjusted from supporting 'brown' assets, particularly those of hydrocarbon-producing firms, to replacing them with 'green' assets.

A monetary policy response from asset purchases will likely be expansionary, shifting the LM curve outward. The scenario in [Figure 1](#) indicates that it is possible that a fiscal leakage (inward shift in the IS curve), and expansionary monetary policy, can balance each other leaving output unchanged. However, this will ultimately lead to a lower interest rate, which has implications for the balance of payments.

Undoubtedly, the MFM will be greatly affected by climate change and related policies.

The Role of Central Banks in 'Greening' the Financial System

The financial sector can play a critical role in mitigating climate change challenges. Including but not limited to: financing the transition, encouraging sustainable investments, and managing climate risks on the portfolios of financial institutions. In light of these roles, central banks would be vital in setting policies and regulations that encourage the transition to a sustainable and low-carbon economy. From a regulatory perspective, central banks would be required to incorporate climate risks into their supervisory and regulatory framework and financial stability assessments. Authorities can promote green finance, support green investments through special lending facilities or green monetary policy actions, and encourage transparency and disclosure within these areas. Lastly, central banks would be required to conduct research and analysis on the impact of climate change and climate transition on the financial system and the economy.

The goals of the central banks have historically been linked to economic growth, stable inflation, and high employment, with financial stability increasing in importance since the Global Financial Crisis. According to the Tinbergen (1952) principle, the number of policy goals cannot exceed the number of policy instruments. Therefore, monetary authorities must ensure

that in order to achieve various targets, there must be at least an equal number of effective instruments (Volz 2017 and Campiglio 2018).

Volz (2017) explains that if a monetary authority has more targets than instruments, the system can be considered ‘underdetermined’, limiting the attainment of at least one target. Consequently, with the addition of environmental targets and objectives, economic policy will likely become more complicated.

Potential policy tools and supervision a central bank can utilise in enhancing green investments include:

1. Green macro-prudential regulation and climate-related stress testing would allow authorities to account for externalities caused by environmental imbalances, which can give rise to financial instability. These risks could be addressed by introducing credit ceilings to carbon-intensive or polluting industries, while credit can be prioritised towards environmental and sustainable investments.
2. A green policy instrument to encourage green credit allocations. If commercial banks provide subsidised loan rates to priority green sectors, then the central bank can offer a differential rediscount rate to these commercial banks. The lower rates will allow commercial banks to be compensated for lending at subsidised rates to borrowers involved in green or sustainable projects.
3. Monetary authorities could allow lower reserve requirements based on commercial banks’ green asset portfolio composition. A similar policy was implemented by the Central Bank of Lebanon (2010).
4. Alternative capital requirements for commercial banks that allocate credit to green and sustainable investments. While consideration should be given to asset quality and credit risks, a central bank can adjust the capital adequacy ratio or the risk weights on green assets that satisfy certain requirements. These green assets should satisfy additional requirements such as transparency and disclosure in an effort to limit the risk of greenwashing²⁹ assets on a bank portfolio.
5. With respect to guidelines and frameworks, a central bank can implement green credit guidelines comprising frameworks for environmental risk assessments and green investment incentives.

²⁹ Greenwashing occurs when a company misleads investors on the business’s environmentally friendly or sustainable practices. To avoid greenwashing, investors should evaluate environmental claims and use independent certifications and reviews to verify the company’s claims.

Incorporating Green Instruments in Monetary Operations

Numerous financial instruments can be used to finance green projects. However, green bonds are considered the most popular and effective financial instrument for funding environmental and sustainability projects. Green bonds generally provide a dedicated and transparent mechanism for raising capital for environmental projects, while providing opportunities for financial returns.

Green bond issuers frequently follow internationally recognised principles, which provide transparency and accountability through reporting on the environmental impact of funded projects. Furthermore, the popularity of green bonds has increased notably given a growing market of socially responsible investors who seek to align their investments with environmental and sustainability principles. By facilitating the flow of capital towards these projects, financial markets can drive positive change, contribute to a more sustainable future, and support the transition to a low-carbon economy.

Incorporating eligible green bonds into asset purchases and open market operations is another option. This may increase the demand for green bonds and help lower the borrowing costs for green bond issuers. Alternatively, direct lending towards eligible green bond issuers at lower costs or subsidised rates can reduce the borrowing costs for issuers and support the development of the green bond market. Additionally, this can drive the mobilisation of private capital towards environmental and sustainability investments.

Monetary authorities can also include eligible green bonds in asset and collateral frameworks. By including green bonds as collateral, or enabling the purchase of green bonds in quantitative easing asset purchases, the central bank would increase the demand for these asset types, lower borrowing costs and encourage market development. Furthermore, this provides a source of liquidity for green bond issuers and increases the attractiveness of green bonds for investors.

Schoenmaker (2021) examined an approach for adjusting the European Central Bank's (ECB) asset and collateral framework towards low-carbon assets. The author determined that the ECB's portfolio was overweight in high-carbon companies, which improved liquidity and lowered the cost of capital for these companies, resulting in higher carbon emissions. The study examined the possibility of altering the ECB's portfolio towards eligible low-carbon assets while avoiding any disruptions to the monetary policy transmission. Disruptions were avoided via three conditions:

1. Avoid major changes to the asset mix, currency denomination and maturity, which are chosen to smooth monetary policy and manage reserves.
2. Keep the eligible list of green assets as broad as possible to minimise the impact on the market and price formation.
3. The adjustment should be undertaken gradually to ensure no significant shock to the transmission mechanism and permit smooth portfolio rebalancing.

Overall, the study determined that a tilting approach minimises distortions in the asset and collateral base by gradually over-weighting low-carbon and under-weighting high-carbon assets. This approach is somewhat confirmed given the practical limitations in correcting brown biases in central banks' operations (Campiglio 2018). In a European Money and Finance Forum conference report, Campiglio (2018) recounted that there is not enough volume of green bonds available to satisfy central banks' required volumes. Consequently, excluding high-carbon assets in a portfolio mix would unduly limit central banks' abilities, and instead, a gradual portfolio shift would be best suited.

While the inclusion of green bonds in monetary policy actions can support the transition to a low-carbon economy and promote sustainable development, this should only occur if green bonds can satisfy specific requirements. This includes having a transparent and credible framework for verifying the environmental sustainability of the projects, in addition to criteria such as: the use of proceeds, reporting requirements, and third-party certification. Green bonds would also need to meet standard credit risk criteria and have sufficient liquidity to be included in central bank operations. Finally, the use of green bonds in monetary policy would need to be consistent with monetary policy objectives and the central bank's mandate, which may include considerations such as financial stability, inflation, and economic growth.

A Possible Roadmap to a Green Monetary Policy Agenda

Financial Institutions

The Central Bank of Trinidad and Tobago can undertake a number of steps to advance the climate agenda. First, it is necessary to include a research agenda on climate change. To better understand climate change and its influence on the economy in the long-run, research aimed at enlarging and enhancing central banks' analytical tools is important. Examining the potential economic and financial market disruption brought on by climate-related shocks, as well as the physical and transitional risks will aid the adjustment of monetary policy frameworks to address climate risks.

Financial market monitoring is essential for greening monetary policy. One technique for assessing the financial markets' capacity to withstand climate change threats is stress testing. In addition to encouraging market participants to stress test their portfolios, the Central Bank may use climate scenarios which trace the dynamic interactions between the macroeconomy and the financial system on account of climate-related developments. In addition, the Central Bank may need to promote transparency by publishing climate risk stress testing results, analysing the effects on the financial system, and encouraging the financial sector to reveal their particular findings.

The Central Bank may also assess its current monetary policy critically and deliberate on implementing innovative initiatives that may support the economy in the aftermath of a climate-related event. According to Fratzscher et al. (2020), the inflation targeting monetary regime often performs best after a natural disaster. To determine which monetary policy goals will be most effective in the wake of a climate-related shock, the Central Bank may wish to consider a range of options. The option of greening the Central Bank's Repo rate can be considered. This will require the Central Bank to ensure that commercial banks only use green collateral to enter the repurchase market warranting that commercial banks green their balance sheets.

Notwithstanding the steps that must be taken to advance green monetary policy once determined feasible, the Central Bank has made significant progress in addressing climate change. The Central Bank altered its internal procedures, examining energy effectiveness and calculated the Central Bank's carbon footprint. Moreover, collaborations with several international organisations and other central banks to advance the climate change agenda is ongoing. Additionally, the Central Bank joined the Network For Greening the Financial System (NGFS) with representation in two work streams (Supervision and Scenario and Design Analysis). In terms of investments, the Central Bank authorised the placement of around 2.0 per cent of the nation's reserves in Environment, Social, and Governance instruments. World Bank Sustainable Development Bonds received a US\$30 million investment from the Central Bank in September 2022.

Capital Markets

In many cases, the scale and complexity of environmental and sustainability projects require substantial amounts of funding and resources, which can be challenging to obtain on the domestic market through traditional means. Consequently, these projects would require financing via a US dollar green bond issued on the international financial market. In such a case, the green bond would have to satisfy various internationally accepted green bond guidelines and principles, and would require the establishment of a domestic green bond framework and the satisfaction of the core components. Furthermore, following the successful issuance of the US dollar green bond, the domestic issuer would have to engage in external review requirements.

Alternatively, smaller environmental and sustainability projects can potentially access financing from the local market. While the domestic appetite for TT dollar investments can be significantly high, domestic commercial investors, such as mutual funds and investment firms, may have the appetite and ability to finance domestic foreign currency investments. Considering that the domestic primary bond market primarily issues bonds via private placements, then this option would likely be the easiest to access financing. However, while it is common practice to engage potential investors privately, the development of the primary bond market could be encouraged by offering green bond investments publicly to retail investors.

Under the auspices of a formal Government mandate to tackle climate change, the Central Bank can play a pivotal role in supporting the issuance of green bonds and developing the domestic capital market. Through collaborative partnerships with stakeholders such as other regulatory agencies, government enterprises, and financial institutions, the Central Bank can assist in accelerating the adoption of sustainable finance practices and creating a supportive ecosystem for green bond activities. This includes developing the necessary regulatory frameworks and market infrastructure, providing incentives, building capacity, and promoting information transparency. These developmental initiatives will encourage the issuance of green bonds and establish a vibrant green bond market.

Conclusion

Climate change has far-reaching impacts on the global economy, directly affecting resources, agriculture, labour, and financial services. The report by the NGFS 2020 highlights the diverse and significant influence of climate change, highlighting that climate change and its mitigation will increasingly affect macroeconomic conditions and the conduct of monetary policy. Consequently, policy actions should consider the various effects of transition risks, extreme weather events, and gradual warming, while taking into account uncertainties, which require varying assessments.

In light of the complicated nature of climate change and its effect on macroeconomic conditions, central banks have been exploring ways to manage climate change risks while promoting a green economic transition through “green monetary policy.” By incorporating climate risks into monetary policy frameworks, central banks can encourage financial institutions and markets to consider climate risks in their decision-making processes and encourage funding for sustainable projects. Furthermore, given the vast amount of investments needed to bring about a green transition, Volz (2017) explains that the financial sector and central bank will be required to play a central role in allocating resources towards a sustainable and green economy while reducing the financing of carbon-intensive and environmentally harmful activities.

Volz (2017) acknowledges that environmental factors and policy actions can impinge on the conventional goals of a central bank, while concerns have been raised about overburdening policy tools and engaging in climate change issues without conditions.

Despite this, including climate risks in monetary policy frameworks may aid in the shift towards a more sustainable economy. Consequently, a calculated and cautious approach would be required by central banks, given the changing roles of these institutions. Thus, several caveats ought to be engaged when considering how central banks ought to support the adoption of climate-related policy.

Nevertheless, central banks globally have made progress in integrating climate concerns into monetary policy frameworks, although it remains a relatively new issue.

The Central Bank of Trinidad and Tobago has taken steps towards energy efficiency, but more work is needed to critically assess the implications of incorporating environmental considerations into the monetary system. More specifically, the effects of climate change on economic injections and leakages, and how monetary policy can better support risk mitigation.

References

- Abiry, R., Ferdinandusse, M., Ludwig, A., and C. Nerlich. (2022). "Climate Change Mitigation: How Effective Is Green Quantitative Easing?" CESifo Working Paper No. 9828.
- Andersson, M., Baccianti, C., and K. Morgan. (2020). "Climate change and the macro economy". European Central Bank, Occasional paper Series No. 243, June 2020.
- Azhgaliyeva, D. and Z. Kapsalyamova. (2021). "Policy Support in Promoting Green Bonds in Asia". ADBI Working Paper 1275. Tokyo: Asian Development Bank Institute.
- Bailey, D. (2019). "Industrial Policy in the context of Climate Emergency: the case for a Green New Deal". Future Economies Research and Policy Paper #6, Manchester Metropolitan University.
- Bank of England. (2015). "The Impact of Climate Change on the UK Insurance Sector." A Climate Change Adaptation Report by the Prudential Regulation Authority, London: Bank of England
- Bank of Lebanon. (2010). "Intermediate Circular on Reserve Requirements." Intermediate Circular No. 236, Beirut: Banque du Liban.
- Batten, S., Sowerbutts, R., and M. Tanaka. (2020). "Climate change: Macroeconomic impact and implications for monetary policy". Bank of England, July 2020.
- Beschloss, Afsaneh and Mina Mashayekhi. (2019) "A Greener Future for Finance." IMF Finance and Development – Point of View.
- Campiglio, Emanuele. (2018). "Green Finance, Regulation and Monetary Policy." Conference Report, the European Money and Finance Forum (SUERF), Oesterreichische Nationalbank and Vienna University of Economics and Business.
- Central Bank of Trinidad and Tobago (CBTT). (2009). "The Government Securities Market in Trinidad and Tobago." CBTT Public Education Pamphlet, Series No. 4.
- Climate Bonds Initiative (CBI). (n.d.) "Interactive Data Platform."
- Dafermos, Y., Galanis, G., and M. Nikolaidi. (2018). "Can Green Quantitative Easing (QE) Reduce Global Warming?". Foundation for European Progressive Studies, Policy Brief, July 2018.

- Economic Commission for Latin America and the Caribbean. (2017). "The rise of green bonds Financing for development in Latin America and the Caribbean". Washington, D.C., October 2017.
- Fratzscher, M., Grosse-Steffen, C. and Rieth, M. (2020). "Inflation targeting as a shock absorber", *Journal of International Economics*, Vol. 123
- German Development Institute. (2017). "Green Industrial Policy: Concept, Policies, Country Experiences".
- International Capital Market Association. (2021). "Green Bond Principles – Voluntary Process Guidelines for Issuing Green Bonds." International Capital Market Association (June 2021) – The Green Bond Principles (GBP).
- International Finance Corporation (IFC). (2016). "Mobilising Private Climate Finance – Green Bonds and Beyond." EM Compass. Note 25. IFC, World Bank Group.
- Jamaica Office of the Prime Minister. (2019). "Jamaica to Pioneer Caribbean Green Bond Listing." Jamaica Information Service, October 2019.
- KPMG. (2015). "Gearing up for Green Bonds – Key Considerations for Bond Issuers." KPMB International, Sustainable Insight. 2015.
- Kravatzky, Axel. (2022). "Greening of Caribbean Capital Markets." Trinidad Newsday. January 2022.
- McIntosh, Douglas. (2021). "Government Launches Green Bond Project." Jamaica Information Services, June 2021.
- Mo, Yunqian, Sana Ullah, and Ilhan Ozturk. (2022). "Green Investment and its Influence on Green Growth in High Polluted Asian Economies: Do Financial Markets and Institutions Matter?" *Economic Research - Ekonomiska Istrazivanja*. Taylor & Francis Group.
- Rodrik, D. (2014). "Green Industrial Policy". *Oxford Review of Economic Policy*, Volume 30, Number 3, 2014, pp. 469–491.
- Saxena, Sweta. (2007). "Developing Financial Markets: Challenges for Central Banks." Published in "Financial Market Developments in Africa: New Challenges for Central Banks". South African Reserve Bank.

- Schoenmaker, Dirk. (2021). "Greening Monetary Policy." *Climate Policy*, Vol. 21, No. 4, pp. 581-592. (January 2021).
- Skinner, Christina Parajon. "Central banks and climate change." *V and. L. Rev.* 74 (2021): 1301.
- Task Force on Climate-Related Financial Disclosures. (2016). "Phase I Report of the Task Force on Climate-related Financial Disclosures." Presented to the Financial Stability Board, 31 March 2016.
- Tinbergen, Jan. (1952). "On the Theory of Economic Policy." *Contributions to Economic Analysis*, I. North Holland Publishing Company, Amsterdam.
- United Nations Environment Programme (UNEP). (2016). "Green Finance for Developing Countries: Needs, Concerns and Innovations." *UNEP Inquiry: Design of a Sustainable Financial System*. May 2016.
- Velloso, Helvia. (2017). "The Rise of Green Bonds – Financing for development in Latin America and the Caribbean." *Economic Commission for Latin America and the Caribbean (ECLAC)*, United Nations.
- Volz, Ulrich. (2017). "On the Role of Central Banks in Enhancing Green Finance." *United Nations (UN) Environment Programme, UN Environment Inquiry, Working Paper 17/01*.



CENTRAL BANK OF
TRINIDAD & TOBAGO