Effect of treasury single account (TSA) on the financial performance of commercial banks in Tanzania: A study based on CAMEL rating analysis

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ABSTRACT

This paper analyses the effect of the treasury single account (TSA) on the financial performance of commercial banks in Tanzania over the period 2015-2020. The selected commercial banks include NMB Plc, CRDB Plc, EXIM Bank, NBC and DCB in Tanzania’s banking sector. The study employs a descriptive research design and the CAMEL Rating Analysis approach. The findings show that all the selected commercial banks have maintained a strong position on their composite rating system before and after the TSA implementation. They are sound in the aspects of capital adequacy, management quality, earning capacity and liquidity conditions.

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Introduction

The Treasury Single Account (TSA) is a public accounting system under which all government revenue is collected into one single account, usually maintained by the country’s Central Bank (Adeolu, 2015). The TSA relieved Deposit Money Banks (DMBs) for the management of the cash resources of Ministries, Departments, and Agencies (MDAs) and created a hole in their liquidity base. As Olowokure and Adetoso (2017) noted, the TSA was established when some agencies refused to declare the annual revenue they generated into the treasury as demanded by the law. In Tanzania, it was introduced to facilitate channelling all inflows from the country’s MDAs into a single account at the Bank of Tanzania.

The Treasury Single Account (TSA) is a form of public accounting in which all government revenue, expenditure and profits are deposited into a single account, which traditionally has been operated by the country’s central bank (Okereko and Okoye, 2017). The primary purpose of using TSA is to ensure accountability of government revenue, enhance transparency and prevent the abuse of public funds. Hence, maintaining a Treasury Single Account is geared at ensuring proper cash management by removing idle funds that are usually left to numerous commercial banks and reinforcing the reporting of profit collection and payment (Adeolu, 2015).

The banking sector has been playing a pivotal role in economic growth through promoting financial inclusion in the economy. It has also been addressing some critical problems that debilitate against the achievement of the banks’ planned objectives, such are liquidity management problems, asset quality problems, capital adequacy problems, among others. The CAMEL rating system has been used in this study to evaluate the financial performance of the commercial banks in Tanzania as its five components touch on different...
aspects of the banks. In measuring the financial performance before and after the implementation of the TSA, three commercial banks were randomly selected and the CAMEL rating analysis system was used.

The overall financial soundness of a bank and the quality of its management is measured using financial ratios (Piyu, 1992). Piyu (1992) notes further that bank regulators, for example, use financial ratios to help evaluate a bank’s performance as part of the CAMEL system. This analyses the effect of the TSA on the financial performance of selected commercial banks in Tanzania based on CAMEL Rating Analysis, which to the best of the knowledge of the researcher it has not been analysed before.

Literature Review
Conceptual Background
Treasury Single Account and the Camel System
A treasury single account has been defined differently among scholars. Ajetunmobi et al., 2017 defines the TSA as a unified structure of government bank accounts offering a consolidated view of government cash resources (Ajetunmobi et al., 2017).

CAMEL System is the rating system wherein the bank regulators or examiners (generally the officers trained by RBI), evaluate the overall performance of the banks and determine their strengths and weaknesses. A CAMEL rating is based on the financial statements of the banks, namely profit and loss accounts, balance sheet and onsite examination by the bank regulators. In this rating system, the officers rate the banks on a scale from 1 to 5, where 1 is the best and 5 is the worst. The parameters based on which the ratings are done are represented by an acronym “CAMEL” (Dickson and Marobhe, 2013)

The CAMEL model as a tool is very effective, efficient and accurate when used as a performance evaluator in banking industries and to anticipate the future and relative risk. “CAMEL” ratios are calculated with a focus on financial performance. The CAMEL acronym stands for Capital adequacy, Asset quality, Management, Earnings, Liquidity and Sensitivity. (Rostami, 2015).

| Alphabet | Interpretation                        |
|----------|--------------------------------------|
| C        | Capital Adequacy                     |
| A        | Asset Quality                        |
| M        | Efficiency and Quality of Management |
| E        | Volume and Level of Earnings         |
| L        | Strength and Level of Liquidity      |

Capital Adequacy (C) and Asset Quality (A)
Socol Adela (2007) defined capital adequacy as a process of dimensioning the banking society’s capital imposed by legislative requirements. Capital adequacy implies the conventional assessment of the minimal level of capital, according to certain parameters, which reflect the dimension of banking activity and of related risks, capable of providing a correlation between the expected benefits and potential loss caused by a certain risk level. (Adnan, 2007).

According to Abata, (2014), Asset quality is an aspect of bank management that entails the evaluation of a firm’s assets to facilitate the measurement of the level and size of credit risk associated with its operation. It relates to the left-hand side of the bank balance sheet and focuses on the quality of loans, which provide earnings for a bank. Asset quality and loan quality are two terms with basically the same meaning, while their management is considered important by the banking sector. (Abata, 2014).

Management Efficiency (M) And Earning Ability (E)
Investopedia (2017) defines management efficiency as a level of performance that describes the process that uses the lowest quantity of inputs to create the greatest quantity of outputs. Efficiency relates to the usage of all inputs in producing any given output, including personal time and energy. The Board of directors and top-level managers are the key persons who are responsible for the successful functioning of the banking operation. (Marobhe and Dickson, 2013).

Khalid (2012) explains earning ability as a tool used to analyse stocks to assess whether the underlying company is worthy of investment. A company’s earnings power is a reflection of the ability to generate income or profit over time, assuming all current operational conditions remain unchanged. Income from all the operations, non-traditional and extraordinary sources constitute the earnings of a bank.

Liquidity (L)
According to Pasiouras, et al (2007) Liquidity describes the degree to which an asset or security can be quickly bought or sold in the market, without affecting the asset's price. Market liquidity refers to the extent to which a market, such as a country's stock market or a city's real estate market, allows assets to be bought and sold at stable prices. Liquidity risk measures an institution’s ability to meet unanticipated funds that are claimed by the depositor.
Empirical Literature Review

The implementation of the Treasury Single Account (TSA) in 2015 in Nigeria led to many studies that examined how the profitability of firms in the banking industry could be affected. Using the least square method of analysis on time series data for the period 2012 - 2016, Ocheni, 2016 examined the effect of TSA on the performance of the Systematically Important Banks (SIB) in Nigeria and found that the implementation of TSA had no significant impact on the performance of these banks. Unlike Ocheni (2016), this study on Tanzania has examined randomly selected commercial banks.

Similar results as Ocheni (2016) were reported by Onuorah and Chigbu, (2016) who examined the impact of the Treasury Single Account (TSA) on the performance of banks in Nigeria using multivariate data from the Diamond bank and the First Bank. Using the multivariate analysis model, the study found that there was no statistically significant difference in the performance of banks in Nigeria before and after the introduction of the TSA policy. However, a sample size of only two banks for their study is deemed to be too small to generalize the effect of TSA on the profitability of the banks in Nigeria. Thus, this study has used a relatively larger sample size of five banks.

Conversely, Udo and Esara's (2016) results on the impact of the Treasury Single Account on the performance of the banking sector in Nigeria differs from that of Oguntodu et al. 2016 and Ocheni (2016). Using regression techniques to analyse the time-series data from the Central Bank of Nigeria (CBN), Udo and Esara (2016) found that TSA had a significant impact on credit to the private sector, deposit mobilization and loans and advances. However, unlike this study, their study did not examine indicators of profitability.

The effect of the Treasury Single Account (TSA) on bank performance in Nigeria was investigated also by Ogbonna and Amuji (2018) using Ordinary Least Squares (OLS) to analyse the data from a questionnaire. Their study found a negative significant relationship between TSA and bank profitability. However, the use of a questionnaire to determine the extent to which TSA affect the profitability of banks in a single state may not provide a general picture for the experience of the whole banking sector, which motivated this study to attempt to address this challenge. Ighosewe and Ofor (2017) sampled 10 deposit money banks (DMBs) and administered a questionnaire to elicit the needed data, which were analysed using Chi-square. They paired sampled t-test to ascertain if the implementation of TSA had impacted the profitability of banks in Nigeria, with a special reference to Systematically Important Banks (SIB) in Nigeria and found the impact of TSA on the performance of banks to be negative.

Furthermore, Kamau (2016) used a sample of 10 Deposit Money Banks (DMBs) to examine the impact of TSA implementation on the liquidity of banks in Nigeria for the period 2010-2015. The regression analysis showed that the TSA negatively impacted the liquidity of banks in Nigeria. The examined period however falls in the pre-TSA timeframe except for 2015, its first-year implementation. Thus, given a short period under the implementation of the TSA, it might be difficult to ascertain whether the TSA has a negative influence on the liquidity of banks in Nigeria. This study covered the extended period which covers three years before the implementation of TSA and three years after.

On the other hand, Olowokure and Adetoso (2017) examined the effect of the TSA regarding Deposit Money Banks (DMBs) in Nigeria. The study selected five (5) banks and a questionnaire was used to collect the data that was analysed using multiple regression. It was found that the TSA created liquidity problems for the banks. The researchers noted that for banks to face the challenges caused by the TSA, they had to source funds from other sectors of the economy since more than 50% of the Nigerian population does not have access to financial services. This study used time series rather than primary data.

In assessing the impact of the implementation of the TSA on the liquidity base of banks in Nigeria, Andorninmye (2017) examined the profit after tax for 15 selected banks before and after the implementation of TSA using descriptive statistics and paired sample t-test on the data obtained from the Annual Reports of banks. The results showed a significant difference in profit before and after the implementation of the TSA. These findings are similar to Ajetunmobi et al. (2017), which found that the implementation of the TSA affected the liquidity of the Deposit Money Banks in Nigeria, which in turn affected their profit base.

Research and Methodology

This study is a descriptive exploratory study, which uses the audited financial statements of the sampled banks.

Data

The sample size comprises five full-fledged commercial banks. These five commercial banks were selected randomly from all licensed commercial banks in Tanzania. This study is based on secondary data. The audited financial data of the selected banks were collected from the financial statements of the banks on their official websites. Six years (2015-2020) have been selected for evaluating the financial performance of selected commercial banks in Tanzania.

This study covers the period of six years from 2015- to 2020. To measure the financial performance of commercial banks, the CAMEL rating analysis was used to measure the soundness of the financial performance of the selected commercial banks, which is a standard analysis for measuring the performance of financial institutions. To obtain the results, the following four ratios that define the parameters of CAMEL were used.
Table 2: CAMEL parameters

| Parameters          | Ratios                           |
|---------------------|----------------------------------|
| Capital Adequacy    | Equity to Asset                  |
| Management Quality  | Cost to Income                   |
| Liquidity           | Net Loan to Total Asset          |
| Earning Performance | i. Net Profit to Total Asset     |
|                     | ii. Net Profit to Total Equity   |

Source: Yuksel et al., 2015

Table 3: Camel Rating Components

| Rating Components               | Rating 1  | Rating 2   | Rating 3   | Rating 4   | Rating 5   |
|---------------------------------|-----------|------------|------------|------------|------------|
| Capital Adequacy Ratio          | ≥15%      | 12% - 14.99% | 8% - 11.99% | 7% - 7.99% | ≤6.99%     |
| Assets quality Ratio            | ≤1.25%    | ≤2.5% - 1.26% | ≤3.5% - 2.6% | ≤5.5% - 3.6% | ≥5.6%     |
| Management Efficiency           | ≤25%      | 30% - 26%  | 38% – 31%  | 45% – 39%  | ≥46%       |
| Earnings Capacity ROA           | ≥1%       | 0.9% - 0.8% | 0.35 – 0.7 | 0.25 – 0.34 | ≤0.24     |
| Earnings Capacity ROE           | ≥22%      | 17% - 21.99 % | 10% - 16.99% | 7 – 9.99% | ≤6.99     |
| Liquidity Ratio                 | ≥50%      | 45% - 49.99% | 38% - 44.99% | 33% - 37.99 | ≤32%      |

Source: Babar and Zeb (2011)

Analysis and Findings

Descriptive Statistics

Descriptive statistics analysis was conducted to depict the characteristics of the variables. Table 4 summarizes these characteristics by reporting the mean, variables’ maximum and minimum values, standard deviation, and observations.

Table 2: Descriptive Statistics

|                      | Number of observations | Min    | Max    | Mean  | Std. Dev |
|----------------------|------------------------|--------|--------|-------|----------|
| Capital Adequacy     | 30                     | 8.50   | 23.20  | 17.93 | 3.058    |
| Management Efficiency| 30                     | 48.00  | 83.00  | 61.33 | 7.32     |
| Return On Asset      | 30                     | -1.10  | 7.00   | 1.50  | 1.64     |
| Return On Equity     | 30                     | -12.00 | 42.00  | 12.59 | 9.94     |
| Liquidity            | 30                     | 11.60  | 90.90  | 68.45 | 14.18    |
| Valid N (listwise)   | 30                     |        |        |       |          |

Capital Adequacy

The capital adequacy ratio (CAR) is a measure of how much capital a bank has available, which is reported as a percentage of a bank's risk-weighted credit exposures.

Table 3: Shareholders’ Equity to Total Asset (EQTA)

|        | AFTER TSA | BEFORE TSA |
|--------|-----------|------------|
|        | 2020      | 2019       | 2018       | 2017 | 2016 | 2015 |
| NMB    | 21.0%     | 19.0%      | 19.0%      | 18.0%| 20.0%| 22.0%|
| CRDB   | 17.9%     | 17.4%      | 15.3%      | 17.0%| 16.3%| 19.4%|
| EXIM   | 11.3%     | 8.5%       | 15.0%      | 19.0%| 20.0%| 17.0%|
| NBC    | 23.2%     | 17.0%      | 16.3%      | 17.4%| 22.0%| 21.0%|
| DCB    | 17.1%     | 20.3%      | 15.6%      | 16.5%| 17.8%| 20.5%|
Figure 1: Capital Adequacy

From Table 5 and the charts above, it was found that the capital adequacy ratio is well and increasing over the years before and after the TSA implementation. The capital adequacy of the NMB was 22% in 2015 which decreased to 21% in 2020 after the TSA implementation.

Besides, the capital adequacy of CRDB was 19.4% in 2015 which decreased to 17.9% in 2020 after TSA implementation. EXIM bank capital adequacy decreased more from 17% in 2015 to 11.3% in 2020, which, however, was a comparatively good position than 8.5% in 2019 after TSA implementation. Additionally, the capital adequacy of NBC was 21.0% in 2015 and increased to 23.2% in 2020 after TSA implementation. Lastly, the capital adequacy of DCB was 20.5% in 2015 but decreased to 17.1% in 2020 after TSA implementation.

Using the rating base of CAMEL components (Table 3), the capital adequacy ratio of the banks before and after TSA implementation is considered to be strong for NMB, CRDB, NBC and DCB. However, for the EXIM bank from 2015 to 2017, which is before the TSA implementation, the capital adequacy ratio was considered to be strong, with the ratio being in the range of 17% to 20.0%. After the TSA implementation, the capital adequacy ratio was 15%, which is considered a strong rating; however, from 2019 to 2020, the ratio ranged between 8.5% and 11.3%, which is considered a fair rating of capital adequacy.

Management Efficiency

The cost to income ratio is primarily used in determining the profitability of banks. It depicts the efficiency with which a bank is being managed. The lower the ratio, the better the management, since it indicates more profitability of a bank.

Cost to Income Ratio is calculated with the following formula:

\[
\text{Cost to Income Ratio} = \frac{\text{Operating Cost}}{\text{Operating Income}} \times 100
\]

Table 6 presents the Cost to Income Ratio for the NMB, the CRDB, the EXIM bank, the NBC and the DCB bank, as calculated from Annual Audited Financial reports from 2015 to 2020.

Table 4: Cost-To-Income Ratio and Bank’s Profitability

|                  | AFTER TSA | BEFORE TSA |
|------------------|-----------|------------|
|                  | 2020      | 2019       | 2018       | 2017       | 2016       | 2015       |
| NMB              | 51.0%     | 60.0%      | 59.0%      | 58.0%      | 59.0%      | 57.0%      |
| CRDB             | 61.6%     | 64.4%      | 66.7%      | 66.7%      | 62.4%      | 55.8%      |
| EXIM             | 75.0%     | 83.0%      | 74.0%      | 65.0%      | 48.0%      | 65.0%      |
| NBC              | 62.8%     | 60.1%      | 58.3%      | 60.30%     | 57.40%     | 54.30%     |
| DCB              | 68.0%     | 57.5%      | 62.4%      | 61.3%      | 54.5%      | 51.4%      |

Source: Author’s Compilation, 2021

Table 6 represents the analysed data from the audited financial statement of the NMB, the CRDB, the EXIM bank, the NBC and the DCB. The data was analysed and presented in the form of bar and line charts, as presented in Figure 2 for the period 2015–2020.
Figure 2: Management Efficiently Ratios; Source: Author’s Compilation, 2021

Table 6 and Figure 2 show that COSR is increasing moderately with slight fluctuations for all five banks. In 2015, the NMB’s COSR was just below 57% and it increased to just above 60% in 2019. For the CRDB bank, COSR increased from 55.8% in 2015 to 66.7% in 2018; and for the EXIM bank, COSR was just below 50% in 2015 before TSA and increased to above 83% in 2019 after TSA. For the NBC, COSR was just above 54% in 2015 before TSA and increased to above 62.8% in 2020 after TSA. Finally, for the DCB, COSR was just above 51% in 2015 before TSA and increased to above 68% in 2020 after TSA.

Earnings Ability

Earning capacity is the net average earnings at a given moment in time: past, current or future. Earnings ability can be measured using Returns on Asset (ROA) and Returns on Equity (ROE).

Return on Assets (ROA)

Table 7 shows the ROA ratios computed from annual audited financial statements of the five banks from 2015 - 2020. These ratios were used to measure the earnings ability of the mentioned commercial banks before and after the TSA implementation.

Table 5: Return on Assets Ratios

|       | AFTER TSA | BEFORE TSA |
|-------|-----------|------------|
|       | 2020      | 2019      | 2018      | 2017      | 2016      | 2015      |
| NMB   | 3.0%      | 2.0%      | 2.0%      | 2.0%      | 3.0%      | 3.0%      |
| CRDB  | 3.3%      | 2.6%      | 1.6%      | 0.9%      | 2.0%      | 3.5%      |
| EXIM  | 2.0%      | -1.0%     | 0.0%      | 1.0%      | 7.0%      | 3.0%      |
| NBC   | -1.1%     | 1.2%      | 0.5%      | 0.9%      | 0.8%      | 0.7%      |
| DCB   | 0.17%     | 0.20%     | 0.16%     | 0.16%     | 0.20%     | 0.17%     |

Source: Author’s Compilation, 2021
Two performance measures were used to determine the earnings ability of the commercial banks before and after TSA implementation. One is the Return on Assets (ROA) which is calculated through net profit to total assets. As shown in Table 7 and Figure 3, for the NMB, the ratio was 3.0% in 2015, which decreased to 2.0% in intermittent years before rising to 3% in 2020, after the TSA implementation. In 2015, the ratio for the CRDB was 3.5%, then decreased to 0.9% in 2017 before TSA and increased from 1.6% and further to 3.3% after the TSA implementation. For the EXIM bank in 2015, the ROA ratio was 3.0% and increased to 7.0% in 2016 before it decreases to the lowest ratio of -1% and rose to 2% in 2020. For the NMB, the CRDB and the EXIM banks, the returns on assets were at their lowest of 2.0%, 1.6%, and 0.0% respectively. According to Berger (1993) and Dickson and Marobhe (2013), the rating base of CAMEL components (Table 3), the earnings capacity ratio (ROA) of the bank before and after TSA implementation is considered to be strong for NMB as shown in Table 7. For the CRDB, the earning capacity ratio was strong from 2015 to 2016 before TSA implementation and dropped to a satisfactory rating in 2017 also before TSA implementation; and after the TSA implementation, the earnings capacity ratio for the CRDB was strong, with the rating of 1.6%, 2.6% and 3.3% from 2018 to 2020. But for the EXIM bank from 2011 to 2017, which is before TSA implementation, the earnings capacity ratio was considered to be strong as shown in Table 7. Also, for the EXIM bank, after the TSA implementation, the earnings capacity ratio was rating as unsatisfactory from 2018 to 2019, but in 2020 the ratio was 2%, which was considered a strong rating. For NBC and DCB RAO ratio decreased to -1.1% and 0.17% in 2020.

Return on Equity (ROE)

This ratio measures the profitability of the equity fund invested by the company. It also measures how the owner’s funds have been utilized to generate a company’s revenues. A high ratio represents better the company is.

Formula: Profit after Tax/Net worth, Where, Net worth = Equity share capital, and Reserve and Surplus.

Table 8 shows the ROE ratios computed from annual audited financial statements of five banks from 2015 to 2020. These ratios were used to measure the earnings ability of the mentioned commercial banks before and after the TSA implementation.

| Table 6: Return on Equity Ratios |
|---------------------------------|
| **AFTER TSA** | **BEFORE TSA** |
| 2020 | 2019 | 2018 | 2017 | 2016 | 2015 |
| NMB | 18.00% | 15.00% | 11.00% | 12.00% | 20.00% | 23.00% |
| CRDB | 16.30% | 13.80% | 8.30% | 4.80% | 9.80% | 18.80% |
| EXIM | 9% | -12% | 11% | 6% | 42% | 23% |
| NBC | -7.9% | 8.4% | 3.9% | 5.3% | 5.1% | 4.7% |
| DCB | 17.13% | 20.29% | 15.55% | 16.45% | 20.49% | 18.32% |

Source: Author’s Compilation, 2021
From the computations in Table 8 and Figure 4, ROE decreased after TSA implementation, which is better results because a lower ROE indicates better performance of the bank. In 2015, the NMB bank ROE ratio was 23.0%, which decreased to 18.0% in 2020 after TSA implementation. Moreover, the ROE for the CRDB decreased to 8.3% after the TSA implementation, and for the EXIM bank, it decreased to -12% in 2019. For the CRDB, the earning capacity ratio (ROE) was satisfactory in 2015 before TSA implementation and dropped to a marginal rating from 2016 to 2020, as shown in Table 8. But for EXIM bank in 2015 to 2016 which is before TSA implementation the earnings capacity ratio (ROE) was considered to be strong, as Table 8 shows. Also, for EXIM bank after TSA implementation the earnings capacity ratio (ROE) was rating as unsatisfactory rating in 2019, but in 2020 the ratio was 9% which was considered as a marginal rating of earnings capacity in ROE. ROE peaked in 2016 for EXIM bank which is before TSA implementation. For NBC, the return on equity after TSA was 3.9% in 2018 and decreased to -7.9% in 2020. While for DCB the return on equity was 15.55% in 2018 and increased to 17.13% in 2020.

### Liquidity Position

The loan-to-deposit ratio (LDR) is used to assess a bank’s liquidity by comparing a bank's total loans to its total deposits for the same period. If the ratio is too high, it means that the bank may not have enough liquidity to cover any unforeseen fund requirements.

### Formula and Calculation for LDR

\[
LDR = \frac{\text{Total Loans Granted}}{\text{Total Deposits}}
\]

Table 9 shows the LDR ratios computed from annual audited financial statements of five banks from 2015 - 2020. These ratios were used to measure the liquidity position of the mentioned commercial banks before and after TSA implementation.

**Table 7: Liquidity (Loan-to-Deposit Ratio)**

|        | AFTER TSA | BEFORE TSA |
|--------|-----------|------------|
|        | 2020      | 2019       | 2018       | 2017     | 2016     | 2015     |
| NMB    | 78.0%     | 73.0%      | 78.0%      | 68.0%    | 76.0%    | 71.0%    |
| CRDB   | 72.3%     | 38.6%      | 60.2%      | 90.9%    | 11.6%    | 63.8%    |
| EXIM   | 71.0%     | 69.0%      | 77.0%      | 78.6%    | 79.6%    | 77.1%    |
| NBC    | 68.00%    | 77.00%     | 65.90%     | 62.00%   | 72.30%   | 59.00%   |
| DCB    | 75.10%    | 72.30%     | 70.00%     | 59.30%   | 65.00%   | 69.70%   |
From the findings, of the NMB, the CRDB and the EXIM Bank in 2017 before TSA implementation the LDR was 68.0%, 90.9% and 78.6%, respectively. However, one year after TSA implementation, the LDR was 78.0%, 60.2% and 77.0% for the NMB, the CRDB and the EXIM bank, respectively. Therefore, the NMB bank is found to have utilized the deposits collected more effectively than the CRDB and the EXIM bank. The loan-to-deposit ratio for the NBC was 65.9% in 2018 and increased to 68% in 2020 after the TSA implementation, whereas for the DCB after the TSA implementation, the liquidity ratio was 70% in 2018 and increased to 75.1% in 2020. Below table show CAMEL Composite Rating

| Bank  | Capital Adequacy | Management Efficiency | Earnings (ROA) | Earnings (ROE) | Liquidity | Composite Rating |
|-------|------------------|-----------------------|----------------|----------------|-----------|------------------|
| NMB   | 1                | 5                     | 1              | 2              | 1         | 2                |
| CRDB  | 1                | 5                     | 1              | 3              | 1         | 2                |
| EXIM  | 2                | 5                     | 1              | 3              | 1         | 3                |
| NBC   | 1                | 5                     | 3              | 5              | 1         | 3                |
| DCB   | 1                | 5                     | 2              | 1              | 3         | 3                |

**Discussion of Findings**

This study has examined the financial performance of five selected commercial banks in Tanzania in the period 2015-2020. The performance of the banks was gauged on the CAMEL model and shows that the selected commercial banks’ (NMB, EXIM bank, CRDB, NBC and DCB) financial performance using the CAMEL rating is ‘strong’ in capital adequacy and liquidity position before and after TSA implementation (Babar & Zeb 2011; Dickson & Marobhe, 2013)

The earnings ability was measured using the returns on assets and returns on equity. The NMB based on the study findings shows that from 2015-2020, the ROA was rated as strong before and after the TSA implementation. For the CRDB, the ROA ratio in 2017 was considered as satisfactory, which is before TSA, while for the remaining years it was rated as strong. For the Exim bank, the ROA ratio was 7.0% in 2016 before the TSA implementation and decreased to -1.0% in 2019 after the TSA implementation. For the NBC the ROA ratio in 2020 was -1.1% after the TSA implementation, whereas for the DCB, it was 0.17% after the TSA implementation.

For the return on equity (ROE), the ROE ratio for the NMB was 23.0% ROE, which decreased to 18.0% in 2020 after the TSA implementation. Moreover, for the CRDB bank, the ROE decreased to 8.3% after the TSA implementation; and for the EXIM bank, the ROE decreased to -12% in 2019. For the NBC, the ROE ratio was 4.7% in 2015 and increased to 5.3% in 2017 before TSA implementation, after the TSA implementation, the ROE was 3.9% in 2018 and dropped to -7.9% in 2020. For the DCB, the ratio
was 15.55% in 2015 and 17.13% in 2017 before the TSA implementation, and after the TSA implementation, the ROE ratio was 18.32% in 2018 and dropped to 16.45% in 2020. Thus, from Table 3, the rating based on the CAMEL components, the earnings capacity ratio (ROE) of the NMB before TSA implementation is considered to have been strong (Table 8). However, after the TSA implementation, the ROE ratio dropped to 11%, 15% and 18% in 2018, 2019 and 2020 respectively, which is considered a satisfactory rating.

The banks did not rank satisfactorily with Management Efficiency. All of the selected banks based rated as Unsatisfactory with a score of 46%.

According to Babar and Zeb (2011) on the ratings based on the CAMEL components, the liquidity position ratio of the bank before and after TSA implementation is considered to be strong for the NMB and the EXIM bank from 2015 – 2020. However, for the CRDB in 2016 which is before TSA implementation, the liquidity position ratio was considered to be unsatisfactory at the ratio of 11.6%. For the CRDB after the TSA implementation, the liquidity position ratio was 38.6% in 2019, which is considered a fair rating.

Conclusion

This paper has used the CAMEL model of ratings to examine the effects of the TSA implementation on the performance of commercial banks in the period from 2015 to 2020, which covers both the pre-TSA and post-TSA phases. The findings indicate that the composite CAMEL ratings and the individual Management component ratings have significant predictive power for future bank financial performance. Also, this study finds that CAMEL ratings have significant predictive power for aggregate variables in the economy, including bank lending in the economy. In conclusion, the study found the treasury single account to have insignificant effects on the performance of commercial banks in Tanzania.

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APPENDIX:

List of Selected Commercial Bank

| SNO | Bank Name | Data Source Link |
|-----|-----------|------------------|
| 1   | NMB       | https://www.nmbbank.co.tz/ |
| 2   | CRDB      | https://crdbbank.co.tz/ |
| 3   | EXIM      | https://www.eximbank.co.tz/ |
| 4   | NBC       | https://www.nbc.co.tz |
| 5   | DCB       | https://dcb.co.tz/ |

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