

# ECONOMIC REVIEW

third quarter july - september 2020

## in this issue ...

COMMENTARY	1	KEY ECONOMIC VARIABLES	4	NEWS HIGHLIGHTS	7	MACRO-ECONOMIC DATA	11	SPECIAL FEATURE: NIGHT LIGHT DATA AND ECONOMIC ACTIVITY	13
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## COMMENTARY

# The Impact of the Covid-19 Pandemic on Botswana's Economy Revealed

### Introduction

The main economic highlight of the third quarter of 2020 was the release of GDP and trade data by Statistics Botswana for the 12 months to June, revealing the impact of the Covid-19 pandemic and its associated lockdowns on the domestic economy. Unsurprisingly, the results show a significant contraction in both GDP and exports during the quarter, mainly due to a sharp decline in diamond trading activity. The third quarter of 2020 did show signs of things returning a bit to normal, with the resumption of diamond trading activity by the De Beers Group, be it under more flexible conditions, during the quarter. Domestic travel restrictions were also eased during the quarter in order to provide some measure of support to the tourism industry, which has been hard hit by the pandemic.

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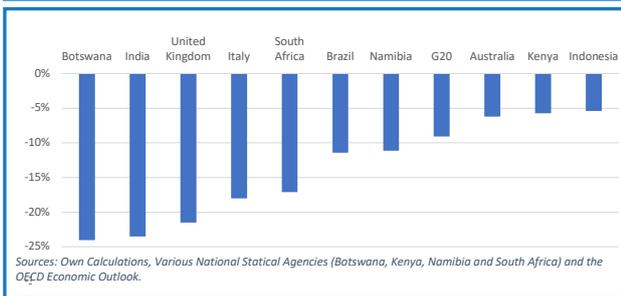
# COMMENTARY

## Economic Growth

The real economy contracted by 4.2% in the 12 months to June 2020. This is in sharp contrast to the year-on-year GDP growth of 3.6% registered during the corresponding period ending in June 2019. The decline in GDP was driven by the halt in diamond trading activity during the quarter (April 2020), which subsequently led to the mining sector contracting by 18.6%. Unlike the global financial crisis of 2008, the domestic private sector has not been immune to the global economic downturn. The non-mining private sector (NMPS) shrank by 3.7%, of which the Trade sector was the hardest hit by the pandemic, registering y-on-y growth of minus 7.9%. This was mainly due to sharp declines in the Wholesale (which includes downstream diamond trading activity) and Hotels & Restaurants sub-sectors, which highlights the negative impact of the pandemic on both the diamond and tourism markets.

Although a contraction of 4.2% y-on-y in the economy is alarming, the figure significantly understates the impact of the Covid-19 pandemic on Botswana's economy. This is because year-on-year GDP calculations help to "average out" the growth experienced during a specific quarter with the growth rates of the previous three quarters. To gain a more accurate depiction or snapshot of the impact of the Covid-19 pandemic, it is necessary to isolate growth in Q2 2020; this is achieved by comparing GDP output in Q2 2020 with GDP output in Q2 2019. Utilising this method of calculating growth, we find that, overall, Botswana's quarterly GDP contracted by 24.0% year on year, while the NMPS and mining sectors contracted by 25.9% and 60.2%, respectively.

**Figure 1: Quarterly Growth Rate (Q2 2019 & Q2 2020)**



By international comparisons, Botswana is one of the hardest hit economies in the world by the Covid-19 pandemic. Fellow Sub-Saharan countries, such as Kenya, Namibia and South Africa, experienced economic contractions of 5.2%, 11.1% and 17.1%, respectively, in Q2 2020, significantly less than Botswana's 24.0%. Other upper middle-income countries, such as Brazil (11.4%) and Indonesia (5.4%), also had smaller economic contractions than Botswana. However, the United Kingdom, which was dealing with both the effects of the Covid-19 pandemic and their exit from the European Union during Q2 2020, fared only marginally better than Botswana, contracting by 23.4%.

The structure of Botswana's economy, with its high reliance on diamonds and tourism for growth, export revenues and government revenues, has left the country susceptible to the negative effects of the Covid-19 pandemic. So much so that both S&P and Moody's ratings agencies changed the country's medium-term outlook from stable to negative, citing the adverse effects on these sectors (diamonds and tourism) by the pandemic as the main reason behind the change. Having said that, both agencies have retained Botswana's investment grade credit rating, reflecting the strength of the country's economic policy framework and public sector balance sheet, making it well-placed to respond to that impact.

## International Trade Activity

As a measure to prevent the spread of the Covid-19 virus, Botswana closed her borders towards the tail end of March 2020, significantly slowing down international trade activity. During Q2 2020, imports declined by 21.7% when compared to the previous quarter and declined by 23.0% when compared to Q2 2019. There were broad-based declines under all import categories barring diamonds, which experienced a significant uptick in June. More worryingly, the value of exports decreased significantly during the second quarter of 2020. The adverse effect of the Covid-19 pandemic on the diamond industry, Botswana's main source of export earnings, was evident. Total exports declined by 66.8% compared to the previous quarter and by 75.0% compared to the same period last year. Diamond exports declined by 68.8% compared to Q1 2020 and by 77.8% compared to Q2 2019. The stark decline in exports further highlights the need for Botswana to diversify her exports beyond diamonds in order to reduce the economy's vulnerability to changes in the already volatile diamond market.

## Government Budget

With the diamond industry being the single largest contributor to government revenues, the slowdown in diamond trading activity has had a significant negative impact on the government budget by reducing mineral revenues. Compared to the same period in 2019, mineral revenues were down by 56.9% in Q2 2020. As economic activity slowed during Q2 2020, other forms of tax revenue also declined, barring SACU revenues, which remained fairly similar due to the "delayed reaction" of the distribution mechanism. This resulted in a budget deficit of P1.52 billion during the quarter. The deficit was funded through a combination of drawdowns from the Government Investment Account (GIA) held at the Bank of Botswana (BoB) and domestic borrowing. In a bid to minimise future withdrawals from the GIA, the Government, following Parliament's approval, has agreed to double its bond issuance ceiling, which, if fully utilised, will increase the country's ratio of bond/T-bill issuance to GDP to 16% - still very low by international standards. This decision will be welcomed by many financial institutions, especially pension and insurance funds, as it helps develop the local capital market

## COMMENTARY

and provides them with the opportunity to acquire safe long-term assets that can match their long-term liabilities. The Government Budget that was proposed in February 2020 for the 2020/21 FY had estimated government revenues would amount to approximately P62 billion during the financial year. Given the recent developments in the diamond and tourism industries, government revenues are now projected to fall well below this figure. If the fiscal expansionary target of the 2020/21 budget is to be maintained, this will result in a much larger budget deficit than initially projected. In order to prevent deficits from becoming excessive and having detrimental effects on the country's fiscal stability, it will be essential that the Government "tightens its purse" and limits its planned expenditure to only essential projects, especially in the development budget.

### Diamond Market

There have been signs of some recovery in the diamond market during the third quarter of 2020. De Beers managed to host their 6<sup>th</sup> and 7<sup>th</sup> sales cycles of the year. Due to restrictions on travel, the usually week long Sight events have been extended to near-continuous sales events; and in an effort to coax consumers back into the market, De Beers also cut the prices of both their larger and smaller diamonds during the quarter. These measures resulted in rough diamond sales valued at USD450 million in Q3 2020. These sales were driven by a steady recovery in consumer demand in both the US and Chinese markets as the year-end holiday season approaches. Although there are some positive signs in the diamond market, these are still the early stages of recovery and it is expected that it will take some time for demand to reach its pre-Covid-19 levels.

### Banking Sector

Since Botswana's first Covid-19 related lockdown at the end of March 2020 to July 2020, bank credit growth slowed down significantly from 10.7% to 6.4%. This was driven by a sharper contraction in credit extended to private business during this period. Although bank credit to households continued to grow during this period, it did so at a much slower pace, with the growth rate of credit taken up by households falling from 15.1% pre-Covid-19, to 9.8% by the end of June 2020. Total arrears on bank lending as a proportion of total bank assets declined during Q2 2020, driven by a fall in business arrears, which was partially offset by a slight rise in household arrears. This would suggest that businesses have not begun defaulting on their loan repayments at an increased rate, despite the economic downturn. Nevertheless, in response to increased economic uncertainty and as a precautionary measure, commercial banks sharply increased their provisions for bad and doubtful debts in the second quarter, which reduced their profits by around 65% as compared

to Q1 2020. An agreement was reached between Government and commercial banks over the Covid-19 P1 billion loan guarantee scheme in September 2020, which should help to maintain credit extension and reduce banks' exposure to non-performing loan risk going forward.

### Monetary Environment

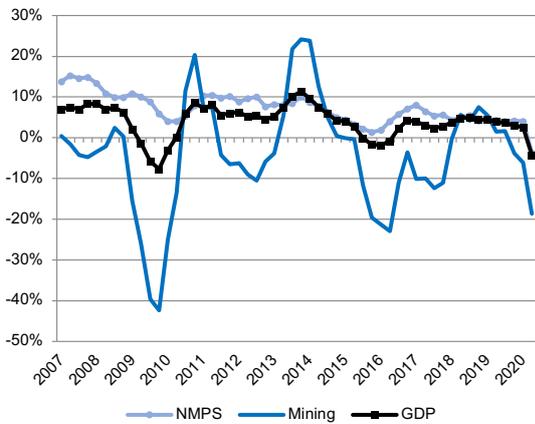
Inflation continues to remain at historically low levels despite rising to 1.8% in September, remaining well below the Bank's medium-term inflation objective range of 3-6%. The uptick in inflation was due to an increase in public transport fares and a 14% increase in the price of both petrol and diesel. The Food & Non-alcoholic Beverages and the Alcoholic Beverages & Tobacco commodity groups also experienced significant increases in their prices during the quarter. Inflation is expected to rise as global economic activity recovers and international inflationary pressures begin to increase. With the low levels of inflation driving real interest rates up along with the domestic and external pressures facing the domestic economy due to the Covid-19 outbreak, the Bank of Botswana decided to ease monetary policy by cutting the Bank Rate by a further 50 basis points to 3.75% in October 2020. The new Bank Rate is expected to remain in place at least until early December when the Monetary Policy Committee (MPC) meets again.

### Employment and the Extension of the State of Public Emergency

Unfortunately, there are no new employment data available from Statistics Botswana that cover the Covid-19 outbreak period as the household surveys that are now used to collect employment data had to be cancelled in Q2 and Q3. We do, however, know that under the State of Public Emergency, firms are not allowed to retrench workers unless they cease operations. This would make it reasonable to assume that current formal employment levels are similar to those pre-Covid-19. Although this measure, of not allowing retrenchments during the State of Emergency, may keep unemployment levels low in the short run, there may be negative consequences on firms in the long term as those that may need to downsize their workforce in order to remain in business are not able to do so and, as such, may be forced to cease operations completely, causing more job losses than would otherwise be necessary. The extension of the State of Public Emergency allows the President certain powers, but provide for flexibility in how those powers are used. Therefore, better communication and engagement with private sector stakeholders would go a long way in improving the business environment; for instance, a clearer indication of how much longer borders will remain closed; and secondly, when firms will be allowed to downsize if they need to do so.

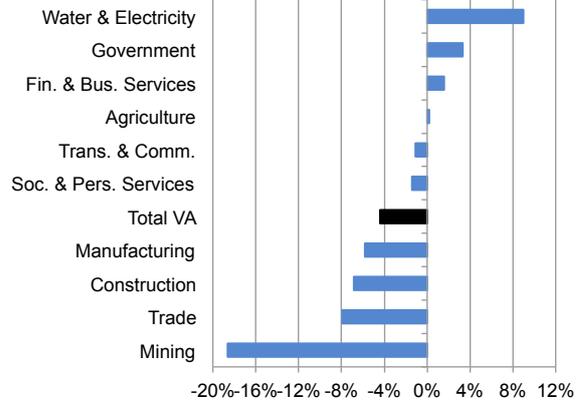
# KEY ECONOMIC VARIABLES

## Annual GDP Growth



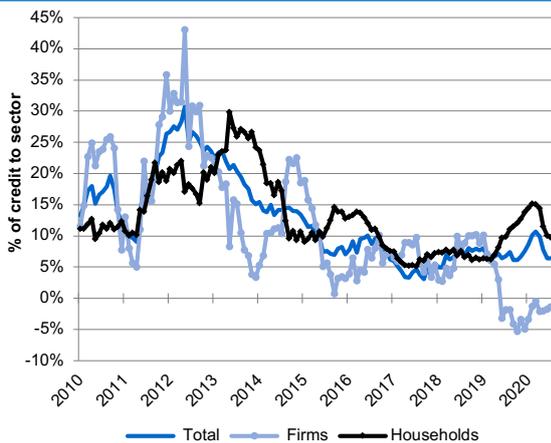
Economic growth during the second quarter of 2020 deteriorated, recording the first negative growth in three years. Year-on-year annual GDP growth declined to minus 4.2% in Q2 2020, from a positive 2.6% y-o-y in Q1 2020. Mining sector growth also weakened during the quarter, from minus 6.1% y-o-y in Q1 2020 to minus 18.6% y-o-y. Annual growth in the Mining sector fell for all sub-sectors, notably the Coal and Diamond sub-sectors, which recorded growth of minus 21.4% y-o-y and minus 19.6% y-o-y, respectively, in Q2 2020. Similarly, output in the non-mining private sector (NMPS) contracted during the quarter, recording y-o-y growth of minus 3.7%, down from positive 4.1% in Q1 2020. The Q2 2020 growth numbers show the first impacts of the COVID-19 virus, which are now reflected in the national accounts.

## Sectoral GDP Growth



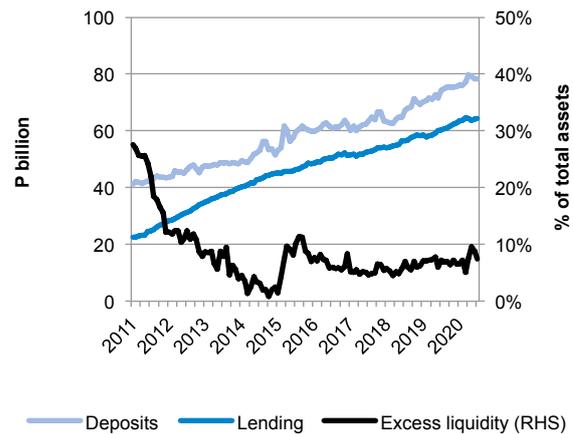
The impact of the COVID-19 virus was also felt across sectors of the economy, with several sectors recording negative annual growth rates. There were significant contractions in the Mining, Trade, Construction and Manufacturing sectors, which recorded growth rates of -18.6%, -7.9%, -6.8% and -5.8%, respectively, during Q2 2020. Output in the Tourism sector, which is not directly indicated in the national accounts data, is estimated to have also contracted. An indication from the Hotels & Restaurants sub-sector showed output decreased by minus 13.6% y-o-y during the quarter, which was greatly impacted by the lockdown and travel restrictions in Botswana. Nonetheless, a notable improvement was in the Agriculture sector; growth recorded in Q2 2020 was 0.2% y-o-y, up from minus 0.7% y-o-y growth in Q1 2020.

## Annual Credit Growth



Annual bank credit growth slowed to 6.4% during the second quarter of 2020, compared to 10.7% growth in Q1 2020 and 6.5% growth during the 12 month period ending in Q1 2019. A comparison between Q1 and Q2 2020 shows that bank credit growth declined for both firms and households, from minus 0.4% and positive 15.1% to minus 1.7% and positive 10.1%, respectively. The decline in bank credit growth was attributable to the slow uptake in loans from both segments of the market, as there were uncertainties brought by the COVID-19 virus and commercial banks which were cautious about lending during the pandemic. On the other hand, an annual comparison shows that credit increased for both firms and households, reflecting improved liquidity levels in the commercial banking sector during the period.

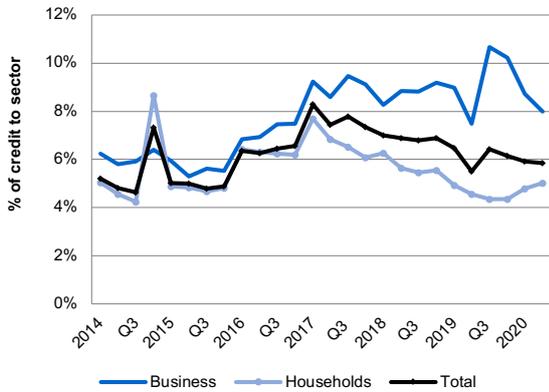
## Bank Deposits, Lending & Liquidity



Bank liquidity increased during the second quarter of 2020. Excess liquidity rose to 8.8% of total assets in June 2020, compared to 5.1% in March 2020 and 7.2% in Q2 2019. The increase in bank liquidity is attributable to the increase in customer deposits during both periods. Bank deposits increased by 1.4% (P1.1 billion) between Q1 2020 and Q2 2020 and by 9.6% (P6.9 billion) between Q2 2019 and Q2 2020. However, bank lending decreased between March 2020 and June 2020, by P582.6 million to P64.0 billion, representing a 0.9% decrease during the period. The Bank of Botswana also reduced the Primary Reserve Requirement Ratio (PRR) from 5% to 2.5%, along with other measures to improve liquidity in the banking sector and support economic activity during the fight against the COVID-19 virus.

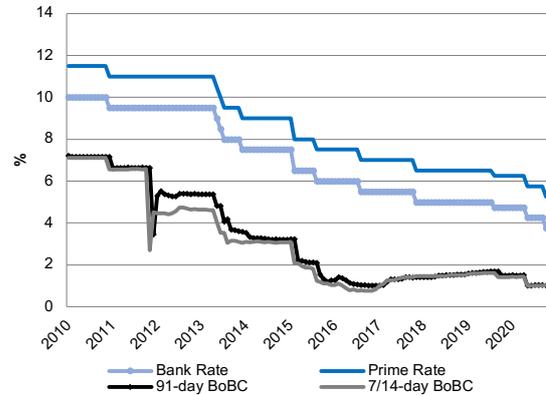
## KEY ECONOMIC VARIABLES

### Arrears on Bank Lending



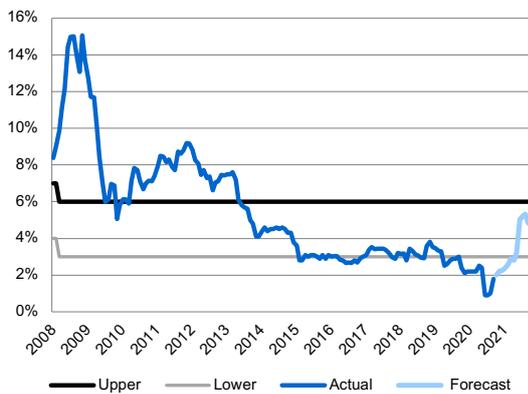
Total arrears on bank lending as a proportion of total banking assets was generally stable during the second quarter of 2020. Arrears decreased marginally from 5.9% in Q1 2020 to 5.8% in Q2 2020. This was driven by a sharp decrease in arrears on lending to businesses, which fell to 8.0% in Q2 2020, down from 8.7% in Q1 2020. On the other hand, arrears on lending to households increased to 5.0% from 4.8% during the same period. However, total arrears on bank lending increased between June 2020 and June 2019, increasing from 5.5% in June 2019. The increase in bank arrears during this period was attributable to the increase in arrears on bank lending to both businesses (from 7.5% to 8.0%) and households (from 4.6% to 5.0%).

### Interest Rates



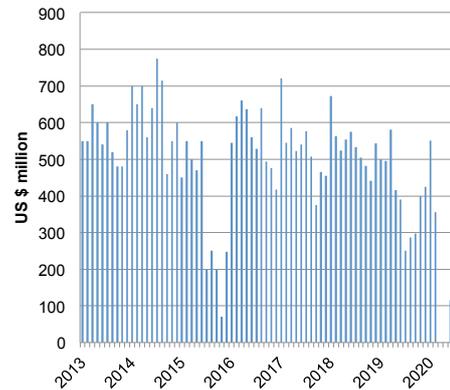
During the Q3 2020, Bank of Botswana's Monetary Policy Committee (MPC) maintained the Bank Rate at 4.25% at meeting held in August 2020. The decision to maintain the Bank Rate was taken because the Bank projects a lower inflation outlook in the medium-term. As a result, the commercial Prime Rate was also maintained at 5.75% during Q3 2020. The money market interest rates increased marginally during the corresponding period, with the 91-day BoBC rate increasing from 1.00% to 1.04% and the 14-day BoBC increasing from 1.00% to 1.01% between June 2020 and September 2020, respectively. The persistent short-term non-inflationary pressures prompted another interest rate cut and the BOB's MPC reduced the Bank Rate by 50 points basis, from 4.25% to 3.75%, at the October 2020 meeting. The commercial Prime Rate also decreased from 5.75% to 5.25% in October 2020.

### Inflation and Forecast



The annual inflation rate increased to 1.8% in September 2020, up from 0.9% annual inflation recorded in June 2020. Group indices were generally stable during the quarter, recording changes less than 1.0%, except for the Transport group index, which increased by 3.2%. This was attributable to the rise in public transport fares for Minibuses, Taxis and long distance buses from P4.00, P5.00 and P0.26 per km to P5.00, P6.00 and P0.30 per km, respectively, effective from 1 September 2020. The annual inflation rate in Q3 2020 was well below the Bank of Botswana's objective range of 3-6% due to low international inflationary pressures amid the COVID-19 virus. However, inflation is expected to pick-up for the remainder of the year due to the anticipated increase in economic activity.

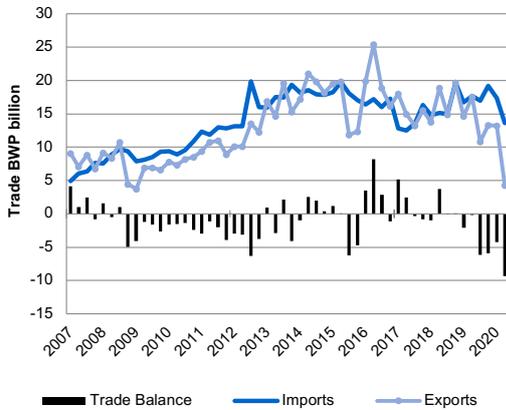
### De Beers Diamond Sales



The COVID-19 pandemic has had a notable impact on the international diamond industry. For the first time in history, there were no De Beers Global Sightholder Sales (DBGSS) during the second quarter of 2020, due to the cancellation of sightholder sales during the quarter, resulting from international travel restrictions imposed by countries to curb the spread of the COVID-19 virus. However, the industry conditions improved marginally during Q3 2020, as countries continued to ease the COVID-19 virus restrictions. The DBGSS sales were valued at USD450 million during Q3 2020, a decrease of 46% when compared to sales recorded during the same period last year. De Beers has also moved to reduce its production guidance to 25-27 million carats from the previous 32-34 million carats during 2020 as a whole. According to the company, there is confidence that rough diamond sales will recover going into the Christmas season. However, it will take time for rough diamond sales to go back to pre-COVID-19 levels.

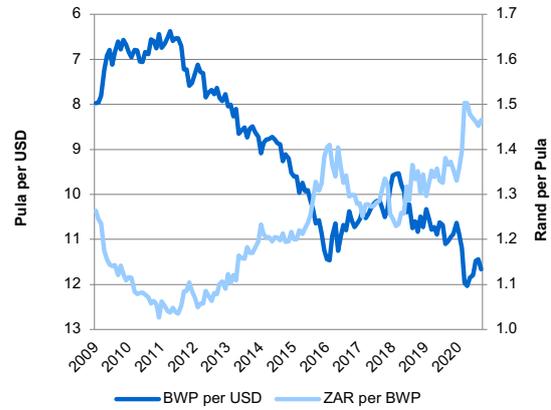
# KEY ECONOMIC VARIABLES

## International Trade



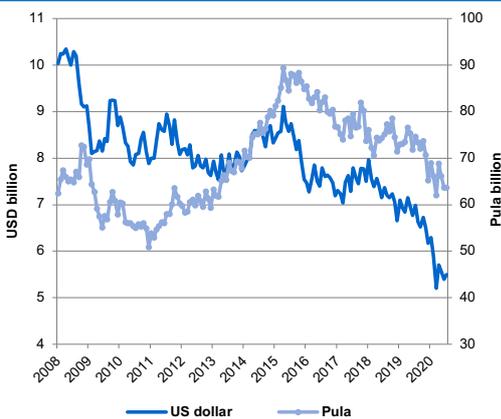
The impacts of the COVID-19 virus are visible in international trade activity. Total international trade decreased significantly during the second quarter of 2020, declining for both imports and exports. Total imports were valued at P13.6 billion in Q2 2020, down from P17.4 billion in Q1 2020 and P17.7 billion in Q2 2019, representing decreases of 21.7% and 23.0%, respectively. Total imports decreased for all categories except for Diamonds, which picked up in June. Similarly, total exports decreased substantially during the quarter to P4.3 billion, down from P13.2 billion in Q1 2020 and P17.5 billion in Q2 2019, representing decreases of 67.7% and 75.7%, respectively. The decrease in the value of total exports was strongly impacted by a substantial decrease in diamonds, which are the country's largest export earning commodity. This resulted in a substantial trade deficit of P9.3 billion in Q2 2020, from P4.2 billion and P169.4 million deficits in Q1 2020 and Q2 2019, respectively. The months of April and May were the main months of the lockdown period in Botswana, which has had the biggest impact on the diamond trade during the period.

## Exchange Rates



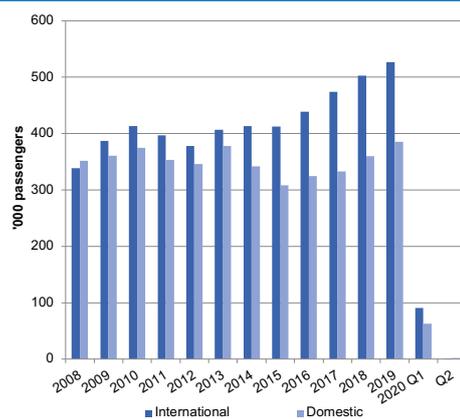
Foreign exchange rates volatility continued during the third quarter of 2020. The Pula weakened against the South African rand and strengthened against the US dollar during the quarter. The Pula depreciated by 0.2% against the South African rand, to end Q3 2020 with an exchange rate of ZAR1.465, down from ZAR1.468 at the end of Q2 2020. Conversely, the Pula appreciated by 1.1% against the US dollar during the quarter, ending Q3 2020 with the Pula-US dollar exchange rate of P11.67.

## Foreign Exchange Reserves



Foreign exchange reserves decreased across all measurement currencies, namely, the Pula, US dollar and SDR, in July 2020. Foreign exchange reserves declined by 14.6% in Pula terms to P63.7 billion in July 2020, down from P74.6 billion in July 2019. The decline in foreign reserves is attributable to Government's drawing down on its savings to meet increased fiscal spending obligations which have been brought about by the COVID-19 virus pandemic. In terms of other currencies, reserves decreased by 21.2% in US dollar terms and 23.2% in SDR terms to USD5.5 billion and SDR3.9 billion, respectively, in the twelve months to July 2020. At the end of July 2020, foreign exchange reserves were equivalent to about 11 months of import cover of goods and services.

## Air Passenger Traffic



The outbreak of the COVID-19 virus has tremendously affected air passenger movement in the country. The restrictions in international air travel and lockdown regulations, which were being implemented by many countries worldwide, has resulted in the significant decline in the number of both international and domestic air passenger movements at all Botswana airports. International air passenger movement decreased substantially by 99.1%, while domestic air passenger movement decreased by 97.0% between Q1 2020 and Q2 2020. The decline in air passenger movement is another indication of the impacts of the COVID-19 virus on the Tourism sector.

## NEWS HIGHLIGHTS

03/07/20	IMF forecasts more severe economic contraction for Botswana (Mmegi)	The International Monetary Fund has forecast Botswana's economy to contract by 9.6% in 2020, much worse than the initial projected contraction of 5.4%. The revised figures have however increased GDP growth projections for 2021 to 8.6%, up from an initial estimate of 6.8% growth.
10/07/20	ISPAAD funding cut by nearly P300m (Mmegi)	The budget for the Integrated Support Programme for Arable Agriculture Development (ISPAAD) has been reduced to P400 million, down from an initial funding outlay of P684 million. The Ministry of Agricultural Development and Food Security has cited a strain on Government's resources due to the Covid-19 pandemic as the reason behind the reduced budget. Mr. Boikhutso Rabasha, a representative from the Ministry, further stated that a review of the programme will be undertaken in collaboration with Food and Agriculture Organisation (FAO).
10/07/20	AfDB optimistic on Botswana's economic bounce-back (Mmegi)	The African Development Bank has projected Botswana's economy to contract by as much as 7.3% in 2020. However, the agency expects the local economy to recover in the next year, with growth projected at 5.5% in 2021. The AfDB has classed Botswana amongst the countries to be most severely affected by the Covid-19 outbreak due to the economy's reliance on both mineral resources and tourism.
11/07/20	Vunani Ltd. acquires stake in STANLIB Botswana (Sunday Standard)	Vunani Limited, a Johannesburg Stock Exchange (JSE) listed financial services group, has announced the launch of Vunani Fund Managers Botswana (VFMB). The launch signals the completion of its acquisition of STANLIB Botswana from Liberty Holdings. VFMB has assets valued at P4.3 billion under management and manages a total of four retail unit trusts.
16/07/20	Low rough diamond demand hits De Beers hard in second quarter (Mining Weekly)	De Beers reported a production volume of 3.5 million carats in the second quarter of 2020, reflecting a 54% year-on-year decrease in production. This has been attributed to lockdown measures in Botswana, Canada, Namibia and South Africa. Production in Botswana declined by 68% y-on-y to 1.8 million carats; in South Africa production also decreased, although marginally, by 3% y-on-y to 600,000 carats; and in Canada production fell by 27% to 800,000 carats. There was, however, a y-on-y increase in production of 7% in Namibia, taking production in the country to 400,000 carats.
16/07/20	BAMB revenue grows by 16 percent (Sunday Standard)	The Botswana Agriculture Marketing Board (BAMB) recorded a 16% increase in revenue, reaching a value of P312 million in 2019, up from P269 million in 2018. According to the Board's financial results, the increase in revenue can be attributed to improved financial efficiencies, strengthened relationships with key customers and intensified marketing strategies.
20/07/20	Petra Diamonds to sell Botswana exploration portfolio for \$300k (miningmx.com)	Petra Diamonds has agreed to sell its 100% stake in Sekaka Diamonds to Botswana Diamonds for USD300,000. In the agreement, Petra Diamonds retains a 5% royalty on future diamond revenues should any of the prospects in Sekaka be brought into production. However, Botswana Diamonds has the option to buy-out the royalty for a cash payment worth USD2 million.

## NEWS HIGHLIGHTS

24/07/20	Lucara and HB Group sign new diamond supply agreement (resourceworld.com)	Lucara Diamond Corporation signed a definitive supply agreement with the Belgium-based HB Group. The agreement, which is to run for the rest of 2020, is for all large diamonds, over 10.8 carats, that are produced from Karowe mine. Under the agreement, the purchase price for 10.8-plus-carat rough diamonds from Lucara will be based on the estimated polished outcome, with a true-up paid (the difference between the estimated and actual value of sales) on actual achieved polish sales thereafter, minus a fee and the cost of manufacturing. Eira Thomas, CEO of Lucara, stated that, "This agreement will deliver regular revenues on superior pricing terms to those currently being achieved at tender, and helps position Lucara to move forward with key underground expansion activities for Karowe in 2020."
24/07/20	Minergy celebrates first coal export to South Africa (Mining Review)	Minergy Limited, which owns and operates the Masama coal mine located in the Mmamabula Coalfield in Botswana, has announced their first rail transported coal exports to South Africa. The rail consignment, which is the first of three, was carrying approximately 2,650 tonnes of coal and was bound for an industrial client in the cement sector.
31/07/20	Botswana beef heads to China (Mmegi)	The Botswana Meat Commission (BMC) is finalising a deal that will allow Botswana to start exporting beef products to the Chinese market. BMC's spokesperson, Brian Doka, stated that a delegation from China had been in the country to assess BMC's readiness to export.
09/08/20	BMC abattoirs to operate as separate entities – Dikoloti (Sunday Standard)	The Government of Botswana has continued its efforts to restructure the Botswana Meat Commission (BMC) in order to improve both its efficiency and economic viability. To achieve this, the Minister of Agricultural Development and Food Security, Dr. Edwin Dikoloti, announced that the abattoirs in Lobatse, Francistown and Maun will separate, and operate as independent businesses.
18/08/20	Power Metal launches drill programme at Botswana project (Mining Review)	Power Metal Resources, an exploration and development company, has elected to earn-in to a 40% direct interest in the Molopo Farms Complex (MFC) project by spending USD500,000 on exploration expenditure, notably target drilling this year. After the earn-in is completed, Power Metal Resources will have a 50.9% effective interest in the MFC project, which forms part of the Kalahari Key Mineral Exploration (KMME) project aimed at prospective nickel sulphide mineralisation in Botswana.
20/08/20	Monetary Policy Committee decision (Bank of Botswana)	The Bank of Botswana (BoB) maintained the Bank Rate at 4.25% at the August Monetary Policy Committee meeting. The MPC decided to maintain its accommodative monetary policy stance in order to help mitigate the negative impact of the Covid-19 pandemic on the domestic economy. The Bank also noted that inflation is forecast to rise to between 3-6% (the Bank's inflation objective range) by the third quarter of 2021.

## NEWS HIGHLIGHTS

24/08/20	PPC Botswana's Botlhole decries cement dumping (Sunday Standard)	PPC Botswana's General Manager, Tuelo Botlhole, raised concerns over imported cement dumping with the Minister of Investment, Trade and Industry, Ms. Peggy Serame, during a manufacturing-plant site visit. Mr. Botlhole further highlighted that many local firms are being driven out of the market and forced to shut down due to the imported cement product dumping that is taking place.
24/08/20	Government to merge NFTRC with NARDI next year (Sunday Standard)	In a bid to reduce the number of parastatals with overlapping mandates, the Government of Botswana is set to merge the National Food Technology Resource Centre (NFTRC), the Department of Agricultural Research (DAR) and the Botswana National Veterinary Laboratory (BNVL) with the National Agricultural Research and Development Institute (NARDI).
24/08/20	Botswana and Namibia set to sign 5 GW solar energy plan (Engineering News)	Botswana and Namibia are set to sign an agreement to develop solar projects that will produce as much as 5GW of electricity. The electricity is expected to mainly be exported across the region. The US government initiative, Power Africa, is assisting in the structuring of the deal between the two countries.
28/08/20	BPC to receive P1bn subsidy (Mmegi)	The Botswana Power Corporation (BPC) is set to receive P1 billion in tariff subsidies from the Ministry of Mineral Resources, Green Technology and Energy Security. According to proposals set before Parliament, the tariff subsidies will be split evenly across the 2021/22 and 2022/23 financial years. The Botswana Energy Regulatory Authority (BERA) is also set to present the Ministry with BPC's request for 5% and 4% annual average tariff increases during the same period.
07/09/20	Botswana Diamonds seeks to raise £300,000 in share offering (The Irish Times)	Botswana Diamonds is looking to raise £300,000 from new and existing investors through the issuance of 50-million new ordinary shares. The investments will be used to fund ongoing activities in both Botswana and South Africa. In Botswana, the funds will be focused on commercialising the KX36 project following the recent acquisition of Sekaka Diamonds from Petra Diamonds.
11/09/20	Covid-19 knocks Letshego's half-year profits (Sunday Standard)	The Letshego Group's half year financial results for the period ended June 30, 2020 show that the company experienced a 20% decline in pre-tax profits and a 24% decline in post-tax profits when compared to the previous year. The fall in profits has been attributed to the Covid-19 pandemic and the lockdowns associated with it.
11/09/20	Government, banks finalise P1 billion Covid-19 scheme (Mmegi)	Negotiations between local banks and government agencies over a P1 billion loan guarantee scheme to be offered to the private sector have been finalised. The loan guarantee scheme, which is a Covid-19 intervention from the Government, will be administered by Botswana Export Credit Insurance (BECI). Under the scheme, 80% of private sector loans taken from participating banks will be covered by the Government, with banks assuming 20% of the risk.

## NEWS HIGHLIGHTS

16/09/20	Botswana Doubles Domestic-Borrowing Limit as Virus Hits Budget (Bloomberg)	The Government of Botswana's request to double the domestic borrowing limit to P30 billion has been approved by lawmakers. The higher domestic debt ceiling has been put into place to help fund the Government's economic recovery plan, fund budget shortfalls due to the Covid-19 outbreak and to help develop the local capital market. The rise in the domestic debt ceiling, if fully used, will increase the country's debt to gross domestic product ratio to 16%, below the statutory limit for domestic debt of 20% of GDP.
19/09/20	S&P Global Ratings Affirms the Sovereign Credit Rating and Changes the Outlook on Botswana from Stable to Negative (Bank of Botswana)	S&P Global Ratings, in its September 2020 report, has affirmed Botswana's "BBB/A-2" sovereign credit rating for long and short-term foreign and domestic currency bonds. However, the ratings agency has changed Botswana's outlook from stable to negative. This was due to anticipated higher pressures on Botswana's economic, external and fiscal performance over the next couple of years due to the Covid-19 pandemic, most notably its negative impact on diamond exports.
23/09/20	De Beers cuts prices for smaller diamonds (mining.com)	De Beers has cut prices for smaller diamonds in an attempt to lure customers back into the market. The prices of rough diamonds smaller than 1 carat have been reduced by more than 10%. This follows a price reduction on larger diamonds by the company last month [August 2020].

## MACRO-ECONOMIC DATA

Key Economic Data									
	unit	2015	2016	2017	2018	2019	2020Q1	2020Q2	2020Q3
<b>Annual Economic Growth</b>									
GDP	%	-1.7	4.3	2.9	4.5	3.0	2.6	-4.2	..
Mining	%	-19.6	-3.7	-11.1	5.3	-3.9	-6.1	-18.6	..
Non-mining private sector	%	1.4	7.1	5.6	4.7	4.2	4.1	-3.7	..
GDP current prices	P bn	146.07	170.56	180.10	190.37	197.27	50.73	36.86	..
GDP 2006 prices	P bn	86.08	89.79	92.39	96.53	99.40	25.07	18.85	..
<b>Money &amp; Prices</b>									
Inflation	%	3.1	3.0	3.2	3.5	2.2	2.2	0.9	1.8
Prime lending rate	%	7.50	7.00	6.50	6.50	6.25	6.25	5.75	5.75
BoBC 7/14-day	%	0.97	0.84	1.45	1.52	1.41	1.44	1.00	1.01
<b>Trade &amp; Balance of Payments</b>									
Exports - total goods	P bn	63.48	80.34	61.67	67.17	56.29	13.19	4.26	..
Exports - diamonds	P bn	52.73	70.78	54.38	60.41	51.01	11.44	3.57	..
Balance of payments	P bn	-4.15	-3.28	-4.28	-4.20	-12.02	-4.85	..	..
<b>Foreign Exchange</b>									
Exchange rate BWP per USD	end	11.24	10.65	9.87	10.73	10.63	11.96	11.79	11.67
Exchange rate ZAR per BWP	end	1.38	1.28	1.26	1.34	1.33	1.50	1.47	1.47
FX reserves	\$ bn	7.55	7.19	7.50	6.66	6.17	5.20	5.39	..
FX reserves	P bn	84.88	76.80	73.69	71.43	65.23	62.01	63.65	..
<b>Financial Sector</b>									
Deposits in banks	P bn	59.96	62.44	63.58	69.27	75.71	77.26	78.37	..
Bank credit	P bn	48.31	51.32	54.18	58.33	62.77	64.63	64.05	..
BSE index		10,602	9,728	8,860	7,854	7,495	7,488	7,160	7,001
<b>Business Indicators</b>									
Diamond production (a)	mn cts	20.73	20.88	22.96	24.38	23.67	5.74	1.93	..
Copper production (b)	tonnes	23.05	16.88	1.24	1.46	..	..	..	..
Nickel production	tonnes	16.79	13.12	0.00	0.00	0.00	..	..	..
Business confidence index		44%	43%	46%	..	..	..	..	..
No. of companies formed		19,134	17,133	20,707	..	..	..	..	..
Electricity consumption	GWh	3,974	3,929	3,772	3,919	3,906	1,011	854	..
Crude oil (Brent)	\$/bar	36.61	54.96	66.73	50.57	67.77	22.74	23.74	24.74
<b>Employment (formal)</b>									
Government		130,220	129,216	129,009	133,238	156,785	155,488		
Parastatals		19,411	19,008	19,444	19,830	23,497	26,591		
Private sector		191,484	194,202	193,745	195,681	227,281	224,735		
Total		341,115	342,426	342,198	348,749	407,563	406,814		
<b>Govt Budget</b>									
		2017/18	2018/19	2019/20	2020/21				
		(d)	(d)	Revised	Projection				
				(e)	(e)				
Revenues	P bn	56.41	53.47	60.71	62.39				
Spending	P bn	58.39	62.35	68.64	67.62				
Balance	P bn	-1.98	-8.88	-7.93	-5.22				
Public debt & guarantees	P bn	32.99	34.41	36.19	34.91				
Govt deposits at BoB	P bn	30.09	21.56	..	..				
GDP	P bn	182.19	193.48	205.13	221.74				
Revenues	%GDP	31.0%	27.6%	29.6%	28.1%				
Spending	%GDP	32.0%	32.2%	33.5%	30.5%				
Balance	%GDP	-1.1%	-4.6%	-3.9%	-2.4%				
Public debt & guarantees	%GDP	18.1%	17.8%	17.6%	..				
Govt deposits at BoB	%GDP	16.5%	11.1%	..	..				

Sources: BoB; MFED; Statistics Botswana; Department of Mines; CIPA; BSE; US Energy Information Administration; Bloomberg; Econsult

**Notes:**

- (a) Figures include production from Lucara Diamonds (Karowe mine) and Debswana. In 2016 and 2017, figures also include production from Gem Diamonds (Ghaghoo) and Lerala mines (no longer operational)
- (b) Copper production starting Q2 2017 for Mowana mine
- (c) Numbers in Italics reflect revisions from the previous review
- (d) Actual
- (e) Budget

## SPECIAL FEATURE

# Estimating the Level of Economic Activities in Botswana Through Night Light Data

## Introduction<sup>1</sup>

Botswana, like many other developing countries, lacks geographically disaggregated economic activity data. GDP data is not available on a regional basis, but such data is important from a policy perspective to monitor the relative growth rates of different parts of the country. A new innovation internationally is to use “nightlights” data to act as a proxy for economic activity data at local level. Nightlights data is collected by satellites orbiting the earth on a daily basis, and measures the luminescence emitted by electrical lights and other light sources. The main aim of this paper is to use nightlights data for Botswana to track regional economic activity. Given the small economy and sparse nature of population distribution in Botswana, the collection of geographically disaggregated GDP data would be statistically challenging and expensive. The use of satellite images may be able to circumvent both these problems, providing an opportunity to fill the gap in the knowledge of the distribution of economic activity in Botswana.

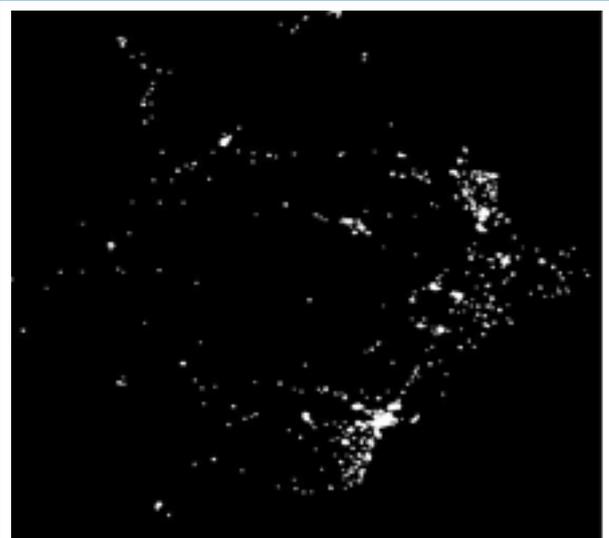
## Data and Methodology

The study uses the Visible Infrared Imaging Radiometer Suite (VIIRS) Day/Night Band (DNB) data set which is derived from the Sumi Solar Polar Partnership (SSPP) satellite. The satellite is jointly flown by the National Oceanic and Atmospheric Administration (NOAA) and the National Aeronautics and Space Administration (NASA). The VIIRS dataset covers the years from 2012-2018, with older data only available through another, discontinued dataset named the US Air Force Defense Meteorological Satellite Program (DMSP) Operational LineScan System (OLS) satellites. Unfortunately, there is no backward compatibility between the two, so extending the VIIRS dataset using the older data from the DMSP-OLS is impossible. We therefore use data for the period 2013-2018.

Barring the years 2015 and 2016, the satellite images included in the VIIRS dataset do not distinguish between nightlights produced by economic activity and those that

are naturally occurring such as moonlight, gas flares, fires, etc. Therefore, a methodology of “cleaning” the data and creating what is described as a “stable lights” dataset needed to be adopted. The NOAA have provided two years of “stable lights” data within the VIIRS, namely 2015 and 2016. The methodology adopted to clean the rest of the data took advantage of this, using the annual “stable lights” images of 2015 and 2016 as a mask to remove all outliers and background noise from the monthly data. The annual 2015 composite mask was used to clean data for the months closer to 2015 and the 2016 composite mask was used for the months closer to 2016. The draw back in adopting this methodology is that it does not allow for the investigation of newly lit areas in 2017 and 2018, rather, it only allows for the observation of changes in the brightness/intensity of nightlights within the same locations for those years. Figure 1 below shows the distribution of nightlights across Botswana in 2018.

**Figure 1: GIS photo showing nightlights intensity for 2018 across Botswana**



This is a summary of a longer study carried out by The Centre for Applied Research and Econsult. The full version of the report can be downloaded from [www.car.org.bw](http://www.car.org.bw) or be obtained on request from either [bkelebang@car.org.bw](mailto:bkelebang@car.org.bw) or [kitso@econsult.co.bw](mailto:kitso@econsult.co.bw)

## SPECIAL FEATURE

### Results

#### Correlations and Elasticities

The first set of results obtained are correlation statistics and elasticities between the growth rate of Nightlights (NL) and Gross Domestic Product (GDP) and NL and Non-Mining Gross Domestic Product (NMGDP) at the national level. After removing the outlier year of 2014, NL-GDP and NL-NMGDP returned correlation statistics of 0.945 and 0.972, respectively. This result indicates a stronger correlation between NL and NMGDP and, as such, the rest of the analysis in the study is conducted using NMGDP.

NL growth and GDP growth returned an elasticity of 0.40, whilst NL growth and NMGDP growth registered an elasticity figure of 0.64. Therefore, a 1% growth in NL is associated with a 0.4% growth in GDP and a 0.64% growth in NMGDP. These elasticities are in line with those obtained by Bundervoet et. al. (2015) of 0.56 for short term growth (annual fluctuations) and 0.55 for long term growth in Sub-Saharan African countries<sup>2</sup>.

The analysis uses NL data to estimate economic growth at the various regional levels using the elasticity estimated from the association between NL growth and NMGDP growth in Botswana at the national level. The analysis is carried out for the years 2015-2018 unless otherwise stated.

#### District-Level NMGDP Growth

The average annual GDP growth rate is positive across all districts. The fast-growing districts include Kgatleng (7.3%), Chobe (7.3%), Kweneng (6.2%) and Kgalagadi (5.8%), whilst the North-East (4.2%), Central (4.1%), Southern (4.0%) and Ngamiland (3.8%) districts grew at a pace similar to the national average (3.8%). The South-East (2.6%) and Ghanzi (1.5%) districts experienced slower growth.

There seems to be no obvious pattern as to what determines the fast- and slow-growing districts. For example, the Kgalagadi and Ghanzi districts share a lot of similarities (both are large, sparsely populated with no large urban areas): but the former is relatively fast-growing, and the latter is growing at a slow pace. Urbanisation, or proximity to urban areas also does not seem to be a decisive factor. The Kgatleng and Kweneng districts, which are close to Gaborone, are fast-growing: but the South-East district, which shares a similar proximity to Gaborone, is the second slowest-growing district.

#### NMGDP Growth Across Different Types of Settlements

The analysis considers growth from different types of settlements under the following categories:

1. **Cities and towns:** urban settlements with separate administrative structures (City and Town Councils).
2. **(Large) Urban Villages:** According to the Statistics Botswana definition and categorisation, an urban village is a settlement with a population of 5,000 people or more that is not primarily dependent upon agriculture, but without its own administrative structure; i.e., it is administered by the relevant District Council. For present purposes, the focus is on "large" urban villages, with a population of 20,000 or more, along with some smaller ones on the periphery of Gaborone.
3. **Rural and small urban villages:** settlements outside cities, towns and large urban villages<sup>3</sup>.

The derived NMGDP growth rates for these three types of settlements provided intriguing information. For one, the fastest average growth rate has been in rural/small village areas, followed by large urban villages, while towns/cities had the slowest growth. This is surprising and contrasts the notion that growth is concentrated in urban areas in Botswana.

A closer look at the settlements within these categories also yielded some interesting information:

- a) **Cities and towns:** Apart from Sowa (we ignore it due to its small population), Francistown is the fastest-growing city or town. This is surprising, given the perception of slowing economic growth in the city. However, the elevated growth levels in NL-estimated NMGDP could be a reflection of the rapid infrastructure development that has taken place in the city. Negative growth rates were recorded for Selebi-Phikwe, reflecting the closure of the BCL copper-nickel mine which took place during the period.
- b) **Urban Villages:** The fastest growing urban village settlements are those within commuting distance to Gaborone but are not part of the Gaborone peri-urban area, i.e., Moshupa, Thamaga, Mochudi, Molepolole and Ramotswa. Location-specific factors were the driving force behind other fast-growing urban villages such as Letlhakane (centre of a key diamond mining area) and Palapye (a growing regional centre that has received significant public investment in the building of a new university and power station).
- c) **Rural districts:** Rural districts surrounding Gaborone, namely South-East, Kweneng and Kgatleng, were amongst the fastest growing rural districts, with a similar growth trend as urban villages. Other fast-growing rural districts include Chobe and Kgalagadi, whose growth may be attributable to other local factors or might reflect the fact that growth in the region is from an extremely low base.

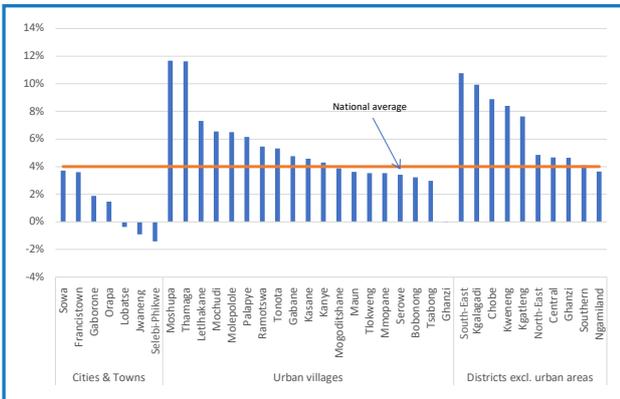
<sup>2</sup>Bundervoet, T., L. Maiyo and A. Sanghi

<sup>3</sup>We have used the term "rural" to describe this segment, but this could be misleading. First it includes some quite large settlements (urban villages with populations from 5,000 to 20,000). It also includes Mahalapye, an urban village with a population of almost 50,000, but for which the geographical shape files from Statistics Botswana were incorrect. Finally, and this may be the most important exception, it includes mining areas where the mines are located outside of towns, notably the Jwaneng, Orapa and Karowe diamond mines.

**SPECIAL FEATURE**

The NMGDP growth as predicted by NL at the sub-national level should, however, be treated with some caution. One reason for this is because economic activity is not homogenous in nature across differing regions, and as such the true elasticity between NL and economic growth will vary across regions, since NL relate differently to different sectors.

**Figure 2: Implied Non-Mining GDP growth rates, average 2015-18, by major settlements**



The largest contributor of NL amongst Urban areas was Francistown at 18%. This was to be expected as it is the largest settlement outside of Gaborone and the hub of business activity in the Northern part of Botswana. Maun was the second largest contributor of NL with 12%, reflecting the government and tourist activity in the region. The contribution of the major mining towns, namely Orapa (3%) and Jwaneng (2%), was surprisingly low, but could be a reflection of the fact that the mines themselves are located outside the relevant urban areas.

Amongst rural settlements, the Central District accounted for 40% of NL produced. This is not surprising as the rural areas are in close proximity to numerous fast-growing urban villages such as Palapye and Serowe. The region also includes several diamond mines (Orapa, Karowe and Damtshaa). The Southern District was the second largest contributor, producing 16% of all NL. The rural settlements in the district are within the out-of-town commute range of Gaborone which would result in people who work in the city opting to live there and subsequently producing NL. The district also includes Jwaneng mine. The rural settlements in the North-East and Kweneng districts produced 11% and 10% of rural NL, respectively. The sparsely populated, and isolated regions of the Ghanzi and Kgalagadi districts only contributed 1% and 2% of all rural NL, respectively.

**Geographical Distribution of NMGDP (Districts, towns/cities)**

For this section, settlements are categorised into three groups: Rural villages & settlements, Urban areas and Greater Gaborone. Towns and villages within close proximity to Gaborone are classed as part of Greater Gaborone<sup>4</sup>. Those that are not within this category are classed as either urban or rural, depending mainly on the size of their population. The urban category includes all cities and towns; urban villages with a population greater than 20,000; and district centres. All other settlements and areas are considered rural.

In 2014, Rural areas and Greater Gaborone accounted for 33% of total NL each, whilst Urban areas accounted for 34%. By 2018, the share of nightlights remained similar with minor changes. Rural areas produced 37% of total NL. The 4 percent increase in their share of NL produced is to be expected as new rural areas get electrified. The share of NL produced by urban villages decreased marginally to 33%, along with a decrease in the share of NL produced within the Greater Gaborone region, to 30%.

Within the Greater Gaborone region, Gaborone City produced the greatest share of NL, 73%. This was followed by Mogoditshane 13%, Tlokweng 9%, Mmopane 3% and Gabane 2%. These results are consistent with the population differences between the settlements with Mmopane and Gabane being dwarfed in population size by the others.

**Impact of the BCL copper-nickel mine closure**

Given the volatility of the monthly and annual NL data, only tentative conclusions can be drawn about the economic impact that the closure of the BCL copper-nickel mine had on the Selebi-Phikwe region. For the analysis, NL data on Selebi-Phikwe was combined with that from the BCL mining area and then subsequently removed from the rest of the Central-Bobonong sub-district. The yearly, 12-month period was adjusted to October - September in order to capture the mine's closure in October 2016.

The year following the closure of BCL, 2016/17, NL in Selebi-Phikwe fell by 22%, which would equate to a 14% decline in NMGDP. The decline is in line with expectations by way of direction, but is possibly smaller than expected in terms of magnitude.

Surprisingly, the decline in growth was short lived. The 2017/18 year recorded an increase in NL of 16%, suggesting fairly strong economic growth in Selebi-Phikwe, an indication of some recovery in the town. Another surprising result is that the negative impact of the mine closure does not appear to have spread to the wider regional economy. The wider Central-Bobonong sub-district (excluding Selebi-Phikwe) recorded NL growth of 18% in 2016/17 and 13% in 2017/18, suggesting a booming regional economy. This could be explained by miners who were retrenched by BCL returning to their home villages within the region and adding to economic activity there.

<sup>4</sup>Besides the city of Gaborone, this includes Mogoditshane, Tlokweng, Gabane and Mmopane

## SPECIAL FEATURE

### Share of NL by selected Protected Areas

Given the large areas set aside for conservation in Botswana, it is useful to analyse the magnitude of economic activity associated with, and within Protected Areas (PAs). The six PAs considered for analysis over the 2014 to 2018 period were: Khutse Game Reserve, Gemsbok Game Reserve, Central Kalahari Game Reserve (CKGR), Makgadikgadi and Nxai Pans National Park, Moremi Game Reserve, and Chobe National Park. The CKGR was dropped from the analysis given the mining activity that takes place within the region, hence, the NL produced may not be a reflection of economic activities associated with PAs. The Khutse and Gemsbok regions produced no NL, indicating either that there is no economic activity in the region or that the NL produced within these regions were not intense enough to be deemed significant. Of the three PAs left, Chobe Game Reserve produced the greatest share of NL, accounting for 97.7% and 97.0% in 2014 and 2018, respectively, holding an average share of 98.2% of NL within the period. This large share is attributable to the fact that the Chobe Game Reserve is the only PA between the three with a fully-fledged hotel and it also borders the Kasane township which carries a significant population. The PA is also close to other tourist hotspots such as Victoria Falls (Zimbabwe), the Caprivi Strip (Namibia) and Livingstone (Zambia). The Moremi Game Reserve's share of NL has risen steadily from 0.2% in 2014 to 1.6% in 2018, suggesting steady growth in economic activity within the PA. It did, however, on average, produced the smallest share of NL (0.8%) between 2014 and 2018. The Makgadikgadi and Nxai Pan produced the second highest average share of 1%.

### Conclusion

The study found a strong association between NL and NMGDP at the national level in Botswana, returning a correlation of 97% between their annual growth rates over the period 2014-18.

At the sub-national level, economic growth as measured by the NL is fastest in "rural" areas, followed by urban villages and lastly towns/cities. This could be a reflection of the emergence of newly-lit areas which are most likely to be found in rural areas as the electricity grid in Botswana expands. This result may also reflect the impact of other infrastructure developments and poverty alleviation schemes across the country. In terms of the distribution of economic activity as measured by NL in Botswana, "rural" areas account for 37% of economic activity, whilst Greater Gaborone and Other Urban areas account for 30% and 34%, respectively.

The spill-over effects of growth in cities/towns seems to be prevalent in Botswana. This is evidenced by rural areas and urban villages just beyond the administrative boundaries of towns/cities, such as Gaborone and Orapa, enjoying robust growth.

The closure of the BCL mine had, as expected, a negative impact on economic growth in Selebi-Phikwe. This impact was, however, smaller than expected and short-lived in its duration. Furthermore, the negative impact of the mine closure appears to have been constrained to Selebi-Phikwe only, with the surrounding region experiencing a robust growth in NL during the period.

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