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A Study of the Effect of the Treasury Single Account on Commercial Banks Deposits and Lending in Zambia

Felix Mulenga[1], Dr. Taonaziso Chowa[2]

[1]Graduate School of Business, The University of Zambia (UNZA), Great East Road Campus, Lusaka, Zambia

[2]Department of Mathematics and Statistics, School of Natural Sciences, ,The University of Zambia (UNZA), Great East Road Campus, Lusaka,Zambia

ABSTRACT: The implementation of the Treasury Single Account (TSA) in Zambia brought about drastic changes in the management of public funds. The Bank of Zambia assumed custodianship of public funds while Commercial Banks remain revenue collection agents throughout the country. This study investigated the effect of the TSA on Commercial Banks Deposit Mobilization and Lending in Zambia. Secondary and Time series data were collected from the Bank of Zambia (BOZ) annual reports covering the pre- and post-TSA implementation eras, over a ten-year period (2010-2019). The independent variable was represented by Government Deposits (representing the TSA), while aggregate Commercial Banks Deposits and Loans and Advances were the dependent variables. The data were analysed using descriptive, regression and correlation analysis, with theaid of IBM SPSS Statistics version 28. The findings of the study revealed that Government Deposits have a significant positive effect on Commercial Banks Deposit Mobilization [(P-value <0.001; (CI: 95%)]. The study also revealed that Government Deposits have significant positive effect on Commercial Banks Loans and Advances [(P-value <0.001; (CI: 95%)]. The trend analysis on Government Deposits further revealed a slow growth in Government Deposits after TSA implementation compared to the pre-TSA period. The trend analysis on Loans and Advances also revealed a slower growth in Loans and Advances during the post –TSA era. The study therefore concluded that the TSA which aims to withdraw Government Deposits from Commercial Banks has a negative effect on Commercial Bank Deposits and their lending ability. The study recommended that banks should develop strategies to attract private sector deposits, to fill the void created by the implementation of the TSA. Banks should come up with innovative solutions to tap into the unbanked population. It is important that banks develop attractive savings products to encourage the culture of saving among citizens. The study further recommended that the Ministry of Finance should consider allowing Commercial Banks involved in revenue collection, a few days float before revenue is remitted to the main TSA account at Bank of Zambia (BOZ).

KEYWORDS: Treasury Single Account, Government Deposits, Loans and Advances

1. INTRODUCTION

Public Financial Management (PFM) is a crucial aspect for effective governance. It involves managing government finances, including revenue collection, expenditure, and cash management. (Vion, 2017) reports that for many years, development partners have promoted the implementation of the Treasury Single Account (TSA) in developing countries as the main instrument to optimize cash management. (Pattanayak & Fainboim, 2010) assert that in countries with fragmented government banking arrangements, the establishment of a TSA should receive priority in the public financial management agenda. The TSA is a public accounting system under which all government revenues is collected into one single account, usually maintained at the Central Bank (Pessoa & William, 2012). The purpose of the TSA is to ensure accountability of government cash resources, enhance transparency and prevent abuse of public funds. One of the ways the TSA ensures efficient management of cash resources is by removing idle balances in government accounts with Commercial Banks (Pattanayak & Fainboim, 2011). The other benefit of the TSA system include reduction in unnecessary government borrowing through short term bridge financing and elimination of the unethical practice of government borrowing its own money through Treasury Bills and Government Bonds, bought by Commercial Banks from the Bank of Zambia, using idle government balances (MOF, 2019).

The TSA relieved the banking sector from management of government cash resources generated through Ministries, Departments and Agencies (MDAs) and thus created a hole in their liquidity base. (Pessoa & William, 2012) note that the TSA has

implications for Commercial Banks in that the ability to hold on to government revenue for a time without paying interest has been a source of income for Commercial Banks in many countries. As the government repatriates balances (deposits) held by MDAs, a further source of profits for Commercial Banks disappears. (Banke & Yitayaw, 2022) contend that deposits are the most important financial resource for Commercial Banks to meet their day to day business operations and it therefore requires that banks mobilize and accumulate enough deposits.

The Government of the republic of Zambia commenced implementation of the Treasury Single Account (TSA) in January 2015. Until the introduction of the TSA, Ministries, departments, and other government Agencies (MDAs) which generate revenue maintained multiple banks accounts with Commercial Banks. This resulted in inefficiencies such as delays in remitting funds to the ministry of finance and inability of government to know exact amounts in its accounts. This also created room for leakages of funds and embezzlement of public funds. During the launch of the TSA, Secretary to the cabinet asserted that the people of Zambia were fatigued with incessant negative reports in handling of public resources (TIMES OF ZAMBIA, 2015). The primary objective of the TSA is to ensure effective aggregate control of cash resources (MOF, 2019). (Sabo, et al., 2019) assert that as a result of implementation of the TSA, which moves public funds to the Central Bank, Deposit Money Banks start to lose funds immensely and thus impacting on their liquidity base. Given that the TSA is a recent financial management systembeing implemented in Zambia, not much has been empirically documented with regards to how the TSA relates to the performance of the Commercial Banks in Zambia. This study will therefore assess how the implementation of the TSA policy affects the performance of Commercial Banks in Zambia, with regards to deposit mobilization and lending.

1.1 Statement of the problem

Government Deposits provided a cheap source of funds for commercial banks as they are normally interest free. With cheap funds, commercial banks can invest in interest earning assets such as securities and Loans and Advances. Following the implementation of the TSA, Commercial Banks are required to regularly transfer funds collected on behalf of the government tothe Treasury Single Account maintained at the Bank of Zambia. This therefore meant that Commercial Banks lost a cheap source of funds. According to a study by (Odu & Joseph, 2019), Commercial Banks tend to lose immensely from the implementation of the Treasury Single Account, as this has caused insufficiency of available cash in the banking system, resulting in a surge in market rates, as banks source for funds to cover their liquidity position. (Sabo, et al., 2019) attest that the TSA system which moves public funds to the Central Bank results in immense loss of funds by banking sector and affect their liquidity base.

Given that the TSA is a recent financial management system being implemented in Zambia, not much has been empirically documented with regards to how the TSA relates to the performance of the Commercial Banks in Zambia. This study will therefore assess how the implementation of the TSA policy affects the performance of Commercial Banks in Zambia, with regards to deposit mobilization and lending.

1.2 Study Objectives

The study aimed to determine the effect of the Treasury Single Account on Commercial Banks Deposits and Lending in Zambia, while the specific objectives were:

1. To investigate the effect of the TSA implementation on Commercial Banks Deposit Mobilization.
2. To investigate the effect of the TSA implementation on Loans and Advances.
3. To recommend possible measures to support Commercial Banks Deposit Mobilization and lending.

The first part of this paper has provided the introduction and the background information on the implementation of the TSA in Zambia. It outlined how the TSA relates to Government Deposits in Commercial Banks. The second section gives the theoretical foundation, the relevant literature and the empirical studies on the topic. The third section of this paper presents the methods of the study. The fourth section presents the analysis and discussion of results, while the last two sections give the conclusions and the recommendations of the research.

2. LITERATURE REVIEW

2.1 Theoretical foundation

The financial intermediation theory of banking

Financial intermediation is a process which involves surplus units depositing funds with financial institutions, which in turnlend to deficit units (Werner, 2015). (Casu, et al., 2006) assert that banks as financial intermediaries play a pivotal role in the economy, channeling funds from units in surplus, to units in deficit. They reconcile the need of the borrowers and lenders by transforming small-size, low risk and highly liquid deposits into loans which are of large size, high risk and illiquid. (Matthews & Thomson, 2005) on the other hand, state that banks first need to obtain deposits in order to be able to lend. (Akims, 2022) holds that the role performed by Commercial Banks in financial intermediation remains at the forefront of economic development of countries.

The fractional reserve theory of banking

The Fractional reserve banking system is common throughout the world. In this approach, banks only keep a small required reserve ratio of cash on hand and lend out the rest in the interest of expanding the money supply (Rossouw, et al., 2015). The bank can use the balance of the deposits above the reserve ratio to make loans to the public. (Rossouw, et al., 2015) contend thatthe important point to note is that loans are not created out of nothing but funded by deposits received by banks**.**

Liability management theory

The Liability Management Theory is a financial strategy that aims to manage risks arising from the difference between assets and liabilities of a company. The origin of the Liability Management Theory can be traced back to the 1960s when some bankers and economics advocated for more flexible and market-oriented approach to managing bank assets and liabilities (Bhattacharya, 2011). According to this theory, an individual bank can acquire reserves from different sources by creating additional liabilities against itself. These sources include the following: Issuance of Time Certificates of Deposits, Borrowing from other Commercial Banks, Borrowing from Central Bank and Raising of Capital Funds through issuance of shares

Implementation of the TSA system in Zambia commenced in 2015. Commenting on its implementation in January 2015, the Secretary to the Treasury, Mr. Fredson Yamba, stressed that the TSA system aims to improve the government's ability toefficiently and effectively manage public financial resources (MOF, 2015). The TSA is designed to streamline government bank accounts and entails that payments to all civil servants and suppliers of good and services to the government, are electronically processed directly into their bank accounts (MOF, 2019).

2.2 Commercial Banks and their deposit mobilization and lending functions

Banks play an intermediary function by mobilizing funds from savers (surplus units) and lending them to investors, both individuals and businesses (Casu, et al., 2006). This ability to grant loans and advances which is their primary source of income is dependent on their ability to mobilize deposits from the market (Selvaraj & Balaji , 2015). (Banke & Yitayaw, 2022) assert that deposit mobilization is as important to banks, as is oxygen is to humans. Banks and other financial institutions may fail to meet their business objectives if they do not have enough deposits (Viswanadham, et al., 2015). Banks must raise enough deposits to keep the economy running smoothly (Gunasekara & Kumari, 2018).

(Mishkin & Eakins, 2012) contend that a bank's loan portfolio is both the most valued asset and the source of most profitable income. The term Loans and Advances refers to the amount lent by the creditor (Bank) to the borrower (customer) (Wagle, 2010). (Ashabur, 2019) notes that Loans and Advances is the most important asset as well as the primary sources of earnings fora bank which help to improve the financial health of a bank. (Mdisa, et al., 2019) also assert that the lending activity is the core business of Commercial Banks that contribute the largest income proportion for the banks. Commercial Banks keep a portion of their deposits as legal reserves, and the balance is used to make Loans and Advances (Manish, 2020). Individuals and firms can borrow this money and banks make profits by charging interest on these loans. Loans and Advances dominate the asset side of the balance sheet of any bank and also constitute the prime source of income for the banks (Wagle, 2010). The two essential functions of Commercial Banks may be best summarized as the borrowing and lending of money. By discharging these functions efficiently, Commercial Banks render a valuable service to the community by increasing the productive capacity ofthe country and thereby accelerating the pace of economic development (Shekhar & Shekhar, 2013).

2.3 Empirical Literature Review

(Mwambuli & Igoti, 2021) investigated the impact of the Treasury Single Account on the financial performance of selected banks in Tanzania. Data were collected from annual reports of fourteen (14) Commercial Banks and Bank of Tanzania for a period of 10 years. The study used Net interest Margin as dependent variable and government deposits as an independent variable. The data were analysed by both EVIEWS 12 and STATA 16 using Ordinary Least Squares (OLS) regression model. The results of the study concluded that the TSA had an impact on the Banks' financial performance. The results revealed that government deposits have significant positive effect on Net Interest Margin.

(Kanu, 2016) assessed the impact of the TSA on the Liquidity of Banks in Nigeria using primary data from 10 Deposit Money Banks by way of questionnaires administered to management staff. The study used Chi-Square as a statistical tool to analyse the data. The findings of the study showed that there is negative impact of the TSA on the liquidity base and performance of the banking sector in Nigeria. The research however did not clearly state what parameters were used to measure bank performance.

(Agbo, et al., 2016) evaluated the effects of the TSA on the Performance and Survival of Deposit Money Banks in Nigeria using secondary data from six banks. The study used Return on Assets (ROA) and Net Interest Margin (NIM) to assess performance. The study employed the sample t-test analysis technique. The study found that the TSA had no effect on the performance and survival of banks in terms of Return on Assets and Net Interest Margin. The sample size of 6 banks looks too small to make

generations.

(Ndubuaku, et al., 2017) examined the impact of the TSA on the performance of banking sector in Nigeria using secondary and time series data from the Central Bank of Nigeria. Regression and Correlation analysis were used to determine the relationship between the TSA (represented by Federal Government Deposits) and performance of banks (represented by DepositMobilization, Credit to the Private Sector and Loans and Advances. The findings showed that the TSA has significant impact onCredit to Private Sector, Deposit Mobilization and Loans and Advances. However, the study only covered the pre and implementing year of the TSA, which may not be enough period to draw conclusions.

(Ajetunmobi, et al., 2017) investigated the impact of the TSA on Liquidity of Banks in Nigeria using secondary data from fifteen listed banks. The parameters used were the Current ratio, Quick Ratio and Profit after Tax (PAT). The data were analysed using descriptive statistics and Paired Sample t-test. The findings showed that the implementation of the TSA impacted negatively on the liquidity base of banks in Nigeria. The study also found that there is significant difference in the Profit after Tax (PAT) of banks before and after the adoption of TSA.

(Muraina, 2018) carried further studies on the effects of the TSA on Deposit Money Banks's Liquidity Performance in Nigeria. Secondary data on liquidity ratios and Total Federal Government of Nigeria Deposits from twenty-two (22) Deposit Money Banks were collected through the Central Bank of Nigeria. The study employed Correlation and Feasible Generalized Least Square (FGLS) technique to analyse the data. The study found that there was a significant positive impact of Federal Government Deposits on the Banks' liquidity performance in the pre-TSA era and that the TSA had a significant negative impact on the bank's liquidity performance in the post -TSA period. The sample size of 22 Deposit Money Banks looks more than representative enough to draw conclusions. According to the Central Bank of Nigeria, there were 24 Commercial Banks in Nigeria as of January 2021 (Central Bank of Nigeria, 2021).

(Mkaro & Keong, 2023) examined the impact of the Treasury Single Account (TSA) policy on performance of the banking sector in Tanzania in relation to Ownership concentration, Bank Size, and Macroeconomic variables such as Gross Domestic Product (GDP), exchange rate, interest rate and inflation rate. The study used balanced panel data set comprising 30 banks from quarter one 2010 to quarter four 2020. The study revealed that the effects of interest rate, GDP and exchange rates turned negative while the inflationary effects on bank performance were enhanced after TSA adoption. The regression results further revealed that, while foreign and state-owned banks were more resilient, private, and domestic banks' performance deteriorated after TSA adoption. The findings are consistent with the finding by (Ajetunmobi, et al., 017), (Muraina, 2018), (Mwambuli & Igoti, 2021), and (Ndubuaku, et al., 2017) whose finding revealed that the TSA had a negative impact on performance of banks.

(Mawalla, 2023) examined the Implications of the Treasury Single Account (TSA) on Tanzanian Banks focusing on profitability, efficiency, and stability, using Return on Assets (ROA), Return on Equity (ROE) and Non-Performing Loans (NPL) as performance parameters. Data were collected from 35 banks and analysed with the aid of Difference -In-Difference (DID) regression model. The results of the study revealed notable adverse effects on ROA and ROE. The study further revealed significant adverse effects of the TSA on the Non-Performing Loans (NPL).

According to a report by the (World Bank Group, 2017), the banking sector in Tanzania started recording negative signals following the implementation of the TSA. The report highlights that Banks have been navigating the new environment created by government's decision to centralize public institutions bank account at the Bank of Tanzania, rather than at Commercial Banks, leading to a decline in deposits estimated to be around (US $280 million). (Silim & Pastory, 2022) analysed the effects of the Treasury Single Account on the financial performance of Commercial Banks in Tanzania over the period 2015 to 2020. The sample size consisted of five Commercial Banks. The study employed a descriptive research design and the CAMEL analysis approach that is using Capital adequacy, Asset quality, Management, Earnings and Liquidity as performance parameters. The findings of the study revealed that all the selected Commercial Banks maintained a strong position on their composite rating system before and after the TSA implementation. The sample of five banks may not be representative enough to generalize the findings.

(Oyadonghan & Atagboro, 2020) investigated the effects of the introduction of the Treasury Single Account the on sustainability of Deposit Money Banks in Nigeria. The study population comprised of all the 18 listed Commercial Banks in Nigeria. Convenient Sampling technique was used to collect primary data using a structured questionnaire. Descriptive statisticswere employed to analyse the data; that is by means of (percentage, frequency counts, mean, and standard deviation). The findings of the study were that the TSA has an adverse effect on liquidity and bank performance, leading to pressure on interest rates, poor availability of credit to the economy, high monetary policy rate and cash reserve ratio and increase in marketing costs and more governance issues in the banks. The study however only involved listed Commercial Bank in Nigeria.

2.4 Conceptual Framework

A conceptual framework is a description of the way a researcher understands the factors and / or variables that are involved in

the study and their relationship to one another (Luft, et al., 2022). The purpose of the conceptual framework is to articulate the concepts under study using relevant literature and to clarify the presumed relationships among those concepts (Rocco & Plakhotnik, 2009).

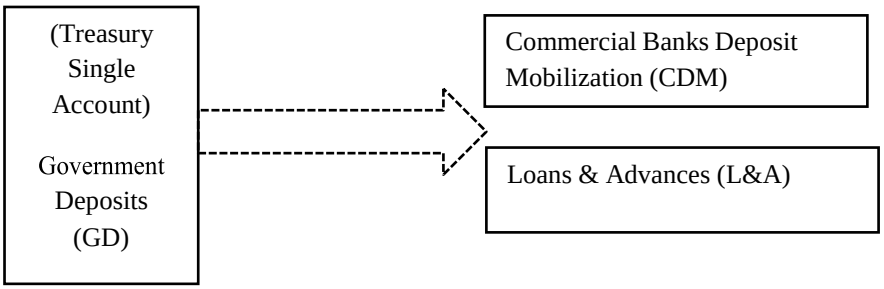
A review of relevant theories and literature above has demonstrated that there is a relationship between customer deposits and the overall deposits of a bank and its ability to provide Loans and Advances. Using data analytics, we can study the effects of deposits from a particular customer segment on the overall deposit base of the bank and other performance measures such as Loans and Advances. In this study, we consider the Government Deposits as a customer segment representing the Treasury Single Account and study its effect on the overall Commercial Banks Deposit Mobilization and Loans and Advances. In this model, the independent variable is represented by Government Deposits, while Commercial Banks Deposit Mobilization and Loans and Advances are the dependent variables.

2.4.1 : The Conceptual Framework that will be used to measure the hypothesis.

This framework depicts the relationship between TSA represented by Government Deposits, Commercial Banks Deposit Mobilization and Loans and Advances.

Independent Variable — Dependent Variables

Independent Variable — Dependent Variables



Source: Author's construction (2023) based on literature review.Figure 1: Conceptual Framework

Conceptual Model

1. CDM = f(GD)
2. L&A = f(GD)

Where: CDM = Commercial Banks Deposit Mobilization, L&A = Loans and Advances, GD = Government Deposits.

Hypothesis 1

H0: Government Deposits (GD) have no significant effect on Commercial Banks Deposit Mobilization (CDM).H1: Government Deposits (GD) have significant effect on Commercial Banks Deposit Mobilization (CDM).

Hypothesis 2

Ho: Government Deposits (GD) have no significant effect on Commercial Banks Loans and Advances (L&A).H1: Government Deposits have significant effect on Commercial Banks Loans and Advances.

This model can be used for forecasting and scenario analysis to see the effect of changes in customer segment deposits on the performance of the bank, such us deposit mobilization and lending ability.

2.5 Research Gap

Most of the studies were only focused on a few selected banks and used purposive sampling technique, which could make generalizations difficult, because there could have been a bias in the selection of the study sample. This sampling method has some drawbacks in that it can be arbitrary and subjective, reflecting the researcher's stance more than the population. It can be hard to defend the representativeness of the data.

3. METHODOLOGY

The study was empirical analytical, descriptive, and quantitative in nature. The study employed secondary and time series data on Government Deposits, Aggregate Commercial Bank Deposits and Loans and Advances before and after implementation of the TSA,

for a period of 10 years (2010-2019). The population was made up of all the 18 Commercial Banks in Zambia during the period under review. Data was collected from Bank of Zambia annual reports for the period 2010-2019. The study assessed the effect of the TSA on Deposit Mobilization and Lending for the entire Commercial Banking sector, because the Bank of Zambia reports annual aggregate performance of the Commercial Banking Sector in Zambia based on monthly data submitted by Commercial Banks. Descriptive, Regression and Correlation analysis were used to analyse the data, with the aid of IBM SPSS Statistics version 28.

4. RESULTS AND DISCUSSION

4.1 Descriptive analysis of Data.

This section shows the trend analysis of Government Deposits versus Other Commercial Banks Deposits and movement in Aggregate Commercial Banks loan-to-deposit (LDR), before and after implementation of the TSA.

4.1.1 Movement in Government Deposits and Other Commercial Banks Deposits between 2010 and 2019. Table 1: Movements in Government Deposits and Other Commercial Banks Deposits between 2010 and 2019

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
%Government Deposits	4.96	4.87	5.57	5.69	6.01	5.00	4.43	4.94	5.35	5.47
% Other CommercialBanks Deposits	95.04	95.13	94.43	94.31	93.99	95.00	95.57	95.06	94.64	94.53

Source: Author's research findings (2023)

Table 1 reveals that the proportion of Government Deposits versus Aggregate Commercial Banks Deposits remained relatively the same between 2010 and 2019. The trend however shows slow growth in Government Deposits between 2015 and 2019. Between 2010 and 2014 which is the pre-TSA era, Government Deposits grew by 163%. However, between 2015 and 2019 which is the post – TSA era, government Deposits grew by 74%. This shows that there is a decline in the growth of CommercialBanks Government Deposits after the implementation of TSA.

4.1.2 Movement in the Aggregate Commercial Banks Loan-to-Deposit Ratio (LDR) between 2010 and 2019. Table 2: Movement in aggregate Commercials Bank Loan-to-deposit ratio (LDR) between 2010 and 2019

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Aggregate LDR (%)	60.10	61.92	78.01	67.92	65.13	64.82	52.08	49.12	51.6	55.22

Source: Author's research findings (2023)

The loan-to-deposit ratio (LDR) is a metric used to assess a bank's liquidity by comparing total loans to its total deposits for the same period. The LDR is expressed as a percentage. If it is too high, it means that the bank may not have enough liquidity to cover any unforeseen funding requirements. Generally, the loan-to-deposit ratio of 80% to 90% is considered ideal. The Aggregate Commercial Banks Loan-to-deposit ratio was 60.10% in 2010 and rose to 78.01% in 2012. The ratio fell to 64.82%in 2015, the year the TSA implementation commenced in Zambia. The lowest LDR was recorded in 2017 at 49.12% and rose to 55.22% in 2019. The trend shows an improvement in the loan-to-deposit ratio during the Post TSA era. However, this improvement cannot be attributed to an increase in deposits, but rather to the slow growth in Loans and Advances during the post-TSA era. It appears there is a slowdown in lending during the post – TSA era. Between 2010 and 2014 which is the pre-TSA, Loans and Advances grew by 136%. However, between 2015 and 2019, which is the post TSA period, Loans and Advances grew by 36%.

4.2 Relationship between Government Deposits and Commercial Bank Deposit Mobilisation

Regression and Correlation analysis was done, using SPSS Statistics version 28 to test the hypothesis. The relationship between variables was tested at [P = 0.05, (95%: CI)]. If the P-value is < = 0.05, the relationship between the variables is significant and the decision is to reject the null hypothesis, otherwise accept if P-value is > 0.05.

H0: Government Deposits (GD) have no significant effect on Commercial Bank Deposit Mobilization (CDM). H1: Government Deposits (GD) have significant effect on Deposit Mobilization (CDM).

Table 3: Coefficients of Regression and Correlation analysis between Government Deposits and Commercial Banks Deposit Mobilization

Coefficients[a]

Model	nstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1(Constant)	9 1.40 x 10	9 2.8 x 10		.493	.636
Govt Deposits	18.427	1.338	.980	13.767	<.001

Source: Author's research findings (2023)For linear relationship, $Y = \alpha + \beta X + Ɛ$

Where: Y = the dependent variable, X = the independent variable, α = some constant (the intercept), β = the coefficient of the explanatory variable (Slope), Ɛ = represents the error term in the model.

Our independent variable is Government Deposits (GD), while Commercial Banks Deposit Mobilization (CDM) is ourdependent variable. The estimated regression equation is given by: $CDM = \alpha + \beta GD + Ɛ$

Using our Constant and β values, we can present the estimated regression equation as follows:CDM = 1.4 x 109 + 18.42(GD)

The regression model explains that Government Deposits (GD) have a positive relationship with Commercial Banks Deposit Mobilization (CDM). An increase of 1 Kwacha in GD will lead to an increase of 18.43 Kwacha in CDM. The correlation coefficient (r) of 0.980 indicates a strong positive relationship between Government Deposits and Commercial Banks Deposit Mobilization. Looking at the Sig column, we note that the regression model predicts the dependent variable significantly well. The P-value of < 0.001 which is less than 0.05 means the P-value is statistically significant at 5% level. And since the tcal (13.767) is outside our acceptance region of (+/-1.96), we reject the null hypothesis and uphold the alternative one hypothesis that there is a significant effect of Government Deposits on Commercial Banks Deposit Mobilization.

4.3 Relationship between Government Deposits and Commercial Bank Loans and Advances

H0: Government Deposits (GD) have no significant effect on Commercial Banks Loans and Advances (L&A).H1: Government Deposits (GD) have significant effect on Commercial Banks Loans and Advances (L&A).

Table 4: Coefficients of Regression and Correlation analysis between Government Deposits and Loans and Advances

Coefficients[a]

Model	nstandardizedCoefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1(Constant)	9 4.8 x 10	9 1.6 x 10		2.999	.017
Govt Deposits	8.675	.758	.971	11.441	<.001

a. Dependent Variable: Loans and Advances (L&A)Source; Author's research findings (2023)

Our independent variable is Government Deposits (GD) while Commercial Loans and Advances (L&A) is our dependent variable. Therefore, our estimated regression is given by: $L\&A = \alpha + \beta (GD) + Ɛ$.

Using our Constant and β values, we can present the estimated regression equation as follows:L&A = 4.8 x 109 + 8.67 (GD).

The regression model explains that Government Deposits (GD) have a positive relationship with Commercial Bank Loansand Advances. An increase of 1 Kwacha in GD would lead to increase of 8.68 Kwacha in L&A. The correlation coefficient of 0.97 indicates a strong positive relationship between Government Deposits and Commercial Banks Loan and Advances. Looking at the Sig column, we note that the regression model significantly predicts the dependent variable. The P-value of <0.001 which is less than 0.05, means that the P-value is statistically significant at 5% level. And since the tcal (11.441) is outside our acceptance region of (+/-1.96), we reject the null hypothesis and uphold the alternative hypothesis that Government Deposits

have significant effect on Commercial Banks Loans and Advances.

5. DISCUSSION

The study has examined the effects of the Treasury Single Account on Commercial Banks Deposit Mobilization and Lending in Zambia from 2010 - 2019.

5.1 Commercial Bank Deposit Mobilization

The findings of study have revealed that Government Deposits have significant positive effect on Commercial Banks Deposit Mobilization [(P-value <0.001); (CI: 95%)]. An increase of 1 Kwacha in Government Deposits would result in an increase of 18.43 Kwacha in Commercial Banks Deposit Mobilization. It can be seen that Government Deposits contributes significantly to the overall deposit mobilization of Commercial Banks in Zambia. This therefore means that, the TSA which essentially withdraws Government Deposits from Commercial Banks has a negative effect on their ability to mobilize deposits. The findings of this study are consistent with the findings by (Mkaro, et al., 2023) whose study revealed that the performance of some banks was impaired after TSA adoption, as a major portion of their deposits was derived from Government deposits. The findings of this study are consisted with studies by (Ndubuaku, Ohaegbu, & Nina, 2017), and (Oyadonghan & Atagboro, 2020) whose findings were that Treasury Single Account impacts negatively on the banking sector's ability to mobilize deposits. The trend analysis on Government Deposits with Commercial Banks from 2010-2019 further revealed a slower growth in Government Deposits (74%) during the post-TSA era, compared to a growth of 163% during the pre-TSA era. This is supported by the (World Bank Group, 2017) report on Tanzania which revealed a challenging environment for Commercial Banks created by the government's decision to centralize public institutions bank accounts, leading to a decline in Commercial Bank deposits.

5.2 Commercial Bank lending (Loans and Advances)

The findings of the study have revealed that Government Deposits have a positive significant effect on Commercial Banks' ability to extend Loan and Advances [(P-value <0.001; (CI: 95%)]. An increase of 1 Kwacha in Government Deposits would result in an increase of 8.68 Kwacha in Loans and Advances. The Trend analysis on Loans and Advances from 2010-2019 revealed a slower growth in Loans and Advances (36%) during the post-TSA era (2015-2019), compared to a growth of 136% during the pre-TSA era (2010-2014). These findings may point to the dependence of Commercial Banks on Government Deposits to extend Loans and Advances. The implication therefore is that the TSA, which essentially withdraws Government Deposits from Commercial Banks, has a negative effect on Loans and Advances. The findings of this study are consistent with the findings by (Ndubuaku, et al., 2017) whose findings revealed that the TSA has significant negative impact on the banking sector's ability to provide Loans and Advances. The findings are also in line with (Oyadonghan & Atagboro, 2020) whose studyrevealed that the introduction of the TSA has adverse effect on the availability of credit to the economy.

6. CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

This study assessed the effects of the Treasury Single Account on Commercial Banks Deposit Mobilization and Lending in Zambia. The trend analysis revealed a slow growth in both Government Deposits and Loans and Advances during the post-TSA era. The regression results further suggest that the Treasury Single Account as a negative effect on Commercial Banks Deposit mobilization and their lending ability. From the above analysis, we make inferences as follows:

Implementation of the TSA, which seeks to withdraw Government Deposits from Commercial Banks, has a negative effect on Commercial Banks Deposits. Ultimately, this withdrawal of Government Deposits impacts negatively on their lending ability since banks need deposits (liabilities) to provide Loans and Advances. The findings are in agreement with the findings of the studies done by (Kanu, 2016), (Muraina, 2018), (Mwambuli & Igoti, 2021), (Ajetunmobi, et al., 2017), (Ndubuaku, et al., 2017), and (Mkaro, et al., 2023) whose findings revealed that the TSA impacts negatively on the performance of the banking sector. These findings point to Commercial Banks' reliance on Government Deposits, to Mobilize Deposits and thus provide lending.

6.2 Recommendations

With this realization that the Treasury Single Account has a negative effect on Deposit mobilization and their lending ability, we make the following recommendations:

- Banks should move away from over reliance on Government Deposits and develop strategies to attract deposits from the private sector.
- Commercial Banks should simplify account opening procedures by reducing paperwork and leveraging digital technology to create a smooth onboarding experience that encourages customers to initiate and maintain long lasting banking relationships.

The more customers open accounts, the more opportunities for Commercial Banks to mobilize deposits and provide credit.

- Commercial Banks should leverage data analytics to drive deposit growth by targeting available customer segments ripe for deposit acquisition. By targeting the right long-lasting relationships and directing efforts toward targeted client needs, banks can optimize their efforts and success rates in increasing customer wallet share.
- Banks should develop synergies with fintech companies to facilitate customer payments to bank accounts, thereby creating a seamless banking experience. This will encourage more people to do business with banks.
- Banks should come up with innovative solutions to tap into the unbanked population. According to the 2020 FinScope surveys, about 30% of Zambia's adult population are financially excluded (BOZ, 2020). Banks should therefore develop attractive savings products to encourage the culture of saving among citizens.
- The ministry of Finance should consider allowing Commercial Banks acting as revenue collection agents a few days float before revenue is remitted to the main TSA account at the Bank of Zambia. For example, in Columbia, banks involved in revenue collection are allowed to retain revenue for 15 days before remitting to the main TSA account (Pattanayak & Fainboim,2010).

Suggestion for future research

This study only focused on one explanatory variable, Government Deposits, to investigate their effects Commercial Banks Deposit Mobilization and lending. There could be other variables such as macroeconomic factors i.e. inflation, interest rates,Gross Domestic Product (GDP) growth, exchange rates that could have an effect on Commercial Banks Deposit Mobilization and their Lending capacity. It is therefore recommended that future researchers who might be interested in carrying out studiesin this area should expand the scope to include other variables not included in this study.

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APPENDIX

Table 5: **Banks of Zambia data on Government Deposits, Aggregate CommercialBanks Deposits and Loans and Advances**

YEAR	GD (K)	CDM (K)	L&A (K)
2010	760607649	15340074190	9219431772
2011	943652781	19391780969	12007555473
2012	1217512866	21840111138	17037115983
2013	1588271167	27934467167	18972554000
2014	2003676667	33353083333	21722000000
2015	2024250000	40504083333	26253000000
2016	2001916667	45153833333	23517000000
2017	2457216667	49743575000	24434000000
2018	3020808333	56449000000	29135000000
2019	3529383333	64503125000	35616700000

Source: Bank of Zambia Annual Reports

Key:

K = Zambian Kwacha,

GD = Government Deposit,

CDM = Aggregate Commercial Banks Deposits, andL&A = Commercial Banks Loans & Advances.