COMPARATIVE ANALYSIS OF SMALL AND LARGE COMMERCIAL BANKS' FINANCIAL PERFORMANCE IN TANZANIA: PRE AND POST-REGULATORY REVIEWS

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ABSTRACT
The Regulatory Requirements Reviews (RRR) carried out by the Bank of Tanzania (BoT) in 2008 and 2014 have brought both positive and negative consequences for commercial banks, some of which led to the collapse and merger of banks. This study, therefore, analysed the effect of adjustments in the regulatory framework on Tanzania's commercial banks' performance. Specifically, it analysed the performance level of both small and large banks across time. In addition, the study compared the performance of 24 sampled commercial banks before and after RRR. Data were analysed using descriptive statistics and Student paired t-test. The results, generally, show that Return on Equity (ROE) and Saving Mobilisation Ratio (SMR) positively increased after RRR and their difference was statistically significant (p-value =0.01. The findings further show that Return on Assets (ROA) increased and Non-Performing Loan (NPL) decreased after RRR. However, their differences were not statistically significant. Considering banks' category and time dimensions, the study concludes that most banks performed well in terms of ROE and SMR after the implementation of RRR. However, large banks performed better than small banks. Therefore, the study recommends that, for banks to perform better especially the small banks, they should continue to properly utilize the resources for compliance with the new regulatory requirements. For NPL, both banks need to take serious measure to mitigate NPL exposures including compliance with credit risk management guideline (2010) and regulations (2014)

Keywords: Financial Performance, Pre and Post-Regulatory Reviews, Commercial Banks, Comparative Analysis.

1. INTRODUCTION
Over the years the banking sector has been facilitating the growth of financial markets for both money and capital markets, hence simplifying the firms' ability to raise funds (Hawaldar, *et al.,* 2017). Banks perform a crucial role in financial intermediation through numerous services.

Individuals and institutions can save their money safely, access loans, start or develop their investments, access insurance services, and transfer funds through banks, which also offer custodian-of-assets services (Wood &Skinner, 2018; Drigă & Dura, 2014). Thus, banks' efficiency and stability are vital (IMF, 2019). In order for banks to effectively facilitate stability and growth of the economy, they need to be regulated (Jiang *et al.*, 2018; Lotto, 2018). However, the effect of the regulatory requirements, which are among the determinants of banks' stability and efficiency, have not been adequately studied.

Several studies in both developed and developing economies have generated mixed results following the introduction of new bank regulations. For instance, in the US, Jiang *et al.* (2018) observed that Southern bank failed to continue with its operations after the regulatory reviews of 2008, which induced its collapse in 2010. Ugoani (2016) presented a similar case that occurred after the implementation of the International Banking Association regulations (Basel II) in 2015. Similarly, twenty-five (25) commercial banks (CBs) in Nigeria had an unsatisfactory performance as most of them reported high NPL and capital inadequate. In Ghana, the implementation of International Banking Capital Adequacy regulations on Tier I and II also affected the performance of some banks, where five banking institutions reported high losses and insufficient capital in 2018. As a result, the Central Bank of Ghana merged those banks into one bank hoping that amalgamation could improve performance (Asiama & Amoah, 2018).

Waleed *et al* (2015) conducted a study on the comparison of private and public banks' performance in Pakistan. The study found that the ROA of public banks was higher than that of private banks. The findings were contrary to the study by Alejandro Miccos (2007) who examined the relationship between the ownership and performance of the banking sector in developing countries. The study observed that state-owned banks are less profitable than private banks in developing countries. Another study by Alam *et al* (2011) compared the financial performance of state-owned and domestic banks in Pakistan using secondary data from 2006 to 2009 using a financial analysis approach. The study revealed that domestic banks of Pakistan had more assets than state-owned banks, but state-owned banks' performance was better in terms of liquidity and profitability than domestic banks, contrary to Habib (2015) who noted that private banks were better than all other types of banks in Pakistan.

In 2013, the Central Bank of Kenya (CBK) reviewed some regulatory requirements on interest rate caps, exchange rate caps, and liquidity and capital adequacy. After the review, Dubai bank of Kenya collapsed as it become insolvent. Similarly, the CBK confiscated Imperial and Chase banks because of capital deficiencies and high credit risk (CBK, 2018). The same situation occurred in Rwanda, where the new regulations shocked some banks. For instance, in July 2012, the former BCR bank failed to continue offering services to its customers, and, in August 2013 the Central Bank of Rwanda closed it down and sold its assets and liabilities to other banks (National Bank of Rwanda Annual Report, 2015).

With respect to Tanzania, the BoT which is the regulator of all banks has since 2014 been reviewing various bank regulations to improve the minimum core capital ratio and total capital ratio from 10% and 12% to 12.5% and 14.5%, respectively. The BoT further reviewed the liquidity ratio to be not less than 20% of its demand liabilities and increased the minimum capital requirement from five billion Tanzanian shillings (TZS) to fifteen billion for commercial banks. Further, the Financial Reporting and Disclosure Requirements review of 2014 required banks to publish their accounts in publication outlets from one newspaper to at least two newspapers. Even though the submission days of published reports to the BoT were increased from three to five days, the publication days of quarterly financial reports were decreased from 45 days to 30 days (BoT, 2014) thus causing additional stress to smaller banks.

Generally, the amendments to bank regulations in 2014 on capital adequacy, liquidity management, credit risk management, and information reporting and disclosure requirements

seem to have generated mixed consequences. They have had good and desired effects for some banks and bad and undesirable impacts for others as indicated in the monetary policy statement report (2018). According to the banking industry performance report (2018), large banks are defined in the context of this study as those with total assets and total deposits value of at least TZS 800/=billion and TZS 700/= billion respectively while any commercial bank below these figures is considered as small banks (BoT, 2018). According to the Banking Industry Performance Report (2018), the top eight ranked commercial banks which have been also used in this study include NMB, CRDB, NBC, DTB, Barclays, Standard Chartered, Stanbic, and Exim bank.

With regard to the effect of bank reviews on the performance of large and small banks, there are no conclusive findings in Tanzania even though small banks seem to have been more negatively affected by the new regulations as compared to large banks. For instance, four years after the introduction of banking regulatory reviews, it was reported that some small banks (in 2018) failed to comply with the new regulations in terms of liquidity, capital adequacy, and NPL requirements relative to the large banks. Some small banks even collapsed whereas others received a grace period to improve their capital and liquidity requirements while others merged with financially stronger banks. Twiga Bancorp and Bank M, for instance, were taken over by the BoT and then merged with the Tanzania Postal Bank and Azania Bank, respectively (BoT, 2018).

On the contrary, large banks have shown high performance in terms of total assets value, total deposits, loans and advances value, liquidity, and capital adequacy values after bank reviews. Large banks had high performance in terms of liquidity, capital, profit, deposits, savings, and asset values after the introduction of new regulations (BoT, 2018). Lotto (2018) observed that large banks had good operating efficiency in terms of ROE among Tanzanian commercial banks as a result of compliance with capital adequacy requirements.

Even though previous studies have compared bank performance based on regulatory requirements within and among countries (Lotto, 2018; Habib, 2015; Waleed *et al.,* 2015), the variables used in measuring and comparing financial performance were mostly ROE and ROA (Jiang *et al.,* 2018; Habib, 2015; Waleed *et al.,* 2015; Alam *et al*., 2011). The current study differs from the previous research in many aspects. While the previous studies have focused on profitability measures using ROE, ROA, NIM, capital adequacy, and liquidity ratio, this study widens the scope by adding NPL and SMR indicators as measures of bank stability and growth. These two variables are important indicators as they are directly linked to the regulatory amendments made particularly on capital adequacy and credit risk management practices (BoT, 2018).

Second, previous studies have focused on analysing bank performance indicators in one period without analysing the banks' performance before and after the reviews. The current study set out to analyse bank performance indicators for both periods, that is, six years before regulatory requirements reviews (2008-2013) and six years after regulatory reviews (2014-2019).

This study adds to the current literature on bank performance on two fronts. First, to the best of our knowledge, this study is the first to examine the effect of regulatory reviews on NPLs and SMR in Tanzania. Including the NPLs and SMR in the comparison list presents additional information on the effect of regulatory reviews on bank performance. Second, depending on the bank size, the research shows that regulatory reviews have varying effects on banks as it demonstrates that "the one size fits all" approach is unsuitable with respect to bank regulations in Tanzania. Thus, the specific objectives of this study were i) to assess the level of performance of small and large banks across time, and ii) to compare the financial performance of these banks before and after regulatory requirements reviews. The study is guided by the following null hypothesis:

There is no mean difference in financial performance indicators before and after the regulatory requirements reviews (H0: μ1=μ2)

2.0 LITERATURE REVIEW
2.1 Theoretical review
The study was guided by the Resource-based View (RBV) theory (Penrose, 1959). The theory accounts for the role of resources in an organization's performance. The theory posits that there is a strong relationship between various types of resources and the performance of the organization (Kor & Mahoney, 2005). This concept has as well been tested in the banking industry (Liu *et al.,* 2010). It has been confirmed that the existence of financial, physical and human resources has an impact on the performance of financial institutions. Based on this theory it is assumed that those institutions that are endowed with more resources are likely to perform better than those with fewer resources. One of the areas that the theory has not addressed is the effect of regulatory requirements on banks with varying resources. This study examines how banks with varying resources are affected by regulatory reviews.

2.2 Empirical reviews
2.2.1 Profitability indicators (ROA and ROE)
Profitability indicators like ROE and ROA are important measures when determining the ability of a bank to generate income from equity shares and assets, respectively. In fact, the higher the ROE and ROA the better the bank's performance. Waleed *et al.,* (2015) study that compared the performance of private and public banks in Pakistan during the 2011-2014 periods observed that ROE, ROA, and earning per share (EPS) of private banks were higher than those of the public banks. These findings are similar to those by Bishiru Panda Barik (2013), whose comparison between the financial performance of state- and privately-owned commercial banks in Bangladesh, found that private banks have higher ROE and ROA than state-owned ones primarily because private banks do business competitively by investing more resources to ensure that banks get higher returns for their survival as opposed to state-owned banks, which could be operating towards a less competitive goal.

Hawaldar *et al.* (2017) analysed the financial performance of Bahrain financial institutions from 2009 to 2013. Using panel data, the study observed that there was high operating efficiency in terms of the asset utilisation ratio of banks in Bahrain during the period under review relative to before 2009. Osano and Gekara (2018) in Kenya noted that the amendments to the Kenya banks' regulations made most of the banks register improvements in financial performance as measured by ROE, ROA, and NIM. The study recommended that government should closely continue monitoring banks to ensure that they properly fulfil the stipulated regulatory requirements, policies, and guidelines. In Tanzania, Lotto (2018) assessed the relationship between capital regulations and bank efficiency and found that the capital requirements reviews improved bank efficiency in terms of ROA. The study noted that a large capital buffer not only strengthens financial stability but also improved bank operating efficiency.

David and Muendo (2018) conducted a study on the effect of the Central Bank of Kenya regulations on the financial performance of microfinance banks and observed that ROE, capital adequacy, and liquidity ratios of most banks in Kenya improved even more following the review of liquidity management, credit risk management, and capital adequacy regulations. Furthermore, Vianney's (2013) study on the relationship between bank regulations and performance revealed that commercial banks in Rwanda experienced low performance in terms of ROE and ROA after the country amended the capital and liquidity requirements. However, some amendments to various regulatory requirements were difficult for some banks to fulfil, but while complying with new regulations some banks experienced a high increase in operating and opportunity costs that lowered the financial performance of most commercial banks in Rwanda.

2.2.2 Non-performing loans (NPL) trends

The Bank of Tanzania (2018) reported the trend of NPLs for the period of 10 years from 2009 to 2019 to be at an average of 7.8%. The average NPLs was above the maximum required of 5% (BoT, 2018). Emmanuel's (2019) examined the causes of increasing NPL in Tanzania's commercial banks using a case of CRDB. The researcher applied descriptive statistics and multiple regression models to analyse the data. The study found an increase in the rate of NPL for CRDB branches in Tanzania at different times. The increase in NPL rates was attributable to a poor credit appraisal system, poor bank policies on lending practices, and poor implementation of credit risk management regulations and guidelines together with the issuance of small loans, which raised the NPL.

These findings are also consistent with Viswadhan and Nahid (2015) whose study on the determinants of NPL in commercial banks targeting NBC branches in Dodoma-Tanzania similarly observed an increase in the rate of NPL mainly caused by high-interest rate, bank loan supervision capacity, and poor implementation of credit risk management practices. Both the CRDB and NBC cases appear to suggest the failure of many banks to execute properly the new credit risk management practices, which in most cases occasioned an increase in the NPL rate. However, these literatures have concentrated on individual banks with their analyses having not shown the NPL trend in relation to respective periods.

2.2.3 Saving mobilisation ratio position
The saving mobilisation ratio measures the banks' ability to mobilise more customers to boost their savings and deposits and enhance deposit value. The amendments Tanzania made to capital adequacy requirements, liquidity requirements, and information reporting and disclosure requirements in 2014 appear to have helped banks to increase the customers' deposits, establish more branches and create more awareness among customers, hence increasing the number of customers' deposits. Aruwa and Naburgi's (2014) study on risk components and financial performance of deposit money in Nigeria used the saving mobilisation ratio to measure the financial performance of banks. The study found that customers' deposits and savings in Nigeria increased after the regulatory reviews.

3.0 METHODOLOGY
3.1 Research design, data and data collection
This study was conducted in Dar-es-Salaam region in Tanzania, which serves as the headquarters of most banks operating in the country. The region's lofty status, accessibility, and simplicity in generating relevant data from many registered banks as compared to other regions (BoT, 2018) also made it ideal for the study. The study employed cross-sectional research design as data were collected at one point in time, crossing commercial banks and covering a period of 12 years (2008-2019). The design allowed the collection of both quantitative and qualitative data (Alanazi & Liu, 2013). In this design quantitative secondary data were used for testing the hypotheses and drawing inferences. The inferences drawn from the quantitative analysis were then validated by the qualitative data collected from key informants.

Thirteen (13) out of 24 key informants, specifically compliance and risk management managers were approached to provide qualitative data. Secondary data were extracted from audited financial statements of individual banks available at the banks and BoT website. The audited data provided another evidence of data reliability as data were approved by the external auditors. Primary data collected from the key informants was used to validate findings obtained from secondary data. Twenty-four (24) commercial banks that had been in existence since 2008 up to 2019 were included in the study (six years before and six years after regulatory reviews). The six years period is considered sufficient for trend and comparative analysis (Mataba, 2018). The reason for taking 2008 as a base year is that it was during this period when the BoT introduced major reviews on banks' regulations followed by other amendments which were enforced from 2014 to date.
3.2 Methods of data analysis

The financial ratios (ROE, ROA, NPL and SMR as well defined in Table 1) were first analysed using descriptive statistics where by mean scores, variances, skewness and kurtosis values of both small and large banks were computed and compared across time period. For specific objective two which was about comparing financial performance indicators of sampled commercial banks between the two periods (before and after regulatory reviews) the paper employed a two-tailed t- test of the difference of means. The t-test was headed by a test of normality (Table 2) in order to confirm whether the data fits for the t-test model. The comparison was guided by the one theory of resources-based view (RBV) which suggests that institutions that are endowed with more resources are likely to perform better than those with fewer resources.

Therefore, this paper sought to compare whether after regulatory reviews commercial banks perform better or not because after reviews most banks were expected to comply well by adding more resources including financial, physical and human resources. The mean, variance and standard deviation before and after regulatory reviews were computed and then fixed into the formula to test the hypothesis that there is no difference in the mean financial performance (ROE, ROA, NPL and SMR) ratios between the period before and after regulatory reviews. The t-test formulation is as follows:

$$t = \frac{(\bar{x}_1 - \bar{x}_2) - (\mu_1 - \mu_2)}{\sqrt{\frac{(S_1)^2}{n_1} + \frac{(S_1)^2}{n_2}}} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\text{(i)}$$

Where, S^2 is variance, $\bar{x}_1$ is mean before reviews, $\bar{x}_2$ is mean after reviews and $\bar{x}_1 - \bar{x}_2$ is the observed difference between sample means (mean before and mean after reviews). The value of $\mu_1 - \mu_2$ is expected to be zero because it is hypothesized that the population means of banks before review is the same with the population means of banks after reviews (number of population of banks before and after reviews is the same). The decision criteria to reject the null hypothesis would be reached if P<0.05 significant level, otherwise no basis for rejection. Qualitative data were analysed using thematic approach, which was employed to identify codes, categories and themes with the aid of Atlas software. The results on banks' views about regulatory requirements reviews and banks' financial performance were then displayed in coded quotations; then the actual analysis took place during the writing process by summarising and interpreting the results in terms of interviewees' opinions.

3.3 Variable measurement and definition
This study used the Profitability ratio (ROE and ROA), Stability ratio (NPL) and Growth ratio (SMR) as financial performance measures. Some of these variables have also been used by other researchers (see, for example, Kinyua, Nyanumba, Gathaiya, & Kithitu, 2013; Alanazi *et al.,* 2011).

Table 1. Operational definitions of the research variables

Variable name	Measurement method
Return on Asset (ROA)	This ratio shows a firm's ability to generate income out of assets invested. It is obtained by taking net income divided by total assets *100.
Saving Mobilisation Ratio (SMR)	The ratio indicates a firm's ability to mobilise more deposits from customers. It is obtained by dividing customers' deposits by total liabilities* 100.
Return on Equity (ROE)	This ratio shows a firm's ability to generate income out of the equity capital invested. It is obtained by taking net income divided by total equity *100.
Non-Performing Loans (NPL)	The ratio indicates the ability of management to control loans issued to customers. It is calculated by taking NPL divided by gross loans * 100.

Note* represents multiplication.

3.3 Normality test

According to Fuad, Lye et al. (2015), if the observations are greater than 30, based on the central limit theorem, the data must follow a normal distribution curve. This study had 288 observations, indicating that data in this study were normally distributed. Therefore, the Student paired t-test was an appropriate statistical test for the mean difference comparison of the performance before and after the regulatory requirement reviews. Moreover, the Kolmogorov-Smirnov test for normality was conducted at a level of 1%. Kolmogorov-Smirnov test is the most appropriate test for normality when the sample size is larger than 50 or when the number of observations is greater than 100 for panel data (Shmuel, 2010). The criterion stipulates that data is normally distributed if the level of significance is above 0.01 (1%). The results are shown in Table 2, which confirms adherence to the normality assumption:

Table 2: Kolmogorov-Smirnov test of Normality

	Kolmogorov-	Smirnova		Shapiro-	Wilk	
	Statistic	observation	Sig.	Statistic	Observation	Sig.
ROE	0.119	288	0.136	0.851	288	0.104
ROA	0.173	288	0.218	0.867	288	0.211
NPL	0.143	288	0.162	0.845	288	0.207
SMR	0.408	288	0.385	0.952	288	0.273

SOURCE: Survey Data (2020)

4.0 FINDINGS AND DISCUSSIONS

4.1 Descriptive statistics

The study analysed the performance indicators (ROE, ROA, NPL and SMR) of small and large banks before and after reviewing bank regulations in 2014 in order to determine which bank category reported high financial performance than the other. Tables 3, 4, 5 and 6 illustrate the findings of the study.

4.1.1 Descriptive statistics of ROE for small and large banks
Table 3: Descriptive statistics of ROE across bank categories

	Small banks		Large banks	
	Before RRR	After RRR	Before RRR	After RRR
Mean	5.76	6.72	12.30	15.57
Standard error	0.53	1.06	1.87	2.76
Standard deviation	3.05	3.87	7.09	10.01
Sample variance	9.30	13.87	50.27	100.20
Minimum	-38	-52	-17	-6.3
Maximum	24.12	30.89	29	40
Range	62.12	82.89	46	46.3
Kurtosis	0.07	0.11	0.49	2.03
Skewness	(0.48)	(0.78)	(0.67)	1.04

SOURCE: Survey Data (2020).
Before RRR=before regulatory requirements reviews: After RRR=after regulatory requirements reviews: Small banks=96 observation; Large banks=48 observations

The results in Table 2 show that the Return on Equity (ROE) of small banks increased by 0.96% following the regulatory requirements reviews from 5.76% to 6.72% whereas the ROE of large banks increased by 3.27% from 12.30% to 15.57%. In other words, the profit return for equity invested in large banks is higher than the profit return for equity invested in small banks. The higher increase in ROE for large banks after reviews could be attributable to the possession of massive resources in terms of capital and liquidity requirements which enabled large banks to comply more effectively with new regulations compared to their counterpart small banks.

4.1.2 Descriptive statistics of ROA for small and large banks
Table 4: Descriptive statistics of ROA across bank categories

	Small banks		Large banks	
	Before RRR	After RRR	Before RRR	After RRR
Mean	1.29	2.95	2.05	4.39
Standard error	0.09	0.21	0.38	0.96
Standard deviation	1.07	1.59	1.67	2.03
Sample variance	1.14	2.53	2.79	4.12
Minimum	-5.39	-4.0	-1.2	0.53
Maximum	3.91	3.95	4	7
Range	9.30	7.95	5.20	46.3
Kurtosis	(0.06)	0.02	3.53	1.03
Skewness	(0.12)	(0.26)	(1.58)	0.17

SOURCE: Survey Data (2020)
Before RRR=before regulatory requirements reviews: After RRR=after regulatory requirements reviews: Small banks=96 observation; Large banks=48 observations

Table 4 shows that there is a minimal increase of Return on Asset (ROA) for small banks by 1.66% from 1.29% to 2.95% after regulatory requirements reviews relative to large banks which showed a high increase of ROA by 2.34% from 2.05% to 4.39% after reviews. This implies that both bank categories showed some improvements in ROA after regulatory reviews. Implicitly, the utilisation of assets by both small and large banks to generate profit increased by 1.66% and 2.34%, respectively. Such good performance of large banks after reviews could have been influenced by issuing more loans and an increase in the number of clients when capital and publication requirements are well-utilized to generate profit, something which could be different from small banks.

Similar findings were observed by Lotto (2018) who found an increase in ROA following amendments to capital adequacy requirements in Tanzania. However, such an increase was rather minimal. Large banks indicated positive skewness indices after reviews that revealed a slight asymmetry to the right of the ROA average which differed from the one for small banks which had negative skewness indices for both periods. The findings imply that there is proper utilization of assets in large banks than in small banks.

4.1.3 Descriptive statistics of NPL for small and large banks
Table 5: Descriptive statistics of NPLs across bank categories

	Small banks		Large banks	
	Before RRR	**After RRR**	**Before RRR**	**After RRR**
Mean	8.98	8.19	8.15	7.40
Standard error	0.32	0.71	1.21	0.69
Standard dev.	3.32	1.59	3.11	2.06
Sample variance	11.02	2.43	9.67	4.24
Minimum	0.2	0.01	0.72	0.62
Maximum	30.6	37.0	16.58	17
Range	30.4	36.99	15.86	16.38
Kurtosis	(0.31)	0.08	(0.68)	3.08
Skewness	(0.09)	1.06	1.85	0.72

SOURCE: Survey Data (2020)
Before RRR=before regulatory requirements reviews: After RRR=after regulatory requirements reviews: Small banks=96 observation; Large banks=48 observations

Table 5 presents results on the non-performing loan indicator (NPL) of the sampled commercial banks, which show that small banks had an average NPL of 8.19% in the aftermath of reviews whereas large banks' NPLs of 7.40% was lower than that the former group. Although large banks had lower NPL than small banks, both categories failed to meet the BoT Non-Performing Loans standards of 5%. In other words, there was a need for extra efforts for both large and small banks to reduce NPL to the required standards. Nevertheless, the finding implies that after regulatory reviews both small and large banks managed to reduce their NPL exposures indicating that, generally, with large banks performing better than small banks.

4.1.4 Descriptive statistics of SMR for small and large banks
Table 6: Descriptive statistics of SMR across bank categories

	Small banks		Large banks	
	Before RRR	**After RRR**	**Before RRR**	**After RRR**
Mean	73.8	81.6	85.8	94.6
Standard error	9.11	7.08	15.2	11.06
Standard deviation	15.07	17.43	21.17	23.21
Sample variance	227.08	302.90	448.17	538.70
Minimum	65.1	67.4	79.9	81.3
Maximum	93.7	94.1	97.5	98.0
Range	28.6	26.7	17.6	16.7
Kurtosis	(1.88)	(3.02)	1.93	2.19
Skewness	0.85	0.26	0.06	0.89

SOURCE: Survey Data (2020)
Before RRR=before regulatory requirements reviews: After RRR=after regulatory requirements reviews: Small banks=96 observation; Large banks=48 observations

Regarding the Saving Mobilisation Ratio (SMR), the results in Table 6 show that after regulatory reviews, the SMR of small banks increased by 7.8% from 73.8% to 81.6% whereas large banks

registered an SMR increase of 8.8% from 85.8% to 94.6%. The findings imply that the amendments to the capital adequacy requirements, liquidity requirements and information reporting and disclosure requirements in 2014 helped banks to boost their customers' deposits, establish more branches and create more awareness among customers, hence the increase in the customers' deposits out of total liabilities.

4.2 Hypothesis testing

The study performed a mean comparison test to determine whether the difference in mean performance across time was significant. Table 7 presents the results:

Table 7: Mean difference comparison before and after regulatory requirements reviews

Variable	Mean before	Mean after	Mean difference	t-statistics	DF	P-value	Confidence interval (C.I)	
ROE	9.03	11.15	2.12	3.67	143	0.0011***	1.40162	4.40715
						0.0011**	1.03280	6.80828
						0.0011*	0.164356	7.64473
ROA	1.67	3.67	2.0	0.58	143	0.1428	1.622091	5.713096
						0.1428	1.362284	6.253304
						0.1428	0.338314	7.125174
NPL	8.57	7.80	-0.8	-0.21	143	0.1765	-3.17460	4.855318
						0.1765	-4.38721	5.691128
						0.1765	-6.02224	7.333158
SMR	79.8	88.1	8.3	2.71	143	0.0023***	5.47627	11.43136
						0.0023**	3.65421	13.802698
						0.0023*	3.16435	15.69423

Source: Survey data (2020)
*Note:*significant at 1% level, **significant at 5% level, ***significant at 10% level*

Table 7 shows Student paired t-test results for mean difference performance indicators before and after the regulatory requirements reviews at 10%, 5% and 1% significant levels. The p-value of ROE (p-value=0.0011) is less than 0.01(1% significant level), implying that there was sufficient evidence to reject the null hypothesis (H0: there is no mean difference in performance between ROE before and after regulatory requirements reviews). Hence, we accept the alternative hypothesis that there is a significant mean difference in performance on ROE before and after the regulatory requirements reviews at 99% confidence interval. This result could be attributable to the regulatory reviews requiring banks to raise their capital adequacy and the number of newspapers in which to publish their financial reports. Thus, higher capital adequacy could help banks to invest more, open more branches, and reach many more customers. For instance, during the discussion held with key informants, one of the bank general managers in Dar es Salaam headquarters said:

> *The regulatory review of the capital adequacy requirements has helped our bank to have sufficient funds. For example, our bank has managed to open more branches, reach more customers and invest in other profitable projects (11 February, 2020)*

Indeed, the BoT report of 2018 has shown the increase in number of branches and customers among banks in Tanzania (BoT, 2018). Although the mean difference in the performance of ROA increased (positively) after regulatory requirements reviews, the p-value of ROA (p-value=0.1428) is greater than 0.1(10% significant level). Thus, there is no sufficient evidence to reject the null hypothesis (H0: There is no mean difference in the performance between ROA before and after regulatory requirements reviews). Implicitly, the increase was not big enough despite the rise in profit after regulatory reviews, which indicates that some assets were not properly utilised by banks. Onaolapo and Olufemi (2012) similarly noted a decline in ROA and ROE for most of the banks in Nigeria when bank regulations on interest rate, capital adequacy, and reporting and disclosure regulations were reviewed.

Furthermore, the results on Non-Performing Loans (NPL) in Table 7 indicate that the mean difference before and after regulatory requirement reviews is -0.8 with a p-value of 0.1765, which is greater than 0.01(1% significant level). In other words, there is insufficient evidence not to reject the null hypothesis that there is no significant mean difference between NPL before and after regulatory reviews across bank categories. Although NPL decreases in the post-regulatory reviews across bank categories; however, the drop was not so significant. Despite amendments made to risk management regulations and guidelines, small banks continued to report high NPL, especially in the first three years since reviews. It seems the first six years duration of implementing risk management regulations since its review is too short to give significant results. The trend suggests that more time was needed for the banks to implement effectively the new risk management regulation; there is a high possibility of lowering the NPL rate to acceptable standards in the long run. In this regard, one of the bank general managers in Dar es Salaam headquarters said:

> *The trend of NPL seems to increase between 2014 and 2016 because most of our customers experienced business failures and a decrease in sales in the first three years after reviews which increased the rate of loan defaults (14 February 2020)*

Between 2014 and 2016 some businesspeople discontinued their investments due to a decline in purchasing power, hence making it increasingly difficult for their customers to repay the loan. The trend of annual GDP from 2014 to 2016 stands at 6.7%, 6.2%, and 6.5%, respectively, which was low in those years compared to 6.8% and 7.0% in 2017 and 2018, respectively. This result contradicts Aruwa and Naburgi (2014), and Nawaz and Munir (2012) who found a significant mean difference in credit risk before and after the review of financial regulations. The theoretical contribution of this study is that small banks need to manage properly their physical, human, and financial resources as large banks as the Resources Based Theory (RBT) proposes.

For the saving mobilization ratio (SMR), Table 7 results show that the P-value of SMR (P-value=0.0023) is less than 0.01(1% significant level), implying the existence of sufficient evidence to reject the null hypothesis (H0: there is no a mean difference in performance between SMR before and after regulatory requirements reviews). Hence, we accept the alternative hypothesis to the effect that there is a mean difference in performance on SMR before and after regulatory requirements reviews at a 99% confidence interval. This result could be attributable to the effect of amendments made to capital adequacy requirements and the number of newspapers for publishing financial reports, with banks adding more customers in their newly opened branches. Similarly, the publication of financial reports in more newspaper help banks to create awareness of their services and reach more customers, thus heightening the possibility of increasing the customers' deposits to total liabilities. During discussions held with key informants, one of the general managers at one of the banks in Dar es Salaam said:

> *The regulatory review made on the capital adequacy and publication requirements has helped our bank to reach more customers. For example, our bank has managed to open more branches and mobilize more customers' deposits (11 February 2020)*

The BoT report of 2018 also shows the increase in the number of branches and customer deposits in Tanzania since 2014 (BoT, 2018). The findings are like those by Aruwa and Naburgi (2014) who observed that customers' deposits increased following the review of regulatory reviews in Nigeria.

4.2 Theoretical implications of the results

The findings show that large banks with massive resources had better performance compared with small banks. The findings are consistent with the RBV theory as banks with enormous resources still performed better even though they had to comply with newly-introduced regulatory requirements. The current study contributes further to the RBV theory by bringing the new dimension that, in the event of the environment of new regulations, large banks are better positioned to perform better using their massive human and physical resources.

5. CONCLUSION AND RECOMMENDATIONS

In this study, ROE, ROA, NPL, and SMR served as performance indicators and parameters of comparison between large and small banks after the implementation of RRR. Considering banks' category and time dimensions, the study concludes that most banks performed well in terms of ROE and SMR after the implementation of RRR. However, large banks performed better than small banks. These study findings have implications for regulators and policymakers in terms of setting appropriate regulations commensurate with banks categories/size.

The study thus recommends that, for banks to perform better especially small banks, they should continue to utilize resources properly to comply with the new regulatory requirements; including proper implementation of credit risk management guidelines (2010) and regulations (2014). Moreover, regulators should set regulations which consider the situations of both small banks and large banks given the fact that "one size-shirt cannot fit all"

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