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MARCH 2023



RESEARCH AND FINANCIAL STABILITY DEPARTMENT
BANK OF BOTSWANA

Volume 36 No. 1

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PREFACE

One of the functions of the Bank of Botswana (the Bank) is to provide researched policy advice on macroeconomic and financial policy matters. The Research Bulletin is one mechanism through which researchers in the Bank tender policy advice, while also contributing to the body of information and knowledge necessary for guiding policy discussions and debates integral to improving the economic lives of the Botswana citizen. However, in reading the articles in this and other bulletins, the usual disclaimer applies, namely, that the articles do not represent the official policy position of the Bank on an issue under discussion; rather that the views and value judgements expressed are those of the authors.

In this edition, we are pleased to share with the reader four papers on a broad range of topics. The first paper describes the conceptual and practical interpretation of Botswana's balance of payments statistics. The second paper investigates the role played by Women Finance House Botswana in promoting women financial inclusion and, therefore, the need for more like-minded initiatives. The third

paper assesses the developments of electronic money in Botswana and how they could impact on the country's definition of broad money and, ultimately, the implementation of monetary policy. The last paper empirically investigates the topical issue of the determinants of export diversification on selected variables in Botswana employing a vector error correction model. The paper proceeds to encourage the country to make the most of the Africa Continental Free Trade Area (AFCFTA) and look for opportunities to diversify the economy more.

I wish to commend the authors and reviewers for their dedication and contribution to economic research and encourage the reader to devote time to reading these works and provide us with any comments that they might have.

Kealeboga S. Masalila
Deputy Governor

Botswana's Balance of Payments Statistics: Sources, Methods and Challenges

*Basimane Powder*¹

ABSTRACT

This paper describes the conceptual and practical framework of Botswana's balance of payments statistics, that is, the data sources and methods used, and challenges encountered in compiling the statistics. It seeks to provide a good understanding of balance of payments statistics, how the statistics are produced, what they measure, how they are interpreted as well as explaining their relationship with other economic variables and macroeconomic policies. The paper concludes that balance of payments statistics serve as an early indicator of the state of a country's internal and external balance and the need for any corrective policy measures. For instance, a persistent current account deficit may signal an overvalued exchange rate or misalignment, just as much as a persistent capital account deficit (net capital outflow) may signal low interest rate environment, requiring monetary policy intervention.

1. INTRODUCTION

The idea of compiling the balance of payments (BoP) statistics was first initiated by the mercantilists², who dominated economic thinking more than two centuries ago, but were subsequently replaced by arguments in favour of free trade. In the 1920s, a few developed countries compiled BoP statistics; and these were published by the League of Nations for the first time in 1924 (Van der Merwe and Bester, 1991). However, the BoP statistics were given substantive recognition after the establishment of the International Monetary Fund (IMF) in 1944, which in turn, prepared a Balance of Payments Manual (BPM) as a comprehensive and systematic guide on compilation of BoP statistics. The first edition of the manual was issued in 1948. It was subsequently revised in 1950, 1961, 1977, 1993 and the latest one (BPM6) in 2009. Each subsequent edition of the

manual was introduced in response to the economic and financial developments, changes in analytical interests and also to accommodate feedback from the experience of country compilers of balance of payments statistics (IMF, 2009).

The latest BoP manual conforms to business practice and the System of National Accounts (SNA) 2008. For example, in the financial account, the term credit is used to denote a reduction in assets or an increase in liabilities, while debit is used to denote a reduction in liabilities or an increase in assets. In the current account, credit entries include exports of goods and services, and provision of factors of production to other economies. Conversely, imports of goods, acquisition of services, and use of factors of production provided by other economies are recorded as debit entries.

Meanwhile, Bank of Botswana Act (Cap; 55:01), section 4(1), mandates the Bank to promote and maintain monetary stability, an efficient payments mechanism and the liquidity, solvency and proper functioning of a soundly based monetary, credit and financial system in Botswana. Consistent with the monetary stability objective, the Bank endeavours to foster monetary, credit and financial conditions conducive to the orderly, balanced and sustainable economic development of the country. As part of the data gathering and monitoring activity to support the discharge of its statutory mandate, the Bank started compiling BoP statistics for Botswana in 1976, and these are routinely published and analysed in the Bank's Annual Reports.

This paper provides a brief description of how the Bank compiles Botswana's BoP statistics. This includes a description of the sources of data, methods used, how they relate to macroeconomic policies and challenges encountered in the production of those statistics. The paper is organised as follows: Section 2 defines BoP statistics, while Section 3 provides an overview of how BoP statistics are presented in Bank's publications and identifies the sources of data as well as the methods applied in the calculation of the three main BoP accounts (current, capital and financial account). This section also outlines how BoP data relates to fiscal policy, monetary policy and exchange rate policy. Section 4 discusses the main problems encountered in compiling the BoP statistics in Botswana and suggests possible solutions, and Section 5 concludes the paper.

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2 Mercantilists believed that a country's wealth could best be judged by the amount of precious metals or bullion it possessed.

2. DEFINITION OF BALANCE OF PAYMENTS

The literature provides various definitions of the BoP. The most followed and widely adopted definition is that of the IMF, which describes the BoP as a statement that systematically summarises economic transactions between residents and non-residents of an economic territory for a specific time period, usually one year. The term 'systematically' implies that the BoP statistics are not recorded in a random way, but according to an organised and definite system. Given that these statistics are compiled for a given period of time and not at a specific date, it follows that the BoP records flows rather than stocks. Transactions entering the BoP statistics fall into three main categories: the current account, capital account and financial account.

In BoP terms, a transaction is defined as an interaction between two institutional units that occurs by mutual agreement or through the operation of the law and involves an exchange of value. Mutual agreement means that there is prior knowledge and consent by the institutional units. Transactions imposed by force of law are applicable mainly to certain distributive transactions, such as the payment of taxes, fines and penalties. Each transaction in the BoP is recorded as consisting of two entries of equal and opposite sign (credit and debit). Hence, the sum of the entries is conceptually equal to zero, implying that the accounts as a whole are in balance. However, during the process of compiling BoP statistics, transactions are calculated independently from their counterparts and the time of recording a credit and debit of the same transaction may differ. This, therefore, gives rise to net errors and omissions. The net errors and omissions, which also cater for unrecorded transactions, are then included in the BoP statistics as a balancing item.

All economic transactions should be recorded at the time of legal change of ownership and not at the time of payment, which implies that BoP statistics are recorded on an accrual basis rather than a cash basis. This principle implies that various timing adjustments have to be made pertaining to information from certain sources for BoP purposes, for example, loan agreements are not recorded until the actual flow takes place. To maintain consistency with other macroeconomic accounts, the market price is used for valuation of all economic transactions. By definition, a market price is the price a willing buyer is comfortable to pay to a willing seller in a situation whereby the two parties are independent and where considerations are solely for commercial

purposes. However, since it is difficult to determine a market price for certain transactions³, compilers are compelled to make adjustments and estimations in order to obtain an informed estimate of a market price.

As indicated earlier, the BoP statistics are concerned with economic transactions between residents and non-residents of a country. This concept is important in the sense that assets and liabilities must be classified as domestic or foreign. The concept of residence is not concerned with nationality, legal criteria or currency used, but focuses on an economic unit's predominant economic interest. A household is regarded as having an economic interest when its members maintain a dwelling or succession of dwellings that the members treat and use as their principal residence. An individual is regarded a resident if he or she resides or intends to remain in a country for a period exceeding one year. An enterprise is considered a resident when it has an economic interest in the country and it is engaged in a significant amount of production and has the intention to operate in the country for a period of more than a year. However, there are exceptions, such as diplomatic representatives, members of the armed forces, students and medical patients, all of whom are residents of their countries of origin regardless of their length of stay in another country. This is so because their 'centre of interest' is in their countries of origin where they predominantly live.

3. PRESENTATION OF BOTSWANA'S BALANCE OF PAYMENTS STATISTICS

In Botswana, the BoP statistics have been compiled annually since 1976, while quarterly compilation started in 2008. Botswana's BoP statistics were presented in accordance with BPM5 standard until September 2020 when migration to BPM6⁴ standards commenced. Conceptually, BPM6 broadly maintains the methodology of BPM5, however it deepens harmonisation with the other macroeconomic datasets such as the monetary and financial statistics and those in the System of National Accounts. The statistics are published in the Bank of Botswana Annual Report, the monthly Botswana Financial Statistics publications, and by various international organisations, such as the IMF and World Bank.

3 Examples of such transactions are a direct exchange of goods for other goods rather than for money, transactions where the buyer and seller are the same entity (e.g., branch of a bank and its head office); Transactions where there is no legal change of ownership (e.g., financial leases).

4 BPM6 made changes in classification of transactions, terminology and sign conventions in the financial account.

The statistics are presented in a systematic and analytical manner, that is, the standard components of the BoP are classified in such a way that certain balances are emphasised for further economic analysis. As indicated above, the BoP has three main components, being the current account, the capital account and the financial account, each of which is described in detail below. Moreover, the BoP components are standard internationally and facilitates cross-country comparison.

3.1 Current Account: Sources⁵, Methods And Linkages With Macroeconomic Policies

Current Account Main Components

The current account is an important grouping within the BoP accounts. It shows flows of goods (merchandise trade), services, primary income and secondary income, between residents and non-residents. Merchandise trade refers to imports and exports of goods, while trade in services account covers payments and receipts related to transportation, travel and other services (such as telecommunications, computer and information services). The primary income account, on the other hand, records the return that accrues to institutional units for their contribution to the production process or for the provision of financial assets and renting natural resources to other institutional units. It is categorised into components, namely the compensation of employees, investment income, other primary income. Secondary income includes transfers of general government (for example, grants between different governments, payments of current taxes on income and wealth) and other transfers (for example, workers remittances, premiums less service charges and claims on non-life insurance). Essentially, secondary income covers transactions of goods, services and financial items for which there is no *quid pro quo*⁶. The account is also important in the sense that it facilitates the integration of the BoP into the rest of the world (ROW) account. The net balance of the current account represents a measure of an economy's saving and spending behaviour.

Current Account Data Sources

(a) Merchandise Trade

Data on trade flows published by Statistics Botswana (SB) as well as data collected from customs returns compiled by the Botswana Unified Revenue Service (BURS) are the main sources of information used in compiling the merchandise trade account, that is, imports and exports, in the BoP. Data for some principal exports are obtained directly from major exporting companies⁷, for example, copper and nickel from BCL Limited until July 2012, salt and soda ash from Botswana Ash, gold from Mupane Goldmine, as well as meat and meat products from the Botswana Meat Commission (BMC). Data on principal exports are collected on a monthly basis, two weeks after every month end.

To comply with the IMF requirements data on imports data published by SB which is on a cost, insurance and freight (cif) basis, are adjusted to free on board (fob⁸) basis to ensure uniformity and comparability with other countries. Meanwhile, exports data are already on fob basis and therefore, require no adjustment.

(b) Services

Most of the services data are obtained from summaries of the International Transactions Reporting System (ITRS). These are forms used to capture international cash transactions passing through domestic commercial banks that are submitted to Bank of Botswana two weeks after every month end. There are two types of forms: Form S, records exports of services (incoming payments-credits), and Form A records imports of services (outgoing payments-debits). Services are categorised into three main groups; these are transportation, travel and other services⁹. Where data are not available, estimates are made for these three categories using the previous year's figures, which are adjusted by GDP growth rates, average inflation and/or the average of previous two periods, depending on what transpired during the year.

5 Appendix 1 depicts a schematic presentation of the sources of information for all balance of payments accounts.

6 A one way transaction where something is given without anything expected in return.

7 Effective May 2020, SB exports figures were adopted since they have better coverage i.e., they covered other smaller entities that were not reporting directly to the Bank.

8 Fob makes a clear distinction between items regarded as goods and the cost of any additional distributive services that might be included in the final value of goods.

9 Other services include, among others, telecommunications, computer and information services.

Transportation covers transactions in the transportation of goods from the customs frontier of an exporting country to the customs frontier of an importing country. The Bank used to have a transportation quarterly survey, which was terminated due to low response rates. Currently, the debit side of transportation is partly obtained from SB as freight of imports of goods from countries that do not have a common border with Botswana and it also includes freight and fares collected through the ITRS, while the credit side entirely depends on ITRS. Travel data comprises all expenditure by visitors to and from Botswana, irrespective of the purpose of their visit. For the calculation of travel expenditure and receipts, the Bank relies on the ITRS and information from the Department of Tourism. Other services include all payments and receipts for services not included under transportation or travel and are sourced mainly from the ITRS. In 2008, the Bank started relying entirely on information from the ITRS for the services data. Prior to 2008, the Bank relied on estimates based on trend forecasting.

(c) Primary Income

With the primary income category, compensation of employees covers wages, salaries in cash and in kind and employers' social contributions for and by non-resident workers. Data from the ITRS forms coded "salary" feed into this category. When these data are not available, past trends are used to derive estimates. Investment income covers receipts and payments of income associated with residents' holding of external financial assets and with residents' liabilities to non-residents. Investment income consists of dividends, branch profits and reinvested earnings, interest earned on other capital (loans), as well as imputed income to households from net equity in life insurance reserves and in pension funds.

The credit side of this account covers income from the fund manager's portfolio, the international portfolio managed by the Bank and income from IMF administered funds. It, therefore, includes data from the Bank's financial statements (mainly interest on foreign exchange reserves), as well as interest and dividends earned or received by private enterprises. The debit side records dividends, profits and interest paid out. Interest paid out is derived from public debt obligations and is sourced from the Cash Flow Unit (CFU) of the Ministry of Finance (MoF). The

debit side also records dividends and profits from private companies, which is sourced from the BoP annual survey¹⁰. If actual data are not available, the previous year's proportions are usually applied to forecast the missing data, provided there were no substantial economic variations between the two years.

(d) Secondary Income (Current Transfers)

Secondary income is divided into private and government. The private sector credit and debit sides mainly cover family maintenance, as well as donations and gifts incoming and outgoing, and they are all sourced from ITRS. The credit side of Government records SACU receipts and recurrent grants to the Government, while the debit side records the duties collected by Botswana and remitted to the revenue pool. The data are available from reports from BURS.

Current Account And Linkages With Macroeconomic Policies

The importance of the current account balance as an indicator of the country's expenditure and saving behaviour is a clearly stated standard identity linking the current account with national income, specified as:

$$\text{CAB} \equiv \text{GNDY} - (\text{C} + \text{I} + \text{G}) \equiv \text{S} - \text{I}$$

Where:

CAB	=	Current Account Balance
GNDY	=	Gross National Disposable Income
C	=	Private consumption expenditure
I	=	Gross domestic investment
G	=	Government expenditure
S	=	Gross domestic saving

Therefore, if the country is spending more than it produces, a deficit will be recorded in the current account. The current account deficit becomes much of a concern if it is persistent and financed by unsustainable borrowing, since it leads to misplaced productive resources, lower economic growth and price instability. However, the deficit is acceptable if it is matched by capital or financial inflows. In the case of Botswana, because of its prudent management of diamond revenues, the country

10 The Bank conducts an annual BoP survey to a sample of 250 enterprises where they record all international transactions between residents and non-resident enterprises.

has in the past generally enjoyed current account surpluses, except during times of economic crises. However, more recently, there has been evident transition to structural current account deficits as diamond exports declined, and in the context of lack of traction of economic diversification, hence leading to a reduction in the country's foreign exchange reserves that were drawn down to finance the current account deficit. Some of the key external sector performance and policy linkages are highlighted below.

(a) Current Account and Fiscal Policy

Fiscal policy has an important bearing on the current account balance. A large public sector external borrowing that does not result in high government investment, should result in a large deficit on the current account of the BoP. Conversely, a surplus on the accounts of the public sector that is not neutralised by higher government investment and lower net saving by the private sector should result in a surplus on the current account of the BoP. Therefore, the public finances of a country are an important factor influencing the current account balance.

In the event of an unsustainable¹¹ current account deficit in a country, a number of options are available to the government to re-establish equilibrium in its BoP accounts. However, before a government can take a decision to apply any fiscal measure, there is need to first establish the cause of the deficit and to evaluate whether exchange rate adjustments and monetary policy cannot be used to restore the equilibrium; thus the need for a detailed analysis of BoP components to ascertain the source of imbalance (structural deficit). The fiscal measures that can be used to address the external sector imbalance (structural current account deficits) include increase in government revenue through enhanced domestic resource mobilisation, reducing government current and capital expenditure, increasing government external borrowing and/or using foreign exchange reserves to finance the deficit. It should be noted, however, that increasing external borrowing or using foreign exchange reserves to finance the current account deficit can only be used as temporary measures until other more durable solutions can be deployed to bring

the account to equilibrium. Similarly, a reduction in government capital expenditure is not sustainable in the long term since infrastructure development and expansion of productive capacity is a critical element of creating and maintaining the necessary conditions for sustainable and inclusive economic growth.

(b) Balance of Payments and Exchange Rate Policy

BoP statistics are of paramount importance in understanding exchange rate movements of a currency. The supply (availability) of foreign currencies depends on the size and value of country's exports, income earned on foreign investments, transfer receipts, the inflow of capital and the extent to which these transactions are denominated in foreign currencies. On the other hand, the demand for foreign currencies stems from the payments for imports, returns on foreign investment, transfer payments, capital outflows and whether these transactions are made in foreign currencies. The BoP provides a systematic record of these transactions with the rest of the world for a given period of time. Such information is essential for analysing the changes in the supply of and demand for foreign currencies and for gaining a better understanding of changes in the external value of the domestic currency. A detailed analysis of the transactions in the BoP compiled on an accrual basis is, therefore, essential to determine the underlying causes of exchange rate changes or pressures, depending on the exchange rate regime in place (IMF, 2002).

Botswana's exchange rate policy emphasises the objective of promoting economic diversification; and the need to anchor the competitive position of Botswana's non-traditional exports and import-substitution activities. To pursue these goals, the Government of Botswana, through the Bank of Botswana, has sought to avoid overvaluation of the Pula, by not keeping the exchange rate too rigid in the face of a positive inflation differential between Botswana and its trading partners or allowing the currency to move upwards, thus threatening export competitiveness. To avoid discrete and large interventions, authorities adopted a crawling peg exchange rate mechanism in May 2005. With this mechanism, the value of the domestic currency is adjusted on a regular basis according to a predetermined formula that considers the differential between Botswana's inflation objective range and the forecast inflation in trading partners.

11 Current account is said to be unsustainable if it is persistent and the country is unable to secure the necessary financing of the deficit.

The annual review and adjustment of the nominal effective exchange rate in line with the policy objective is evident after the introduction of the crawling peg mechanism. However, the key exchange rate policy variable, the real effective exchange rate, is the ultimate yardstick of export competitiveness (Mpete 2017). For example, a continuous appreciation of the real effective exchange rate alongside external imbalance (structural current account deficit) might suggest overvaluation of the exchange and loss of domestic industry competitiveness and, therefore, a need for exchange rate adjustment. In the case of Botswana, this would imply a steeper downward rate of crawl.

(c) Current Account and Monetary Policy

The primary objective of monetary policy for many central banks is to achieve price stability. Although attaining BoP equilibrium is not usually the main objective of monetary policy, BoP statistics are nevertheless a very important factor in determining monetary policy stance since they provide early signals of untenable developments in the economy. To achieve price stability, the current account balance and its counterpart balance (that is, the balance on financial and capital accounts) are essential indicators that need to be evaluated in determining the monetary policy stance. On the one hand, accommodative monetary policy (low interest rate environment) can improve access to financing by the domestic industry, therefore, enhanced domestic investment and production and potentially increase in exports (decrease in imports) leading

to an improvement in the external sector balance (current account surplus or reduction in deficit). On the other hand, low domestic interest rates may lead to (net) capital outflow, therefore reducing domestic investment opportunities and access to financial resources by the domestic industry and, therefore, potentially lower production and exports, leading to a deterioration in the external balance position.

3.2 Capital Account: Sources and Methods

The capital account in the international accounts, records capital transfers between residents and non-residents (IMF, 2009). The data are sourced from ITRS, and are usually very small, as shown in Table 1. These are transfers in which the ownership of an asset (other than cash or inventories) changes from one party to another; or which obliges one or both parties to acquire or dispose of an asset (other than cash or inventories); or where a liability is forgiven by the creditor. Cash transfers involving disposal of non-cash assets (other than inventories) or acquisition of non-cash assets are also classified as capital transfers, for example, an investment grant. A transfer in kind without a charge is classified as capital transfer when it consists of the transfer of a non-financial asset (other than inventories, that is, fixed assets, valuables, non-produced assets for example natural resources such as land) or the forgiveness of a liability by a creditor when no corresponding value is received in return. The capital account also covers transfers relating to transactions, such as the sale of houses and land by migrants' workers when leaving the country.

MAIN COMPONENTS OF THE BALANCE OF PAYMENTS ACCOUNTS (P MILLION)

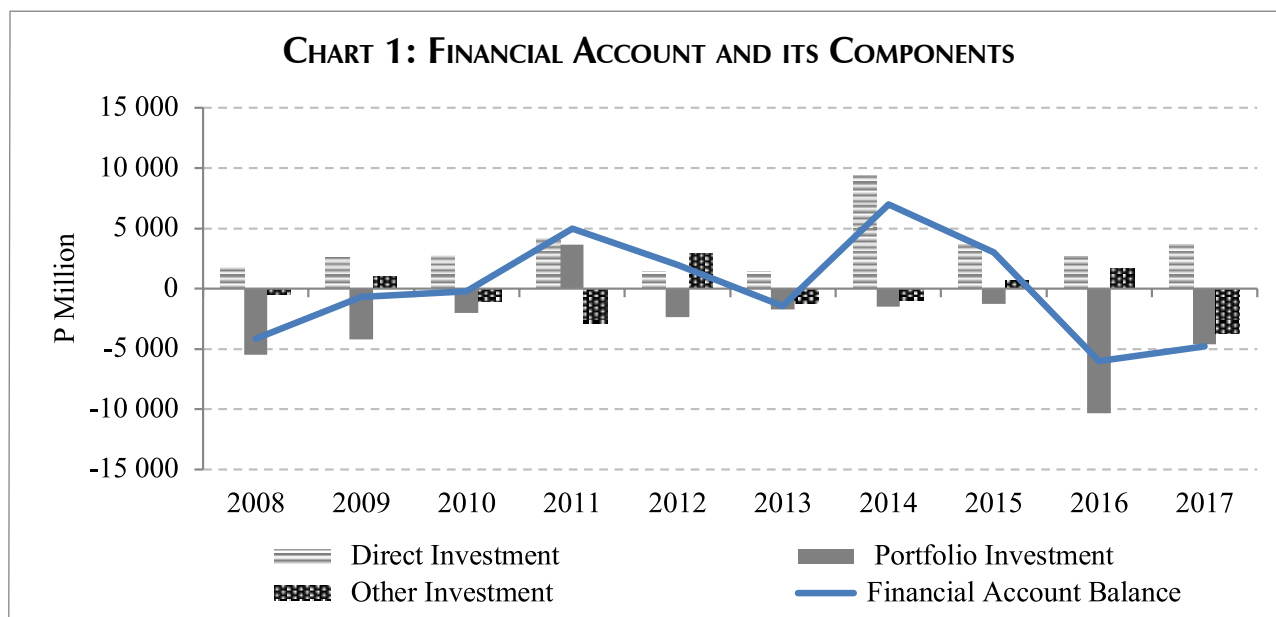
Period	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Current Account	1 006	-4 680	-3 621	1 808	-3 034	9 549	19 260	8 233	23 389	22 234
Capital Account	-	-	23	3	-	1	-	2	-	16
Financial Account	4 960	1 966	-1 441	6 984	2 992	-6 009	-4 763	-3 278	-6 348	-10 141
Net Errors and Omissions	1 487	-1 848	-1 472	-5 364	- 819	-2 201	-3 093	-5 013	-14 197	-15 361
Change in level of Reserves	-10 093	10 704	7 061	-9 424	954	-8 455	-11 340	-5 770	8 077	3 112

Source: Bank of Botswana

3.3 Financial Account: Sources And Methods

The financial account records net acquisitions of assets and net incurrence of liabilities. The account is made up of direct investment, portfolio investment and other investment. Botswana recorded significant financial account movements in both directions net inflows and outflows in the past decade. The large financial account net inflow in 2008 was mainly due to a decrease in equity securities in portfolio

investments; while the 2009 and 2011 net inflows were mainly loan drawdowns by government, in the other investment category. In 2012, the net inflows were due to direct investment, mainly large retained earnings by businesses. Conversely, the increase in holdings of offshore equity by pension fund managers and commercial banks contributed to the large net outflows in 2015 and 2016. Chart 1 shows the financial account and its sub-components over a period of ten years.



Source: Bank of Botswana

Direct investment is a cross-border investment associated with a resident of Botswana having more than 10 percent of the shareholding in an enterprise that is resident in another country and vice versa. All enterprises that are under the control or influence of the same direct investor are considered to be in a direct investment relationship. Direct investment is not based on the nationality, citizenship or ethnicity of the investor. It also excludes the equity holdings of unrelated entities and is not based on the nature of the investment, such as a greenfield investment¹². Furthermore, it is not based on promised approvals of investments that may never take place in the said period. Direct investment transactions (occurring abroad and in Botswana) are further sub-classified into equity capital and other capital (for example, inter-company transactions)¹³. The principal source of information for estimating direct investment is the BoP annual survey for both inward and outward investments.

¹² Green field investment is a type of foreign direct investment (FDI) where a parent company builds its operations in a foreign country from the ground up.

¹³ Inter-company transactions are internal transactions between two associated companies, that is, transactions between a direct investor and the direct investment enterprise.

Portfolio investment is defined as cross-border transactions and positions involving debt or equity securities, other than those included in direct investment or reserve assets (BPM6, paragraph 6.54). These securities are negotiable and can be transferred from one entity to another and are also designed to be traded on organised and other markets (secondary markets, such as Botswana Stock Exchange (BSE)). Examples of debt securities include treasury bills, bonds, certificates of deposit, commercial paper and long-term debt securities. Equity securities cover listed and unlisted shares, as well as other equity. Examples of equity securities include participating preferred shares and depositary receipts¹⁴ (if issued against the security of equity securities).

For the Botswana balance of payments, portfolio investment equity assets include dual listed and offshore equities, with the data obtained from the distribution of pension fund assets records. The liabilities are represented by shares listed under the

¹⁴ A depositary receipt is a negotiable financial instrument issued by a bank to represent a foreign company's publicly traded securities.

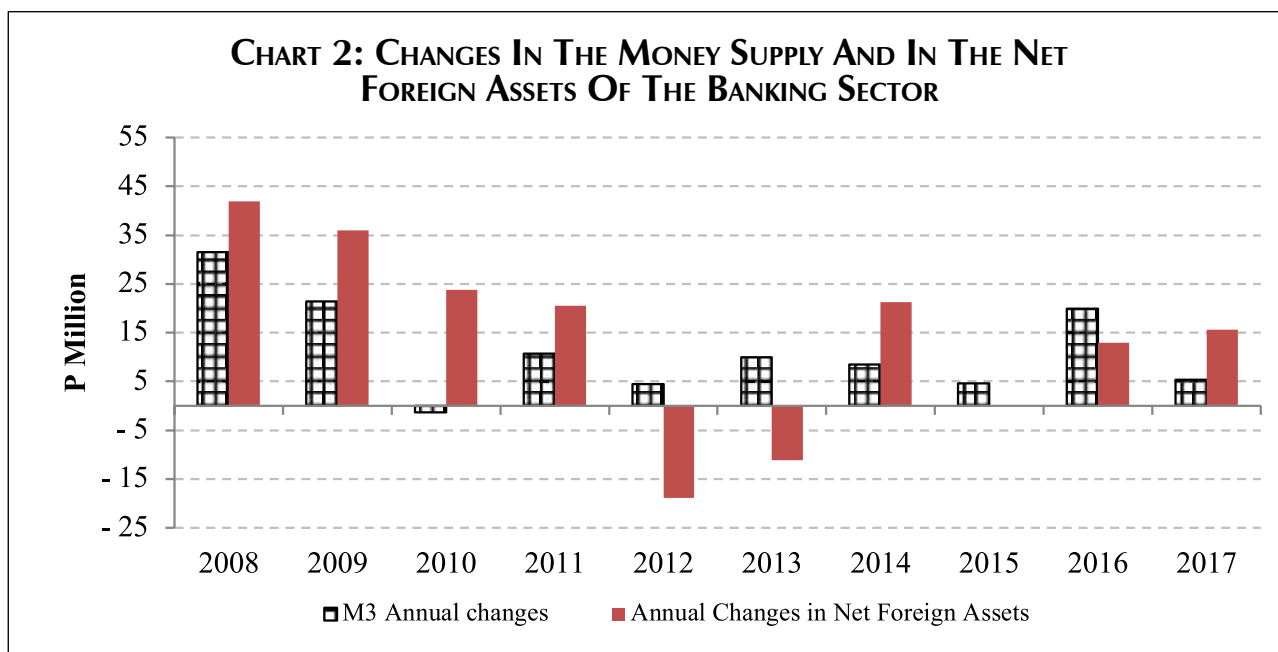
foreign sector in BSE reports. Offshore bonds and offshore near cash assets fall under the category of debt securities, while liabilities are represented by government bonds (held by non-residents) in the Bank of Botswana balance sheet. It should be noted that portfolio investment in Botswana currently includes valuation adjustments arising from either exchange rate and/or market movements, since it is calculated from stocks of pension fund assets, with no disaggregation that shows changes due to market gains/losses and those that are due to transactions (additions and reductions of assets). Ideally only changes due to transactions should be recorded.

Other investment is a residual category in the financial account and comprises all transactions not included under direct investment and portfolio investment. Collection of data on other investment is problematic because it is dispersed across different institutional units. Flows of assets and liabilities are classified primarily by instrument categories, such as other equity, currency and deposits, loans, insurance, pension, standardised guarantees schemes, trade credits and advances, as well as other accounts receivable or payable. For presentation purposes, these instruments are categorised into three resident institutional sectors, namely, government, banks and other sectors. For government, the inflow (credit)

mainly covers loans obtained from other countries or other international organisations. It also includes, for the other institutional sectors, financial leases, repurchase agreements and other short- and long-term loans, including trade finance.

The debit side of other investment records loans by the Government of Botswana to other countries and other non-resident organisations. The main source of this information is the Cash Flow Unit of the MoF. The assets and liabilities of the Bank of Botswana are derived from the quarterly depository corporation's survey.

BoP statistics are also used in explaining changes in the money supply, which can be an essential indicator for monetary policy formulation. Increases in the money supply are usually closely correlated with price increases over the long term. In Chart 2, the annual changes in the net foreign assets of the banking sector of Botswana are compared with the annual changes in the broadly defined money supply (M3) from 2008-2017. This chart shows that the changes in the net foreign assets of banks were an important cause of changes in money supply in Botswana during certain years. This relationship is also shown by a positive correlation of 46 percent between the two series.



Source: Bank of Botswana

Money supply can be defined by the following identity:

- M = NFAB + NCG + NOA, where
- M = the money supply
- NFAB = net foreign assets of the banks
- NCG = net claims on the government sector
- NOA = Net other assets

The identity illustrates the interrelationship between BoP transactions and changes in the money supply. The main use of this identity is to provide an analytical framework for identifying and quantifying the factors which had direct influence on the money supply. However, a main weakness of this kind of analysis

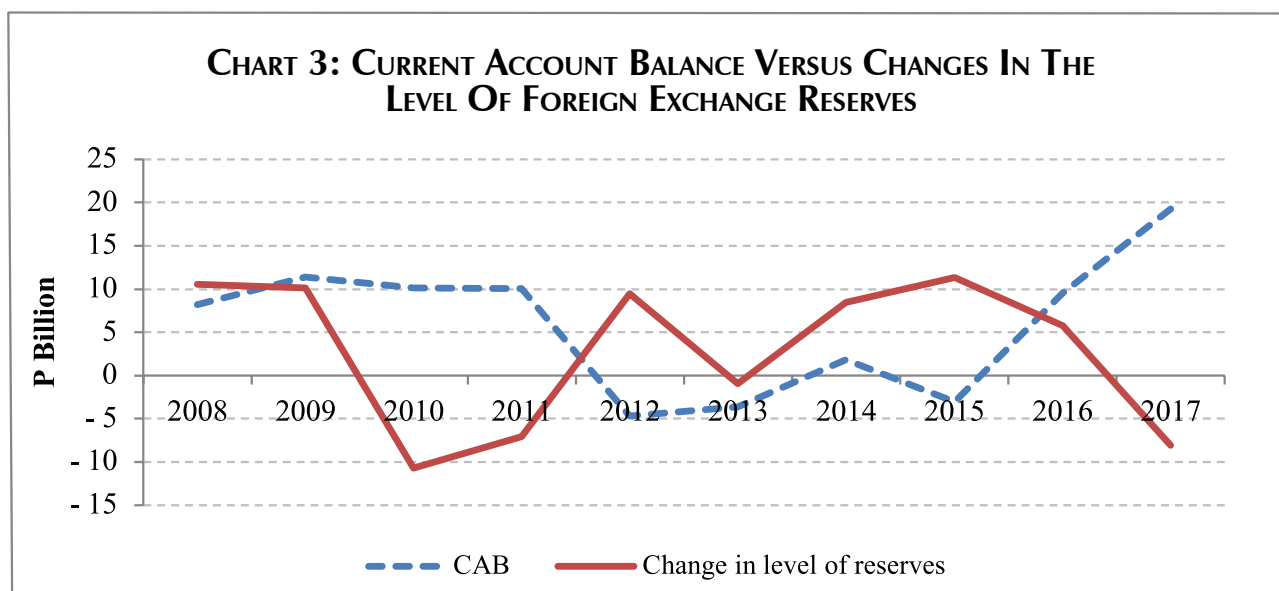
is that changes in the money supply cannot be fully explained from the supply side as they may also be due to changes in investors' preferences arising from interest rate movements and expectations (behavioural influences). Nevertheless, it is a useful starting point for an analysis of the underlying factors that affect the money supply.

Reserve assets are a major functional category of the financial account and essential element in the analysis of an economy's external position. According to BPM5, they are presented below the line to indicate how BoP imbalances are financed. Reserve assets include external assets that are readily available and controlled by monetary authorities for meeting the balance of payments financing needs, for intervention in foreign exchange markets and for other purposes, such as maintaining confidence in

the currency and the economy, as well as serving as an anchor for access foreign currency loans (BPM 6, paragraph 6.64). Reserves are divided into foreign exchange holdings, Special Drawing Rights (SDRs) and the reserve position at the IMF. Foreign exchange reserves that are in excess of what is expected to be needed in the medium term are transferred to the Pula Fund; a long-term investment portfolio, akin to a sovereign wealth fund.

SDRs are international reserve assets created by the IMF to supplement other reserve assets that are periodically allocated to IMF members in proportion to their respective quotas. Reserve position in the IMF consists of the reserves the country deposit to the IMF, such as the reserve tranche¹⁵ and or any loan to the IMF that is readily available to the member country.

CHART 3: CURRENT ACCOUNT BALANCE VERSUS CHANGES IN THE LEVEL OF FOREIGN EXCHANGE RESERVES



Source: Bank of Botswana

The reserves declined substantially in 2009, following the financial crisis, and started to pick up in 2010 and 2011 when the effects of the financial crisis were subsiding and also due to inflows related to government borrowing that was, in large part, a response to the crisis. Chart 3 shows the movements in both the current account balance and change in the level of reserves from 2008 to 2017.

In theory, the BoP should balance, i.e., a current account deficit has to be financed by a net inflow in the capital and financial accounts, while a current account surplus should correspond to an outflow in the capital and financial accounts (including reserves), for a net figure of zero. The overall BoP balance represents the sum of balances of the current account and the non-reserve portion of the capital and financial account, plus net errors and omissions. The following identity relates the current

account balance (CAB) and the financial and capital accounts balances;

$$\text{CAB} = \text{NKA} + \text{FRT}, \text{ where}$$

$$\text{NKA} = \text{Net flows on the capital and financial accounts excluding reserve assets}$$

$$\text{FRT} = \text{Transactions in foreign reserve assets}$$

From this identity it can be deduced that sustainability of persistent deficits on the current account depends to a large extent on the size and

15 A reserve tranche is a portion of the required quota of currency each member country must provide to the International Monetary Fund (IMF) that can be utilised for its own purposes without a service fee or economic reform conditions.

form of the capital and financial flows that a country receives. However, in practice, the attribution could be affected by data limitations. In particular, the fact that data are compiled from multiple sources gives rise to some degree of measurement error, which is recorded separately as a balancing item known as net errors and omissions. Net errors and omissions are derived as the balance on the financial account minus the balances on the current and capital accounts. A negative figure means that the outflows are overestimated, or the inflows are underestimated, and the opposite holds. The figure for net errors and omissions for Botswana is relatively high in relation to total flows and the current account balance, signalling that there are some significant data. Efforts are, therefore, being made to improve data coverage and compilation. As indicated above, balance of payments data and outcomes have an important bearing on evaluation of performance of several policies, including trade, exchange rate and monetary policies and, therefore, related need for policy variations to improve outcomes where necessary. To that extent, the accuracy and reliability of balance of payments data is critical.

4. CHALLENGES IN COMPILING BOP STATISTICS AND POSSIBLE SOLUTIONS

The production of BoP statistics in Botswana continues to face various challenges as indicated below.

First, is the late and low response rate to BoP surveys by the surveyed entities. Broadly, this is attributable to inadequate knowledge and value placed on the importance of completing survey questionnaires by the respondents. Inevitably, this results in official recording of incomplete and, therefore, inaccurate information from the survey. So far, the surveys have been carried out through mailing of questionnaires to companies to complete and return to the Bank and follow ups (response rate averaged approximately 50 percent in the past five years). Going forward, there are plans to introduce online questionnaires with a view to improving the response rate and interaction with respondents. The Bank of Botswana is also participating in a related regional project to design an online survey system. Moreover, there are plans for regular and intensified interactions with stakeholders and survey respondents through workshops and briefings on the importance of the survey.

Second, hitherto, the manual processing of the ITRS forms has been time consuming, labour intensive, but with limited data coverage, capturing only transactions passing through the banking system. In order to effect improvements, there is ongoing development of software and computer systems to enable electronic submission of ITRS forms; thus, timely submission, quicker processing and enhanced coverage of international transactions.

Third, there are notable disparities between data compiled by the Bank of Botswana and Statistics Botswana due to varying sources of data and methodology for compiling trade statistics. Therefore, provision of metadata accompanying statistical tables and acknowledging the sources of data is essential to make users aware of the varying methodologies when interpreting the statistics.

5. CONCLUSION

Balance of payments statistics are very important in the determination of economic policy because they provide information on external sector performance and may be useful in highlighting early signals of potentially adverse or untenable developments. The current account balance, for example, is an indicator of the balance between domestic saving and investment and portend economic problems, if it is prolonged and unsustainably high. However, it may not be such a problem if it is financed by investment flows from the financial account. Developments in the current account are consequently of great importance in the determination of monetary policy, fiscal policy and exchange rate policy. Indeed, adverse developments may be indicative of policy misalignment requiring adjustment.

Moreover, the BoP statistics are important in the formulation of trade policy as they provide information on performance of exports relative to imports, therefore, productivity in relation to domestic demand, as well as the potential to accumulate sufficient foreign exchange reserves for consumption of imports. Overall, therefore, BoP statistics must be of high quality and readily available when needed in order to inform policymakers, researchers, investors and the public at large. In this regard, the Bank of Botswana and other statistics producing organisations should continue working together towards improving data coverage and quality, as well as harmonisation of statistics for usability, policy relevance and ease of analysis and understanding by users.

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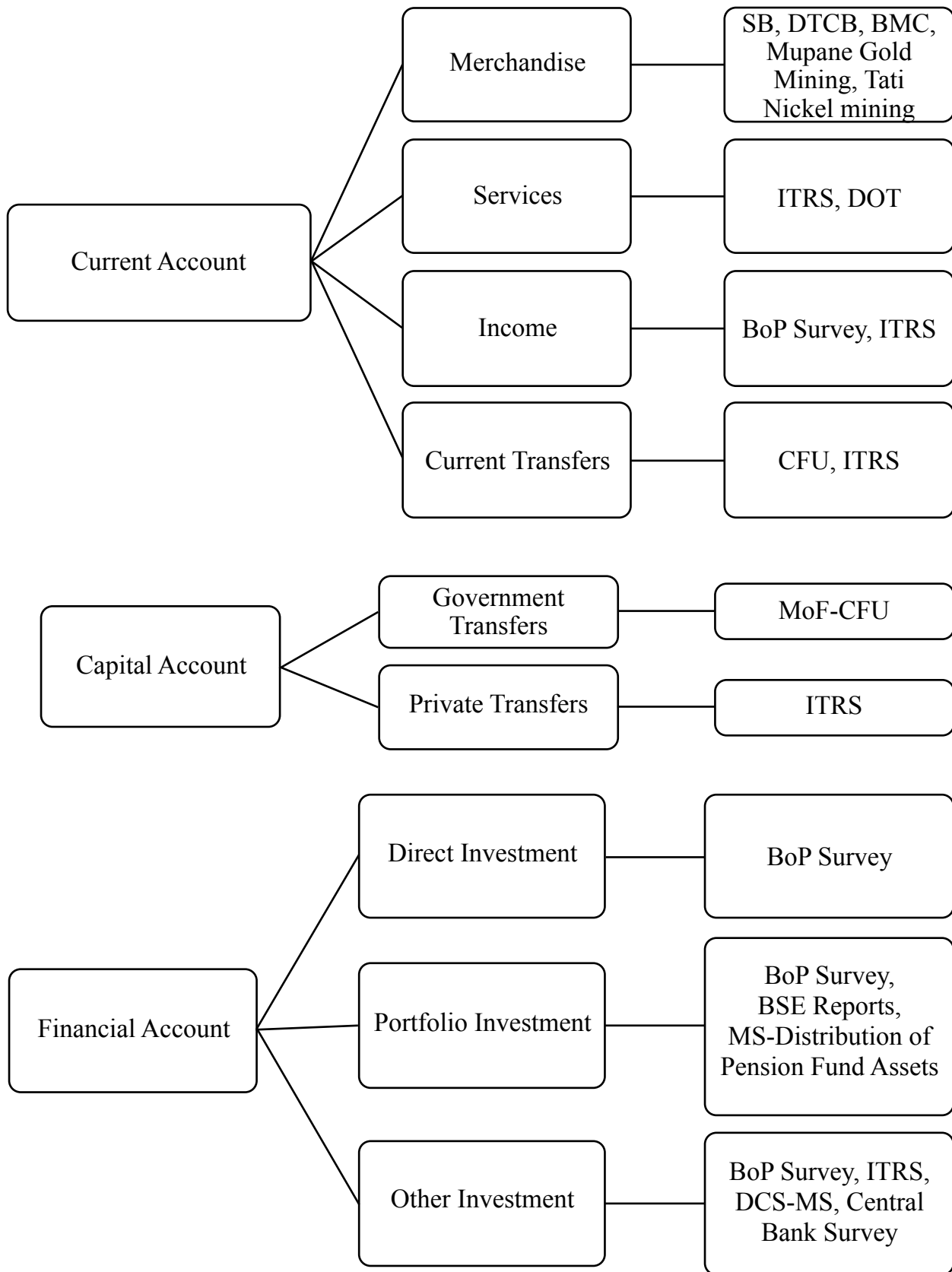
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APPENDIX 1: BALANCE OF PAYMENTS ACCOUNTS AND DATA SOURCES



Source: Bank of Botswana

Assessing Women Financial Inclusion Through Microfinance in Botswana: The Case of Women Finance House Botswana

Lorato Mochankana ¹⁶

ABSTRACT

This paper investigates the role played by Women Finance House Botswana (WFHB) in promoting women financial inclusion, through a descriptive research methodology. Financial inclusion entails broadening access and use of financial services, particularly within segments of the population which have traditionally faced formal or informal restrictions, such as women. Both quantitative and qualitative data were collected using a structured questionnaire and a key informant interview. The results of the study show that the WFHB provides financial services, such as credit, savings, and financial literacy to women in Botswana, hence, promotes financial inclusion. Availability of credit and savings services enables women to grow their small businesses and care for their families. Thus, there is a need for creation of more microfinance products and services, tailor-made for women and low-income earners. Such products and services promote inclusive economic growth and financial inclusion in Botswana.

1. INTRODUCTION

Financial inclusion means that all working-age adults have effective and quality access to, and usage of financial services provided by formal institutions, at a cost that is affordable to the customers and sustainable for the providers (The Global Partnership for Financial Inclusion (GPII), 2017). Governments around the world have prioritised financial inclusion as a means of achieving financial and economic development and growth (Demirgüç-Kunt et al., 2018). Moreover, in 2015, the World Bank Group indicated that all adults should be part of the formal financial system; have access to a transaction account to store money; as well as send and receive payments as the basic building block of managing their financial lives. Available literature provides evidence that financial inclusion promotes inclusive

growth and is a key enabler to reducing poverty and boosting prosperity through facilitating savings, efficient allocation of capital, and diversification of risks (Sahay et al., 2015 and World Bank, 2020). Furthermore, the United Nations Sustainable Development Goals (SDGs) also consider financial inclusion as a key factor in the drive to end poverty by 2030 (International Monetary Fund (IMF), 2020). Despite the continued growth and the development of financial systems globally, there are still some segments of the population which are excluded from the formal financial system. The financially excluded population usually comprise women, low-income earners, and rural dwellers (World Bank, 2012).

The Global Findex Database¹⁷ of 2017 indicates that financial inclusion is on the rise globally, as 1.2 billion adults had obtained an account since 2011, including 515 million since 2014 (Demirgüç-Kunt et al., 2018). In developing countries, the share of adults with a bank account increased from 54 percent to 63 percent from 2011 to 2017. However, according to the same report, in most parts of the world, women continue to lag men, as globally, 65 percent of women have a bank account compared to 72 percent of men. Furthermore, in developing economies women are 9 percentage points less likely than men to have a bank account. Similarly, the International Monetary Fund (IMF)'s Financial Access Survey (2020) indicates that in most developing countries, less than 30 percent of borrowers in commercial banks are women. These statistics show that women financial exclusion is prevalent across the world. Some of the reasons put forward for this exclusion are: first, women are usually unemployed or involved in small, micro, and medium enterprises (SMMEs), hence, earn less than men; secondly, women lack collateral which limits chances of accessing credit in formal financial institutions; thirdly, some cultural beliefs and practices prohibit women from taking part in the formal financial system (Shankar, 2013; Anyanwu et al., 2018 and Hallward-Driemeier, 2013).

The exclusion of women from the formal financial system is detrimental to both their welfare and economic development. Women's financial inclusion occurs when women have effective access to a range of financial products and services that cater for their multiple business and household needs, and that are responsive to the socio-economic and cultural factors that cause financial exclusion in women

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¹⁷ Global Findex, first released in 2012 and updated triennially, covers 140 economies worldwide, including Botswana, with data collected through sample surveys of roughly 1 000 people in each.

(Department for International Development (DFID), 2013). Accordingly, there is need for financial inclusion programmes that exclusively target women.

Microfinance has been identified as one way of advancing women financial inclusion in many countries¹⁸ (GPII, 2017; IMF, 2020; and World Bank, 2012). Microfinance is defined as a process whereby the poor and disadvantaged societies are given access to financial services such as, amongst others, loans, saving accounts and insurance (Awojobi et al., 2011). The loans are usually given at low or no collateral relative to loans from commercial banks, which require some form of collateral. The other services provided by microfinance institutions (MFIs) are similarly tailor-made for people of low- or no-income status. Microfinance was pioneered by 2006 Nobel Peace Prize winner, Professor Muhammad Yunus. Professor Yunus started Grameen Bank in 1983 with the aim of reducing poverty by providing small loans to the rural poor in Bangladesh (Latifee, 2003). Since then, microfinance has spread to other countries. As such, microfinance is recognised as a means of alleviating poverty and improving the welfare of low-income populations and has been viewed as a weapon against poverty and hunger by the former United Nations Secretary General Kofi Annan (see Bulletin on the Eradication of Poverty, 2004).

Furthermore, empirical research also emphasises the important role played by microfinance in financial inclusion, poverty alleviation, income distribution and women empowerment (Yunus, 2004; Murdugh and Haley, 2000; Sharma, 2000; Okurut et al., 2012; Kasali et al., 2015; and Durrani et al., 2011).

In Botswana, financial products provided by the banking sector (loans, savings, and transaction products) target the middle- and upper-income class, particularly those with formal employment, excluding the low-income class (Jefferies, 2007). Data shows that financial inclusion has improved over the years in Botswana. In 2009, 67 percent of adults were financially included, increasing to 76 percent in 2014 and 84 percent in 2020 (FinMark Trust, 2009 and 2020). The Botswana Government has, through the Financial Sector Development Strategy 2012-16, identified financial inclusion as

a key area to promote economic growth (Econsult, 2016). However, not much was said about the role that microfinance could play in enhancing access to credit. That notwithstanding, there are some microcredit institutions that offer credit to low-income societies. The Women's Finance House Botswana (WFHB) does not only provide credit to low-income women but also offers savings products (microfinance). This study, therefore, explores the role of the WFHB in granting women access to financial services.

The objectives of the study include investigating the financial services offered by the WFHB; examining the uptake of microfinance products and services offered by WFHB; evaluating the appropriateness of products and services offered by WFHB; and deducing policy implications and recommendations from the study.

The remainder of this paper is structured as follows; Section 2 outlines the theoretical background and related research on financial inclusion and microfinance. Section 3 presents the study methodology and analysis of the results. Section 4 concludes.

18 One of the most common ways of boosting financial inclusion for women is through Fintech or using Mobile Money, which is very common in Sub Saharan Africa (IMF, 2016).

2. LITERATURE REVIEW

2.1. Theoretical Underpinnings

2.1.1 Definitions of Financial Inclusion and Microfinance

Generally, financial inclusion is about providing tailor-made financial services and products such as credit, savings, payments, and risk management to segments of the population which are usually excluded from the financial sector. Some terminologies that define financial inclusion are as explained in Box 1.

BOX 1: FINANCIAL INCLUSION DEFINITIONS

- **Financially included:** have/use financial products and/or services – formal and/or informal.
- **Financially excluded:** do not have/use any financial products and/ or services – neither formal nor informal.
- **Voluntary exclusion:** population can access financial services but chooses not to do so e.g., due to cultural and religious beliefs.
- **Involuntary exclusion:** exclusion due to market imperfection, unavailability of formal financial services to meet the needs e.g., low or no income, inaccessibility of institutions, lack of collateral etc.
- **Formally served:** have/use financial products and/or services provided by a formal financial institution (bank and/or non-bank). A formal financial institution is governed by a legal precedent of any kind and bound by legally recognised rules.
- **Informally served:** have/use financial products and/or services which are not regulated and operate without legal governance that would be recognised, e.g., Motshelo, Burial society, Matshonisa.
- **Banked:** have/use financial products/ services provided by a bank, regulated by the regulatory authorities of Botswana.
- **Served by other formal financial institutions:** have/use financial products/ services provided by other regulated (non-bank) financial institutions, e.g., a loan by a micro-finance institution or insurance products, POSO cards, Mobile money, etc.

Source: FinMark Trust (2014)

Theoretically, microfinance attempts to address the problem of financial exclusion through availing a variety of affordable financial products and services to the excluded populations. Noteworthy is that the difference between microfinance and micro credit/ microlending is that microcredit is a component of microfinance. According to the Non-Bank Financial Institutions Regulatory Authority (NBFIRA) (2020), microcredit evolved as a provision of small loans to low-income earners and was later replaced by the term microfinance. In addition to credit provisions, microfinance further involves providing formal financial services which includes savings, insurance, money transfers and other micro-financial services, to low-income households and small enterprises to support their economic activities as well as their financial management and needs. This means that at its inception, microfinance was limited to the provision of loans to the marginalised populations through funds from international donors and sometimes the government (Koveos et al., 2004). However, over the years, MFIs have shifted to a business model that focuses on loan recovery and risk monitoring, with more financial products on offer. The funding structure has deviated from complete dependency on donors and government to almost self-financing and sustainable institutions (Koveos et al., 2004 and Robinson, 1988).

Microcredit products offer clients the ability to borrow money in exchange for an agreement to repay the funds with interest and/or fees at some future point(s) in time. Credit products range from working capital loans, emergency, and consumption loans, to leasing products and housing loans (Ledgerwood et al., 2013 and Letete, 2013). Microcredit is the main financial service of many microfinance business models and has several distinctive features (Bank for International Settlements, 2010). Such features are that: microcredit usually caters for low-income clients, both the underemployed and the entrepreneur with an informal family business; borrowers are typically concentrated in a limited geographic area, social segment, or entrepreneurial undertaking. Moreover, micro loans, by design, are small, short term, and unsecured, with more frequent repayments and higher interest rates than conventional bank loans.

Low-income populations usually save informally through saving at home in a hidden place, storing grains, livestock, and jewellery, saving clubs and deposit collectors in the community. However, such informal saving techniques are risky and costly. Hence, the need to avail deposit accounts to lower income families or individuals as an incentive to save

small amounts of money. A small amount of savings in a secure place can provide resources to manage consumption needs, smooth irregular income, cover expenditures for health and education, or provide the capital necessary to invest in household assets or new tools and operations that improve productivity and contribute to higher incomes (Ledgerwood et al., 2013). Savings also help manage shocks through providing resources during times of need. Some MFIs use the Grameen Bank model, whereby members are requested to leave a certain share of the money borrowed in a mandatory savings account as a form of collateral (the borrowing-to-save technique) (Parameswaran et al., 2003 and Ledgerwood et al., 2013). Nonetheless, other MFIs offer voluntary savings accounts, independent of a credit account. Savings are important for the long-term financial health of households and can be used for medical emergencies, business investment and for school fees (Brown et al., 2015).

Regarding insurance, low-income earners usually live in risky environments and are vulnerable to numerous perils, including illness; accidental death and disability; loss of property due to theft or fire; agricultural losses; and disasters of both natural and manmade varieties, hence the need for insurance (Churchill, 2006). Microinsurance is the protection of low-income people against specific perils in exchange for regular monetary payments (premiums) proportionate to the likelihood and cost of the risk involved. The poor can insure different events such as life, health, old age, accident, credit, and property. Parameswaran (2003) states that the Grameen Bank in Bangladesh for example, requires each member in a group lending programme to contribute 1 percent of the loan amount to an insurance fund to cover the risk of death, thus mitigating their inability to repay the loan. Microinsurance is a new phenomenon in microfinance, hence not many institutions offer it. Additionally, modern MFIs do not only limit themselves to product-based services but offer members additional information relating to the financial environment. Women are taught budgeting, investing and proper ways of using their money.

Even though the products and services listed above are like those offered by banks and other financial institutions, it is important to emphasise that MFIs are different on account of their nature and the operational and economic models they use. For example, MFIs target poor and marginalised individuals with low financial literacy whereas banks and other financial institutions target educated income earners. Furthermore, MFIs have

close relationship with clients, but other financial institutions have an arm's length relationship with their customers.

2.1.2 Theories of Microfinance

Theories that explain the working of microfinance include: The Theory of Social Change through Empowerment and Social Inclusion as used by Bennett (2002). This theory postulates that giving people equal chances to development opportunities will enhance empowerment and, hence, growth. The Theory of the Vicious Cycle of Poverty states that there are events that reinforce each other leading to continuous poverty, and one of the ways of breaking this cycle is through availing credit to the poor (Khan, 2008). This theory states that as poor people continue to get access to credit and savings, they will progressively graduate out of poverty. The Finance-Led Growth theory postulated by McKinnon et al., (1973) stipulates that financial development, through creation of financial institutions and markets and improving the supply of financial services, lead to economic development.

2.1.3 A Case for Women Financial Inclusion

Women lead different economic lives from men, which predisposes them to both voluntary and involuntary exclusion from the financial sector. For example, Hallward-Driemeier (2013) stated that women are far more likely to be in self-employment, as opposed to being employers or wage workers. Additionally, women are viewed as less productive than men, and are, therefore, more likely to be involved in less paying jobs; most women operate small businesses which are less labour intensive and flexible to allow them to care for their families concurrently; and women are less likely to own any economic resources such as land and vehicles (Some barriers to women financial inclusion are summarised in Table 1). Consequently, unless a financial inclusion programme is designed specifically for women, it will often exclude them, or at least impact upon them differently from men. Therefore, to address women financial exclusion, there is need for institutions that focus exclusively on financing women, such as some MFIs (DFID,2013).

Many MFIs target women, helping to shrink gender gaps in accessing credit. Evidently, as data from the financial access survey of 2020 suggests, non-bank financial institutions such as microfinance institutions, are filling the gap to meet the need for access to finance among women in some countries

(IMF, 2020). According to Hallward-Driemeier (2013), some MFIs offer services almost exclusively to female clientele (e.g., Gambia Women’s Finance Association in The Gambia, Kenya Women’s Finance Trust in Kenya, Microloan Foundation MWI in Malawi, Mutuelle d’Epargne et de Credit des Femmes

in Niger, Lift Above Poverty Microfinance Bank in Nigeria, and Small Enterprise Foundation in South Africa). This indicates that microfinance institutions are at the forefront of financial inclusion for women in most economies.

TABLE 1: BARRIERS TO WOMEN FINANCIAL INCLUSION

SUPPLY-SIDE BARRIERS	DEMAND-SIDE BARRIERS	LEGAL AND REGULATORY BARRIERS
<ul style="list-style-type: none"> • High cost of financial services • Inappropriate products offerings • Limited financial institutions and services in rural areas • Collateral requirements exclude women who often lack land/property rights 	<ul style="list-style-type: none"> • Inadequate income or no income • Lack of assets to use as collateral • Cultural beliefs or practices • Financial illiteracy • Lack of identity documents • Risk aversion • Loyalty to informal products (e.g., ROSCAs, burial societies) 	<ul style="list-style-type: none"> • Some account opening procedures discourage women • Legal barriers to owning land, property, and other assets • Customary laws that undermine incentive to invest

Source: Shankar (2013); Anyanwu *et al.*, (2018) and Holloway *et al.*, (2017)

Women financial inclusion is essential as it empowers women, and empowered women can care for their families, empower other women, and spur economic development of their societies and the

nation at large. Inclusive financial systems increase the effectiveness of fiscal and monetary policies by broadening financial markets and the tax base (Sahay *et al.*, 2015) (see Box 2).

BOX 2: FINANCIAL INCLUSION VIS-À-VIS MONETARY POLICY AND FINANCIAL STABILITY

There is growing evidence of the interdependence between financial inclusion, monetary policy, and financial stability.

Financial stability considerations: Financial inclusion can lead to resilient banks, in the sense that if more banks receive bank deposits, they could have a more solid funding base especially in periods of stress. The resilience of banks depends, in part, on whether they have stable funding sources. Financial inclusion also provides diversified loan portfolios for banks. Additionally, financial stability can be expected as financial activities move from unregulated institutions to the regulated ones. On the other hand, higher access to credit could raise non-performing loans in banks and, thus be detrimental to financial stability. High quality banking supervision can mitigate the credit risk, thus ensuring that increased access to credit yields the envisaged benefits.

Monetary policy considerations: Financial inclusion plays a key role in enabling the use of monetary policy instruments, hence enhances the effectiveness of monetary policy. When changing the policy rate (interest rate), the financial sector plays a fundamental role in transmitting the change in interest rates. Therefore, the change in the policy rate, as a monetary policy instrument will be more effective if a lot of people use formal financial services. The use of formal financial services and products also gives policy makers more financial resources for intermediation and increases government tax base.

Source: Sahay *et al.*, (2015) and Khan (2011)

2.2. Empirical Studies on Microfinance and Financial Inclusion

Anyanwu et al. (2018) assessed the impact of Nigeria's microfinance model on women empowerment. This effect assessment was done following some reforms geared towards enhancing women financial inclusion and digitisation of financial products and services. The main aim of the study was to draw conclusions on the effects of available microfinance products in rural communities on women empowerment. Such products include rent savings, child education savings, new-born savings and daily savings accounts. The study concluded that there is a positive and significant correlation between women empowerment and microfinance products. Some studies show that microfinance empowers women through enhanced entrepreneurship. These MFIs target businesswomen and offer them start-up capital and/or working capital. For example, Letete (2013) states that in Lesotho, the uptake of microfinance has enhanced entrepreneurship as members of different MFIs indicated that they were able to get start-up capital from their groups and start businesses. Some of the respondents, who were already involved in businesses but could not expand their business because of the lack of finance, explained that the MFIs helped them overcome such constraint. Paye (2012) examined the effectiveness of microfinance institutions in promoting financial inclusion in Nairobi, Kenya. The study established that MFIs adopted various methods in enhancing financial inclusion in Nairobi. These included: targeting traders and farmers who comprise the bulk of the population and often financially excluded by the formal sector and the use of credit and savings as key financial products that are critical to empowerment.

Another related study by Harelimana (2014) in Rwanda analysed the influence of financial inclusion on the welfare conditions of MFIs clients. The analysis confirmed a positive influence of financial inclusion on the welfare of MFIs clients. Furthermore, in Bangladesh, Pitt and Khandker (2013) estimated the impact of participation by gender in the Grameen Bank and two other group-based microcredit programs in labour supply, schooling, household expenditure, and assets. It was established that in Bangladesh, microfinance had a significant impact on the wellbeing of poor households. Membership in MFIs had a positive impact on household income, production, and employment, particularly in the rural non-farm sector.

Okurut et al., (2012) conducted a study on the 'Effect on Microfinance on Household welfare in Botswana' in the Kgatleng District. Data collected was from 150 respondents of which some were borrowers from the WFHB, and some were non-borrowers. The borrowers were used as a treatment group and those who were non borrowers were used as a control group to assess the difference between the two groups. The study found that microfinance had a positive and significant impact on household welfare and women empowerment in Botswana.

2.3 Financial Inclusion in Botswana

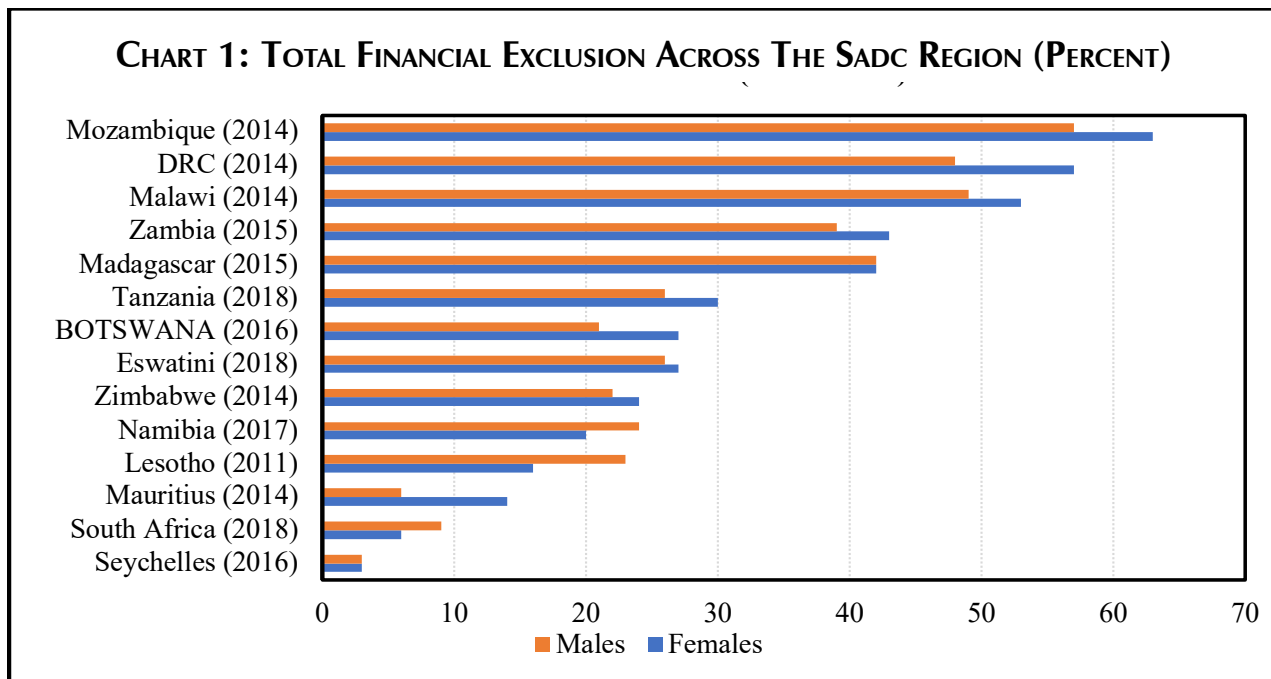
Access to financial services in Botswana is topical, given the lack of comprehensive coverage of the population by the financial sector. The financial sector is dominated by commercial banks, whose business model focuses primarily on salaried, urban employees (Botlhale, 2010). This business model excludes the low-income rural dwellers. For much of the population, the main channel of access to (a limited range of) banking services are the Botswana Savings Bank, operating in association with the Post Office, which has offices across the country, while others use informal channels (Jefferies, 2007).

According to FinScope surveys by FinMark Trust (2009 and 2020), of the adult population, 67 percent were financially included in 2009, compared to 76 percent in 2014. Latest data shows that 84 percent of the adult population was financially included in 2020. The financially included referred to adults with access to a bank account, other formal financial products, or informal financial products. The improvement in 2020 was attributable to the growth in other formal non-bank financial products such as insurance products, which increased by 20 percentage points (FinMark Trust, 2020) since 2014. Botswana is one of the countries with the highest number of financially included adults in the Southern African region, following South Africa at 93 percent, Mauritius at 90 percent, and Eswatini at 87 percent (FinMark Trust, 2020).

The increase in the uptake of formal financial services is attributable to an increase in the uptake of mobile money products and services over the years. In 2020, 2 percent of the financially included used informal services, which reflects a significant role played by the informal sector in financial service provision. Informal financial services in developing countries such as Botswana provide a point of entry to the financial system for low-income individuals and households.

In Botswana, female uptake of banking service was lower than their male counterparts, at 35 percent and 48 percent, respectively, in 2009 and 43 percent and 53 percent in 2014. In 2020, 60 percent of males were banked compared to 52 percent females (FinMark Trust, 2009 and 2020). Noteworthy is that

the results of the 2020 survey showed that females used more non-bank financial services and products than males (30 percent females, and 22 percent males). Available data showed that more females than males are financially excluded in other SADC countries (Chart 1).



Source: FinMark Trust (2019)

To improve financial access, the Government of Botswana commissioned its first Financial Inclusion Roadmap in 2015, which runs for a period of six (6) years until 2021. The roadmap is premised on “*Making Access Possible (MAP)*”, a multi-country financial inclusion initiative that was initiated by the Centre for Financial Regulation and Inclusion (Cenfri) in partnership with the United Nations Capital Development Fund (UNCDF) and FinMark Trust, to support countries in developing national financial inclusion roadmaps from an evidence-based perspective. The MAP approach requires engagement of key stakeholders, including Government, the private sector and development partners to identify issues and challenges that inhibit financial inclusion, and develop strategies to expand access to financial services for individuals, small and micro-businesses, (Econsult, 2016; FinMark Trust, 2014).

The MAP research concluded that further extension of credit to marginalised populations such as women and low-income earners is likely to come from non-bank financial services providers than banks. It concluded that banks have not shown much interest in extending products beyond their current target markets, therefore meeting financial inclusion priorities is likely to be driven more by non-bank financial service providers such as MFIs.

In Botswana, microfinance is not common as there exist only one institution which exclusively offers both credit and savings services to low-income women, the WFHB. The WFHB is under the regulatory purview of the Bank of Botswana. However, there are some microcredit institutions which extend credit to low-income women such as Kgetsi Ya Tsie, Kuru Development Trust, Youth in Development, Emang Basadi, Mabogo Dinku and some cooperatives (Jefferies, 2007). Additionally, some Government institutions offer some microcredit to low-income societies, including businesswomen. These include the Botswana Savings Bank, Citizen Entrepreneurial Development Agency (CEDA), Botswana Post Services (Econsult, 2016; FinMark Trust, 2014). Furthermore, just like in other countries, Botswana has made significant progress in the use of financial technology to advance financial inclusion. There is collaboration between mobile money providers and banks to provide electronic money services such as Mascom MyZaka by Mascom, Smega by BTC Mobile and Orange money by Orange Botswana. These services can be used by anyone who has a cell phone to make payments and to save, hence promote financial inclusion.

3. METHODOLOGY AND DATA ANALYSIS

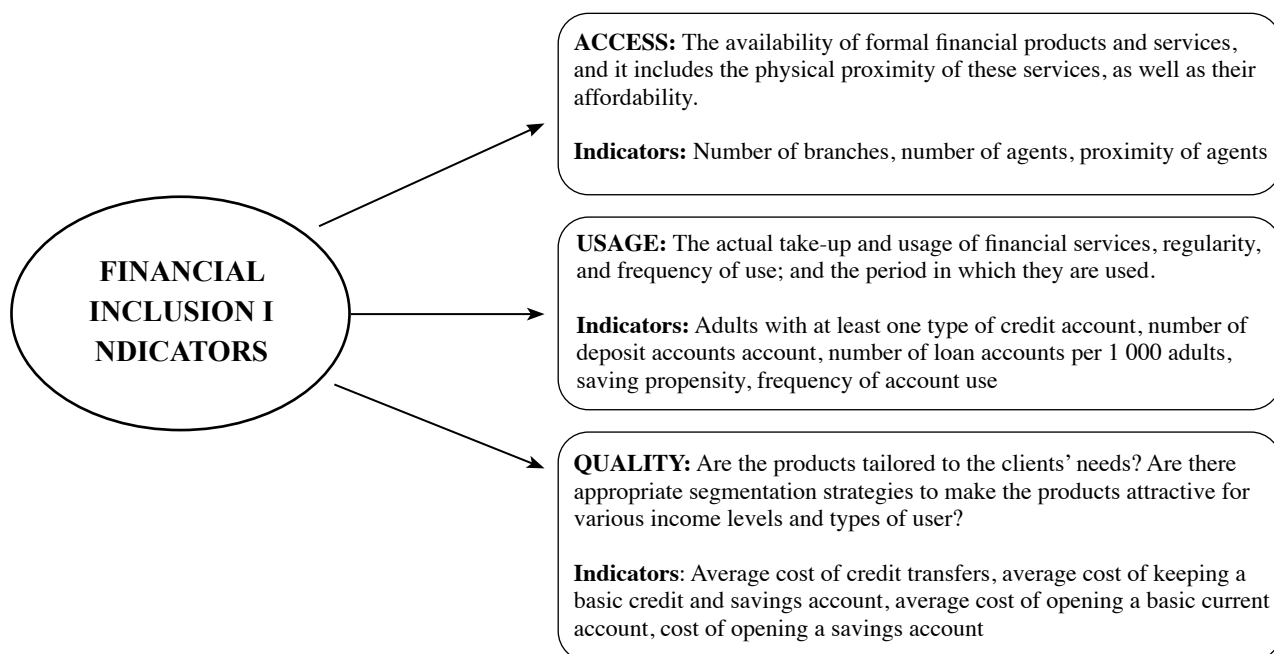
3.1 Methodology

The study adopts a descriptive research methodology to investigate the role of the WFHB in promoting women financial inclusion in Botswana, through a questionnaire. The questionnaire was answered by the manager of the WFHB as a key informant, to provide supply-side data. A key informant survey ensures that all the necessary information is captured, as they are knowledgeable on the key issues regarding the operations of the institution. A mixed questionnaire, consisting of closed ended as

well as open-ended questions was prepared.¹⁹ The questions were related to the financial inclusion indicators given in Figure A1, that is relating to access, usage and quality of the services provided by the microfinance institution.

Financial inclusion is a multi-dimensional concept, such that it cannot be measured or assessed using a single variable. According to Camara et al. (2017) and IMF (2020), financial inclusion is measured through three dimensions: access, usage, and quality, each having its own indicators (See Figure A1). This study adopted a similar framework but focused on the dimensions regarding microfinance.

FIGURE A1: DIMENSIONS OF FINANCIAL INCLUSION



Source: IMF (2020) and Camara N et.al., (2017)

¹⁹ Questions that allow the target audience to voice their feelings and notions freely are called open-format questions or open-ended questions. Questions which have multiple options as answers and allow respondents to select a single option from amongst them are called closed-format or closed-ended questions.

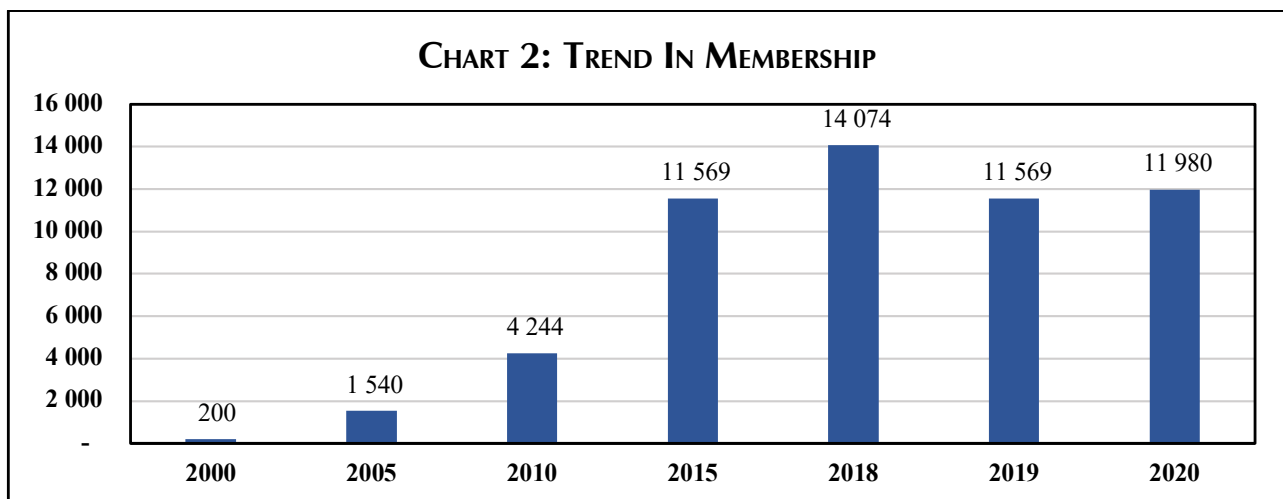
3.2 Data Presentation

3.2.1 Background and Membership

The Women's Finance House Botswana has been in operation since 1995 as a Non-Governmental Organisation (NGO), offering financial services to low-income businesswomen. The main goals of the institution are to: promote financial inclusion of women, alleviate poverty, empower women, and promote micro-to-small businesses owned by women. As an NGO, the WFHB depended solely on domestic and foreign donations and grants. However, as Botswana graduated to a middle-income country status, some donors viewed this as an indication of increased incomes for everyone in the country hence terminated their relationship with the WFHB. These terminations led to a significant decline in the

amount of funds available for loan disbursement and the general growth of the business.

Nevertheless, in addition to the intermediation done through donations, the WFHB operates under a model that is envisaged to be self-sustainable as it can generate more funds from the services it provides, thereby increasing the funds available for credit extension. This business model is prevalent in most microfinance institutions (Koveos *et al.*, 2004 and Robinson, 2001). In terms of geographical coverage, the WFHB started with offering financial services to women in Gaborone only but gradually extended to the greater Gaborone area and recently, some villages and towns across Botswana namely: Serowe, Mochudi, Palapye, Mahalapye, Lobatse, Good Hope, Thamaga, Kanye, Gabane, Moshupa, Letlhakeng, Salajwe, Takatokwane, Maboane, Ditshegwane, Lerala, Sefhare, and Jwaneng.



Source: WFHB

There are certain criteria that must be met for one to become a member of the WFHB. These include, being a woman; operate a small business which has been running for more than 6 months; the business must have a turnover of at least P1 000 per month. Furthermore, for one to be considered a member, they should have a savings account with the institution. Upon getting a loan from the institution, a certain percentage of the loan value is saved as collateral (compulsory savings). Therefore, it follows that all women who have credit accounts, have a savings account, but not all savers have a credit account as some women only save. Members of the WFHB are aged between 21 and 65 years. Most members have no formal education, are single parents who run micro businesses to sustain their livelihoods.

As shown in Chart 2, WFHB membership has been increasing exponentially over the years, from 200 members in 2000 to 4 244 members a decade later (2010). Another 10 years later, the number of

members increased by almost 200 percent to 11 980 in 2020. The fall in membership from 14 074 in 2018 to 11 569 in 2019 was attributable to the introduction of microcredit services by CEDA. Some members left WFHB to join the CEDA programme, however some later re-joined WFHB. The trend in membership shows that the uptake of microfinance products has been increasing as more members join, reflecting increased demand for financial products by low-income businesswomen.

3.2.2 Financial Inclusion Indicators

(a) Access

This indicator relates to the availability of formal financial products and services, including the physical proximity of the services, as well as their affordability. The first and core financial services provided by the WFHB is microcredit. The WFHB started disbursing loans in 2003. The institution

provides business loans only, to augment working capital²⁰ for small businesses. The women are mostly involved in micro businesses such as: street vending (mostly selling airtime, candies, and snacks), agriculture (broilers and layers industry), manufacturing (making soap, atchar and morula jam), tailoring and dress making, pre-school business and some small bakeries.

Women access loans as groups of 3 - 5 people (group lending). The groups are self-selection based, that is, women are responsible for selecting their own group members. The group members should not be related and should operate different businesses. Self-selection ensures that women choose group members they know and trust. Good group credit record gives the group good reputation, which enables graduation to a higher loan value qualification. In addition through the graduation process, some individuals qualify for individual loans after assessment. The individual loan qualification assessment is based on business prospects, cooperation between the individual members and field officers in providing the required information, the feedback from other group members and the credit history.

At the WFHB, the minimum amount that can be disbursed for group loans is P3 000 per group of 3 people (P1 000 per individual) payable in 5 months, and the maximum is P6 000 per group of 3 people (P2 000 per individual). Individual loans are provided for women who have graduated from the group methodology and have been members for a considerable amount of time (some for over 20 years). The minimum amount available for individuals is P4 000 and the maximum is P30 000. The interest paid on all loans is 5 percent. This lending rate is considerably lower than the prime lending rate commercial banks, which according to the Botswana Financial Statistics (BFS) (Bank of Botswana, 2020) was 6.25 percent as of December 2020. The lending rate is even lower than of other financial institutions (non-deposit-taking non-bank financial institutions), which was 13.25 percent as at December 2020. This shows that the cost of credit is relatively low and affordable to low-income businesswomen considering that the 5 percent interest rate plus the principal amount are to be paid in 5 months (around P210 monthly repayment), provided that the small business generates a minimum monthly profit of P1 000. Based on these figures, the monthly debt-to-

income²¹ (DTI) is approximately low at 21 percent. The WFHB also provides three types of savings accounts to members. The first savings account is the ordinary deposit account, where members are allowed to register as individuals. The requirement for opening this account is a national identity card or a residential permit for expatriates. Opening this account grants access to the credit facility and members can use the funds as collateral for their loans. The one-off joining fee for this account is P50 and the minimum amount that can be kept in this account is P75 only. This account earns a 2 percent quarterly interest. The account is also used to save part of the loan as collateral.

The second savings account is the group savings account. This account is available for women groups such as burial societies, cooperatives such as 'motshelo groups', churches, as well as private and civil organisations. It has a joining fee of P50 and must maintain a balance of at least P5 000. The account earns a 2 percent annual interest. The third savings account is the junior savings account, which is available for children below the age of 18 years. The opening fee for this account is P50, and a minimum account balance of P75 is allowed, earning a 2 percent annual interest. The junior savings account is also independent of the credit facility and cannot be used as collateral for a loan for the guardian. The interest rates on savings at the WFHB are slightly higher than interest rates on savings at commercial banks. According to the BFS, the average savings on savings account at commercial banks was 1.96 percent as at December 2019 compared to the 2 percent earned at the WFHB.

The WFHB also offers non-monetary financial services to its members at no cost. These include financial education, basic business management skills training and mentorship. The business management training and mentorship offers women training on accounting skills, inventory control, record keeping, working capital management, pricing, and advertising. The training enhances the women's business management skills, allowing them to make profits hence repay loans. The training is also in line with the WFHB's objective of empowering women. Notably, some commercial banks and other financial institutions have in the past worked with the WFHB through strategic partnerships. The banks usually enter a year-long contract with the WFHB to provide business training, financial literacy, and mentorship.

20 Working capital is the cash on hand used to keep a business operational (purchasing inventory, equipment, and paying salaries), less liabilities and obligations (Kenton, 2020).

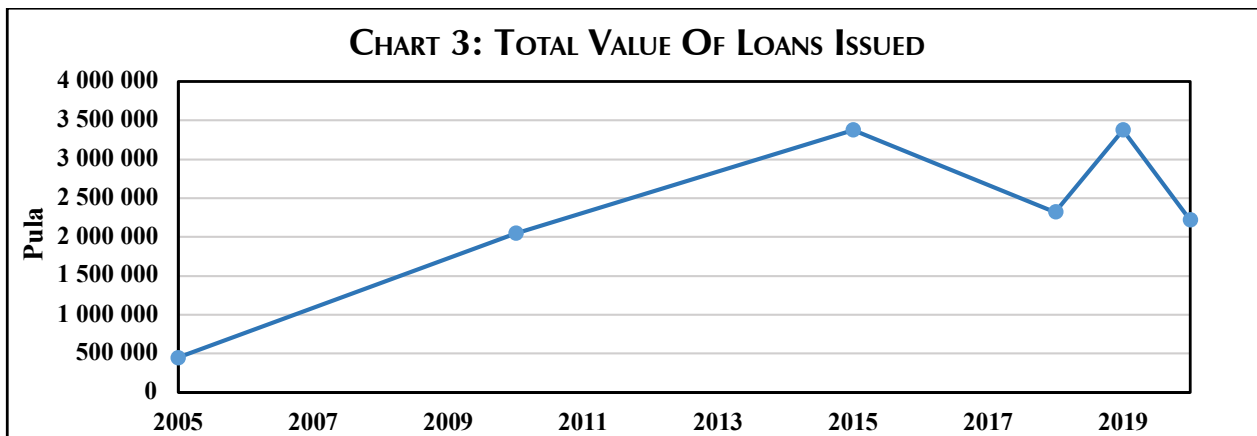
21 The debt-to-income (DTI) ratio is the percentage of gross monthly income that goes to paying monthly debt payments and is used by lenders to determine your borrowing risk (Murphy, 2020).

Another aspect of the 'access' indicator is physical proximity. The WFHB has availed its services even to rural areas, where there is limited presence of bank branches. The institution has field extension officers available to members in all its areas of operation. Availability of field extension officers ensures that members can access the services at their convenience and do not incur a lot of costs in accessing services. Each area of operation has at least one field officer. Borrowers often lack formal financial statements, so the field extension officers help prepare such documentation using expected cash flows and net worth to determine the repayment schedule and loan amounts.

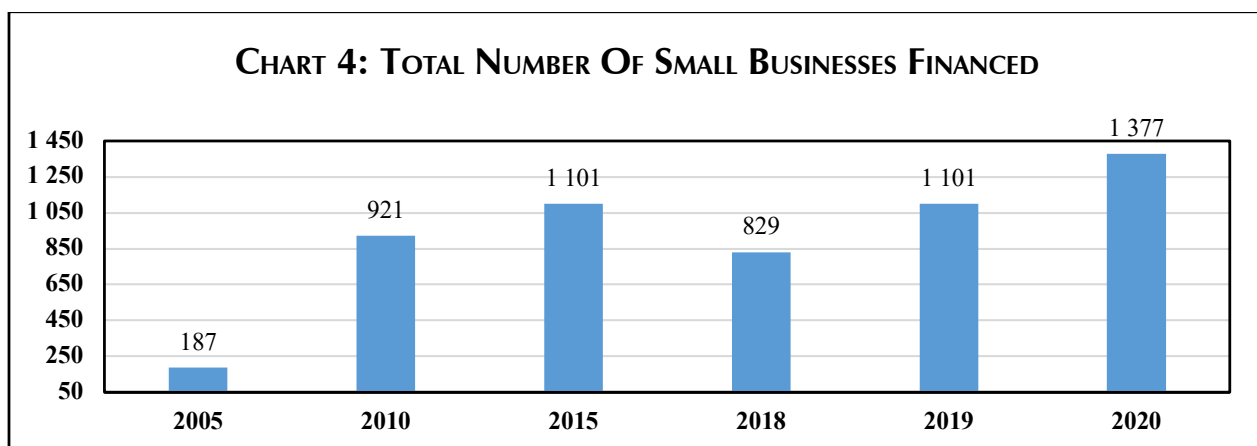
(b) Usage

The 'usage' indicator relates to the actual take-up and usage of financial services, regularity, and

frequency of use; and the period in which they are used. As previously mentioned, the number of members of the WFHB has increased significantly since its inception. This same trend is observed in the usage of the financial services provided. First, regarding the loan facility, Chart 3 illustrates that in 2005, the total value of loans disbursed was around P500 000. Five years later in 2010, the total value of loans disbursed was around P2 million, and in 2020 it was around P2.2 million. This shows good growth in the loan portfolio of the WFHB. The average loan disbursement was around P5 000 per group, and the total amount of loan disbursed since inception is around P33 million. The growth in the loan book translates to an increase in the number of small women-owned businesses assisted, as shown in Chart 4.



Source: WFHB



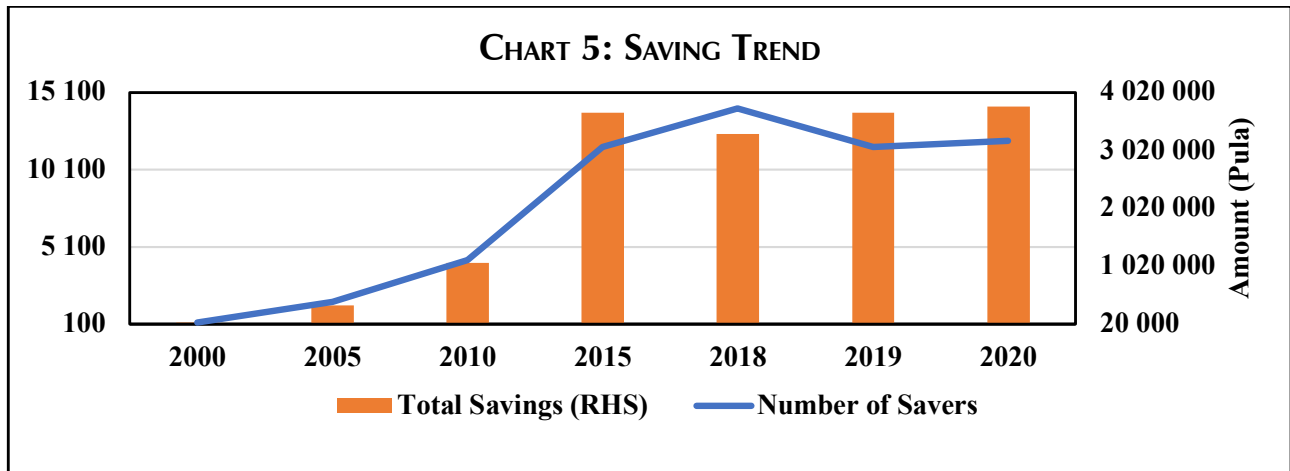
Source: WFHB

In 2005, WFHB financed a total of 187 businesses, which grew to 921 in 2010 and 1 101 in 2015. By 2020, the WFHB had financed 1 377 businesses. These figures depict that over the years, the number of businesses financed by the WFHB has grown by over 500 percent.

Just like any other lending business, there is credit risk inherent in the micro-lending business. The WFHB deals with or reduces credit losses through the borrow-to-save technique, through which collateral is in the form of mandatory savings (calculated as a share of the value of the loan) that borrowers must

keep. For group loans, a security of 25 percent of the loan value is required, and for individual loans, 30 percent of the loan is required. This arrangement

encourages saving behaviour, simultaneously providing a security for the loan.



Source: WFHB

Similar to the credit facility, the savings accounts have also been widely received by women as reflected by the growth in members and the total amount in savings over the years (Chart 5). Chart 5 shows that the number of savers (including members with a credit facility) has grown substantially from just around 200 in 2000, to almost 12 000 in 2020. Similarly, the total amount of savings continues to grow every year. In 2000, there was around P44 000 in savings, which increased to over P1 million in 2010 and in 2020, the value of total savings was almost P4 million.

(c) Quality

This indicator assesses if the products tailored to the clients’ needs, as well as whether there are appropriate segmentation strategies to make the products attractive for various income levels and types of users. It is evident that the financial services offered by the WFHB are tailored for their clientele, the low-income women. First, the WFHB tailored the credit facility in a way that allows women to group themselves together to access funds, which would otherwise not be possible if one presented themselves individually²².

Second, the cost of accessing the services provided by the WFHB is low to ensure affordability. The amount that members can borrow is low (P1 000), with a DTI ratio of 20 percent, hence, low-income earners can manage to repay with interest without compromising their business and livelihoods.

4. CONCLUSION

Women’s financial inclusion is important as women face challenges that prohibit them from taking part in the formal financial system. Improving women financial inclusion has been shown to enhance women empowerment, reduce income inequality and poverty and promote economic development through the promotion of small businesses. In Botswana, microfinance is not prevalent and there is limited literature on the subject. This study undertook to investigate the financial services offered by the WFHB (a leading microfinance institution in Botswana) as a way of enhancing women financial inclusion. The findings of this study show that the WFHB plays a critical role in granting women in Botswana access to financial services.

It is clear from this study that there is a need for creation of more microfinance products and services tailor-made for low-income earners by banks and other financial institutions to advance financial inclusion in Botswana. This will ensure inclusive economic growth for citizens.

22 Note that a member qualifies for individual lending after they graduate from the group lending methodology.

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APPENDIX

Questionnaire for Women's Finance House Botswana

Overview

Financial inclusion is about broadening of access to and use of financial services, particularly within segments of the population who have traditionally faced formal or informal restrictions such as women. This study seeks to assess the role played by Women's Finance House Botswana in granting women access to financial service. It is hoped that the results of the study will shed light on the size of the micro-finance sector in Botswana.

For any clarifications, kindly contact Ms Lorato Mochankana (3606508 or mochankanal@bob.bw).

SECTION A: ORGANISATIONAL INFORMATION

Q1. What are the key objectives of your organisation?

- Financial Inclusion
- Poverty Alleviation
- Job Creation
- Youth Empowerment
- Women Empowerment
- SMME Promotion
- Other (specify)

Q2. How do you finance your business?

.....
.....
.....

Q3. How many branches do you have in the country? Specify location

.....

Q4. What is your medium to long-term vision?

.....
.....

Q5. What challenges do you face in your business?

- Lack of funding
- Loan default
- No government support
- Inadequate supervision and regulation
- Sustainability
- No market
- Other (specify)

SECTION B: BACKGROUND INFORMATION

Q1. State the age range of women financed

.....

Q2. Qualifications/ Education level of the women helped

- No formal education
- Primary school
- Secondary
- Tertiary

Q3. Marital status of most members

- Single
- Married
- Cohabiting
- Widowed
- Divorced

SECTION C: CREDIT PROVISION INFORMATION

Q1. What type of loans do you offer?

- Business
- Personal
- Housing
- All the above
- Other (specify)

Q2. How much funding do you provide (range in Pula)

.....

Q3. Is there any collateral requirement for loans? Yes No (Tick)

If yes specify the type of collateral, you require

.....
.....

Q4. What is the criteria / requirements for funding?

.....
.....
.....

Q5. Is there any penalty for default on loan repayment? Yes No (Tick) if yes how is it handled?

.....
.....
.....

Q6. What type of business are the women you fund involved in?

- Street vending
- Agriculture
- Manufacturing
- Tailoring and dress making
- Catering

Other (specify)

97. What are the challenges faced by female owned businesses that you fund?

- Insufficient market for goods
- Poor financial planning
- Balancing responsibilities
- Lack of business expertise

Other (specify)

98. Do you assess the growth of businesses that you have funded? If yes, how?

.....
.....
.....

99. What types of risks do you face in funding women?

.....
.....

910. How do you alleviate the risks listed above?

.....
.....

911. Do you offer group loans?

If No, state reasons

If Yes, elaborate.....
.....
.....

SECTION D: OTHER SERVICES OFFERED

91. What other services are offered by Women's Finance House?

- Savings
- Insurance
- Funeral policy
- Investment opportunities

Others (specify)
.....

92. Please explain how the other services mentioned above operate.

.....
.....

Q3. Do members use a combination of services offered, i.e., credit and savings etc.?

Yes

No

Q4. If you answered yes to Q3, which combination is the most commonly used?

.....
.....

Q5. What kind of accounts do you offer? List

.....
.....
.....
.....
.....
.....

Q6. What is the difference between personal and group savings?

.....
.....

Q7. Are members allowed to have any account with commercial banks?

Yes

No

Explain

.....

Q8. Do you offer financial education? If yes, what kind of financial education do you offer?

.....
.....

Q9. Do you offer any mobile money services? If yes, how many of your members use such services?

.....
.....

Q10. What kind of assistance (if any) do you require from government and the private sector?

.....
.....
.....

Q11. Please make any comments you would like to share regarding your institution.

.....
.....
.....

A Note on the Effects of Electronic Money on Broad Money in Botswana

Mosarwana V Maramane²³

ABSTRACT

This note assesses the developments of electronic money in Botswana and how they could impact on the country's definition of broad money and, ultimately, the implementation of monetary policy. In this note e-money refers to instruments issued by telephone network providers (non-financial corporations) and banks only. The note indicates that the level of e-money (in terms of outstanding balances at a given period) relative to broad money is insignificant (at 0.6 percent in 2021) to have effect on policy. However, monitoring of e-money developments is vital since this segment of the financial system is key for financial inclusion purposes and leveraging technology to reduce banking services provision costs.

1. INTRODUCTION

Electronic money (e-money) as defined by the Bank for International Settlements (BIS) is a stored value or prepaid product for which a record of the funds or value available to the consumer for multipurpose use is stored on an electronic device in the consumer's name. According to Article 1 of the European Parliament and Council Directive 2000/46/EC (OJ L 275 of 27 October 2000, pp 39-43), a legal definition of e-money is such that "electronic money shall mean monetary value as represented by a claim on the issuer which is: (i) stored on an electronic device; (ii) issued on receipt of funds of an amount not less in value than the monetary value issued; and (iii) accepted as means of payment by undertakings other than the issuer". This means of payment should be acceptable by entities beyond the one that issued the facility, otherwise it would not be recognised as e-money. Further, electronic money is also defined, in the Monetary and Financial Statistics Manual and Compilation Guide (MFSMCG) in paragraph 4.38-4.41, as a payment instrument whereby monetary value is electronically stored on a physical device or remotely at a server and represents a claim on the issuer. To qualify as electronic money, the payment

instrument must represent general purchasing power (that is, it may be used for making payments to a variety of other entities). The Guide highlights that monetary value stored on specific prepaid instruments does not represent electronic money if the instruments are designed to address specific needs only and can only be used in a limited way.

In the 2004 BIS Survey of developments in e-money and internet and mobile payments, it was concluded that Botswana had no e-money card-based, and with no intention to introduce network/software-based products in the near future. However, by 2010, mobile phone providers and some commercial banks had introduced the e-money products, to address issues of financial inclusion and take advantage of technology in availing banking services to their customers. While technology offers many solutions in this area, e-money, as a potential substitute for cash or deposits, raises policy issues for central banks about possible implications for central banks' revenue²⁴, implications for calculation of broad money, monetary policy implementation and the payment system oversight role. For this reason, monitoring of e-money developments is vital since this segment of the financial system is key for financial inclusion purposes and leveraging technology to reduce banking services provision costs.

The rest of this note is organised as follows: Section 2 provides an overview of the components of broad money, its measurement in macroeconomic statistics and e-money trends. Section 3 discusses the guidance of how to classify the electronic money institutions following the Monetary and Financial Statistics Manual and Compilation Guide. Section 4 elaborates the effects of e-money on monetary aggregates and its implications for calculation of money by the central banks. Section 5 concludes and makes recommendations.

2. OVERVIEW OF BROAD MONEY

General coverage of broad money includes 'narrow money' (M1) which typically includes the most liquid forms of money, that is, currency (banknotes and coins), as well as bank deposits that can immediately be converted into currency or used for cashless payments (transferable deposits). The other components of broad money are fixed/time deposits

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²⁴ Since banknotes in circulation represent non-interest-bearing central bank liabilities, a substitution of e-money for cash would lead to a corresponding decline in central bank asset holdings and the interest earned on these assets that constitutes central bank seigniorage revenue (Basle, 1996).

and short-term securities at other depository corporations (ODCs), qualifying for a respective country's definition of broad money. E-money is classified under "of which: e-money" in the calculation of broad money, to separate it from the traditional bank deposits. E-money has the potential to affect narrow money [(currency outside banks - currency in circulation less cash in vaults at ODCs)

plus transferable deposits (*demand/cheque deposits from other sectors of the economy*)] and, therefore, broad money when issued by other depository corporations, as well as affect the central bank's monetary base, a tool used to create money. Table 1 presents the components of balance sheets of the central bank and ODCs, through which e-money can affect broad money.

TABLE 1: STYLISTED COMPONENTS OF BROAD MONEY AND MONETARY BASE

Broad money components issued by ODCS	Monetary Base Components at Central Bank
<ol style="list-style-type: none"> 1. National currency (cash in vaults) 2. Transferable deposits (demand/cheque deposits) 3. Other deposits (fixed and time deposits) 4. Securities included in broad money 	<ol style="list-style-type: none"> 1. Currency in circulation 2. Central bank liabilities to other depository corporations (required reserves, clearing balances and other deposits) 3. Securities²⁵ issued by the central bank 4. Central bank liabilities included in broad money (transferable deposits and other deposits from other sectors)
<p>Broad money = narrow money (M1), currency outside banks (currency in circulation less cash in vaults at ODCs) + transferable deposits (demand/cheque deposits from other sectors of the economy) + other deposits (fixed and time deposits from other sectors of the economy). Where other sectors of the economy include all sectors except ODCs, central bank and central government. Deposits of non-residents are also excluded as they form part of foreign assets</p>	

Source: International Monetary Fund

Data collected (Table 2) indicate that although the value of e-money transactions in Botswana are increasing over time, the outstanding e-money balances (float) remain low relative to broad money liabilities at banks. However, the volume of

transactions has grown exponentially over time, indicating the usage of e-money products by the public. As such, close monitoring of developments in this segment of the financial system is necessary, hence the need to evaluate the effects of e-money on broad money.

TABLE 2: E-MONEY PRODUCTS IN BOTSWANA

	2017	2018	2019	2020	2021
Number of mobile money transactions	23 134 925	33 016 545	41 963 045	81 811 877	89 002 654
Value of mobile money transactions (P million)	5 670.0	9 866.47	12 716.05	18 773.29	29 550.23
Outstanding balances on active mobile money accounts (P million)	81.00	108.46	142.24	286.71	532.33
Broad money liabilities at banks (P million)	72 466.78	78 495.25	84 767.08	89 761.95	94 268.35
Outstanding mobile money balances as a percent of Broad Money	0.1	0.1	0.2	0.3	0.6

Source: Bank of Botswana and Botswana Communications Regulatory Authority

²⁵ Securities issued by the central bank qualify as a component of monetary base when they can be used to satisfy reserve requirements but not only used to affect liquidity (open market operations).

3. CLASSIFICATION OF E-MONEY INSTITUTIONS

According to the Monetary and Financial Statistics Manual and Compilation Guide (MFSMCG 2016), an electronic money institution should be classified as 'other depository corporation' (ODC) if it is a Financial Corporation and if the electronic money issued is included in the national definition of broad money. In Botswana, the three mobile phone providers that issue e-money products are not classified as ODCs, because the products they initially issued were designed to address specific needs only (primarily to purchase airtime). These products did not meet the basic features of money or its close substitutes included in the definition of broad money, which focuses on the extent to which each type of financial instrument provides liquidity and a store of (nominal) value function. Indeed, for a financial instrument to be included in the definition of broad money, it should be widely accepted in the economy as a medium of exchange and be convertible to a medium of exchange at short notice at, or close to, their full nominal/face value. Current developments in the mobile phone industry, however, indicate that the network providers are moving into issuing card-based e-money products (visa card) that allow customers to make payments to third parties (peer-to-peer transfers or even peer-to-business transfers), and would therefore, qualify as a close substitute of money. This development requires the Bank to closely monitor growth of these facilities and determine whether there is need to request for separation of operations and maintenance of separate books of accounts. This would allow operations associated with issuance of e-money to be recognised as ODCs if the accounts for running e-money operations can be separated or as deposits in non-financial corporations (including e-money), an additional component of broad money, and thus their financial liability instruments included in the national definition of broad money.

4. EFFECTS ON MONETARY AGGREGATES

E-money products are available on a nationwide basis as a substitute for banknotes and coin, and are intended to complement traditional retail payment instruments, such as cheques, credit, and debit cards. These multipurpose electronic purses use telecommunication networks, such as the internet and mobile phones. Most e-money products operate with reloadable cards, enabling periodic replenishment of balances from bank

accounts through Automated Teller Machines (ATMs) or, in some cases, through the mobile telephone or internet. Central bank currency is a component in all monetary aggregates; therefore, a change (for example, decline as people opt to hold e-money balances) in the demand for central bank currency could affect the narrowly defined stock of money, M1, which in most countries, consists of central bank currency in circulation and demand or transferable deposits. Digital money's impact on M1 will depend on three factors, namely, the banking system's willingness to expand deposits; second, the reserve requirements on digital money balances and demand deposits; and third, the definition of M1. In addition, the reaction of central banks to developments related to e-money plays a crucial role because, in principle, they have the means to offset any change in M1. For example, in a binding reserve requirements environment, the central bank can control the impact of e-money on M1 by requiring banks to hold a percentage of e-money deposits as reserves, thereby affecting the creation of money through the money multiplier effect. However, with relatively low limits placed in all cases on the maximum value that can be stored on the cards and transferability of value from customers' device to device without the involvement of the issuer, the impact might be insignificant. In Botswana for example, the maximum value allowable to be stored on the mobile phone cards is P30 000 (increased from P4 000 in 2020) and if fully utilised could result in an increase in e-money balances.

Current issuers of electronic payment products include three mobile telephone providers (**BeMobile** - Smega, **Mascom** - MyZaka and **Orange** - Orange money) and a statutory bank (Botswana Savings Bank - PosoMoney), and five commercial banks (First National Bank Botswana (FNBB), Stanbic bank, ABSA bank, Bank Gaborone and BancABC)²⁶. The three mobile telephone providers introduced card-based (Visa card) e-money products which can be used to make payments to third parties (for example, transfer money to other individuals, bill payment, buy airtime and merchant payment for goods and services), while commercial banks provide remote electronic payments to both cardholders, and non-bank cardholders. Some banks products allow for individuals to be sent money into electronic purses or mobile device (including of non-bank account holders) to withdraw from the ATMs and has provision to store money. However, some

²⁶ FNBB's product is known as the e-Wallet, while Stanbic bank, ABSA bank, Bank Gaborone and BancABC offer products called Instant money, Cash send, Tobetsa and SaruMoney, respectively.

products do not allow for outstanding balances in their electronic purses and as such do not qualify as e-money products but are rather referred to as electronic payment instruments.

From the monetary statistics compilation perspective, electronic payment instruments issued by commercial banks should have no effect on broad money. This is because, the balances held in customers' devices reduces customers' transferable (or savings) deposit holdings at the ODCs but remains a liability to the issuing commercial bank with a different composition from the traditional types of bank deposits. Therefore, regarding the electronic payment instruments issued by ODCs, there is no effect on monetary aggregates because only the composition of money changes. For example, if cash is used to load the electronic devices, currency in circulation would decline, while the other form of money (e-money-transferable) increases. If customers use their bank deposits, transferable deposits will decline and e-money balances (which is also classified as transferable) would increase cancelling the net effect on M1.

If the service is issued by other non-financial corporations (such as the telephone network providers) however, there *could* be a change in monetary aggregates because the money is held or remains outside the ODCs (that is, if they do not deposit it with banks immediately). Otherwise, the funds deposited into the e-money purses with these corporations will be part of their deposit balances at commercial banks and thus already included in broad money. In the case of Botswana, for example, the Electronic Payment Services (EPS) Regulations 2019 (Section 23 (1)), states that an operator of EPS shall keep 100 percent of the electronic money float in the form of cash balances held at commercial banks in Botswana.

Based on the above reasons, and the insignificant balances of e-money as a proportion of the banking industry customer deposits (broad money) at 0.6 percent in 2021, exclusion of e-money balances (by not classifying phone network e-money operations as ODCs) does not currently have any effects on the nation's definition of broad money. However, developments in this financial segment need continuous monitoring, particularly as maximum value of allowable balances stored in mobile phone cards increase.

5. CONCLUSION AND RECOMMENDATIONS

The general view on electronic money is that it is a form of device that stores financial value and should be accepted as a method of payment by entities that did not issue the product. While e-money has the potential to substitute currency in circulation, which is part of the monetary aggregates on the balance sheet of central banks, research indicates (for example, Bank for International Settlements, 2004) that its influence on broad money is not significant, as there has not been much decrease of currency in circulation as a result of the increase of e-money.

However, to the extent that electronic money could replace banknotes, the increase in the demand for e-money is likely to affect total money supply through the unchecked multiplier effect, requiring central banks to consider applying an e-money reserve ratio to control the ability of commercial banks to grant credit using the e-money balances. However, if the EPS regulation provides that the e-money issuers like the mobile money companies which are non-financial corporations must maintain their e-money float in a deposit account at a bank (as is the case in Botswana) then e-floats are already in the banking system balance sheet and are being included in the calculation of broad money. In the case of Botswana, the balances of e-money relative to money supply are insignificant and, already included in the calculation of broad money and hence do not warrant any policy action.

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Determinants of Exports Diversification: The Case of Botswana

Katlego Gababonwe and Thusego Marudu²⁷

ABSTRACT

This paper investigates the determinants of export diversification on selected variables in Botswana using a vector error correction model (VECM) and based on annual data for the period 1995 to 2021. Model results show that the level of financial development and trade liberalisation have a positive and significant causal impact on export diversification in the long run. In contrast, trade costs and market size have a negative impact on export diversification in Botswana. However, in the short run, only private investment was found to be significant. Consequently, the paper recommends significant infrastructural investment in the financial system, specifically financial technology, to improve financial development. Moreover, it is recommended that the authorities should leverage on the African Continental Free Trade Area (AFCFTA) by investing in transport and logistics infrastructure as a cost reduction measure and facilitation of export diversification.

1. INTRODUCTION

Over the years, Botswana's stable economic growth has been a great success story, emerging from one of the poorest countries after gaining independence in 1966 to achieving middle-income status in 1986, and classification as an upper-middle-income economy by the World Bank in the 1990's. As a landlocked country and a semi-desert, the economy mainly relied on subsistence agriculture at independence. The agriculture sector at independence contributed 40 percent to the gross domestic product (GDP) (Sekwati, 2011). However, after discovering the diamond kimberlite pipe in Orapa in 1967 and, subsequently, the opening of Botswana's first diamond mine in 1971, the country's economic performance improved considerably. Since then, the economy has seen a total structural transformation from the dominance of the agriculture sector to a boom in the mining industry (Sekwati, 2010).

The diamond export proceeds allowed the Government to finance infrastructural developments, such as the construction of roads, schools and hospitals. Moreover, significant amounts of mineral revenues were channeled towards investing in education to improve the country's literacy, with substantial primary school enrollment and increased tertiary education graduates over the years (Lewin, 2011). Another applaudable contribution by diamond receipts is towards the health sector, especially to finance the procurement of anti-retroviral medication since 2002 in the fight against HIV/AIDS. While the mining sector has contributed to Botswana's overall notable economic growth over the years, the economy's success is also owed to adopting prudent macroeconomic policies, good governance and stable democracy, which set the country apart from other mineral-rich economies (Seabe and Mogotsi, 2012).

However, the dependence on the mining sector as the primary source of revenue remains a major concern as it has proven to be unsustainable and prone to external shocks. This was evident during the period of the 2008/09 global financial crisis as the mining sector contracted sharply in the last quarter of 2008 through to the first nine months of 2009, due to low global demand, which led to a considerable fall in commodity prices, especially diamond prices (Makoni, 2015). Diamonds, being a primary export commodity, meant that the economy was susceptible to the adverse effects of the global financial crisis. Diamond exports contracted by 26.7 percent in 2009, due to reduced export volumes and low diamond prices. The COVID-19 pandemic presented a similar economic predicament as it slowed down global diamond demand, as evidenced by a reduction in diamond exports by 15.3 percent in 2020, owing to COVID-19 lockdowns and travel-related restrictions. Synonymous with most mineral-rich economies, Botswana is extensively less diversified in terms of exports and, as a result, has very few export revenue outlets, exposing it to external shocks and volatility of the international commodity markets.

Meanwhile, empirical evidence has shown that economic diversification can potentially reduce macroeconomic volatility, consequently enhancing macroeconomic stability and supporting growth, especially in low-income countries (Agosin et al., 2012). Furthermore, diversification also plays a significant role in addressing other issues of national interest, including unemployment, poverty and income inequality incidences, as it leads to expansion of existing sectors and creation of new ones resulting in employment creation and poverty reduction. It is on this basis that examining factors that affect export

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diversification in Botswana is worthwhile. Hence, this paper investigates the determinants of export diversification on selected variables in Botswana to inform policy prescriptions.

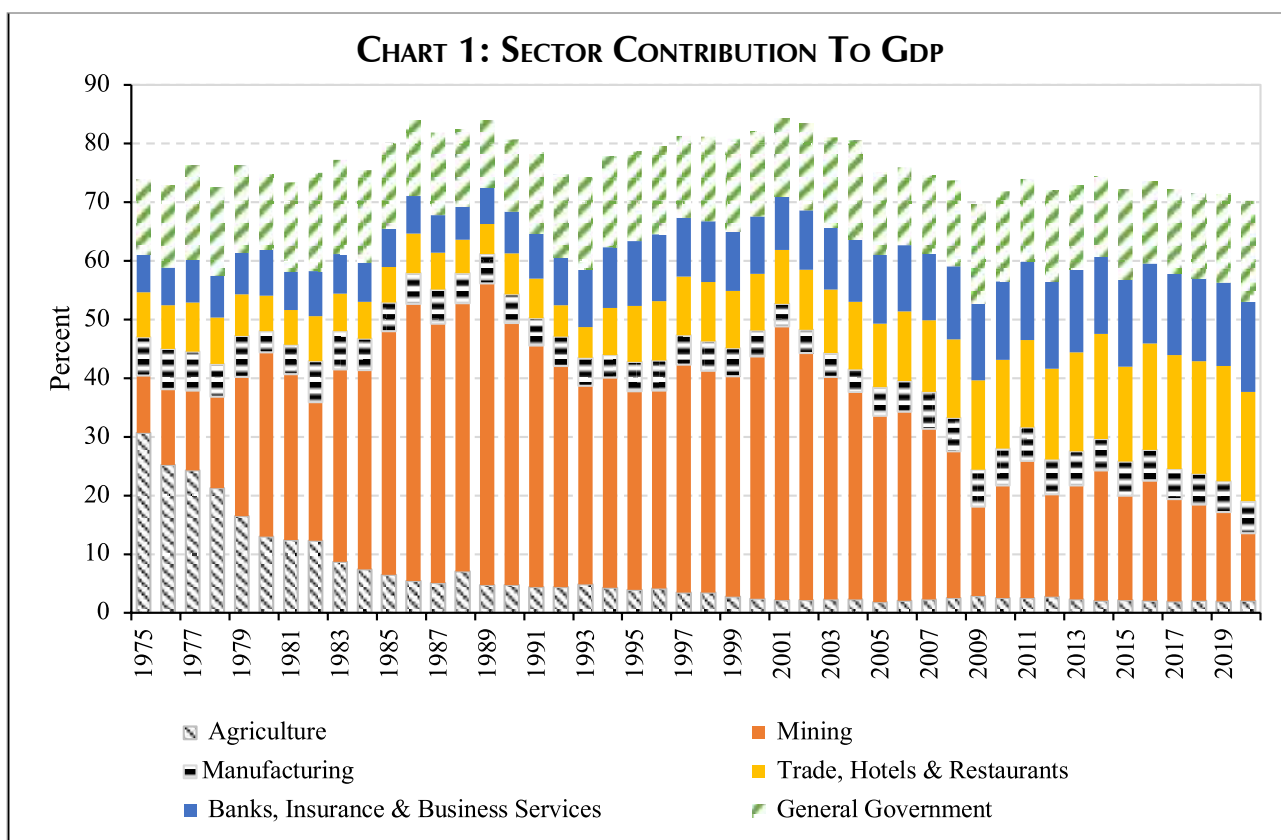
The remainder of the paper is structured as follows: Section 2 analyses the structure of Botswana’s economy, while Section 3 reviews the literature. Sections 4 and 5 cover the methodology and data description, respectively, while Section 6 presents the empirical results. The conclusion and policy recommendations are discussed in Section 7.

2. THE STRUCTURE OF BOTSWANA’S ECONOMY

The structure of the Botswana economy changed considerably following the discovery of diamonds, shifting from agriculture sector dependence to mining. Chart 1 shows trends of sector contribution to GDP from 1975 to 2020²⁸. From 1975, agriculture was the most significant contributor to the GDP, with its share averaging about 30 percent of the total GDP, while the mining sector’s share was around 10 percent. However, the mining sector has

been the dominant sector since 1979. At the same time, the agricultural sector’s contribution to GDP dropped drastically to as low as 1.7 percent in 2021. Although the contribution of other sectors grew steadily over time (with trade and hotels, financial sector and general government sector peaking up the pace from the 1990s), their contributions to GDP are significantly lower than that of the mining sector²⁹. The manufacturing sector contribution also remained low over the years, with a share of GDP of 5.6 percent in 2021. Therefore, the trend shows that despite the efforts to diversify the economy, the country remains largely dependent on the mining sector, which is also evident from the country’s export structure.

Mining exports, particularly diamonds, dominate Botswana’s economy’s export structure, as indicated in Chart 2³⁰. Diamonds have been a major export commodity, and their contribution to exports has remained relatively high, between 80 and 90 percent, since 2012. As indicated earlier, the economy’s dependence on diamond receipts was also evident in 2009 when the global financial crisis reduced global demand for minerals, leading to substantial export revenue losses.



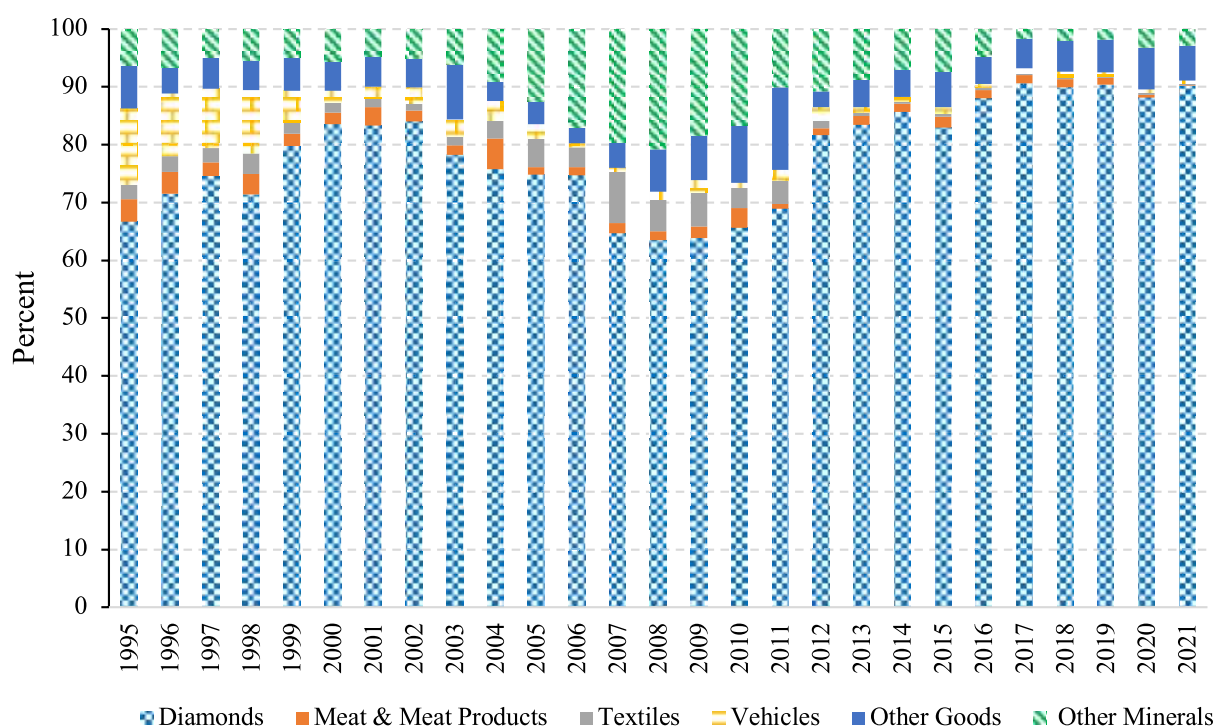
Source: Statistics Botswana

28 GDP data was rebased in 2020. However, Chart 1 uses non-rebased GDP data series ending in 2020. This is to analyse the contribution of some sectors to GDP as far back as 1975 since rebased data series only go as far back as 1994.

29 Although the trade, hotels and restaurant sector has lately been the largest contributor to GDP, this is mainly due to the inclusion of diamond trading activity. Therefore, when this component is excluded from the trade, hotels and restaurants sector, the mining sector retains its dominance.

30 Other minerals in Chart 2 consists of Copper-Nickel, Gold and Salt and Soda Ash.

CHART 2: GOODS CONTRIBUTION TO TOTAL EXPORTS



Source: Statistics Botswana

Furthermore, despite being the mainstay of the economy, the mining sector is highly capital intensive and has not been an ideal channel for employment creation. According to Statistics Botswana³¹, the unemployment rate, especially youth unemployment, remains high and was estimated at 34.4 percent in the fourth quarter of 2021. Despite the relatively good performance of the economy over the years, the major contributing factor to the high unemployment can be attributed to how the economy is structured. Sectors that are more labour intensive, such as manufacturing and agriculture, remain dormant.

Therefore, the need for economic diversification led to the formation of the National Export Strategy in 2006 and the Economic Diversification Drive (EDD) initiative in 2010. These strategies were employed to promote domestic production, capacity building

and the development of the competitiveness of local industries. However, diversifying away from the mining sector has proven to be a challenge as the sector still contributes as high as 11.4 percent to the country's GDP as at the end of 2021, compared to 1.7 percent and 5.6 percent for the agriculture and manufacturing sectors, respectively, in the same period. Furthermore, diamond sales remain a significant source of export revenue as they accounted for 90 percent of total exports in 2021. This predicament raises questions about the export diversification approach. That is, whether there is a need to re-consider policies put in place to achieve export diversification or to change institutional frameworks. This paper, therefore, focuses on the determinants specific to Botswana to inform policy on diversification.

31 The Quarterly Multi-Topic Survey: Labour force module report Q4 2021

3. LITERATURE REVIEW

3.1 Theoretical Literature

There are many diverse theories and thoughts on export diversification. Some theories challenge the classical trade theories, particularly the Ricardian theory of comparative advantage, which argues that countries should specialise in producing products they have a comparative advantage on. This theory complements Adam Smith's division of labour and specialisation for growth and development propositions. The Heckscher-Ohlin-Samuelson (HOS) model of international trade, an extension of the Ricardian theory, postulates that countries should specialise in producing goods with a comparative advantage based on factor endowments (Lugeiyamu, 2016). However, these theories have limitations. For instance, the Ricardian model failed to consider the role and impact of the structure and composition of trade in the development process. Moreover, it focuses on labour value to the exclusion of the contribution of capital and technology in the growth process.

The Heckscher-Ohlin theorem also fails to cater for other fundamental factors, such as the interests of industry stakeholders to explore available endowed resources, constraints in raw material sourcing and poor business logistics and infrastructure support, among others. It implies that countries should specialise in producing primary products in which they have a comparative advantage due to the abundance of land and labour. Furthermore, it also asserts that employment would then be redistributed from the import-substituting sector to the export sector as the country specialises in the production of export commodities. However, it does not explicitly show the distribution benefits of growth that would spill over to other various factors of production (Fosu, 2018). These traditional theories contributed to classical literature and have their share of merits and demerits. Nonetheless, most recent literature continually questioned the benefits of specialisation. They argue that the accumulation of human and technological skills in the same sector only reinforces the country's capacity to produce specific goods. Hence, this results in a country having an undiversified production portfolio and heavy dependence on a few products, making economies vulnerable to external shocks (Oliveira *et al.*, 2020).

The proponents of diversification argue that diversifying export bundles is a prerequisite to high and sustainable economic growth. The central

theoretical argument on the impact of export diversification on economic growth was advanced by Prebisch (2016) and Singer and Gray (1988). The authors argue that the strong concentration of developing countries on exports of primary goods impedes growth, reduces terms of trade and escalates instability of income due to vulnerability to external shocks. The Prebisch-Singer Hypothesis asserts that a country needs to diversify its export composition to address income instability. This effect is known as the "portfolio effect".

Furthermore, for countries that export similar goods and compete in the international market, a rise in the prices of one country adversely affects its competitiveness because of the substitutability of its products. This results from a low-income elasticity of demand for primary products as the demand for manufactured goods increases more than the demand for primary goods, thereby weakening the terms of trade for exporters of primary commodities in the long run. In addition, there is low growth spillover to other sectors from the production of primary goods due to inferior technology and low skilled labour force (Lugeiyamu, 2016).

3.2 Empirical Literature

Parteka and Tamberi (2011) studied the determinants of export diversification by analysing country-specific factors that influence the diversification process along a country's economic growth path. The analysis used ordinary least squares (OLS) and least squares dummy variable (LSDV) fixed effects estimation for panel data of 60 countries between the years 1985 and 2004. The variables used in the analysis include GDP per capita, GDP, population size, trade openness, market distance and membership in a regional trade agreement. They found that being far from economic core areas or the export market impedes export diversification. Moreover, the results showed that smaller economies tend to have fewer diversification opportunities. However, they found trade openness and participation in regional trade agreements to have a significant and positive impact on export diversification.

In studying the main determinants of export diversification, (Agosin *et al.*, 2012) used a System Generalised Method of Moments (SGMM) estimation technique for a dataset of countries worldwide for the period between 1962 and 2000. They explored several factors: trade openness, financial development, exchange rates, capital accumulation, and human capital. They found that trade openness

promotes specialisation and, thus, harms export diversification. Moreover, the more remote a country is from export markets, the less it will diversify exports. However, factors such as financial development and capital accumulation positively impact export diversification.

For panel data of 32 countries in Sub-Saharan Africa (SSA), Fonchamnyo and Akame (2017) investigated the determinants of export diversification between 1995 and 2013 using fractionalised logit estimation technique. The variables used in the analysis include FDI, trade openness, gross capital formation, exchange rate, agricultural value-added, manufacturing value-added, foreign aid and GDP per capita. Their study showed that trade openness, foreign direct investment (FDI), and investment in the agriculture and manufacturing sectors promote export diversification. In contrast, GDP per capita was a deterrent to export diversification in the SSA region.

At a country level, Arawomo et al. (2014) studied the determinants of export diversification in Nigeria and whether FDI played any significant role for the period ranging from 1980 to 2012, applying the GMM approach for estimation. They used FDI, domestic investment, real exchange rate, natural resource endowments, trade openness and democratic accountability as explanatory variables. Their results showed that FDI does not promote but rather discourages export diversification in Nigeria. However, they found the domestic investment to have a significant and positive impact on export diversification. Other factors, such as democratic accountability and exchange rates, discourage export diversification. The study found no strong impact of per capita GDP, natural resources and trade openness on export diversification.

In the case study for South Korea, Abouellil and Dioquinol (2015) explored macroeconomic and structural factors on export diversification from 1970 to 2010 using the vector error correction model (VECM). They used government expenditure on exports of goods and services, gross capital formation, consumer price index, exchange rate volatility and the remoteness index as explanatory variables. Their study found that government expenditure on exports of goods and services has a significant and positive impact on export diversification. Furthermore, rational implementation of trade liberation, exchange rate stability, and technological progress were also found to have a positive and significant effect on fostering export diversification.

Meanwhile, Mubeen and Ahmad (2016) analysed the measurement and determinants of export diversification in Pakistan from 1980 to 2015. The study used an autoregressive distributed lag model based on geographic concentration of exports, FDI, real effective exchange rate (REER), trade openness and world GDP per capita. The empirical results showed the existence of a long-run relationship between export diversification, world GDP per capita, FDI, geographic concentration, REER and trade openness. They further found that world GDP per capita and REER have a positive and significant impact on export diversification.

4. METHODOLOGY

This study uses a VECM to empirically analyse export diversification determinants on selected variables in Botswana and establish short- and long-term causal effects. The VECM is a vector autoregressive (VAR) model referred to as a restricted VAR. It uses non-stationary series that are cointegrated and restricts long-run endogenous variable's behaviour to converge to their cointegrating relationships, while allowing short-run adjustments in its specification. The steps involved in estimating the determinants of exports diversification using VECM include: testing the unit root of the variables; determination of the proper lag length; determination of the presence of cointegration proposed by Johansen (1988); empirically estimating the VECM; and lastly performing diagnostic tests for serial correlation, normality, and model stability. The VECM that captures the short-run and long-run dynamics for determinants of export diversification can be specified as follows:

$$\Delta Y_t = \alpha_0 + \sum \beta_i \Delta X_{t-1} + \sum \theta_j \Delta Y_{t-1} + \gamma_t ECT_{t-1} + \varepsilon_t \quad (1)$$

$$\Delta X_t = \alpha_0 + \sum \beta_i \Delta Y_{t-1} + \sum \theta_j \Delta X_{t-1} + \gamma_t ECT_{t-1} + \varepsilon_t \quad (2)$$

$$ECT = Y_t - \delta X_t \quad (3)$$

Where Y_t is the dependent variable, and X_t is a vector of explanatory variables, the coefficient of the estimates of the explanatory variables is represented by β_i and θ_j while α_0 is the constant term. ε_t is the random error term, Δ is the difference operator, δ representing the cointegrating factor. Lastly, ECT is the error correction term, derived as a residual from the long-term cointegrating equation and specifies the long-run relationship between the variables. The coefficient of the ECT describes the speed of adjustment to equilibrium. The vector of long-run coefficients is represented by δ . The short-run causal relationship of the determinants

of export diversification is established when β_i 's are statistically significant, whereas the long-run causal relationship is established when γ_i 's are negative and statistically significant and δ 's are also statistically significant.

5. DATA DESCRIPTION AND JUSTIFICATION

The study uses annual data to examine the determinants of export diversification in Botswana from 1995 to 2021. It outlines the degree of export diversification in the country as the dependent variable using the product concentration index, also referred to as Herfindahl – Hirschmann Index, sourced from the United Nations Conference on

Trade and Development database. The index is mathematically defined as follows:

$$H_j = \frac{\sqrt{\sum \left(\frac{x_{ij}}{x_j}\right)^2} - \sqrt{\frac{1}{n}}}{1 - \sqrt{\frac{1}{n}}} \quad (4)$$

Where H_j = the Herfindahl – Hirschmann Index or the concentration index, measuring the level or degree of product concentration and, consequently, the level or degree of export diversification.

x_{ij} = the value of export for country j and product i

$$x_j = \sum_{i=1}^n x_{ij}$$

n = number of goods or products

TABLE 1: DATA DESCRIPTION

Variable	Model Symbol	Description
Export diversification index	e_div	The level of export diversification in the country using the product concentration index
Trade openness	trd_opn	Degree of trade liberation and openness to trade with other countries. A ratio of the sum of imports and exports to GDP
Credit to the private sector	cp_gdp	Credit to the private sector as a percentage of GDP and a measure of financial development
Gross domestic product	GDP	A measure of the size of the economy
Gross fixed capital formation	gfcf	A measure for private investment
The remoteness index	Remit	Distance from trading partner markets indicating the cost of exportation

Trade Openness

Trade openness was measured using the ratio of the sum of exports and imports to GDP. This measure has been widely used in empirical literature to proxy trade openness over time (see Fonchamnyo and Akame, 2017; Osakwe and Kilolo, 2018; Parteka and Tamberi, 2011). Trade openness is viewed as an extension of the domestic market, resulting in increased access and exposure to export markets, leading to increased prospects of export diversification (Dennis and Shepherd, 2010; Krugman and Venables, 1990). Therefore, trade openness is expected to have a positive impact on export diversification. Data used to derive trade openness is sourced from Statistics Botswana (National Statistics Office).

Financial Development

According to the IMF (2019)³², financial sector development, proxied by credit to the private

sector, is associated with increased diversification, especially for emerging markets and developing economies. Furthermore, they highlighted that financial development contributes positively to export diversification through the intensive margin. Osakwe and Kilolo (2018) noted that the relaxation of credit constraints could improve the number of export products while fostering export diversification, especially for less developed countries. The data on credit to the private sector is from the Bank of Botswana.

Size of the Economy (Market Size)

Total GDP is used as a proxy for the size of the economy, which is in alignment with an empirical study on determinants of export diversification and development carried out by (Parteka and Tamberi, 2011). Dennis and Shepherd (2010) noted that larger economies tend to produce a wide range of products and have more diversified export structures. Therefore, the size of the economy is expected to have a positive impact on export diversification.

32 This is a working paper by International Monetary Fund titled "Understanding Export Diversification: Key - Drivers and Policy implications".

Private Investment

Gross fixed capital formation is used to proxy private investment following empirical studies on export diversification (see (Abouellil and Dioquinol, 2015; Fonchamnyo and Akame, 2017; Hodey et al., 2015). Furthermore, private investment is associated with infrastructure and domestic physical capital investments, which is expected to provide a positive impetus for export diversification by attracting foreign investment and facilitating domestic production and manufacturing. Therefore, private investment is expected to have a positive impact on export diversification.

Cost of Trade -Remoteness Index

The remoteness index was used to proxy trade costs considering the geographical distance between trading partners. The index is computed following Abouellil and Dioquinol (2015) and Rose (2004) computation. It is the inverse of the log of GDP divided by an average log of distance in kilometres ($\log \bar{Y}$) between Botswana and its major trading partners (United States, Belgium, China, India and South Africa). A higher remoteness index implies

higher trade costs which, in turn, hinders export diversification. It is mathematically expressed as follows:

$$\text{Remit} = \frac{1}{\log(GDP_t)} / \log \bar{Y} \quad (5)$$

Where Remit = Remoteness Index
 GDP = Gross Domestic Product
 \bar{Y} = Average distance between trading partners

6. EMPIRICAL RESULTS

6.1 Pre-Estimation Analysis

6.1.1 Unit Root Tests

Table 2 shows the ADF and PP test results for all variables and their corresponding order of integration. The results indicate that the t-statistics were not statistically significant for all variables when testing for a unit root in levels. However, they were statistically significant at the first difference, indicating that all variables are integrated of order one. Therefore, having all the variables integrated in the same order is a precondition for applying a VECM estimation technique.

TABLE 2: ADF AND PP TEST RESULTS

Variable	Level		First Difference		Order of Integration
	t-Statistic	Probability	t-Statistic	Probability	
ADF Test					
e_div	-1.9228	0.3171	-4.1545	0.0038***	I (1)
cp_gdp	0.5902	0.9865	-4.7214	0.0010***	I (1)
trd_opn	-2.1015	0.2457	-4.5111	0.0017***	I (1)
lnremit	-1.6212	0.4574	-4.6741	0.0011***	I (1)
lngdp	-1.5187	0.5079	-4.6533	0.0012***	I (1)
gfcf	-1.6750	0.4311	-5.8170	0.0001***	I (1)
PP Test					
e_div	-1.9228	0.9883	-4.0911	0.0045***	I (1)
cp_gdp	0.6495	0.9421	-2.6468	0.0985*	I (1)
trd_opn	-2.3379	0.1687	-4.5169	0.0016***	I (1)
lnremit	-1.9898	0.2890	-4.5794	0.0014***	I (1)
lngdp	-1.8323	0.3571	-4.5299	0.0016***	I (1)
Gfcf	-1.5248	0.5049	-6.5965	0.0000***	I (1)

Notes: ***, ** and * denote statistical significance at 1%, 5% and 10% level of significance, respectively.

Source: Author's computation from EViews

The optimal lag length for the model which is used in computing the cointegration test and as the lag interval for endogenous variables in estimation of the VECM, was found to be two after carrying out a lag length criteria test. The lag length was chosen by taking the lag with the most significant number of criteria (LR: sequential modified LR test statistic (each test at 5 percent level), FPE: Final prediction error, AIC: Akaike information criterion, SC: Schwarz information criterion and HQ: Hannan-Quinn information criterion).

6.1.2 Cointegration Test

A Johansen cointegration test was carried out to test the null hypothesis of no cointegration against an alternative of the existence of cointegration between selected variables. The result for both the trace statistic and the maximum Eigen statistic is shown in the table below:

TABLE 3: JOHANSEN COINTEGRATION TEST

Unrestricted Cointegration Rank Test (Trace)			
Hypothesised No. of CE(s)	Trace Statistic	Critical Value (0.05)	Decision
None* (r = 0)	215.0515	95.75366	Trace test indicates 3 cointegrating equations at the 5% level of significance
At most 1* (r < 1)	126.2136	69.81889	
At most 2* (r < 2)	53.81733	47.85613	
At most 3 (r < 3)	28.65368	29.79707	
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)			
Hypothesized No. of CE(s)	Maximum Eigen Statistic	Critical Value	Decision
None* (r = 0)	88.83793	40.07757	Max-eigenvalue test indicates 3 cointegrating equations at the 5% level of significance
At most 1* (r < 1)	72.39629	33.87687	
At most 2* (r < 2)	25.16365	27.58434	
At most 3 (r < 3)	14.96946	21.13162	

Note: *Denotes rejection of the null hypothesis at 5% level of significance

Source: Author's computation from EViews

The null hypotheses of no cointegration ($r=0$), at most 1 ($r<1$) and for at most 1 ($r<2$) are rejected at 5 percent level of significance for both the trace test and the max-eigenvalue test (Table 3). Therefore, it can be concluded that there are three cointegrating relationships among the variables in the model. The existence of a cointegrating relationship among the variables implies existence of a long-run relationship between the variables.

6.2 Estimation Output and Analysis of Results

After establishing cointegration and order of integration among the variables, the VECM estimation technique was used to estimate the short-run and long-run causal effects of determinants of export diversification. The results of the estimation are shown in Table 4.

TABLE 4: SHORT AND LONG-RUN RESULTS

Variable	Short-run results	Long-run results
CP_GDP	-0.011477 (0.00195) [-5.44312]	0.017022 (0.00086) [17.4115]
TRD_OPN	0.000331 (0.00034) [0.98543]	0.002310 (0.00017) [13.7130]
LNREMIT	6.891971 (17.9911) [0.36736]	-271.8387 (14.9590) [-19.9586]
LNGDP	0.318160 (1.86074) [0.97878]	-25.4555 (1.27799) [-19.9488]
GFCF	-0.000387 (0.00120) [-0.32102]	-0.000272 (0.00099) [-0.27553]
CointEq(-1)	-0.381954 (0.06133) [-6.32442]	

Note: 1. Standard errors in () and t-statistics in []

2. The rejection criterion is a rule of thumb for t-statistic greater than 2

The coefficient of the ECT is negative and significant, consistent with the empirical literature on VECM specification for long-run determination implying that the previous year's deviation from long-run equilibrium is corrected at a speed of 38 percent in the current period. In the long run, credit to the private sector, a proxy for financial development,

has a significant and positive impact on Botswana's export diversification. IMF (2019) also noted that credit to the private sector increases diversification in natural resource exporters and diversified exporters. Trade openness also has a positive and significant impact on export diversification in Botswana in the long run, implying that trade liberalisation is key to

improving export diversification consistent with the new trade theory as noted by (Parteka and Tamberi, 2011) and (Dennis and Shepherd, 2011). Parteka and Tamberi (2011) further note that trade liberalisation extends markets, leading to increased trade, which fosters product diversification. The remoteness index that measures trade cost has a significant and negative impact on export diversification in Botswana. (Abouellil and Dioquinol, 2015) also noted the negative impact the cost of trade has on export diversification as measured by the remoteness index. Additionally, Parteka and Tamberi (2011) found that proximity to world markets plays a significant role in the ability of an economy to participate intensively in trade with other economies, which is a prerequisite for diversifying exports.

Furthermore, in the long run, the size of the economy, proxied by GDP, has a negative and significant impact on export diversification in Botswana. At the same time, gross fixed capital formation, a proxy for private investment, was found to be insignificant. The negative relationship between the size of the economy and export diversification contradicts arguments stated by (Parteka and Tamberi, 2011), which were at the back of monopolistic competition models, that larger economies are less specialised with varied exports. In the short run, only credit to the private sector was significant, negatively impacting export diversification, while all other factors were statistically insignificant.

6.3 Diagnostic Analysis

6.3.1 Normality Test

A normality test was carried out to check if the residuals are normally distributed using the Jarque Bera normality test. The null hypothesis that the residuals are normally distributed could not be rejected at 5 percent significant level, concluding that the residuals are normally distributed (Table 5).

TABLE 5: JARQUE BERA STATISTIC

Component	Jarque-Bera	df	Prob.
1	0.321292	2	0.8516
2	0.254508	2	0.8805
3	0.646225	2	0.7239
4	0.903274	2	0.6366
5	1.541440	2	0.4627
6	0.642914	2	0.7251
Joint	4.309653	12	0.9772

6.3.2 Autocorrelation Test

A serial correlation test was also conducted to establish if the residuals are serially correlated to avoid spurious results. The probability from the F-statistic is greater than any level of significance (1 percent, 5 percent and 10 percent). Therefore, the null hypothesis of no serial correlation could not be rejected, concluding that there is no serial correlation between the residuals (Table 6).

TABLE 6: AUTOCORRELATION TEST RESULTS

Lag	LRE* stat	df	Prob.	Rao F-stat	df	Prob.
1	29.69962	36	0.7615	0.712622	(36, 24.7)	0.8264
2	30.42543	36	0.7306	0.737179	(36, 24.7)	0.8017

6.3.3 Heteroskedasticity Test

Another diagnostic test to check if the results are not spurious is the heteroskedasticity test, which checks if the variance is constant. The probability of the Chi-sq statistic is greater than the 5 percent level of significance. Therefore, the null hypothesis of no heteroskedasticity and could not be rejected, therefore, variances are constant (Table 7).

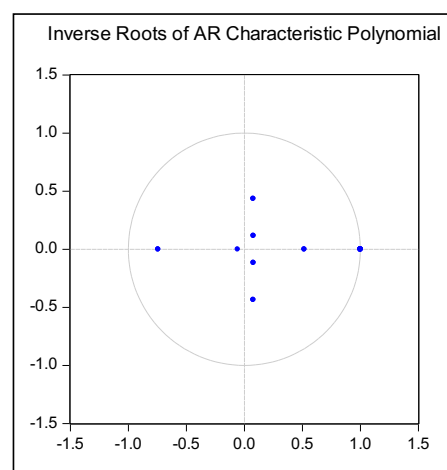
TABLE 7: HETEROSKEDASTICITY TEST RESULTS

Joint test:		
Chi-sq	df	Prob.
300.2224	294	0.3889

6.3.4 Model Stability Test

It is vital also to establish if the model used for analysis and generating results is stable. Therefore, an Inverse Roots of AR Characteristic Polynomial test was administered. From the AR roots graph (Figure 1), all the roots have a modulus of less than one. Therefore, the estimated VECM model is stable.

FIGURE 1: INVERSE ROOTS OF AR CHARACTERISTIC POLYNOMIAL TEST RESULTS



7. CONCLUSION AND POLICY RECOMMENDATIONS

Export diversification is a key aspiration and goal of many economies, especially developing economies. Botswana faces the predicament of depending on one natural resource, diamonds, which constituted 90 percent of total exports in 2021. Therefore, it is essential to examine the determinants of export diversification in Botswana. The results of this study show that the level of financial development and trade liberalisation have a positive and statistically significant long-run causal effect on export diversification. This is consistent with the new trade theory and empirical research carried out on determinants of export diversification. However, trade cost (proxied by the remoteness index) and the size of the economy have a negative and statistically significant long-run causal relationship with export diversification, implying that the further away an economy is from trading partner markets or global markets, the higher the trading costs which adversely affects exports diversification prospects. Moreover, the negative relationship between the size of the economy and export diversification implies that smaller economies are more likely to be successful in export diversification, contradicting some empirical literature, such as by Parteka and Tambari (2011) and Dennis and Shepherd (2011).

Given the uptake of technology in recent years, its positive impact on driving financial development, and the consequent positive effect of financial development on export diversification, the study recommends that the authorities invest in infrastructure and technology that facilitates financial innovation and inclusion. Furthermore, the Government should leverage on the new African Continental Free Trade Area (AFCFTA) by investing in transport and logistics infrastructure to ease trade further and reduce trade costs.

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