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MONETARY POLICY REPORT

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Central Bank of Trinidad and Tobago

Monetary Policy Report

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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 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 Bank's overall monetary policy stance. The MPC currently comprises members of the 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 Bank's monetary policy decisions.

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KEY MESSAGES

- The recovery of the global economy remains stymied by several challenges, in particular China's slowing growth momentum, persistent inflationary pressures, the Russia-Ukraine war and possible recession in the US and other major economies.

- Supply shocks stemming from the Russia-Ukraine conflict continued to drive commodity prices, fuelling inflation and tighter financial conditions. Recent cuts to oil production by OPEC+ have kept oil prices firm.

- The International Monetary Fund (IMF), in its October 2022 World Economic Outlook (WEO), forecasts global growth to expand modestly by 3.2 per cent in 2022, with growth estimates for Advanced Economies (AEs) revised downward. A reduction in external demand is a key downside risk for domestic economic activity.

- Central Bank of Trinidad and Tobago estimates suggest that domestic economic activity was driven by growth in both the energy and non-energy sectors during the third quarter of 2022. Inflation accelerated, largely reflecting influences from the external environment.

- The reopening of the economy in late 2021 and resumption of regular activities set the stage for the expansion in business output. Strong business lending and a recovery in consumer lending drove credit expansion, despite the slow growth in real estate mortgage lending.

- The local market for foreign currency has benefitted from increased energy sector receipts in 2022 but remains tight. Higher inflows stemmed from increased conversions by energy sector companies.

- Monetary policy in 2022 has centred on supporting the domestic recovery following the COVID-19 pandemic while managing risks posed by mostly externally generated inflation and higher interest rates abroad. The Central Bank, in its latest Monetary Policy Committee (MPC) meeting maintained an accommodative policy stance, holding the Repo rate at 3.50 per cent.

MONETARY POLICY OVERVIEW AND OUTLOOK

Overview

The global economy continued to face headwinds in 2022. In particular, the Russia-Ukraine conflict, China's decelerating growth momentum on account of intermittent COVID-19 restrictions along with elevated energy and food costs, drove inflation rates far higher than desired. As inflationary pressures rose to levels not experienced in decades, monetary authorities around the world moved to tighten monetary policy, which weighed heavily on growth. The effect on financial markets has been severe, with high volatility alongside a deterioration in asset values and exchange rate depreciation pressure in a number of countries. These tumultuous circumstances continue to shroud the macroeconomic landscape, cloaking it in uncertainty.

In order to combat inflation, many central banks have engaged in aggressive monetary policy tightening in 2022. Through more substantial increases in policy rates than in past tightening episodes, central banks in Advanced Economies (AEs) recoiled from accommodative stances and initiated aggressive tightening cycles. The United States (US) Federal Reserve (Fed) raised its policy interest rate by 375 basis points thus far in 2022, with the upper limit of the Federal Funds Rate reaching 4.00 per cent in November. The Fed signalled further rate increases into 2023. Central banks in Emerging Market and Developing Economies (EMDEs) also raised their policy rates, some commencing a lot earlier than their AE counterparts. While policy tightening in AEs can help stabilise inflation levels, emerging markets are particularly susceptible to capital outflows and rising external borrowing rates.

On the domestic front, there was evidence of broad-based growth, in both the energy and non-energy sectors. Buttressed by a robust expansion in natural gas production, preliminary indicators suggest a continued rebound in economic activity during the third quarter of 2022. Non-energy sector production marginally improved over this period. Several supply-side factors, such as strong international food prices, high shipping costs, and international transport delays, had notable pass-through to domestic prices in September 2022, keeping food inflation relatively elevated. While core inflation inched up slightly, food inflation surged during the third quarter due, in part, to lagged transmission effects. Some food categories with a relatively large import content saw continued price increases; these included butter, margarine and edible oils along with bread and cereals. Severe flooding in parts of the country during the final quarter is likely to impact prices of locally grown produce towards the end of the year, in addition to the public cost of rebuilding road and other infrastructure alongside support to affected families.

Financial system liquidity increased, while interest rate differentials widened. Excess liquidity, as measured by commercial banks' reserves held at the Central Bank in excess of the required levels, increased to a daily average of $6.3 billion in November 2022 from $4.3 billion in May. A combination of higher net domestic fiscal injections, a pick-up

in bank lending and open market operation activity influenced liquidity levels over the period. Robust business lending, with notable expansions in all sectors, coupled with a rebound in consumer lending contributed to the increase in consolidated system credit thus far in 2022. Credit conditions were supported by relative stability in commercial banks' lending rates, which moved from an average of 6.93 per cent to 6.94 per cent between March and September 2022. External monetary policy tightening has resulted in the TT/US short-term (three-month) interest rate differential moving from -73 basis points in May to -387 basis points in November 2022; the differential at the longer end (10-year) fell from 214 to 148 basis points. Additionally, the local market for foreign currency benefitted from increased energy sector receipts in the first eleven months of 2022. Higher purchases stemmed from increased conversions (45.3 per cent) by energy sector companies.

In this context, the Central Bank of Trinidad and Tobago kept its monetary policy stance unchanged. The Bank kept the short-term rate on its overnight collateralised financing to commercial banks, the Repo rate, at 3.50 per cent following its Monetary Policy Committee (MPC) meetings in June and September 2022. The MPC took account of the signs of economic recovery alongside the rise in domestic inflation and the interest rate differentials in calibrating its stance.

Outlook

The global economic outlook is clouded by uncertainty and risks are tilted towards the downside. The International Monetary Fund (IMF), in its October 2022 World Economic Outlook (WEO), forecasted global growth of 3.2 per cent in 2022 before decreasing to 2.7 per cent in 2023. The forecasts reflect the anticipated slowdown of the world's three largest economies – the US, Euro area and China, in 2022 and 2023. Several downside risks threaten to further undermine global growth prospects in the near-term, such as the lingering effects of the COVID-19 pandemic and the intensification of geopolitical tensions between Russia and Ukraine, which can help sustain high commodity prices and entrench a prolonged period of high inflation. Additionally, further tightening of global financial conditions could occur should the current pace of policy tightening by central banks in the AEs continue. The implications of such actions include reduced aggregate demand in AEs and possible debt distress in vulnerable EMDEs.

There is uncertainty surrounding the trajectory of international energy prices. Though prices eased in September, an October 2022 decision by OPEC+ to reduce production quotas by 2 million barrels of oil per day from November 2022 may add upward price pressure if recent global demand estimates continue to hold. Further, continued attempts by European Union countries to wean themselves off Russian oil, including an impending embargo on Russian seaborne crude in December, creates the potential for higher oil prices. On the other hand, G7 countries placed a price cap on Russian oil exports from December 5, which would ease global supply constraints by allowing Russian oil to be sold, but limit the country's income-earning potential on the sale of its crude. This, alongside the

possibility of slower-than-expected economic growth, creates the potential for lower prices. As for natural gas, continued strong demand, low inventories and the impending winter season may keep gas prices elevated over the final quarter of 2022 and well into 2023.

Domestic inflation will continue to be impacted by the external environment, the fallout from adverse weather and from a few measures announced in the National Budget for fiscal year 2023. The most significant impact on core inflation is anticipated to come from the pass-through of higher fuel prices to the transport sub-index. The capping of the fuel subsidy is expected to have a notable impact on headline inflation should higher fuel prices result in broad-based increases in maxi and taxi fares. Inflationary pressures are anticipated to persist into 2023 but remain relatively contained.

Domestic economic activity is expected to improve in the short to medium-term. Growth will likely be driven by energy production, which is anticipated to benefit from the commencement of several upstream projects. Activity in the non-energy sector is expected to gain from heightened business activity and ongoing recovery of consumer demand. Furthermore, labour market conditions may improve as the Christmas and Carnival seasons further spur aggregate demand. Sustaining a durable expansion domestically over the medium-term, in a post-pandemic world that is expected to be much more competitive, will require continued efforts to reduce the barriers to doing business. Through its policy instruments, the Bank will manage liquidity levels to facilitate funding conditions supportive of business lending and the emergent recovery. At the same time, the situation remains very dynamic and the Central Bank will be guided by the evolution of data and market intelligence in determining its monetary policy response.

1. THE INTERNATIONAL ECONOMIC CONTEXT

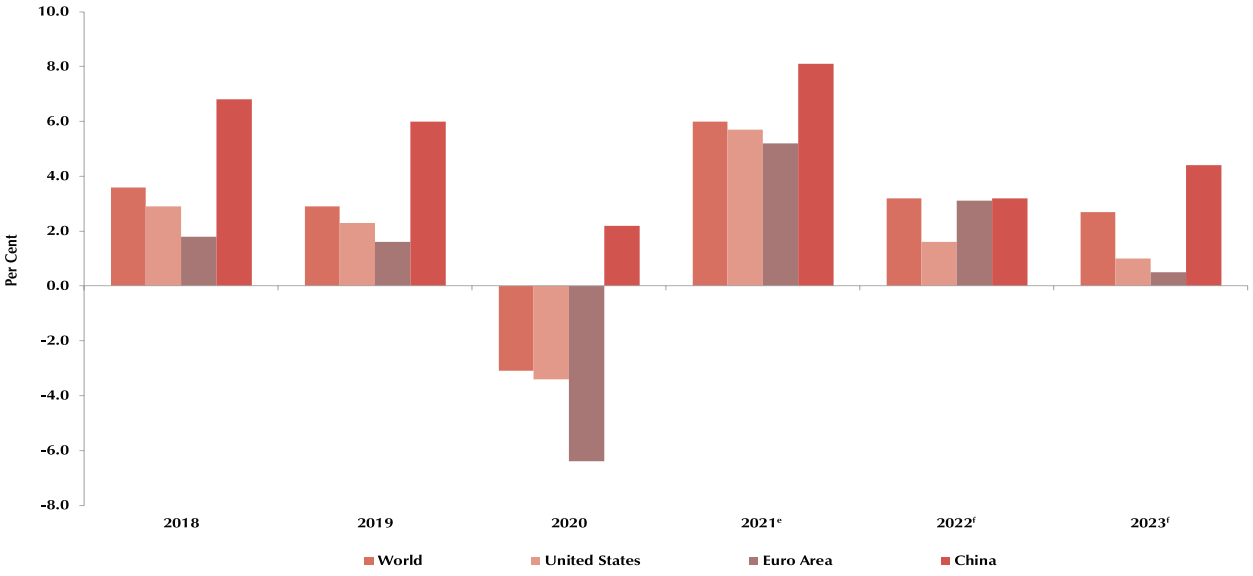
In response to persistently high inflation central banks in Advanced Economies (AEs) hastily withdrew from accommodative positions and entered aggressive tightening cycles through sizeable interest rate hikes and rapid reductions in net asset purchase programmes. Central banks in Emerging Market and Developing Economies (EMDEs) have also increased their monetary policy rates to control inflation as well as to safeguard against volatile capital outflows. These actions could conspire to undermine global growth prospects.

Recent Economic Developments and Outlook

The global spillover effects from the Russia-Ukraine conflict, a sharp slowdown in China's growth on account of episodic COVID-19 lockdowns, and tightening financial conditions continue to dampen global growth prospects. The International Monetary Fund (IMF), in its October 2022 World Economic Outlook (WEO), forecasts global growth to expand modestly by 3.2 per cent in 2022 (Chart 1.1), unchanged from its previous forecast in July. Notwithstanding, the 2022 growth forecast for AEs (2.4 per cent) was revised downward by 0.1 percentage points mainly reflecting slowdowns in the US and European economies. However, the growth forecast for EMDEs (3.7 per cent) was upwardly revised by a similar magnitude on account of better than expected economic outturns over the first half of the year.

CHART 1.1

Global Growth: Annual Real GDP Growth



Source: International Monetary Fund, World Economic Outlook, October 2022

e estimate
f forecast

Despite signs of easing, persistently strong inflationary pressures have caused inflation rates to approach multi-decade highs

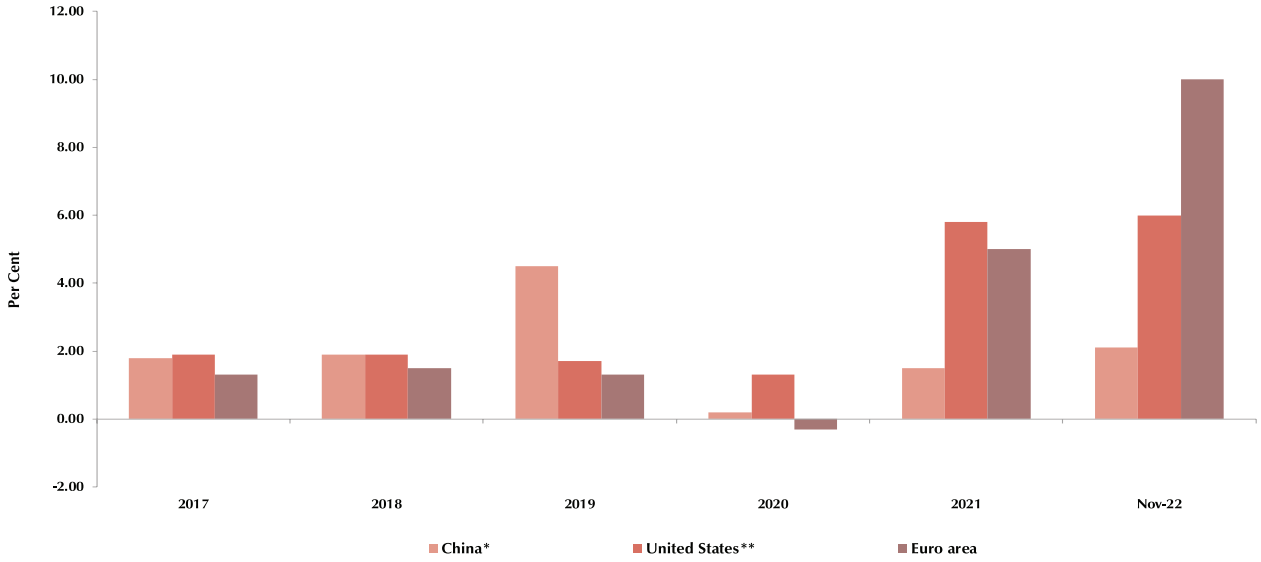
Notwithstanding some deceleration, multi-decade high inflation rates continue to threaten the global economy. Inflation in the US, as measured by the Personal Consumption Expenditure (PCE) price index, slowed to 6.0 per cent (year-on-year) in October 2022, still well above its 2.0 per cent target, reflecting continued supply chain issues and labour market imbalances coupled with elevated energy and food prices (Chart 1.2). Similarly, inflation in the UK accelerated to 11.1 per cent (year-on-year) in October 2022, mainly reflecting a rise in housing and household services, including gas and electricity. Euro area inflation reached 10.0 per cent (year-on-year) in November 2022, five times its target, as a result of elevated prices for energy and services. In the EMDEs inflation remains elevated and is expected to increase further in 2022 before some deceleration in 2023 according to the IMF's October 2022 WEO.

In the Latin American and Caribbean (LAC) region, mounting prices for food, fuel and other consumer products have led to an erosion of income and purchasing power especially among vulnerable households. Authorities have implemented a mixture of policy measures to address this phenomenon including price caps, fuel subsidies and social assistance programmes. Brazil's inflation rate eased to 6.5 per cent in October 2022, down from 7.2 per cent one month earlier. After reaching 13.7 per cent in September 2022, Chile's inflation rate slowed to 12.8 per cent in October. In the Caribbean, inflation remains elevated. More specifically, Jamaica's inflation rate reached 9.9 per cent (year-on-year) in October 2022. The inflation rate continued to trend above the upper bound of its 4.0 to 6.0 per cent target range. Similarly, inflation in Barbados decelerated to 8.3 per cent (year-on-year) in August 2022 from 11.2 per cent in July, as a result of the tapering off of international prices and price abatement measures from the Government in association with the private sector.

CHART 1.2

Selected Economies: Headline Inflation

(Year-on-Year Per Cent Change)



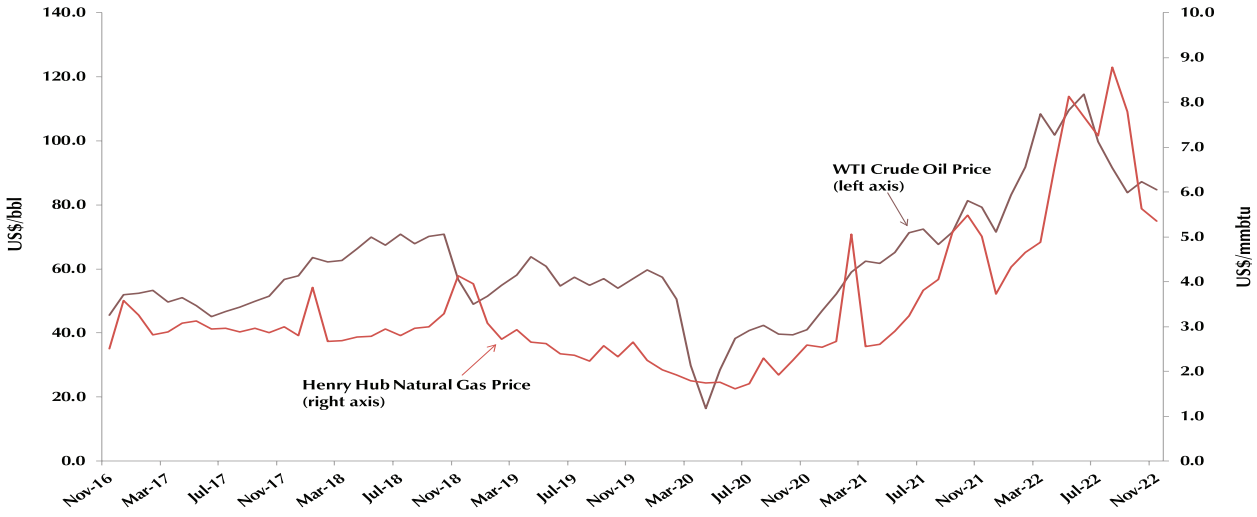
Source: Bloomberg
* As at October 2022.
** PCE price index as at October 2022.

The Russia-Ukraine conflict coupled with planned cuts to oil production by OPEC+ have kept oil prices firm

Crude oil prices remained elevated over the first eleven months of 2022 on the heels of increased demand, driven by the geopolitical tensions surrounding the Russia-Ukraine conflict coupled with the reopening of several economies. West Texas Intermediate (WTI) prices averaged US$96.06 per barrel over the period, representing a 42.0 per cent increase compared to the same period a year ago (Chart 1.3). Meanwhile, Brent crude prices increased 45.8 per cent to an average of US$102.58 per barrel. Spot crude prices surged significantly following the Russian invasion of Ukraine in the first quarter of 2022, reaching in excess of US$120.0 per barrel in the second quarter before gradually easing toward the end of the third quarter of 2022. In response to the increased prices, the International Energy Agency (IEA) agreed to release 60 million barrels of oil from their emergency stockpiles. Additionally, increased supplies came from the Organisation of Petroleum Exporting Countries and its allies (OPEC+), which in September 2022, achieved its highest production levels since April 2020. However, the group's production in September 2022 remained below pre-pandemic levels. Crude oil derivatives such as jet fuel (91.2 per cent), gas oil (81.8 per cent) and motor gasoline (51.4 per cent) also recorded substantial price increases over the first ten-months of the period. OPEC+ also agreed to extend its alliance for another year and cut production by 2 million

CHART 1.3

Natural Gas and Crude Oil Prices



Source: Bloomberg

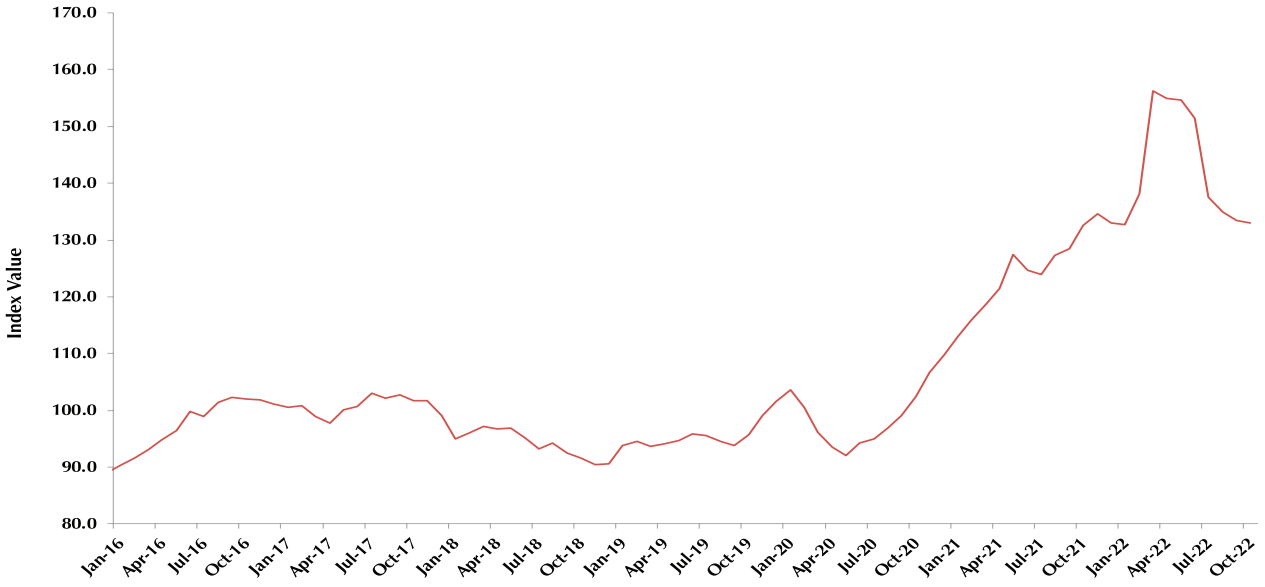
barrels per day effective November 2022, reaffirming the group's commitment to securing a bullish price environment.

Global food prices are generally up despite some slowing

Generally higher international food costs continue to fuel global inflation rates above multi-decade highs. Growth in the Food and Agriculture Organisation's (FAO's) Real Food Price Index (FPI) reached 0.3 per cent (year-on-year) in October 2022, nonetheless the index declined by 14.9 per cent from March, indicating that food costs are still generally high after peaking in March 2022 (Chart 1.4).

CHART 1.4

FAO Real Monthly Food Price Index



Source: Food and Agriculture Organisation
Note: 2014-2016=100

Global Financial Conditions

Central banks globally acted to combat elevated inflation resulting in tighter financial conditions

The US Federal Reserve (Fed) continued to adopt a restrictive monetary policy stance against a backdrop of tight labour market conditions and elevated inflation. The Fed increased its federal funds target range by 75 basis points to 3.75 to 4.00 per cent in November 2022 and anticipated further increases in the target range will be appropriate to return inflation to its target of 2.0 per cent. This marked the sixth rate hike for the year, bringing the cumulative increase to 375 basis points in 2022. The Fed also indicated that it would continue reducing its holdings of Treasury securities and agency mortgage-backed securities to further buttress monetary policy tightening.

With inflation well above target, the Bank of England (BoE) continued to tighten monetary policy. The BoE increased the Bank rate by 0.75 per cent to 3.00 per cent in November 2022. This represented the seventh rate hike for the year, bringing borrowing costs to the highest level since 2008. The decision to increase its key interest rate was attributable to the intensity of inflationary pressures, the likely negative impacts on medium-term inflation, and its outlook for growth. Following the appointment of Liz Truss as Prime Minister of the UK, the new administration loosened its fiscal policy stance, announcing expansionary measures such as tax cuts and investment incentives for businesses, in an effort to revive economic activity. The UK currency, the pound sterling, plummeted to a multi-decade low against the US dollar in late September 2022 as markets were triggered by investors' fears of higher inflation from increased Government

borrowing to finance tax cuts. The conflicting monetary and fiscal policy stance resulted in emergency intervention by the BoE with temporary[1] and targeted purchases of long-dated UK Government bonds, as much as necessary, to restore orderly financial market conditions. Consequently, the BoE postponed the commencement of its sale of Government bonds to the end of October 2022. Financial markets have rebounded following the reversal of unfunded tax cut measures, the resignation of Liz Truss, the appointment of Rishi Sunak as the new UK Prime Minister and Jeremy Hunt as Chancellor of the Exchequer.

Consistent with its two per cent price stability mandate, the European Central Bank (ECB) engaged in back-to-back monetary policy rate adjustments, marking the first consecutive rate increases since 2011. Following the initial rate hike of 50 basis points in July 2022, the ECB further increased the interest rate on its main refinancing operations by 75 basis points to 1.25 per cent in September 2022 and followed up with another increase of 75 basis points in October to 2.00 per cent. Furthermore, the ECB indicated that additional actions to normalise the rate would be appropriate in upcoming meetings.

In contrast to other major central banks, the Bank of Japan (BoJ) maintained its key short-term interest rate at -0.1 per cent in September and October 2022. Further, given the improving financial positions of businesses, the BoJ decided to phase out the pandemic-relief loan scheme while expanding liquidity operations targeting a broader range of corporate funding needs.

Although several EMDE central banks have increased monetary policy rates to rein in inflation, China and Russia reduced and maintained key interest rates to support domestic economic activity. Amid intermittent COVID-19 lockdowns, economic growth stagnation, rising unemployment and challenges in the property sector, the People's Bank of China (PBoC) lowered its benchmark interest rates in August 2022. The PBoC reduced its 1-year Loan Prime Rate (LPR) by 5 basis points to 3.65 per cent, and its 5-year LPR by 15 basis points to 4.30 per cent in August 2022. Following which, the LPRs were maintained for the third straight month in November 2022. Similarly, the Central Bank of Russia (CBR) lowered its benchmark interest rate by 50 basis points to 7.50 per cent in September 2022, its sixth consecutive rate cut amid subdued economic activity and a slowdown in consumer prices, and maintained the rate in October 2022.

Latin American central banks have also responded to spiralling inflation rates by tightening monetary policy. In particular, the Central Banks of Brazil, Mexico, Colombia, Chile and Peru all upwardly adjusted their benchmark interest rates during the third and

1 The BoE indicated that purchases of UK Government bonds are strictly limited (September 28 to October 14, 2022) and intended to tackle specific problems in the long-dated Government bond market. Notwithstanding, the BoE indicated its annual target an £80.0 billion (approximately US$90.3 billion) reduction in the stock of UK government bond purchases would remain unchanged.

fourth quarters of 2022. Against the backdrop of a pick-up in private consumption amid relaxed COVID-19 restrictions and above-target inflation rates, the Central Bank of Brazil continued to pursue tighter monetary policy, increasing its benchmark interest rate- the SELIC rate by 50 basis points to 13.75 per cent in August and kept its rate unchanged in September and October 2022[2]. Also in October, the Central Bank of Colombia upwardly adjusted its benchmark interest rate by 100 basis points to 11.0 per cent. The Central Banks of Mexico, Chile and Peru increased their benchmark interest rates in November and December 2022. Data suggests that the policy actions are having the desired effect on inflation which may lead to an easing of tightening cycles in the coming months.

Advanced economy equity markets continue to face downside risks stemming from inflationary challenges, hawkish monetary policy actions, supply shortages, and intensifying geo-political tensions

Following a strong rebound in 2021, AE equity markets experienced a continuous negative run for most of 2022 as central banks aggressively normalised monetary policy. Growing fears of a recession in many advanced economies have driven market sentiment to record low levels and, along with other factors, contributed to continued deterioration in AE equity market valuations over the six-months ended October 2022. The US S&P 500 fell by 6.3 per cent reflecting the challenging market. This resulted in the VIX[3] volatility index trending at elevated levels, averaging 26.9 over May to October 2022, which suggested high levels of investor uncertainty. Additionally, the European Euronext plummeted by 16.1 per cent, and despite the recent rebound in UK market conditions following the appointment of the new UK Prime Minister, the FTSE 100 declined by 6.0 per cent over the six-month period (Chart 1.5).

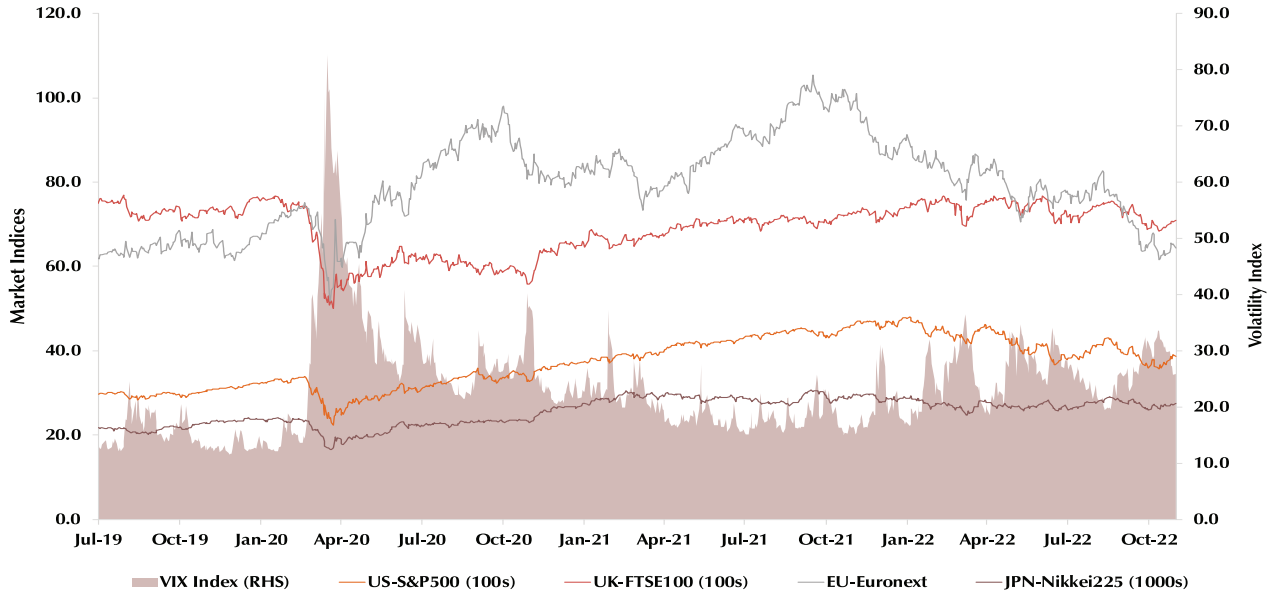
The increased volatility and bear market conditions continue to reflect investor sentiment that economic conditions in the AEs will likely slow. Following Russia's invasion of Ukraine and sustained lockdowns in China, supply chain challenges as well as elevated energy prices have accelerated global prices, weighing heavily on income levels. As a result, many monetary authorities have opted to forgo accommodative positions in favour of combating inflation. Furthermore, the aggressive tightening by the US Fed has had a ripple effect with other central banks hiking their respective policy rates. Consequently, rising interest rates have led investors to seek safer investments, such as Treasuries, away from the volatile equity markets. As sentiment trends downward amid clouded macroeconomic prospects, slowing economic growth and rising labour costs will likely continue to limit corporate profits, placing further downward pressures on AE equity markets.

2 The Central Bank of Brazil increased its benchmark interest rate (the SELIC rate) by a cumulative 450 basis points since the beginning of 2022.

3 The Chicago Board Options Exchange (CBOE) VIX Volatility Index is a benchmark index used to measure the markets 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 high volatility.

CHART 1.5

Advanced Economies Equity Market Indices



Source: Bloomberg

Mounting economic challenges in major economies further restrict growth

Economic activity in major economies remains constrained. The US grew by 1.9 per cent (year-on-year) in the third quarter of 2022, slightly higher than the 1.8 per cent in the previous quarter but lower than the 3.7 per cent in first quarter 2022. The deceleration in growth was characterised by slowdowns in private inventory investment, resident and non-resident investment, and Government spending. The UK economy grew by 2.4 per cent (year-on-year) over the three months to September 2022, lower than the 4.4 per cent in the second quarter of 2022, due to a slowdown in household spending. Growth in the Euro area eased to 2.3 per cent (year-on-year) in the third quarter of 2022, from 4.2 per cent in the previous quarter, due to the impact of high inflation on purchasing power and supply constraints. Real GDP growth in China slowed sharply to 0.4 per cent (year-on-year) in the second quarter of 2022, down from 4.8 per cent (year-on-year) in the previous quarter, representing the slowest pace of growth since the first quarter of 2020. Economic activity was constrained by tighter Government controls on the real estate industry and mobility restrictions (associated with the zero-COVID policy), which disrupted production and weakened private consumption. However, economic activity picked up during the third quarter with an expansion of 3.9 per cent (year-on-year) boosted by stimulus measures to revive the economy.

Economic performance in the Latin America and Caribbean region was mixed

Real GDP growth was mixed in the Latin America and Caribbean (LAC) region during the three months to September 2022. An improved economic performance was recorded in Mexico (4.3 per cent) while slower expansions were recorded in Peru (1.7 per cent), Chile (0.3 per cent) and Colombia (7.0 per cent). Economic growth in Brazil expanded by 3.6 per cent in the third quarter of 2022, slightly lower than its previous quarter's outturn of 3.7 per cent owing to a slowdown in private consumption. The IMF, in its October 2022 WEO, forecasted real GDP in the region to expand by 3.5 per cent in 2022 compared to 6.9 per cent in the previous year. This upward revision of 0.5 percentage points for 2022, compared to the July 2022 WEO Update, largely reflects a stronger than anticipated economic outturn over the first half of the year, stemming from favourable commodity prices and the resumption of activities in service sectors.

The economic outturn in the Caribbean was mixed. Jamaica's economic activity continued to record positive outturns in 2022. However, real GDP grew at a slower pace of 4.8 per cent (year-on-year) in the second quarter of 2022, compared to 6.4 per cent in the previous quarter. Economic activity in Barbados recorded its sixth consecutive expansion during the third quarter of 2022 (9.8 per cent, year-on-year) on account of growth in tourism activity and its contribution to the non-traded and manufacturing sectors. The Guyanese economy continued its growth momentum during the first half of 2022. Real oil GDP grew by 36.4 per cent (year-on-year) reflecting increased crude oil production. Meanwhile, the non-oil sector recorded moderate growth of 8.3 per cent reflecting the reopening of the economy and fiscal measures to ease the rising costs of production and services.

The global economic outlook is clouded by uncertainty and risks are tilted to the downside. The IMF, in its October 2022 WEO, forecasted growth of 3.2 per cent in 2022 before moderating to 2.7 per cent in 2023. The significantly lower global growth forecast, compared to the 6.0 per cent outturn recorded in 2021, reflects the anticipated slowdown in the world's three largest economies- the US, Euro area and China, in 2022 and 2023. Several downside risks threaten to undermine global growth prospects in the near-term such as the lingering effects of the pandemic and the intensification of geopolitical tensions between Russia and Ukraine, which can potentially drive commodity prices and generate a prolonged period of high inflation. This may prompt a further tightening of monetary policy by central banks in the AEs and EMDEs. More so, as central banks in AEs raise interest rates, this will lead to tighter global financial conditions, capital outflows, and could induce debt distress in EMDEs. In particular, the IMF, in its October 2022 WEO, forecasts a larger net outflow in EMDE portfolio investment of US$389.9 billion in 2022 compared to an outflow of US$114.6 billion in 2021. Notably, the IMF (2022)[4] indicated that 30 per cent of emerging market countries and 60 per cent of low-income nations are in or near debt stress. Additionally, renewed COVID-19 outbreaks and lockdowns, accompanied by a deterioration in the property sector, might further slow Chinese growth and have adverse spillover effects on trading partners.

4 IMF. 2022. IMF Managing Director Kristalina Georgieva Urges G20 Leadership to Address 'Exceptionally Uncertain' Global Outlook. Press Release NO. 22/261 https://www.imf.org/en/News/Articles/2022/07/16/pr22261-md-g20-statement.

2. DOMESTIC ECONOMIC ACTIVITY AND PRICES

A revitalisation of real economic activity on account of an expansion in energy and non-energy sector activity, has become apparent. Domestic inflation accelerated largely reflecting influences from the external environment and supply-side factors which had notable pass-through to the domestic price environment, particularly food prices. On the upside, elevated energy prices continue to support higher Government revenue and export earnings. However, tightening international monetary policy resulted in widening interest rate differentials.

Recent Economic Developments and Outlook

Strong growth in natural gas output drove the upward momentum in energy sector activity, while non-energy sector activity marginally improved

Domestic economic activity continued its positive trajectory during the third quarter of 2022. Preliminary Central Bank estimates suggest a boost in real economic activity premised on expansion in both the energy sector activity (6.9 per cent) and non-energy sector activity (1.3 per cent).

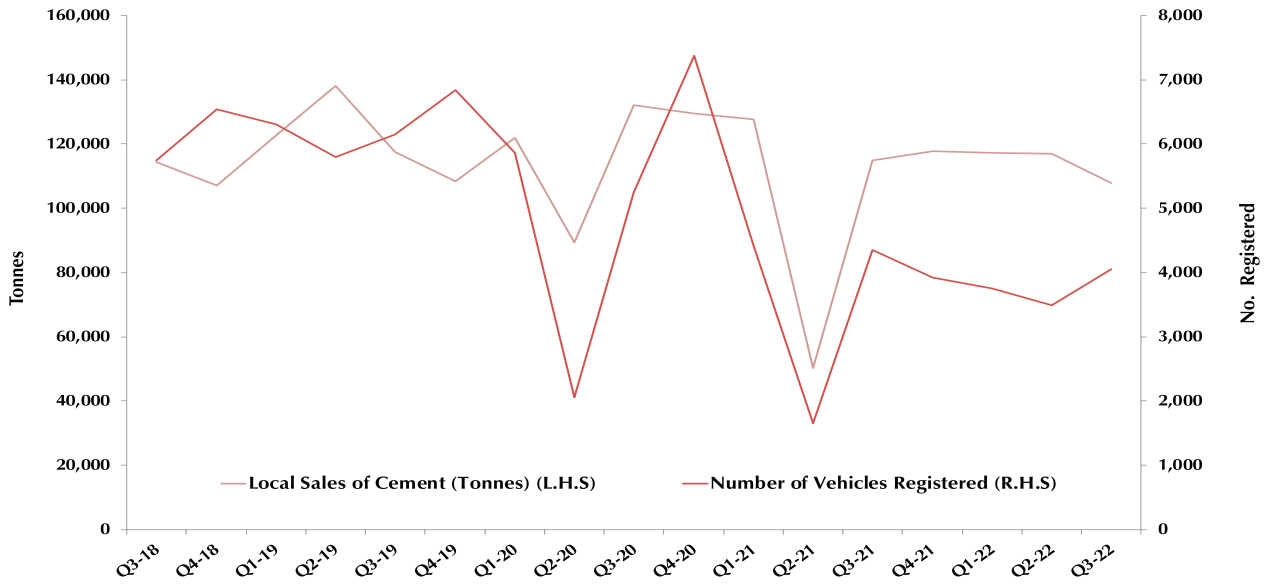
Preliminary indicators of energy sector activity for the third quarter showed vast improvement driven by strong growth in natural gas production. Natural gas output jumped by 20.0 per cent year-on-year on the heels of improved production from bpTT and Shell Trinidad and Tobago Limited (Shell). Notably, at the end of March 2022 Shell delivered first gas from its Colibri project following the start-up of its Barracuda project in July 2021. Similarly, bpTT announced initial production from its Matapal project in September 2021. The improved natural gas output outweighed the decline in crude oil production (4.3 per cent) and aided improved performance in the Mining and Quarrying sector (9.0 per cent). The uptick in natural gas production also filtered through to the midstream resulting in higher LNG production (64.0 per cent) over the third quarter and in turn facilitated strong growth in the Refining sub-sector (41.0 per cent). Meanwhile activity in the Petrochemical sector declined (8.6 per cent) as ammonia production fell by 9.2 per cent while methanol production improved marginally by 1.2 per cent when compared to the same period a year earlier.

Non-energy sector activity continued to display positive trends in the third quarter of 2022, but momentum slowed in a few sub-sectors. The reopening of international borders and the uptick in air travel continued to propel activity in the Transport and Storage sector which expanded by 34.9 per cent (year-on-year) during the quarter. Further, preliminary indicators also hinted at slower acceleration in the Wholesale and Retail Trade (Excluding Energy) and Manufacturing (excluding Refining and Petrochemicals) sectors. Meanwhile, the Construction and Financial and Insurance Activities sectors recorded declines during the third quarter by 6.1 per cent and 3.7 per cent respectively. Indicators such as local cement sales suggest that construction activity dipped following a strong rebound in the previous quarter stemming from a base effect due to pandemic-induced shutdowns in the second quarter of 2021 (Chart 2.1). Though not as pronounced, the removal of COVID-19 restrictions also contributed to double-digit expansion rates in the Agriculture sector.

Notable increases occurred in the production of perennial and non-perennial crops such as tomato, cabbage, cucumber and pumpkin. Meanwhile, activity in the Real Estate and Electricity and Water (Excluding Gas) sectors heightened by 2.2 per cent and 0.5 per cent, respectively.

CHART 2.1

Non-Energy Indicators (Cement Sales, Vehicle Registrations)



Source: Central Bank of Trinidad and Tobago

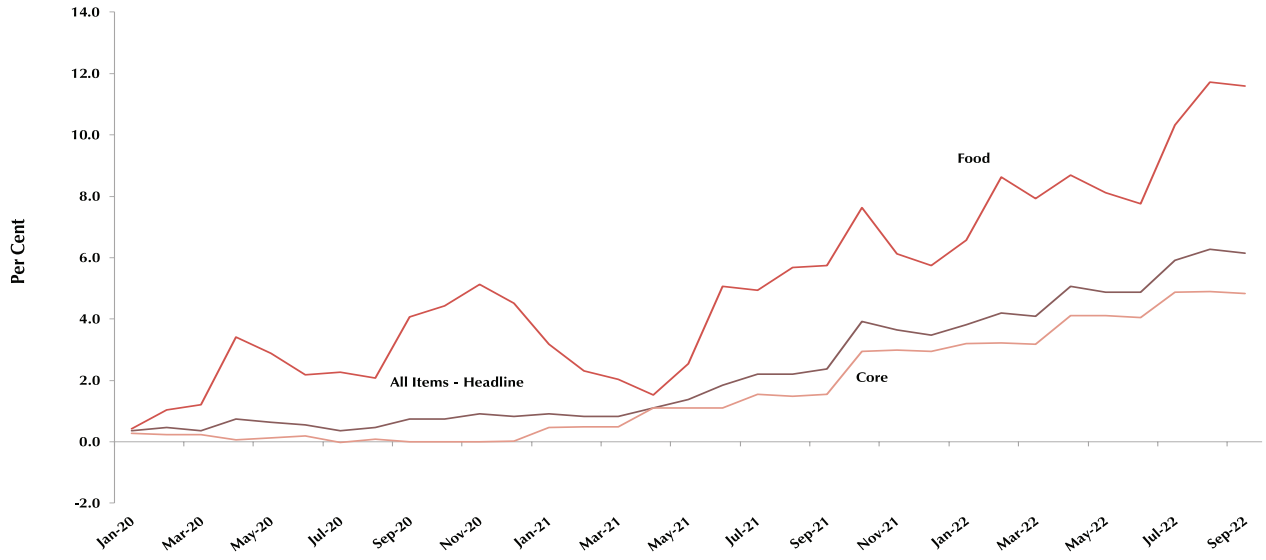
Adverse supply-side shocks continue to drive domestic price levels

Headline inflation gained momentum over March to September 2022. The pass-through of supply-side factors (such as elevated international food prices, high shipping costs and logistical delays) to domestic food prices continued. Data from the Central Statistical Office (CSO) showed that headline inflation accelerated over the period, moving from 4.1 per cent (year-on-year) in March 2022 to 6.3 per cent in August before settling at 6.2 per cent in September 2022. Core inflation, which omits the volatile food component, increased over the period moving from 3.2 per cent in March 2022 to 4.8 per cent in September 2022. Meanwhile, food inflation maintained its upward trajectory over the period, moving from 7.9 per cent in March 2022 to 11.6 per cent in September 2022 (Chart 2.2).

CHART 2.2

Retail Price Index

(Year-on-Year Per Cent Change)



Source: Central Statistical Office

Core inflation increased over the seven-month period, averaging 4.3 per cent. Faster price increases were recorded in the home furnishings, transport, and the hotels and restaurants sub-indices. The home furnishings[5] sub-index increased to 7.7 per cent in September 2022, up from 3.4 per cent in March 2022. This increase was mainly driven by general increases in the price of furniture, appliances, cleaning products and other household items. Meanwhile, higher food and drink costs facilitated faster price increases in the hotels, cafes and restaurants sub-index (5.9 per cent in September 2022 compared to 2.2 per cent in March 2022) while increasing maxi taxi and taxi fares facilitated the sharp uptick in the transport sub-index (8.6 per cent in September 2022 compared to 2.2 per cent in March 2022). Acceleration in these sub-indices was tempered by a deceleration in the housing[6] sub-index (5.8 per cent in September 2022 compared to 6.7 per cent in March 2022), which saw a moderation of price increases for home-ownership (imputed rent). The communication sub-index also decelerated over the period (1.7 per cent in September 2022 compared to 3.1 per cent in March 2022) on account of slower price increases in telephone and internet services.

Domestic food inflation averaged 9.5 per cent over the period, increasing from 7.9 per cent in March 2022 to 11.6 per cent in September 2022. Higher prices continue to largely reflect influences from the external environment. Price increases in September

5 Home furnishings, household equipment and routine maintenance of the house.
6 Housing, water, electricity, gas and other fuels.

2022 were broad-based, affecting most sub-indices including the bread and cereals (17.1 per cent); meat (13.4 per cent); fish (8.0 per cent); milk, cheese and eggs (6.1 per cent); butter, margarine and edible oils (12.7 per cent); vegetables (13.8 per cent); food products not elsewhere classified (12.3 per cent); and non-alcoholic beverages (5.8 per cent) sub-indices. Conversely, slower price increases were recorded for the fruits (9.2 per cent) and sugar, jam and other confectionery (3.7 per cent) sub-indices.

Producer prices gained momentum in the third quarter of 2022. As measured by the CSO's Producer Price Index (PPI), the increase in producer prices measured 1.3 per cent (year-on-year) in the third quarter of 2022, compared to 0.2 per cent in the final quarter of 2021. Nonetheless, the pick-up in producer prices did not appear to have significant pass-through to retail prices. The upward movement in the PPI was due to faster price increases in the food processing sub-index which accelerated by 7.6 per cent in the third quarter of 2022. This compares to relatively muted price growth in the last quarter of 2021 (0.2 per cent). The uptick in food processing prices reflected a 45.3 per cent and a 7.4 per cent increase for flour and animal feed mills. Meanwhile prices in the drink and tobacco sub-index declined (1.7 per cent) on account of a 5.5 per cent reduction in tobacco prices. Slower price increases were noted in the printing, publishing and paper converters (0.5 per cent) and assembly type and related industries (1.0 per cent) sub-indices (compared to 1.5 per cent and 1.1 per cent in the final quarter of 2021). Further the chemical and non-metallic products sub-index incurred a nominal increase of 0.2 per cent during the third quarter of 2022 (compared to a decrease of 2.6 per cent in the final quarter of 2021), while activity in the wood products sub-index stagnated.

The Index of Retail Prices of Building Materials slowed to 8.4 per cent (year-on-year) during the second quarter of 2022, compared to 13.2 per cent (year-on-year) during the previous quarter. Slower price increases were noted in almost all sub-indices compared to the previous quarter, notably site preparation, structure and concrete frame (9.6 per cent), walls and roof (6.2 per cent), plumbing and plumbing fixtures (9.9 per cent), windows, doors and balustrading (4.8 per cent), and finishing, joinery units, painting and external works (5.2 per cent) sub-indices.

Export earnings growth driven by elevated energy prices remained strong, but the reopening of the domestic economy led to increased imports

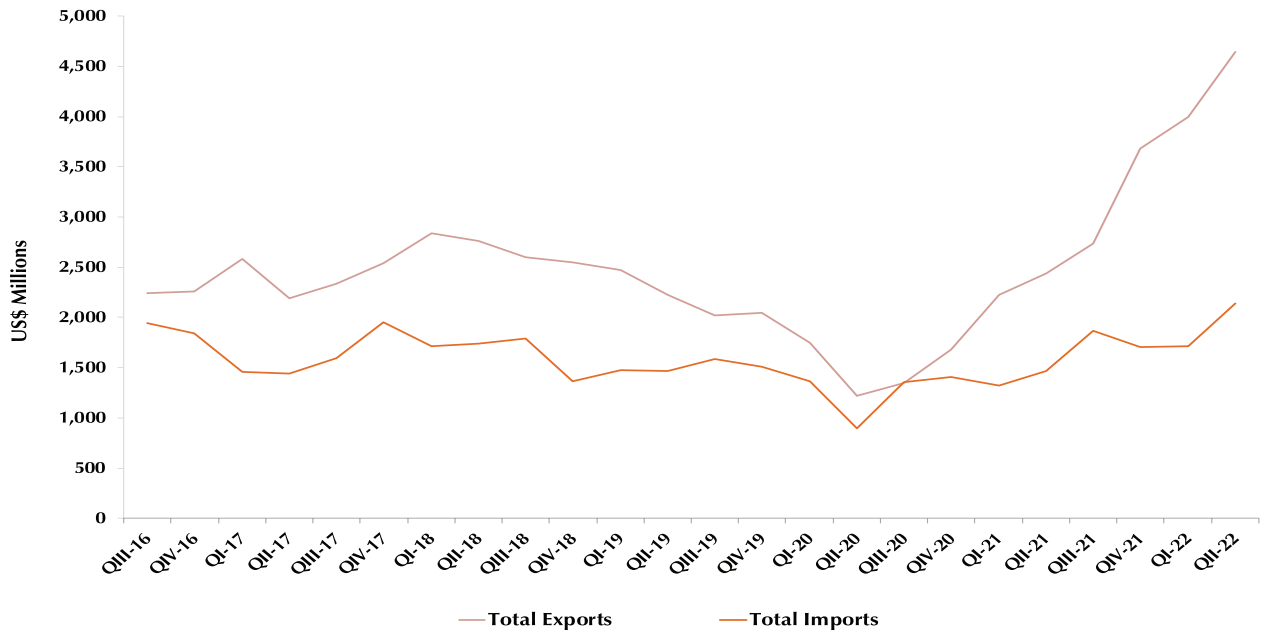
Solid growth in energy export earnings was bolstered by buoyant energy commodity prices (Chart 2.3). Estimated exports rose by 85.3 per cent (year-on-year) to $8,643.2 million in the first half of 2022, largely strengthened by an uptick in energy exports. Fuelled by high commodity prices, energy export earnings more than tripled compared to the corresponding period of the previous year. More specifically, energy sector exports increased by 289.0 per cent to reach US$7,446.2 million as crude oil prices remained elevated in the first half of 2022 compared to 2021. Increases were recorded in all commodity sub-categories: gas (117.0

per cent), petrochemicals (96.5 per cent) and petroleum, crude and refined products (66.4 per cent). In comparison to the similar period of 2021, non-energy exports rose by 12.4 per cent to US$1,197.0 million reflective of an increase in inedible crude material, beverages and tobacco, and machinery and transport equipment.

Total imports expanded by 38.0 per cent to US$3,855.4 million, partly explained by increased domestic demand on account of higher mobility within the country compared to the first half of 2021 (Chart 2.3). Non-energy imports spurred this improved performance reflecting a pick-up in the value of capital goods, food, and manufactured goods. Higher international prices also impacted purchases of fuel products which soared by 119.9 per cent to US$1,049.5 million over the six-month period.

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 widening TT-US interest rate differential may be influencing investor behaviour

Portfolio investment registered a net outflow of US$141.5 million over the first three months of 2022, primarily owing to increased holdings of foreign assets. More specifically, the outturn in the portfolio investment category reflected a rise in long-term debt securities held abroad, mainly by domestic financial institutions, possibly due to higher international interest rates. There was also an increase in the holdings of foreign equity securities by non-financial institutions over the reference period.

3. DOMESTIC FINANCIAL CONDITIONS

Monetary policy thus far in 2022 has centred on supporting the domestic recovery while managing externally generated inflation risks. Several supply-side factors, such as strong international food prices, high shipment costs, and international transport delays, had notable pass-through to the domestic price environment, particularly food prices resulting in relatively elevated domestic inflation. As non-energy sector performance marginally improved, credit conditions were generally buoyant by third quarter 2022, while system liquidity remained ample. However, in light of the aggressive policy tightening by the Fed, short-term TT-US interest rate differentials have widened substantially, while long-term differentials continue to narrow. At its meetings in June and September 2022, the Monetary Policy Committee (MPC) maintained the Repo rate at the level adopted in March 2020.

Liquidity conditions and Interest Rates

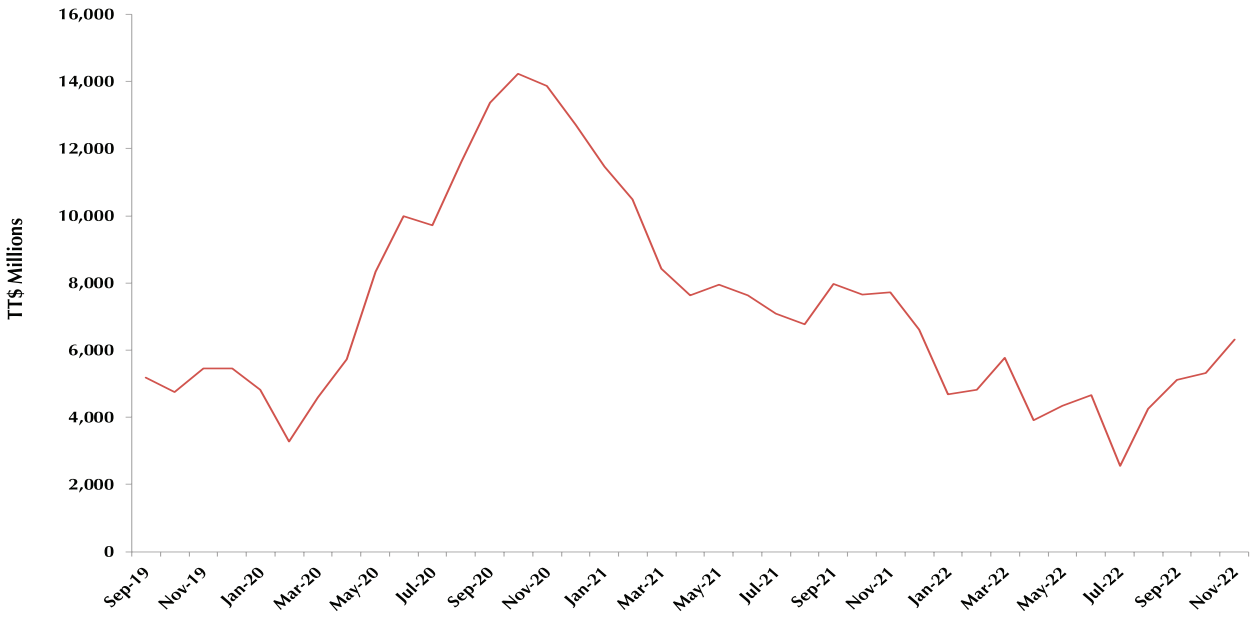
Financial system liquidity generally remained supportive

Liquidity levels in the financial system increased from May to November 2022. Fiscal operations, usually the main driver of excess liquidity, resulted in net injections of $7,753.4 million over May to November 2022 compared to injections of $4,380.8 million in the same period one year earlier. Open Market Operations (OMOs) resulted in net redemptions of $1,514.5 million over May to November 2022. OMOs remained neutral over the same period one year earlier. Also, the Bank's foreign exchange sales to authorised dealers indirectly removed $5,011.9 million from the system, compared to $4,677.8 million a year prior. Thus, daily average excess liquidity increased to $6,326.7 million by November 2022, compared to $4,334.1 million in May (Chart 3.1).

Daily interbank borrowing averaged $28.4 million over May to November 2022. Activity was clustered between June and July 2022 when liquidity levels were lower than the average for the period. There was no interbank activity over the same period a year prior. Commercial banks did not access the Repurchase Facility over May to November 2022. Similarly, there was no repo activity in the same period a year prior.

CHART 3.1

Commercial Banks' - Excess Reserves



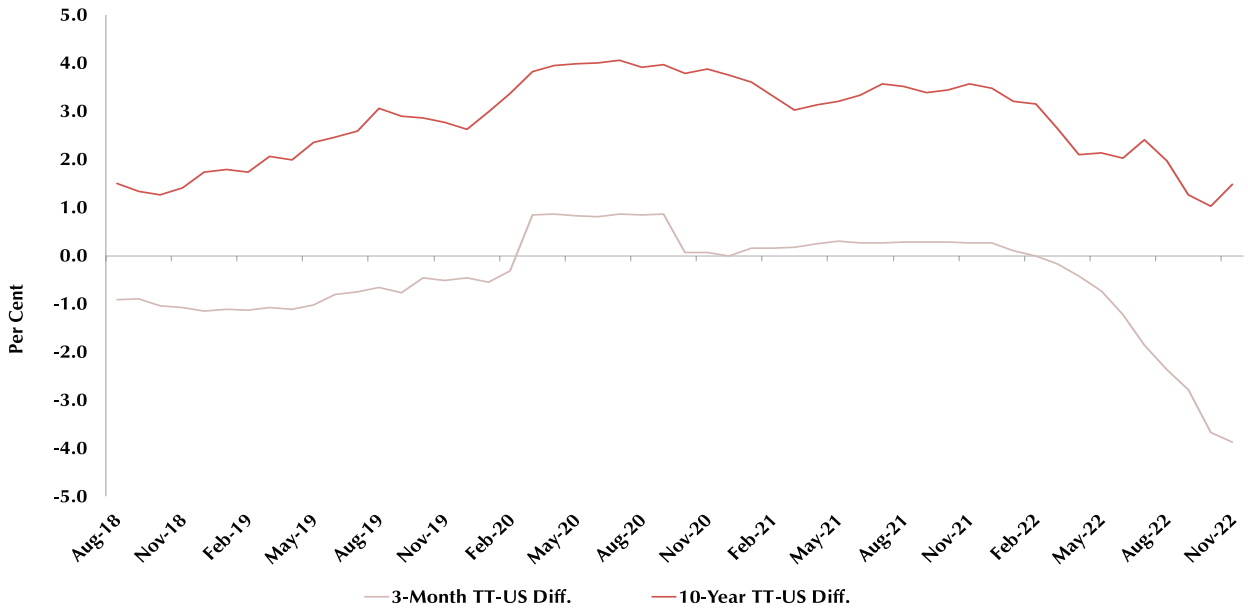
Source: Central Bank of Trinidad and Tobago

Short-term interest rates edged upward in 2022. The TT 91-day Open Market Operations (OMO) Treasury Bill rate increased by 7 basis points over May to November 2022 to reach 0.50 per cent. Despite higher liquidity levels nearer to the end of the reference period, the increase in short-term rates over the period was largely due to a decline in liquidity over March to July 2022. As liquidity increased, rates on the shortest tenors of the term structure edged downward slightly in November, despite increasing overall during the period. However, continued policy tightening in the US resulted in higher yields on US short-term instruments. The US 91-day short-term benchmark yield increased by 352 basis points over May to November 2022 to reach 4.37 per cent. As a result, the TT-US 91-day differential widened, reaching -387 basis points in November 2022 compared with -73 basis points in May (Chart 3.2). The TT 1-year Treasury rate increased by 34 basis points over the reference period, settling at 1.05 per cent in November 2022. The US 1-year Treasury rate rose by 264 basis points over May to November 2022 to reach 4.74 per cent. The movements resulted in a TT-US 1-year differential of -369 basis points in November 2022, from -116 basis points in May.

The US 10-year Treasury rate trended upward over May to November 2022, gaining 79 basis points over the period to reach 3.68 per cent. This movement in the rate mainly reflected inflationary conditions and tightening policy though flight to safety effects lowered long run US yields later in the period. The TT 10-year Treasury rate increased by 18 basis points over the period to reach 5.16 per cent, resulting in a narrowing of the 10-year yield differential by 66 basis points to 148 basis points over the period.

CHART 3.2

3-Month and 10-Year TT-US Differentials

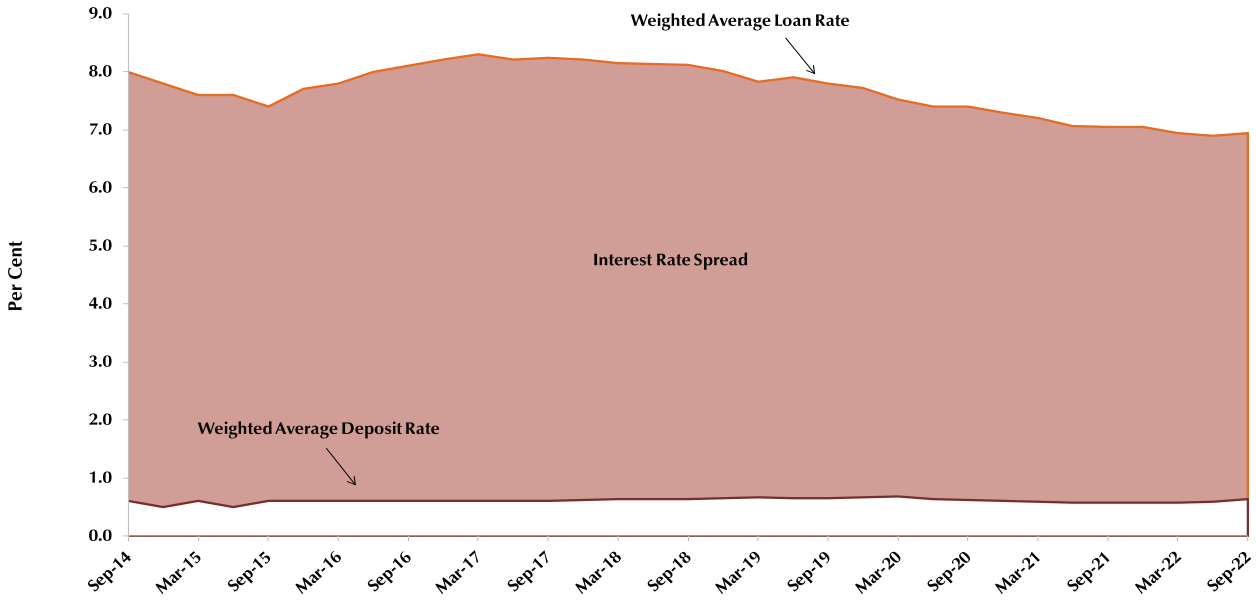


Source: Central Bank of Trinidad and Tobago and the US Department of Treasury

Commercial banks' interest rates marginally inched up, while associated banking spreads declined in September 2022. The commercial banks' weighted average lending rate (WALR) reached 6.94 per cent in September 2022, 1 basis point higher than in March 2022 (Chart 3.3). The increase in the WALR reflected buoyant private sector credit conditions, even as liquidity remains ample. The weighted average deposit rate increased by 5 basis point to reach 0.63 per cent over the same period. As a result, the rounded banking interest rate spread decreased by 4 basis points over March to September 2022 to reach 6.31 per cent. With respect to other measures of profitability, return on assets for commercial banks remained at 2.2 per cent between March and September 2022. Return on equity decreased from 17.2 per cent to 16.7 per cent over the period, whereas interest margins to gross income increased from 63.9 per cent to 64.4 per cent. Over March to September 2022, non-interest income to gross income of commercial banks decreased from 36.1 per cent to 35.6 per cent. The significant banking spread and reasonably performing profitability measures continues to suggest that banks are incentivised to maintain the flow of credit to the economy. The commercial banks' median prime lending rate declined from 9.25 per cent in February 2020 to 7.50 per cent in March 2020 after policy measures to address COVID-19 were implemented and has since remained at this level. Thus far, over the reference period, the interbank borrowing rate remained unchanged at 0.50 per cent.

CHART 3.3

Commercial Banks' Interest Rates



Source: Central Bank of Trinidad and Tobago

Private Sector Credit

The momentum in credit growth continued over the period

Following the severe phase of COVID-19 lockdowns, lending has been progressively increasing as the economy returns to normal. On a year-on-year basis consolidated system credit expanded by 7.1 per cent in September 2022 compared to 0.9 per cent one year prior. Consolidated system credit was driven by substantial growth in business lending and a turnaround in consumer lending notwithstanding the slow increase in real estate mortgage lending (Chart 3.4).

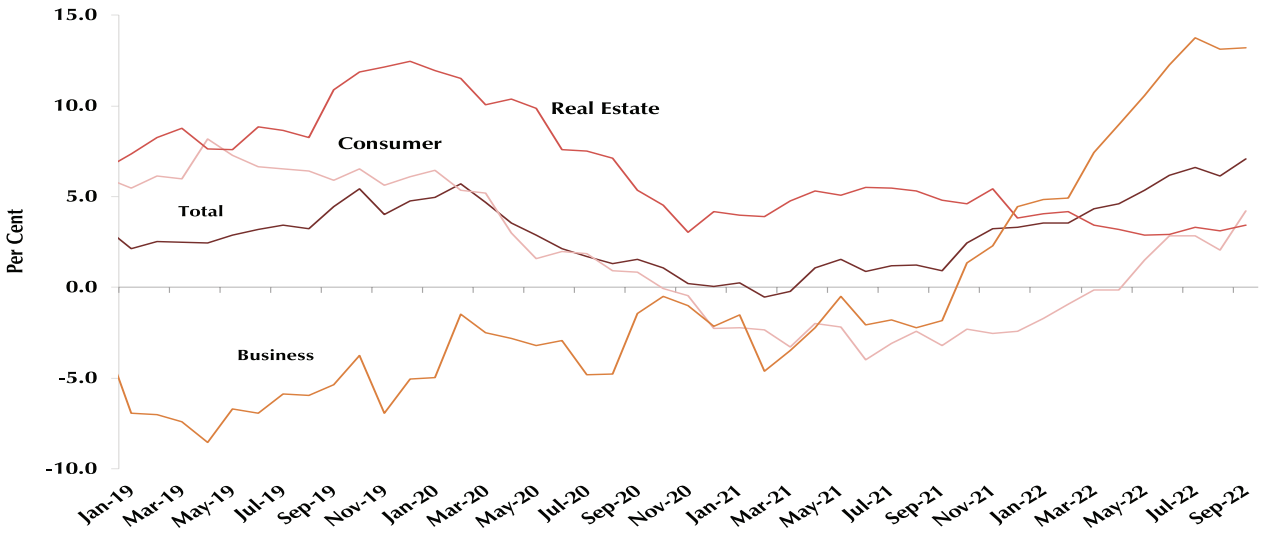
The reopening of the economy in late 2021 and resumption of regular activities set the stage for the expansion in business lending. On a year-on-year basis, lending to firms grew considerably, 13.2 per cent in September 2022 compared to a 1.8 per cent fall in September 2021. Expansions occurred in all sectors, with most recording double-digit growth. Notable jumps were witnessed in the Agriculture and the Finance, Insurance and Real Estate sectors, which grew by 40.7 per cent and 8.4 per cent (year-on-year) in September 2022, respectively. Following these were the Construction, Distribution and Other Services sectors which recorded year-on-year growth of 13.2 per cent, 10.7 per cent and 11.6 per

7 Includes Personal Services, Transport Services, Storage and Communication Services, Hotels and Guesthouse Services.

cent, respectively. In September 2022, loans to the Manufacturing sector grew by 7.8 per cent (year-on-year) higher than the 2.9 per cent in June 2022 and a rebound from the decline of 2.6 per cent in June 2021. Lending to the Food Drink and Tobacco sub-sector buttressed lending to the Manufacturing sector.

CHART 3.4

Private Sector Credit



Source: Central Bank of Trinidad and Tobago

After nineteen months of decline consumer lending rebounded in May 2022. Consumer loans recorded 4.2 per cent growth (year-on-year) in September 2022, up from a 3.2 per cent contraction in September 2021. Commercial banks drove the recovery, with non-bank consumer lending remaining in negative territory. Lending for the purpose of Bridging Finance, Refinancing, Home Improvement/Renovation, Land and Real Estate purchase and Credit Cards increased by 22.1 per cent, 9.7 per cent, 9.4 per cent, 4.5 per cent and 7.5 per cent, respectively, in September 2022. Following five quarters of decline lending for debt consolidation rebounded in September 2022 expanding by 2.7 per cent year-on-year. Nonetheless, declines in other categories persisted. In particular, the downtrend in Motor Vehicle loans, a major line of consumer credit, continued (5.1 per cent year-on-year decline in September 2022). Additionally, lending for Purchase of Financial Assets, Travel and Insurance purchases all declined.

The growth in real estate mortgage lending was tempered by weak non-bank lending. Although commercial bank real estate mortgage lending improved, overall real estate mortgage lending was subdued, expanding by 3.4 per cent in September 2022 compared to 4.8 per cent one year earlier. Loan rates for real estate mortgages were mixed, rates for outstanding real estate mortgage loans fell, but rates for new loans crept up slightly. For new, existing houses and

land purchases, lending picked up, growing by 2.5 per cent, 8.4 per cent and 2.4 per cent in September 2022, respectively, compared to increases of 3.1 per cent and 6.1 per cent, coupled with a 3.4 per cent decline one year prior. The decline in renovation loans lessened but remained in negative territory in September 2022 (0.8 per cent compared to 6.9 per cent in September 2021).

Foreign currency credit[8] maintained positive growth over the last eleven months. Compared to a decline of 12.8 per cent in September 2021, foreign currency credit expanded by 24.5 per cent in September 2022. Commercial bank and non-bank foreign currency credit expanded (24.4 per cent and 27.2 per cent year-on-year, respectively) in September 2022. The non-bank sector recovery has not been as steady as commercial banks' lending, with the sub-sector only recovering in the last four months (June 2022 to September 2022). Regarding foreign currency business loans, year-on-year growth was 22.2 per cent in September 2022 compared to a 16.5 per cent fall in one year earlier. Foreign currency deposits contracted in August and September 2022 (4.2 per cent and 5.5 per cent, respectively), following 17 months of growth prior. A falloff in business deposits contributed to the overall decline, despite consumer sector deposits growing by 1.5 per cent. The accumulation of foreign currency by firms during the pandemic and subsequent usage to fund business activity as conditions improved, appeared responsible for the decline in business foreign currency deposits.

The contraction in the monetary aggregates dissipated. M1-A, which comprises currency in active circulation plus demand deposits, continued to recover, growing steadily at 5.1 per cent in September 2022. Demand deposits expanded by 5.6 per cent in September 2022, up from a decline of 0.2 per cent one year earlier. Despite the persistent contractions in time deposits, M2 was positive, growing by 2.2 per cent in September 2022, just above the growth recorded in September 2021 (1.4 per cent), as savings deposits continued to expand in September 2022 (1.5 per cent).

Foreign Exchange Market Developments

Foreign exchange market conditions have improved but remains tight

The local market for foreign currency has benefitted from increased energy sector receipts in 2022. Purchases of foreign exchange by authorised dealers from the public amounted to US$4,749.4 million over January to November 2022, an increase of 39.1 per cent relative to the same period a year earlier. Increased purchases followed a 45.3 per cent increase in conversions by energy companies relative to the same period in 2021. For the months of January to November 2022, purchases from the energy sector accounted for 78.0 per cent of total foreign currency purchases over US$20,000 in value.

8 Includes loans and investments to resident individuals and businesses.

Sales of foreign exchange by authorised dealers to the public reached US$5,973.5 million over January to November 2022, an increase of 34.2 per cent relative to the same period a year prior. Based on reported data for transactions over US$20,000, credit cards (31.5 per cent), retail and distribution (21.4 per cent), energy companies (18.4 per cent) and manufacturing firms (7.4 per cent) made up the bulk of foreign exchange sales by authorised dealers to the public. The net sales gap reached US$1,224.1 million during the period. To support the market, the Central Bank sold US$1,150.0 million to authorised dealers (Table 1).

TABLE 1

Authorised Dealers' Purchases and Sales of Foreign Currency

(US$ Millions)

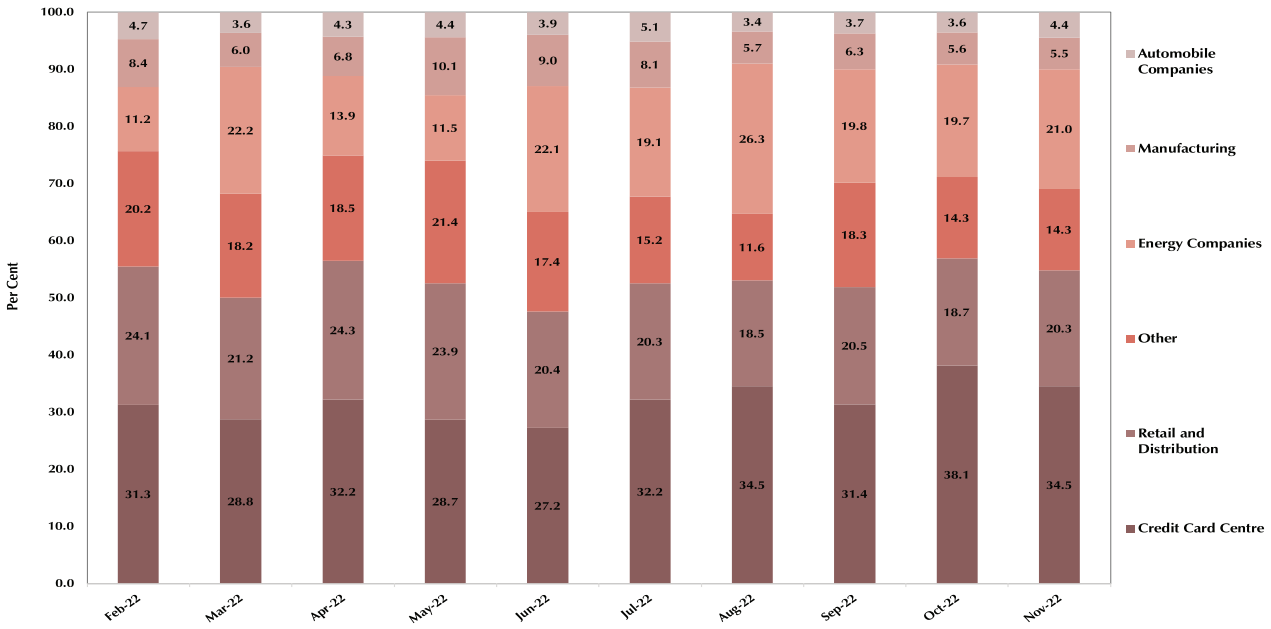
Date	Authorised Dealers Purchases from Public	Authorised Dealers Sales to Public	Authorised Dealers Net sales	Authorised Dealers Purchases from CBTT[1]
2016	4,274.7	5,776.8	1,502.1	1,811.6
2017	3,606.9	5,195.3	1,588.4	1,816.0
2018	4,101.4	5,677.4	1,576.0	1,501.0
2019	4,285.6	5,939.8	1,654.2	1,504.0
2020	3,298.2	4,504.1	1,206.0	1,292.2
2021	4,148.9	4,969.4	820.5	1,212.1
Jan - Nov 2021	3,414.4	4,452.8	1,038.4	1,112.1
Jan - Nov 2022	4,749.4	5,973.5	1,224.1	1,150.0
Y-o-Y Per cent Change	**39.1**	**34.2**	**17.9**	**3.4**

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.

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

Activity on the primary government bond market was notably lower over April to September 2022, however, activity on the secondary government bond market was substantially higher over April to November 2022

Provisional data suggests that during the six-month period ending September 2022, the primary debt market recorded one private placement by the Central Government, valued at $1,500.0 million (Table 2). In comparison, over the same period one year prior, the market recorded nine private placements raising $7,626.4 million, of which the Central Government accounted for six issues at a total face value of $6,725.0 million, while three state enterprises raised $901.4 million.

TABLE 2
Primary Debt Security Activity
(April 2022 to September 2022)[p]

Period Issued	Borrower	Face Value (TT$ M)	Period to Maturity	Coupon Rate Per Annum	Placement Type
	Central Government of Trinidad and Tobago				
	Tranche 1	400.0	5.0 years	Fixed Rate 4.29%	Private
Sep-22	Tranche 2	500.0	15.0 years	Fixed Rate 5.95%	Private
	Tranche 3	600.0	21.0 years	Fixed Rate 6.75%	Private

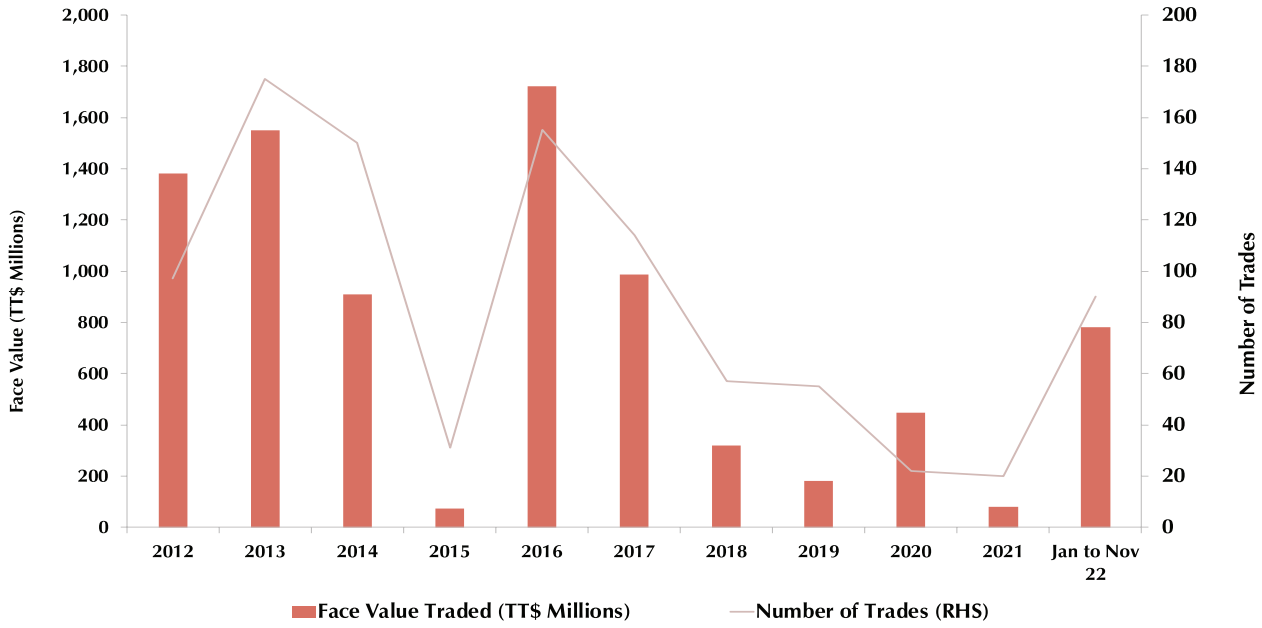
Source: Ministry of Finance and Market Participants
p Provisional.

Activity on the Trinidad and Tobago Stock Exchange (TTSE) secondary Government bond market expanded notably over the period April to November 2022. Over the period, the market recorded 90 trades at a face value of $782.2 million, compared to eight trades at a face value of $5.4 million in the same period in 2021 (Chart 3.6). Notably, the activity recorded in 2022 all occurred during July to November 2022, following zero trading activity during the first half of the year. The jump in activity is likely due to a rebalancing of portfolios in light of inflationary expectations. Conversely, activity on the TTSE secondary corporate bond market[9] declined over the eight-month period ending November 2022, recording 118 trades at a face value of $13.2 million, compared to 158 trades at a face value of $36.0 million over the comparable period one year prior.

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

CHART 3.6

Secondary Government Bond Market Activity



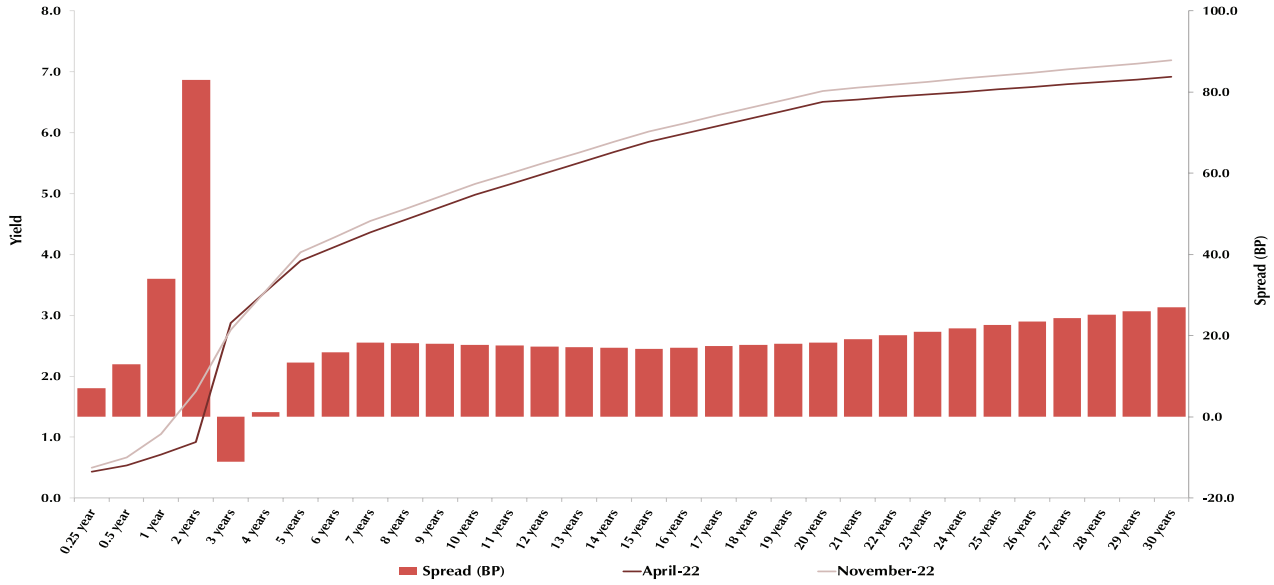
Source: Trinidad and Tobago Stock Exchange (TTSE)

Despite an uptick in excess liquidity conditions in August to November 2022, the general decline over March to July 2022 resulted in most short to medium-term rates increasing on the Central Government yield curve (Chart 3.7). Over April 2022 to November 2022, the 3-month and 1-year rates increased by 7 basis points to 0.50 per cent, and 34 basis points to 1.05 per cent respectively, while the 5-year rate gained 13 basis points to 4.03 per cent. Similarly, and reflective of inflationary expectations, the longer-term 10-year rate increased by 18 basis points to 5.16 per cent, while the 15-year rate increased by 17 basis points to 6.02 per cent.

CHART 3.7

Trinidad and Tobago Central Government Treasury Yield Curve

April 2022 to November 2022



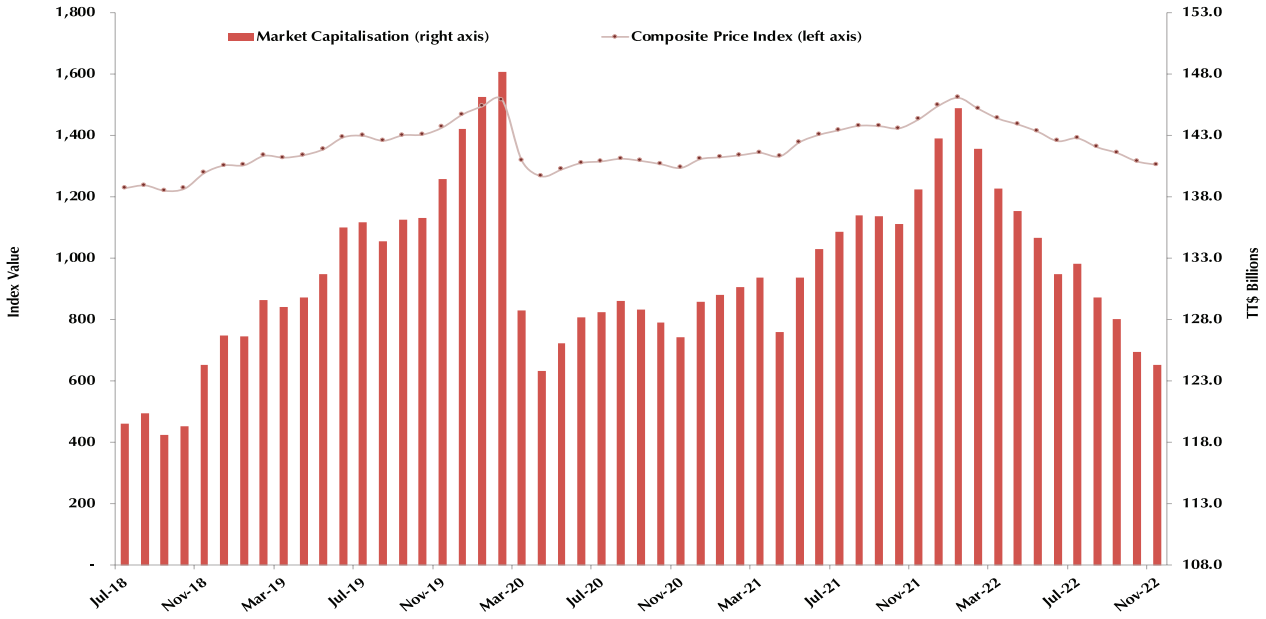
Source: Central Bank of Trinidad and Tobago

Over May to November 2022, the domestic stock market recorded a deteriorating performance, driven primarily by regionally listed stocks, and to a smaller extent by locally domiciled stocks

Over the seven-month period ending November 2022, the Composite Price Index (CPI) declined by 9.2 per cent, resulting in total stock market capitalisation ending the period at $124.3 billion (Chart 3.8). The market decline was driven primarily by a 20.5 per cent weakening in the Cross Listed Index (CLI), and a 5.3 per cent fall in the All Trinidad and Tobago Index (ATI). The decline in market performance was likely due to elevated inflationary pressures, ongoing supply-chain issues, higher energy costs, and the potential increase in the cost of funds from monetary policy tightening in most of the advanced and emerging economies. Reflective of the performance of the CLI, the Jamaican Stock Exchange (JSE) index recorded a 15.7 per cent fall, however, the Barbados Stock Exchange (BSE) index gained 5.2 per cent over the same period.

CHART 3.8

Movements in the Composite Price Index and Stock Market Capitalisation



Source: Trinidad and Tobago Stock Exchange (TTSE)

Challenges in the domestic and international capital markets resulted in the domestic mutual funds industry slipping over the first nine-months of 2022

Aggregate funds under management[10] slipped by 3.6 per cent to $51,350.8 million[11], driven by declines in most fund types (Chart 3.9). Income funds, the largest component, declined by 6.0 per cent to $28,105.9 million; Equity funds deteriorated by 8.0 per cent to $8,440.8 million; and funds classified as 'Other'[12] registered a 5.2 per cent fall to $453.9 million. However, Money Market funds recorded a notable 4.8 per cent improvement to $14,350.2 million as investors sought the safety of principal protection and short-term liquidity. Overall, the market was negatively impacted by volatile equity markets, both local and foreign, and increasing interest rates in advanced economies which negatively impacted fixed income valuations. In comparison, during the same period one year earlier, aggregate funds under management gained 4.6 per cent, supported by expansions in all fund types.

The differences in fund performance were confirmed by changes in Net Asset Value (NAV) performance, as the relatively insulated fixed NAV funds observed a 0.5

10 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.

11 As at the end of September 2022, this value accounted for 84.3 per cent of the total industry assets under management as given by the TTSEC CIS data.

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

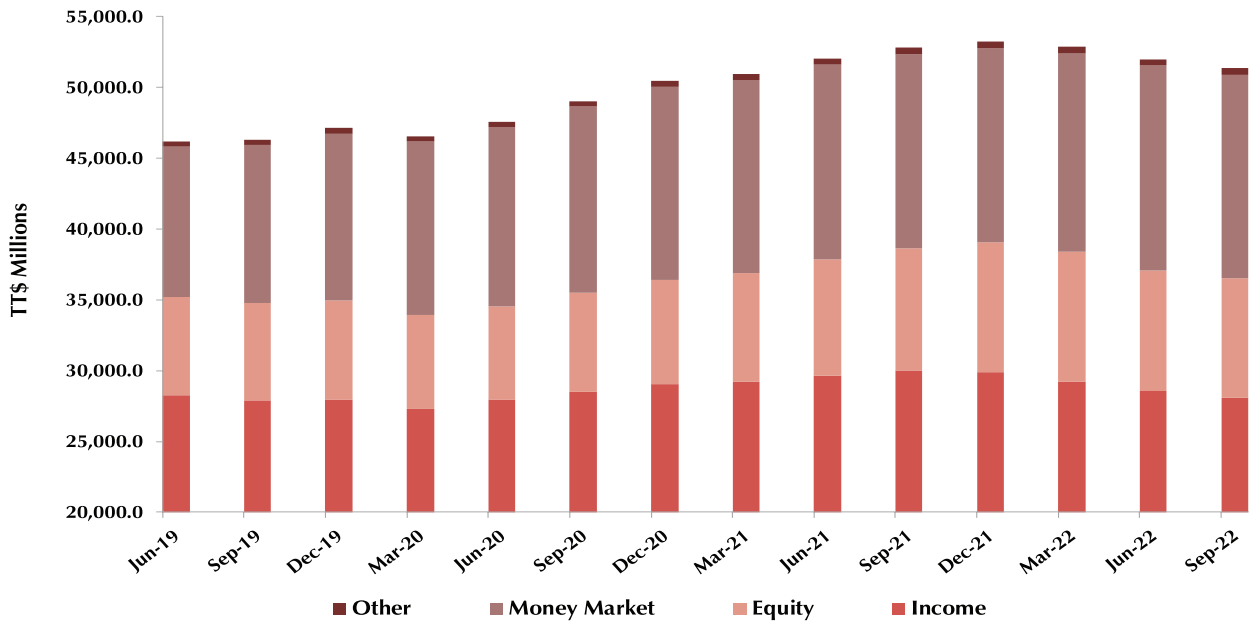
per cent increase to $37,866.3 million. In comparison, floating NAV funds plummeted by 13.5 per cent to $13,484.5 million. The overall worsening of market activity resulted in TT dollar funds eroding by 2.9 per cent to $42,243.2 million, while foreign currency funds lost 6.7 per cent to $9,107.5 million.

Despite the market decline, the industry observed $516.7 million in net sales, comprising $11,983.0 million in sales and $11,466.2 million in redemptions. Money market funds observed $786.5 million in net sales, while overall fixed NAV funds observed $867.9 million in net sales, confirming that investors were seeking to protect investment principals. On the other hand, floating NAV funds recorded $351.2 million in net redemptions, primarily stemming from $334.6 million in net withdrawals from Income funds, while Equity funds recorded just $61.5million in net sales. Comparatively, during the same period in 2021, the mutual fund industry observed $1,324.2 million in net sales.

Collective Investment Scheme (CIS) data[13] published by the Trinidad and Tobago Securities and Exchange Commission (TTSEC) suggests that during over the first nine-months of 2022, the total value of Assets Under Management (AUM) for all registered funds recorded a 3.6 per cent decline to $60,894.9 million, despite net sales amounting to $543.9 million.

CHART 3.9

Trinidad and Tobago Mutual Funds Under Management by Fund Type



Source: Central Bank of Trinidad and Tobago

13 As at the end of September 2022, CIS data from the TTSEC represents 80 registered funds from 16 issuers.

BOX 1
Implications of Fiscal Year 2022/23 National Budget for Monetary Policy

The National Budget of Trinidad and Tobago for fiscal year (FY) 2022/23 was presented to the Parliament on September 26, 2022. Themed "Tenacity and Stability in the Face of Global Challenges", the budget was presented in the context of stronger energy commodity prices alongside the continued presence of the COVID-19 virus and greater uncertainty surrounding the global economic recovery[1]. This Box discusses the potential implications of the measures announced in the budget for monetary policy.

The series of fiscal measures announced in the budget could have direct and indirect impacts on inflation. However, the size of their impacts will depend on their relevant weights in the Retail Price Index (RPI) and on how individuals and companies adjust to these measures[2]. The most significant impact to the RPI will come from the pass-through of measures affecting the transport sub-index. While the increases in the price of fuels at the pump will have a minimal direct impact on the transport sub-index[3], subsequent increases to maxi and taxi fares, and transportation costs in general, can have a more substantial effect[4]. Similarly, the increase to the personal income tax allowance to $90,000 per year from $84,000 per year is expected to increase the disposable income for an estimated 300,000 individuals, which could place additional upward pressure on aggregate demand, leading to higher domestic prices.

Other measures announced but not yet implemented, such as the introduction of the property tax and the completion of the rate review exercise for the Trinidad and Tobago Electricity Commission (T&TEC) and the Water and Sewerage Authority (WASA) can put upward pressure on domestic prices[5] if they are effected in the current fiscal year. However, the pass through to headline inflation may be tempered given the increase in the Value Added Tax (VAT) registration threshold, which may have dampening effects on prices, if the cost savings are passed on to consumers[6]. Overall, prices are anticipated to accelerate above pre-pandemic levels. Notwithstanding this, inflation should remain relatively contained as there is spare capacity within the domestic economy.

Central Government's spending activities could impinge on the financial system, and in turn the Bank's liquidity management strategy. Increased Central Government spending can potentially translate into higher net domestic fiscal injections (NDFI). NDFI, typically the main driver of liquidity, amounted to $4.9 billion in FY2021/22, an increase over the $1.8 billion recorded in FY2020/21[7]. High levels of excess liquidity can thwart the effectiveness of monetary policy transmission[8]. Therefore, an appropriate liquidity management strategy would be required to manage the impact of NDFIs in the near to medium-term.

BOX 1 Cont'd
Implications of Fiscal Year 2022/23 National Budget for Monetary Policy

In FY2022/23, it is the domestic capital market that will be predominantly called upon to finance the revenue-expenditure gap in the budget. The Government is expected to borrow primarily from domestic sources utilising the available headroom under the Development Loans Act[9] to finance the budget deficit. While there remains ample liquidity in the financial system to meet both public and private sector financing needs, more frequent use of the domestic capital market by the Government may lead to higher borrowing costs. Meanwhile, monetary policy tightening in the US has already increased foreign interest rates[10], exacerbating the potential for capital outflows and increased tightness in the foreign exchange market.

The Central Bank will have to remain flexible in achieving its monetary policy objectives. Price stability, ample system liquidity and relatively low interest rates would be required to support the domestic economic recovery. However, potential monetary policy actions of advanced economies, particularly the US, will continue to weigh heavily on domestic monetary policy decisions. Over the medium-term, monetary policy will have to balance the threat of higher inflation, while maintaining favourable financial conditions and mitigating capital outflows.

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1 The fiscal package was based on an estimated crude oil price of US$92.50 per barrel and a natural gas price of US$6.00 per million British Thermal Units (mmbtu).
2 Companies may choose to absorb some higher costs, while individuals could switch to lower cost items.
3 Fuel prices account for 21.0 per cent of the transport sub-index, which in turn accounts for 15.0 per cent of the RPI, therefore fuel prices account for 3.0 per cent of the RPI.
4 Already, several taxi associations have announced increases to fares. See article: Taxi fares increase from Monday. However, the full effect of this expected volatility in transport prices may not be entirely realised in the RPI because of the quarterly calculation of this sub-index. Meanwhile, the food and non-alcoholic beverages sub-index can be impacted indirectly, as a result of higher transportation costs.
5 The housing sub-index accounts for 27.0 per cent of the RPI, therefore, any price movements in the imputed and actual rental cost could substantially impact headline inflation. Meanwhile, though the electricity and water rate increases are not expected to substantially affect headline inflation, second-round effects are expected.
6 The dampening effect of the increase of the VAT threshold is further based on whether eligible companies are among the retailers surveyed for the RPI.
7 Notably, despite higher levels of NDFIs in FY2021/22, excess liquidity declined to a daily average of $5.2 billion in FY2021/22 from $9.7 billion in FY2020/21. This reflects the unwinding of extraordinary liquidity positions adopted in response to the pandemic, coupled with a buoyant consolidated system credit market thus far for 2022.
8 Liquidity is further impacted by Open Market Operations (OMOs) as well as Central Bank intervention in the foreign exchange (forex) market. In terms of the former, over the last decade the Bank has generally held an accommodative monetary policy stance as evidenced by declining OMOs and a relatively low and stable repo rate. Regarding the latter, the Bank's sustained intervention in the foreign exchange market is expected to continue over the short to medium-term, which will indirectly remove liquidity from the system.
9 As at September 2022, the remaining headroom under the Development Loans Act is estimated at around $9.4 billion. The debt ceiling under the Development Loans Act was increased to $65.0 billion from $55.0 billion in July 2021.
10 The US 91-day short-term benchmark rate increased, and the TT–US 91-day interest rate differential widened further to 278 basis points below parity at the end of September 2022 from 18 points below parity at the end of March 2022.

4. MONETARY POLICY ASSESSMENT (MAY – NOVEMBER 2022)

The evolution of monetary policy in 2022 has been primarily focused on supporting domestic economic recovery while managing inflation following the pandemic. As global inflationary pressures unfolded and global economic growth waned, the Monetary Policy Committee (MPC) determined that the optimal set of actions would be to continue facilitating ample system liquidity with the aim of ensuring an uninterrupted supply of credit to the economy. Inflation dynamics and widening interest rate differentials may assume greater weight going forward, given shifting global economic, financial and geopolitical conditions.

The main policy tool of the Bank, the Repo rate, has remained unchanged at 3.50 per cent after being lowered by 150 basis points in March 2020 (Chart 4.1).

The reserve requirement targets the creation of narrow money through the money multiplier effect. It remained at 14 per cent since a 300 basis point decline in response to the onset of the pandemic in March 2020. Between September 2021 and September 2022, required commercial bank reserves with the Central Bank fluctuated around an average of $13 billion, suggesting that narrow money remained stable since the initial injection after the onset of the pandemic. OMOs, however, tend to affect broader measures of the money supply than the reserve requirement. After a long period of neutrality from November 2020 to November 2021, OMOs were conducted steadily over December 2021 to November 2022, resulting in net maturities over the period.

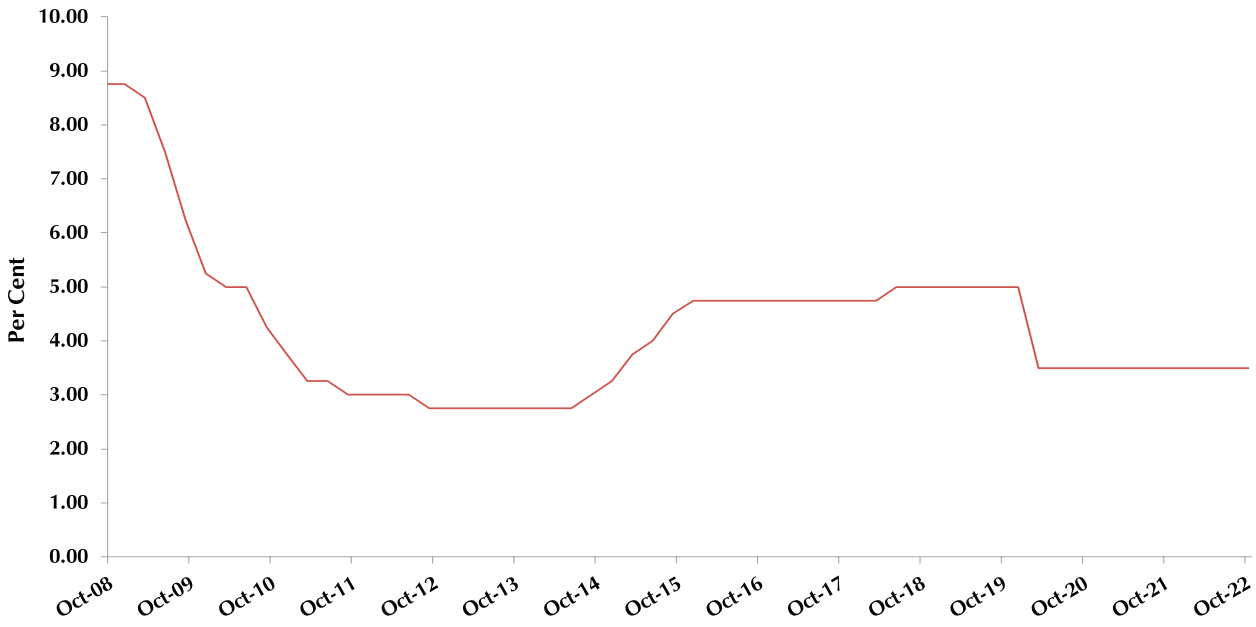
Changes in the money supply resulting from adjustment to the reserve requirement and OMOs manifest as changes to excess liquidity. The net maturity position of OMOs in the context of stable commercial bank reserves means the Bank is emphasising broad rather than narrow channels to influence financial conditions. This circumstance reflects some reversion to 'normality' following the pandemic, such that day-to-day liquidity management is undertaken via broad and indirect instruments rather than direct instruments. The use of the latter is often symptomatic of emergency conditions. While excess liquidity remains ample, its management must be considered in the context building inflationary pressures (Chart 4.2).

Bank lending rates remain responsive to policy

Intended to facilitate a stable supply of credit and lower interest rates, ample liquidity was maintained after the rollback of pandemic restrictions. Commercial banks' WALR remained relatively stable inching from 6.93 per cent in March 2022 to 6.94 per cent in September 2022. The size and direction of the combined effect of the Central Bank's monetary policy tools on commercial banking rates can be related through the interest rate and money supply channels.

CHART 4.1

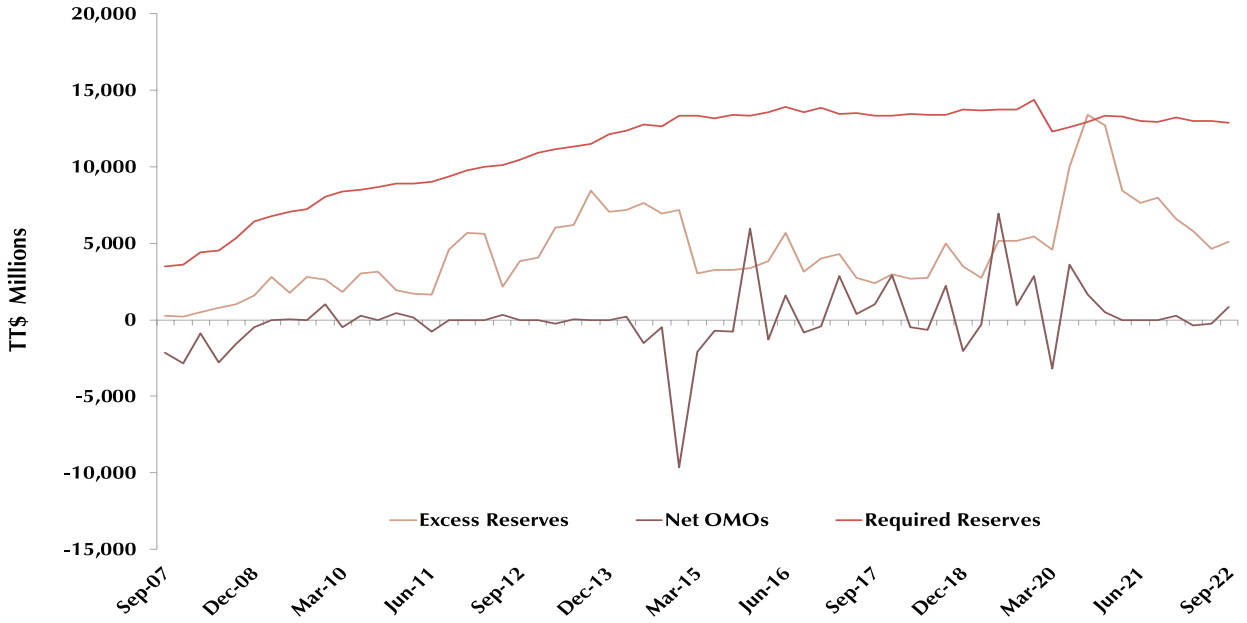
Repo Rate



Source: Central Bank of Trinidad and Tobago

CHART 4.2

Liquidity Management



Source: Central Bank of Trinidad and Tobago

Chart 4.3 relates the effect of monetary policy on the WALR. The chart plots the historical forecast error variance decomposition (FEVD) derived from a model[14] estimating the effect of the Repo rate and excess liquidity on the WALR. 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 monetary policy instruments on the WALR takes negative values, influencing the WALR downwards. Lowered commercial banking interest rates during and following the pandemic period thus came as a result of the stance assumed by the monetary authority. Lower lending rates have facilitated the increase in business credit observed since late 2021. In this regard, economic activity was accommodated during the pandemic, and economic recovery after restrictions eased was supported by the Bank. Careful monitoring of developments with respect to inflation and benchmark differentials have become important, as any premature adjustment of monetary policy would affect interest rates and ultimately the sustainability of the economic recovery.

Excess liquidity is expected to remain ample over 2022 and into 2023. Increased energy revenues are expected to drive improved fiscal conditions, but can translate into increased medium-term expenditure, resulting in increased net domestic fiscal injections. In the context of inflationary global and domestic environments, there may be a necessity for the Bank to adhere more closely to traditional bounds for liquidity so that its baseline approximates historical levels.

Commercial bank lending rates are still expected to remain stable throughout 2022 and into 2023 given general expectations about liquidity conditions. Despite expectations for ample liquidity, Treasury rates may experience upward pressure given rising inflation expectations both domestically and internationally. TT-US long and short-term differentials may likely further widen since external benchmark rates are also expected to increase further in response to inflation and policy tightening.

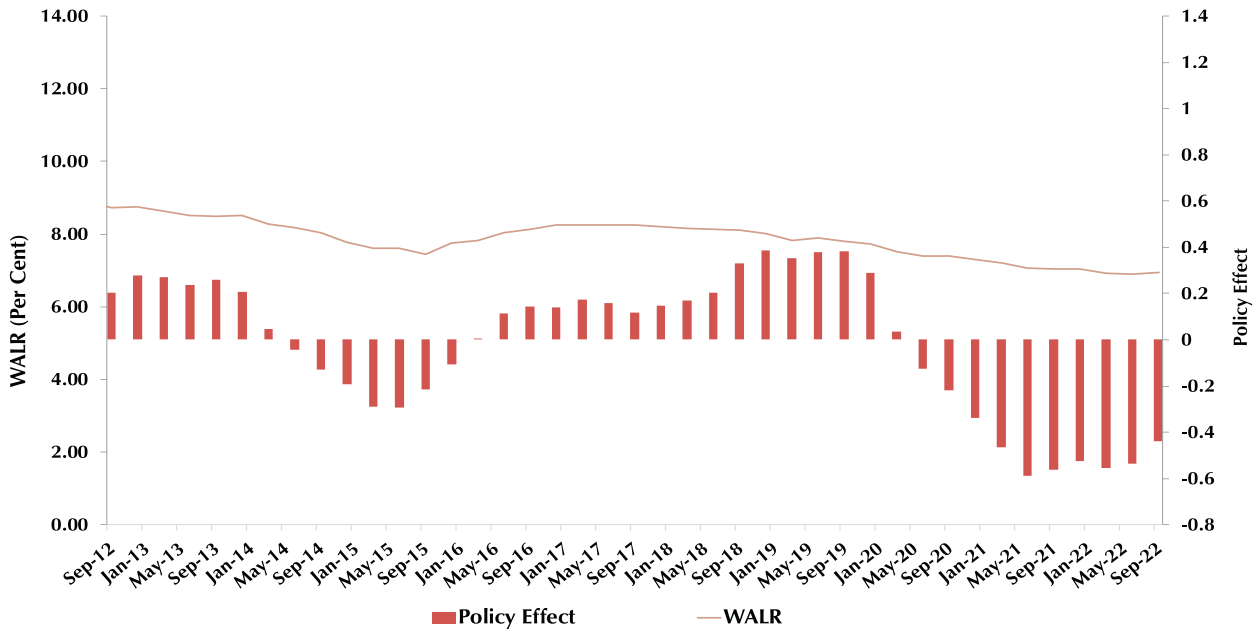
Continued aggressive policy tightening in advanced economies can result in sluggish growth conditions at some point over the medium to long-term. Managing such an eventuality may then override concerns about inflation, and can result in a slowing or reversal of the trajectory of external benchmark rates. This outcome would impose a limit on the increase of benchmark differentials. If policy tightening lowers aggregate demand in advanced economies, this may also affect commodity prices and the amount of fiscal injections in turn. It should be noted that the Bank retains considerable ability to manage liquidity through broad and narrow channels in response to exogenous shocks, evident during the pandemic.

14 Vector autoregression utilising data from March 2006 to September 2022.

In summary, ample liquidity is expected to support credit growth and economic activity over the short to medium-term. Monetary policy will likely have to balance considerations about facilitating the recovery against mitigating inflationary pressure. Managing short-term policy rates as well as narrow and broad money transmission channels serve as an effective approach to influencing conditions in the banking system. As such, monetary policy will continue to closely review domestic and external market developments.

CHART 4.3

Forecast Error Variance Decomposition



Source: Central Bank of Trinidad and Tobago

FEATURE ARTICLE

RELATIONSHIP BETWEEN FINANCIAL DEVELOPMENT, INFLATION AND OUTPUT IN TRINIDAD AND TOBAGO: IMPLICATIONS FOR MONETARY POLICY

Alon Dhanessar and Timothy Woolford[15]

Summary

Financial development is a critical part of economic development as the effective channelling of finance to entrepreneurial activity and innovation enables an economy to access new sources of economic growth. Considering that economic growth and inflation are considered important determinants of financial development, this article investigates the relationship between macroeconomic indicators and financial development. Given that financial development is a broad concept, this study employs the International Monetary Fund (IMF) Financial Development Index (FDI). This index captures the multidimensional characteristics of financial systems which overcomes the shortcomings of single indicator proxies. Contrary to much of the literature, the FDI uncharacteristically responds negatively to economic growth, likely on account of the structural dynamics of the domestic financial system. However, the index responds negligibly positive to inflation, reflecting the importance of monetary policy in financial development. Furthermore, the macroeconomic variables respond positively to financial development, reinforcing the importance of financial development to economic progress.

Introduction

Financial development is a critical part of economic development, as the funding of entrepreneurial activity and innovation is generally seen as the key link between finance and growth (Casanova et al 2018). Development of financial systems can help to channel funds to productive uses, allowing an economy to unleash new growth sources, potentially alleviate poverty and inequality, and transition to higher income levels (Li and Wong 2018, and Beck et al. 2007A). However, within the Caribbean region, financial development can encounter numerous barriers, ranging from the small size and scale of Caribbean states, prolonged periods of low growth, elevated debt levels, vulnerability to external shocks, and challenges maintaining correspondent banking relations (Li and Wong 2018).

Traditional indicators of macroeconomic stability, such as economic growth and inflation, are considered important determinants of financial development. The literature broadly points to a cyclical relationship between financial developments and the real sector, in that financial developments tend to facilitate economic growth, while improvements in growth also appear to fuel financial development. However, other sources suggest that a uni-directional relationship is possible under certain conditions.

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15 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.

While these relationships have been extensively analysed in the literature, limited research has been conducted within the domestic landscape. This note therefore aims to provide insight into the relationship between financial development and macroeconomic stability in Trinidad and Tobago.

A common criticism in examining these relationships has been the use of single indicator proxies for financial development. However, financial development is a broad and complicated term, encompassing a multidimensional process. To address this, we use the International Monetary Fund (IMF) Financial Development Index (FDI) which captures the multidimensional characteristics of financial systems and overcomes the shortcomings of single indicator proxies. The FDI is composed of the Financial Institutions (FII) and Financial Markets (FMI) indices which summarise how developed financial institutions and markets are in terms of depth, access and efficiency.

This empirical examination reveals that the indices respond negatively, though marginally, to increased economic growth. Contrary to the literature, this suggests that economic activity appears to have little impact on domestic financial development. This reflects possible challenges in accessing financial products and services from financial institutions, the lack of access and depth of financial markets, and possibly a lack of diversity in the lending portfolio of financial institutions. We postulate that this could be on account of the structural dynamics of the financial system, which may not be sufficiently accommodating to the private sector, or to small and medium enterprises.

Results also show that inflation has a negligibly small, but positive, effect on the financial development indices suggesting that during periods of inflationary pressures, individuals and firms may limit discretionary spending and invest more in mutual funds, or invest directly in equities as a hedge against inflation. This however assumes that monetary tightening to limit inflation results in an increase in nominal interest rates, inducing the substitution effect between consumption and savings.

Financial Development and Macroeconomic Conditions

Inherent in the process of economic growth is an associated increase in the demand for financial services, which in turn drives a supply response that facilitates growth of the financial system (Patrick 1966). Although there is widespread contention on the value of financial development as a contributor to economic growth, Levine (1997) explains that the financial system was critical in igniting industrialisation in England by identifying and funding innovation and entrepreneurs with the best chance of success.

De Gregorio and Guidotti (1995) argued that a positive correlation exists between long-run economic growth and financial development[16] in most countries. However, the impact changes across countries and in the case of Latin America, the relationship is negative. This was deemed a result of financial liberalisation in a poor regulatory environment, suggesting that the existence of financial development alone was an insufficient channel to prompt economic growth. Nonetheless, Khan and Senhadji (2000) highlight that the empirical evidence suggests a strong and statistically significant relationship between financial development and growth. However, they posit that the relationship may reflect reverse causality, in that faster growth leads to financial deepening.

Economic growth is often a precursor to heightened inflation levels as absorptive capacity narrows, implying that if financial developments drive growth, they inherently drive inflation. Furthermore, examining the impact of inflation on financial development in Brazil, Bittencourt (2011) concluded that inflation has a damaging effect on financial development. The main implication was that poor macroeconomic performance is a deterrent to financial development. Therefore, a low and stable inflation rate and all it encompasses is a necessary precursor to achieving a deeper and more active financial sector.

A Comprehensive Measure of Financial Development

A common theme of earlier literature is that they attempted to proxy financial development with a single indicator, however, financial development is a far broader and more complicated term (Khan and Senhadji 2000). While banks typically make up the largest component of financial development, other financial sector activities such as investment banks, insurance, collective investment schemes, non-bank financial entities, and others now play substantive roles. Furthermore, financial markets have become even more crucial in financial development and macroeconomic conditions.

The World Bank Global Financial Development Database identifies four dimensions of financial development: depth, access, efficiency, and stability. Each dimension contains proxy variables characterising well-functioning financial systems for financial institutions and markets. These variables reveal different developmental aspects of the financial system such as areas where the financial system is well developed and areas where development is weak. However, while these individual measures are a good starting point, an amalgamation of all the various proxy measures for each dimension could provide a more useful indication of financial development. This consolidation is accessible from the IMF Financial Development Index (FDI).

16 The authors utilized the ratio of private sector credit to gross domestic product as a proxy for financial development.

The IMF's Financial Development Index (IMF 2022, and Svirydzenka 2016) overcomes the shortcomings of single indicator proxies by combining multiple sub-indices which summarise[17] how developed financial institutions and financial markets are, in terms of their depth, access, and efficiency. The Financial Institutions[18] (FII) and Financial Markets[19] (FMI) indices are then combined to create the primary Financial Development Index (FDI). According to Svirydzenka (2016), the indices are an improvement over traditional measures of financial development as they incorporate information on a broader range of development features for a wider array of financial agents.

Trends in Financial Development in Trinidad and Tobago

The domestic financial cycle[20] (Figure 1) exhibits a cyclical pattern consistent with macroeconomic and financial sector developments, and the average financial cycle is about three times as long as the average business cycle (Melville 2017). Furthermore, the two cycles display a near symmetrical movement, indicating that medium-term expansions or contractions in financial sector variables mirror short-term movements in economic output. This trend in the financial cycle highlights that often, increases in energy prices which supported the business cycle were also accompanied by an expansion in the financial cycle, with associated advancements in financial intermediation. However, contractions in the domestic financial cycle were linked to signs of a credit crunch in the early 2000s, the impact of the Global Financial Crisis (GFC), the oil price shock in 2014/2015, and the onset of the COVID-19 pandemic in 2020.

Furthermore, examination of standard indicators can provide useful information on financial cycle dynamics. Figure 2 shows credit to the private sector[21] (CPS) as a percentage of nominal GDP and the associated CPS Gap[22],[23]. These measures describe the depth of financial institutions, and provide insight into credit dynamics and financial system stability. Overall, periods of increasing energy commodity prices and energy sector diversification, which supported strong economic growth, were associated with a financial cycle expansion, credit growth, and often a positive credit-to-GDP gap. However, weakening of economic conditions, and in some cases domestic and exogenous shocks, generally resulted in declining credit growth and periods of a negative credit-to-GDP gap.

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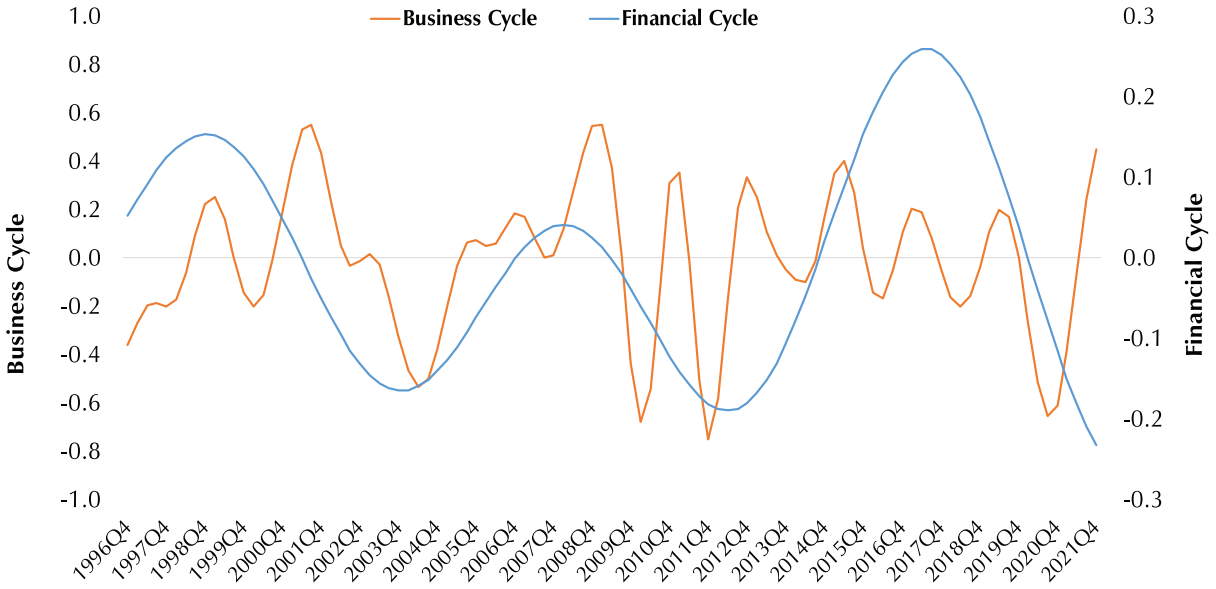
17 Depth refers to size and liquidity; Access refers to the ability of individuals and companies to access financial services; and Efficiency refers to the ability to provide financial services at low cost with sustainable revenues, and capital market activity.
18 Financial institutions include banks, insurance companies, mutual funds, pension funds, and other non-bank financial institutions.
19 Financial markets component includes stock and bond markets.
20 Melville (2017) constructed the financial cycle for Trinidad and Tobago by applying a turning point algorithm, a frequency based filter, and a range of financial indicators that best reflected the medium-term periodicity. The selected variables included: credit-to-GDP, residential property prices, the TTSE composite index and open market operation Treasury bill issuances.
21 Credit to the private sector from banks and non-bank financial institutions.
22 The credit-to-GDP gap is calculated as the difference between the credit-to-GDP ratio and its long-term trend. The long-term trend is estimated via the Hodrick-Prescott (HP) filter which removes the short-term cyclical component in a time series.
23 The credit-to-GDP gap signifies the deviation of credit-to GDP from its normal trend, and historically, it has been considered a robust indicator for the build-up of financial vulnerabilities (Drehmann and Tsatsaronis 2014). A positive increase in the gap above its long-term trend suggests that the private sector is borrowing at a level that is not justified by the current level of economic output, which can lead to banking crises.

FIGURE 1:

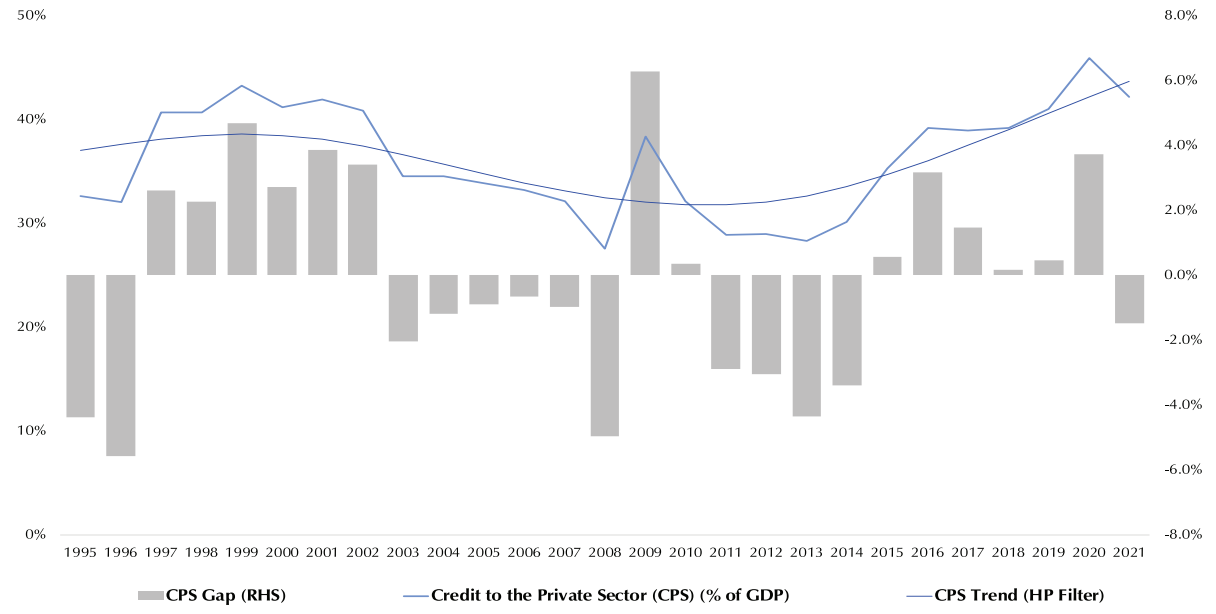
The Financial and Business Cycle of Trinidad and Tobago



Source: Central Bank of Trinidad and Tobago

FIGURE 2:

Credit to the Private Sector (% of GDP) and CPS Gap

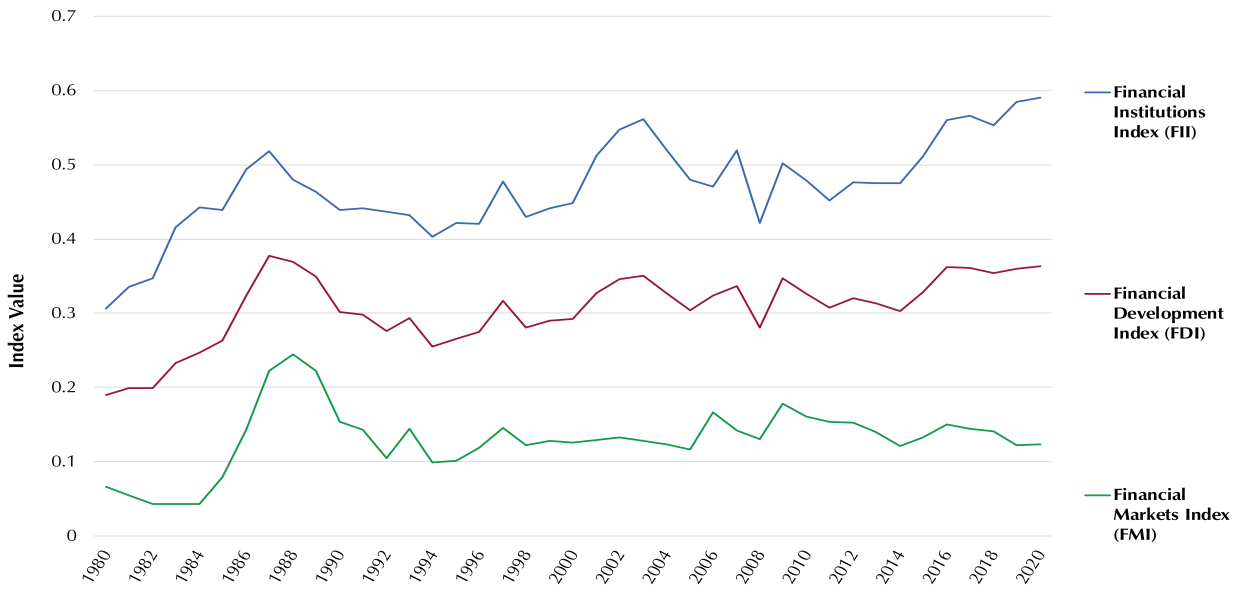


Source: Central Bank of Trinidad and Tobago

Deeper analysis into the dimensional characteristics of financial development can be seen in Figures 3 and 4. The Financial Institutions (FII) and Financial Markets (FMI) indices are combined to create the principal Financial Development Index (FDI) (Figure 3), while the depth, access, and efficiency of the FII and FMI indices are shown in Figure 4. Overall financial development has been largely supported by financial institutions (FII) as opposed to financial markets (FMI) (Figure 3). Additionally, while the FDI has been increasing, its growth has been generally slow. During the 1980s, the three indices displayed a notable upward trend. Although challenging domestic economic conditions[24] prevailed during this time, the banking system observed higher private sector credit and domestic savings, accompanied by an increase in the weighted average lending and deposit rates[25].

FIGURE 3:

IMF Financial Development Indices - Trinidad and Tobago



Source: IMF Financial Development Index Database

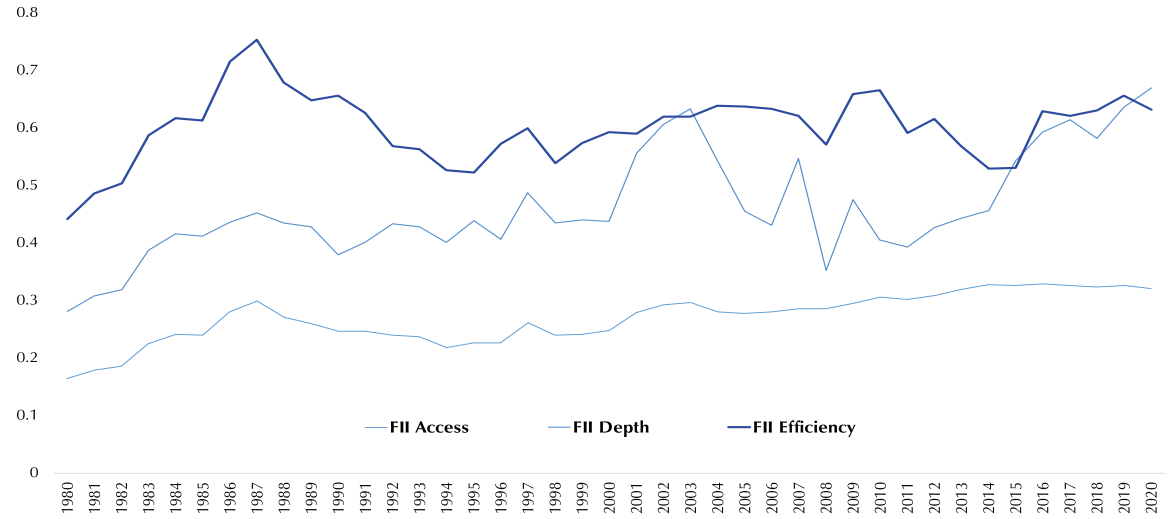
24 During the 1980s, the domestic economy suffered a major recession spurred by falling crude oil prices, a sharp fall in Government foreign revenues, exhaustion of foreign exchange reserves, a devaluation of the TT dollar, and a Standby Agreement with the IMF in January 1989.

25 Central Bank of Trinidad and Tobago – Handbook of Key Economic and Financial Statistics.

Disaggregated into its dimensions, Figure 4A shows that the growth in the FII was largely due to an increase in efficiency, and to a lesser extent, depth. This suggests that during the 1980s, the increase in financial institutions development was driven by lower cost, stable revenues, and an increase in the size of commercial bank liabilities and assets; however, access to commercial bank services remained notably lower. During the same period, financial markets (FMI) (Figure 4B) also observed growth, supported by an increase in depth (size) and access and slower growth in efficiency.

FIGURE 4A:

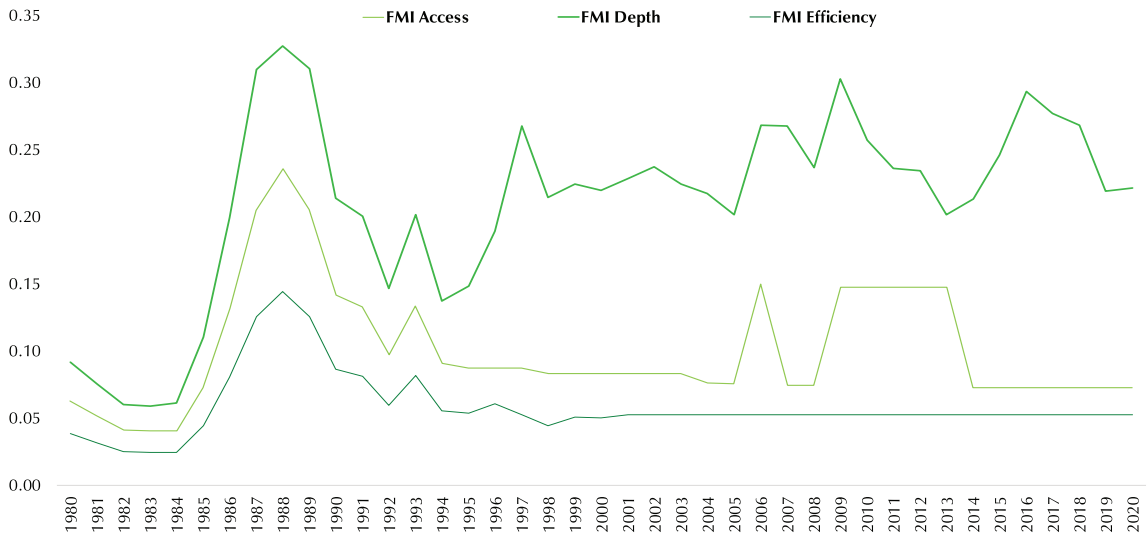
Financial Institutions Index (FII) - Trinidad and Tobago



Source: IMF Financial Development Index Database

FIGURE 4B:

Financial Markets Index (FII) - Trinidad and Tobago



Source: IMF Financial Development Index Database

During the early 1990s, the FDI, FII, and FMI declined as monetary policy actions resulted in a steep rise in interest rates. This would have limited equity market growth and reduced private sector credit demand. However, as economic conditions improved, supported by a resurgence of activity in energy sector exploration, production, and refining, in addition to the liberalisation of the foreign exchange market in 1993, the FDI and FII observed some stability and slow growth, while the FMI remained relatively flat.

The FDI and FII both observed an increase in the early 2000s, supported by monetary policy accommodation which allowed financial institutions' depth and efficiency to improve; however, access remained subdued. Subsequently, during the GFC, financial institutions' depth observed some declines and volatility. During the next decade ending 2020, financial institutions' depth improved somewhat. However, financial institutions' efficiency and access recorded minimal developments.

The FMI experienced some improvement during the 2000s, driven primarily by market depth, reflecting the growth in market capitalisation, while market access experienced a few up surges likely associated with periods of public equity offerings. However, overall, financial market access and efficiency remained notably low due to the low liquidity characteristics of the domestic stock market and low activity in the domestic bond markets.

Empirical Analysis

A time-series approach is used to examine the relationship between financial development, output, and inflation. Specifically, the method estimates an Unrestricted Vector Autoregressive (VAR) model, as outlined by Sims (1980)[26]. The VAR is also re-specified as a Vector Error Correction (VEC) model for further estimations. The examination employs three of the IMF's annual financial development indices: the Financial Development Index (FDI), Financial Institutions (FII) and Financial Markets (FMI) indices, over 1980 to 2020. For domestic economic output, the annual percentage change in nominal GDP (GDP_N_PC) is used, while inflation is represented by the annual percentage change in headline inflation (INF_H_PC).

26 Sims, Christopher A. (1980). "Macroeconomics and Reality." Econometrica (The Econometric Society) 48, no. 1: 1-48.

The VAR model to be estimated is denoted below:

$$v_t = \sum_{p=1}^{n} A_p v_{t-p} + Bz_p + \varepsilon_t$$

Where V and Z are vectors of endogenous and exogenous variables, respectively. A and B are their vectors of corresponding coefficients to be estimated, ε is the error term assumed to be white noise, and n is the number of lags in the VAR system. The ordering of the variables, a requirement for Cholesky orthogonalisation, assumes a transmission from GDP to inflation, based on the monetary policy transmission mechanism as outlined by Cheong and Boodoo (2008), in addition to the results of Granger Causality Tests, while the financial development indices are assumed to be at the end of the transmission.

Three models will be examined, each including an index of financial development, while all will include the domestic macroeconomic variables (nominal GDP and headline inflation).

Model 1: GDP_N_PC, INF_H_PC, FDI
Model 2: GDP_N_PC, INF_H_PC, FII
Model 3: GDP_N_PC, INF_H_PC, FMI

Model 1 was estimated using a VAR, due to the presence of no cointegrating equations. In contrast, Models 2 and 3 were estimated using a VEC due to the presence of cointegrating equations. The VAR or VEC Impulse Response Functions (IRF)[27] was then used to examine the relevant relationships.

Results and Analysis

The IRFs for Model 1 which examine the bi-directional relationship between the Financial Development Index (FDI) and the macroeconomic variables are shown in Figures 5 and 6. Uncharacteristically, FDI responds negatively, but minimally, to economic output (Figure 5), likely a result of the weak dimensional component of access in the FDI and FII. Despite the financial system being largely bank-centric, this suggests that even during periods of economic growth, individuals and small and medium enterprises (SMEs) may find it difficult to access financial products and services from financial institutions. This may reflect the findings of Sahay et al. (2015) that access to finance and financial products can be more difficult for vulnerable groups and SMEs in developing economies. Furthermore, limited access can suppress an increase in the depth of financial institutions related to private sector credit and pension fund assets.

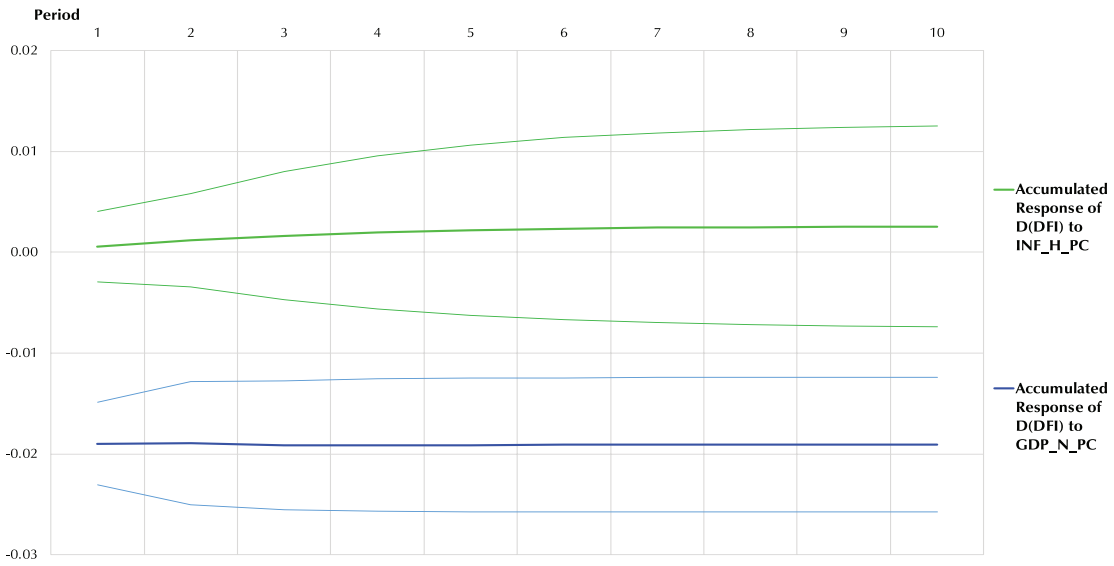
27 The IRF shows the effect of a hypothetical one standard deviation exogenous shock to one of the innovations on current and future values of the endogenous variables, allowing the researcher to observe the changes of the endogenous variables and to detect the dynamic relationships among contemporaneous variables.

Additionally, although financial markets form a smaller part of the domestic FDI, access and efficiency of the FMI are notably low. Although the depth of FMI is somewhat higher, given the substantial size of the domestic stock market capitalisation, access and efficiency remain very low, suggesting that individuals and firms are not able to fully participate in financial market activities. The FDI also responds negligibly positive to inflation (Figure 5), suggesting that during inflationary pressures, economic agents may reduce discretionary spending and instead seek investment alternatives. This reflects the explanation by Munozmoreno et al. (2013), where an increase in interest rates can increase the level of savings when the returns from savings is more attractive than current consumption. In this case, monetary tightening and an increase in interest rates is more likely to induce savings and investments as individuals seek higher returns.

Notably, economic growth and inflation respond positively to the FDI index (Figure 6), confirming the findings of various literature[28], and suggesting that financial development supports economic growth, while the impact on inflation is likely associated with an increase in economic growth, combined with higher credit demand (higher access). Furthermore, considering that domestic credit supply is generally skewed towards consumption activities, then an increase in financial development via an increase in credit could have a positive growth impulse, and inflationary reaction.

FIGURE 5:

Accumulated Response of the Financial Development Index (D(FDI)) to a One Standard Deviation Innovation in Nominal GDP (GDP_N_PC) and Headline Inflation (INF_H_PC)*

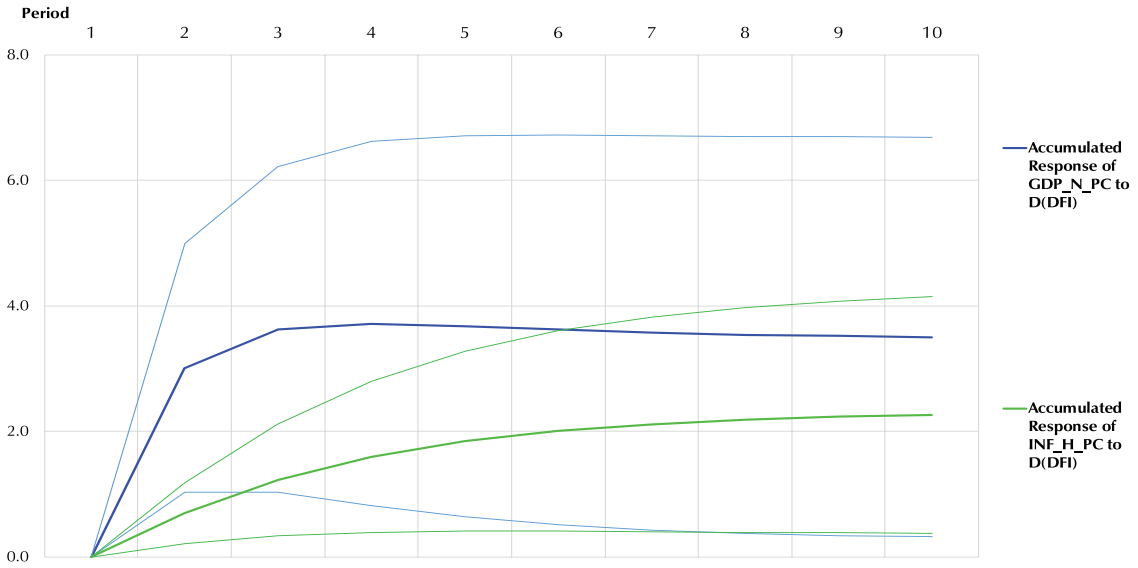


* Cholesky One S.D . (d.f. adjusted) Innovation ±2 analytic asymptotic S.E.s

28 (Bittencourt 2011, Khan and Senhadji 2000, Levine 1997, Hicks 1969, and Schumpeter 1982).

FIGURE 6:

Accumulated Response of Nominal GDP (GDP_N_PC) and Headline Inflation (INF_H_PC) to a One Standard Deviation innovation in the Financial Development Index (D(FDI))*

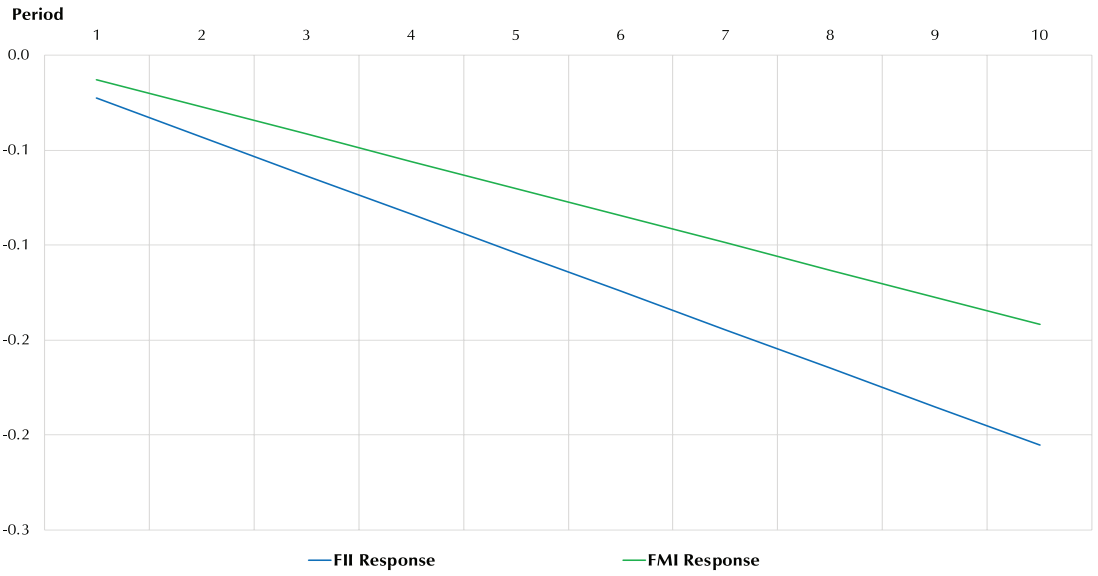


* Cholesky One S.D . (d.f. adjusted) Innovation ±2 analytic asymptotic S.E.s

Models 2 and 3 examine the bi-directional relationship between the FII and FMI, and the macroeconomic variables (Figures 7 and 8). Similar to the response of FDI, Figure 7A shows that the FII and FMI respond negatively to nominal GDP. Although the responses are somewhat small, the negative reactions suggest that the lack of depth and access of financial institutions and the lack of access and efficiency of financial markets create a hurdle to the development of these financial segments. Additionally, the FII and FMI respond negligibly positive to inflation (Figure 7B). The larger FMI response suggests that during periods of rising inflation, investors may use the domestic equity market to hedge against inflationary pressures.

FIGURE 7A:

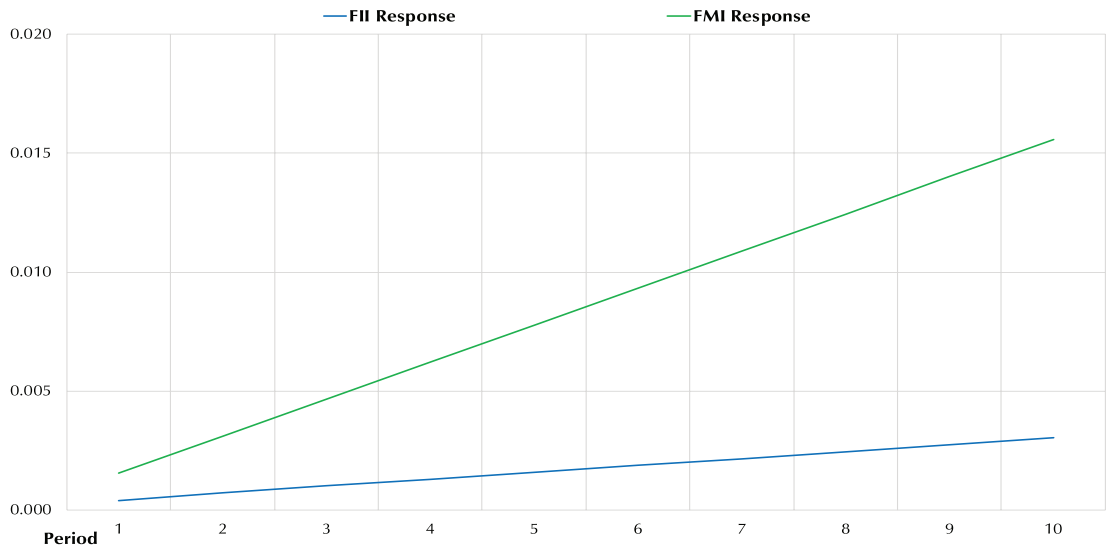
Response of the Financial Institutions Index (FII) and Financial Markets Index (FMI) to a One Standard Deviation Innovation in Nominal GDP



* Cholesky One S.D . (d.f. adjusted) Innovation ±2 analytic asymptotic S.E.s

FIGURE 7B:

Response of the Financial Institutions Index (FII) and Financial Markets Index (FMI) to a One Standard Deviation Innovation in Headline Inflation



* Cholesky One S.D . (d.f. adjusted) Innovation ±2 analytic asymptotic S.E.s

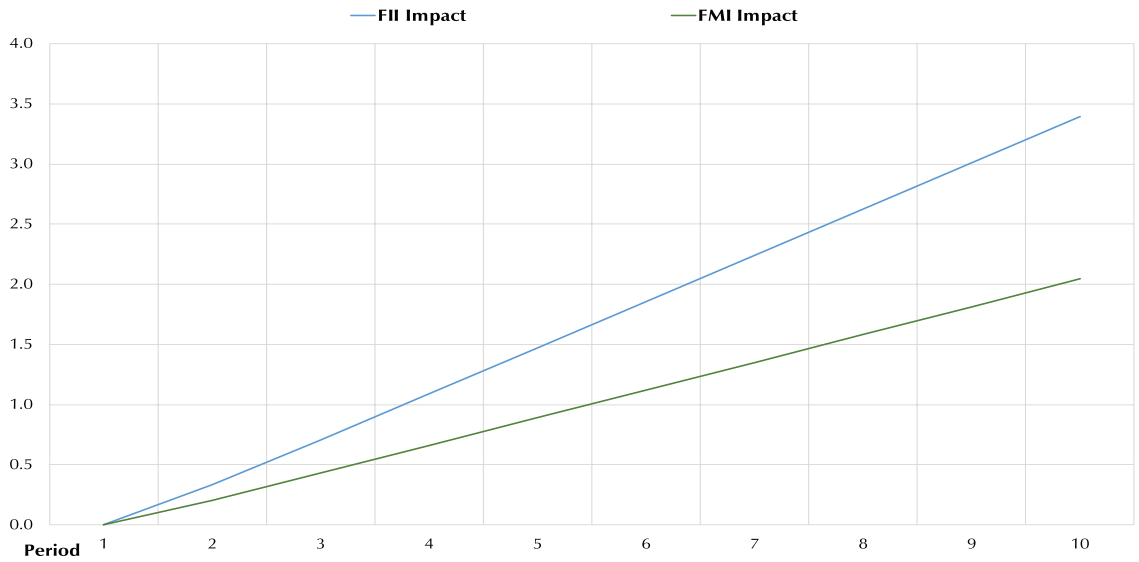
The relationship in the opposite direction, depicted by the impulse responses in Figure 8A and 8B, shows that both nominal GDP and headline inflation respond positively to an increase in the FII and FMI.

The results in Figure 8A can be explained by the dimensional characteristics of the FII and FMI. For example, an increase in financial institution depth, driven by the growth of private sector credit or mutual fund subscription growth, suggests an increase in investment and working capital, stimulating economic activity. Credit is considered pro-cyclical as it generally grows with income, and increased credit availability often spurs economic growth as savings are channelled into investments (Igan and Pinheiro 2011). Furthermore, while the financial market impact is smaller, the positive reaction suggests that favourable market conditions and investment opportunities, supported by monetary policy accommodation, may encourage investors to invest in equity assets, pushing up stock prices and market capitalisation. The higher asset prices increase firms' creditworthiness, allowing them to borrow more against higher values of collateral and further stimulating economic activity. Overall, an increase in the depth, access, and efficiency dimensions of both financial institutions and financial markets will positively impact economic conditions.

On the other hand, headline inflation (Figure 8B) also responds positively to an increase in the FII and FMI, although the reaction is small. This response can be linked to a rise in output following an increase in FII and FMI. For example, an increase in private sector credit, which stimulates economic growth, can have large effects on inflation by pushing up interest rates, especially during periods of low growth in the money supply. Additionally, the wealth effect from increasing stock prices often has a positive effect on consumer spending (Sussman 2019), which would increase inflationary pressures. Similar to the impact on economic output, an increase in the depth, access, and efficiency of financial institutions and financial markets can result in inflationary conditions.

FIGURE 8A:

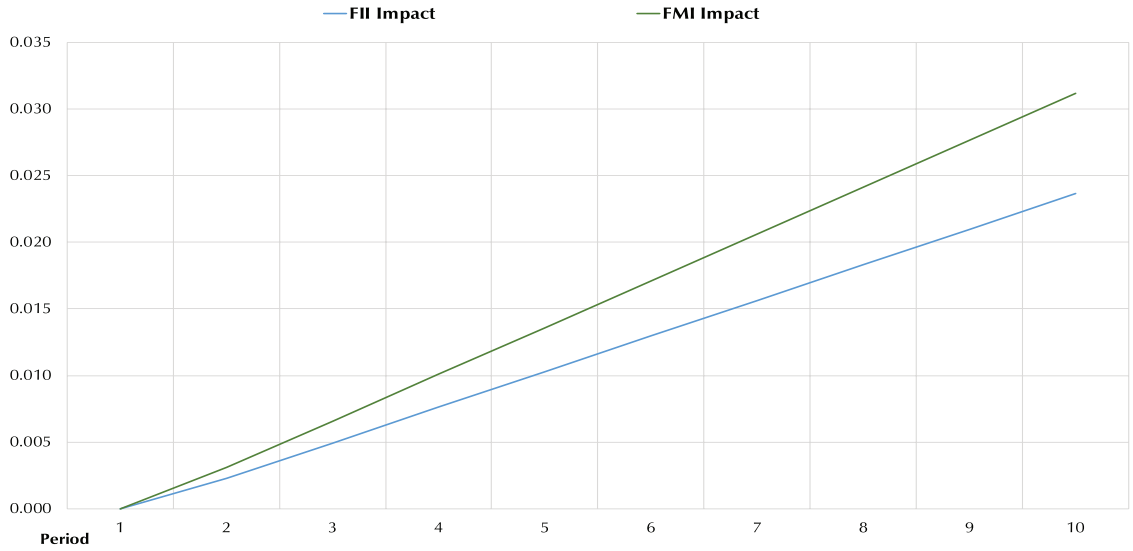
Response of Nominal GDP to a One Standard Deviation Innovation in the Financial Institutions Index (FII) and Financial Markets Index (FMI)



* Cholesky One S.D . (d.f. adjusted) Innovation ±2 analytic asymptotic S.E.s

FIGURE 8B:

Response of Headline Inflation to a One Standard Deviation Innovation in the Financial Institutions Index (FII) and Financial Markets Index (FMI)



* Cholesky One S.D . (d.f. adjusted) Innovation ±2 analytic asymptotic S.E.s

Conclusion

Traditionally, single indicator proxies are used to evaluate financial development, albeit, with several shortcomings. To counter these challenges, the IMF Financial Development Index transcends the traditional scope of financial sector development and creates multiple indices, namely the Financial Institutions Index and Financial Markets Index. These summarise how developed financial institutions and markets are in terms of depth, access and efficiency. Overall, the indices reveal that domestic financial developments have been predominantly driven by institutions as opposed to progress in the financial markets. This study examined the relationship between the financial development indices and real sector variables. The results highlight that the indices respond negatively, though marginally, to increased economic growth. This finding inherently suggests that economic activity appears to have little impact on financial development domestically.

We postulate that this could be on account of the structural dynamics of the financial system, which may not be sufficiently accommodating to the private sector or small and medium enterprises. For example, under inflationary conditions and rising real interest rates, commercial banks may prioritise lending to prime borrowers and the Government. Consequently, smaller borrowers such as SMEs may be potentially crowded-out[29] and are less likely to access financial services, and the credit needed to expand and grow. On the other hand, the low levels of efficiency and access within domestic financial markets, reflected by the low numbers of companies listed on the stock exchange and infrequent primary bond market activity, create an additional hurdle to financial access for smaller businesses. These hurdles are generally associated with the rigorous requirements and conditions necessary to access these funding markets[30].

The analysis also shows that inflation has a negligibly small but positive effect on the financial development indices, suggesting that during periods of inflationary pressures, individuals and firms may limit discretionary spending, save more, or invest in equities to hedge against inflation[31]. Conversely, both economic growth and inflation respond positively to increases in the FDI. The impact of the FII is larger, highlighting that financial markets are less of a driver of economic activity than the institutions themselves. Overall, the results confirm that improved financial development facilitates economic growth and, by extension, inflation, though the inverse does not hold. While there appears to be no current cyclical relationship among the variables, further improvements to the various dimensions of financial development should rectify any atypical interactions.

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29 According to Beck and De la Torre (2007B), financial crowding-out occurs when the Government absorbs a large share of domestic financial savings, resulting in less funds being available for lending, underfunding SMEs and weakening economic development. Smaller firms will often have to rely on internally sourced funds, which limits their growth potential in most instances.

30 Requirements such as registration, audited financial statements, projected cashflow statements, and collateral requirements.

31 Inflation can have different effects on economic agents' savings. Heer and Suessmuth (2006) explain that higher inflation increases the opportunity cost of money and reduces purchasing power, resulting in increased consumption costs and reduced savings. However, Juster and Wachtel (1972) mention that an increase in inflation above anticipated levels adversely affects consumer confidence, likely leading to a higher savings rate.

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