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Bank Ownership Structures Influence on Economic Efficiency of Commercial Banks
Case of Tanzanian Commercial Banks

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Abstract
This paper examines the impact of bank ownership structure on economic efficiency of Tanzanian commercial banks. The study adopted qualitative and quantitative methods for data collection by collecting primary data from bank customers and bank officials of thirty two commercial banks in Tanzania that were already registered by the Bank of Tanzania at the end year 2011.We distributed 1600 Self-administered questionnaires to customers and 184 to bank officials. Of these, 893(60%) of bank customers and 81(44%) of bank officials responded. Data analysis used SPSS 17.0 version to estimate the mean (SD) score and to perform the correlation test. Study findings show that there is no significant relationship between bank ownership structure and banks efficiency i and there is no significance difference in bank efficiency indicators between semi-quasi and private banks. Further findings reveal that Private Banks are more likely to have adequate operating hours convenient to customer and have more transparency in dealing with customers as compared to semi-quasi banks. Private Banks are more likely to have proper and accurate disclosure of financial statements while Semi-quasi banks are more likely to have adequate number of staff to deliver services. Therefore all banks should investigate if there other factors that might have caused the changes of these bank efficiency variables over time as indicated by the trend analysis.
Key words: Bank Ownership, Economic Efficiency, Tanzania

1. Introduction
The financial sector of Tanzania prior to the reforms was not so different from other developing countries especially in Africa. One of the common characteristic of the financial sectors in Africa, which also dominated Tanzanian sector, was monopoly of the financial sector by the government, which owned the financial institutions, privatized banks and restricted new entry from the private sector. Banks were fully quasi government financing for state owned enterprises (SOE's). Like in other countries, such as Madagascar prior to the reforms (Stiglitz, 1994) Tanzania had economic policies that were inhibiting economic growth such as control over interest rates and use of variety lending directives. However, beginning late eighties the financial sector industry of Tanzania has been growing. The growth is the result of many policies undertaken by the government through financial sector reforms, which started in the late eighties. This led to the emerging of new private banks to top up the existed banks prior to the reforms. The Financial sector in Tanzania is comprised of banking and non-banking institutions operating under the guidance of the Banking and Financial Institutions Act of 1991. The financial sector reform led to the establishment of commercial banks, insurance companies, bureaus and other non- banking financial institutions. To date the banking industry of Tanzania has almost 45 banks majority of them having their headquarters in Dar-es-salaam (**Table 1**). The sector is largely private owned by local and foreign investors. The banking sector in Tanzania started during the era of colonialism, characterized by domination of commercial banks. Kimei (1987) reports that during the of Germany rule there were only two banks commercial banks in Tanzania, one in Dar-es-salaam (Ostrifikanshe Bank) which started in 1905 and Handel bank of Ostafrica established in 1911. During the British era, after the first world war in the 1950's, three commercial banks were established namely National Bank, Standard Bank and Barclays Bank which later were followed by other foreign banks such as the India bank and Bank of Baroda in 1954 and thereafter in the 1960's more foreign banks such as the National Bank of Pakistan and the Ottman Bank. Bagachwa (1995) argues that the nationalization as the result of socialist policy in 1967 led to entire change in ownership of the banks by the state. The banks that were there at that time included the central bank and three commercial banks, all of them owned by the state. These banks were not subject to competition and lacked adequate supervision. The banking system during this time was subject to financial repression, geared towards the provision of cheap credit to central government, state enterprises and cooperatives. The bank of Tanzania acted as the lender of first resort. In this period, banks made large losses due to poor management, inadequate supervisions, auditing and legal protection for both debtors and creditors. Following the reforms on ownership of Banks and liberation of bank entry, Tanzania witnessed a many banks coming to Tanzania. By the end of year 2010 the banking sector comprised of thirty two banks (32) (Table 1) majority being private banks from foreign and three banks local banks which have mixed ownership (Private/Government/Public)

Statement of the Problem

Many countries that undertook financial sector reform had expectations on variety of benefits out of the whole exercise. Of course the expectation highly dependent on the original motive of the reforms by the government's .The expectations ranged from enhancing the effectiveness, efficiency and profitability of the banking sectors for the betterment of economic performance of the country. Prior to reforms Tanzanian banks were operating below efficiency because some of them used to have too many underperforming branches and had excess number of staff to provide poor customer services. There were also few numbers of banks which were state owned banks which did not have enough capacity in terms of staffing, technology and they were offering services below customer's expectation. Banks were characterized with lack of transparency in dealing with customer's information and financial records, employees had less dealing with the bank customers as well as that these few banks were not able to offer undifferentiated products to their customers. The financial reforms on bank ownership in the early nighties brought new hopes to bank customers as now new banks from the private sector started to operate with expectation that these challenges and problems would be eliminated hence making the banking sector in the country to become more efficiently in delivering better services to clients. Studies on banking efficiency in Tanzania after the financial sector reforms in Tanzania are not adequate enough to explain or provide evidence whether bank ownership structure had any impact on the efficiency of commercial banks in Tanzania. The inadequate empirical evidences in Tanzania are the motivation factor to undertake this type of study, which can help to provide answers of the research questions: ***To what extent does bank ownership structure affect the efficiency of Tanzanian commercial banks?***

2. Literature Review

Bank ownership Structure and efficiency

Efficiency definitions are differently by researchers and academicians. Tahir & Harori (2008) defined efficiency as the maximum output produced from any given total of the inputs. This also means the way a firm or organisation allocates its resources in a way that is capable to produce maximum output. Shepherd (1997) distinguished what is internal efficiency from allocative efficiency. Internal efficiency refers to management capacity and efforts to inspire staff; control costs; and keeping the operations lean. Chen (2001) distinguishes between technical efficiency (maximising output from giving input) and allocative efficiency (maximising the revenue mix).Garcia (1997) in his study on Asian banks argued that the bank regulators implemented several measures to reform the banking systems with the aim of providing efficient banking services to the economy on a sustainable basis. Baurer et al. (1993) and Berger et al. (2000) argue that financial sector reforms have a significant negative impact on bank's efficiency. This is simply because of the high degree of competition that can increase the procurement costs of banks and in turn reduces the bank spread. Berger and Mester (2001) study confirms these arguments that there were less efficiency of banks after the adoption of financial sector liberalization in Turkish banks. Alejandro et al. (2004) concluded that the effect of ownership of bank performance depends on the nature of the country itself. Thierno et al. (2005) in a study on the impact of changing ownership structure on bank efficiency in Asian countries during the post Asian crisis period 1999-2004 concluded that banks with minority domestic private ownership and foreign ownership perform better than state owned banks and banks with concentrated ownership.

Karas et al. (2010) argue that competitiveness of individual banks leads to higher cost efficiency. However, financial sector reforms led to the introduction of new types of ownership. These types of banks never existed before. The expectation from these new banks was to boost the economic performance. Keras et al. (2010) study on Russian banks found that there was no significant difference between the efficiency of privately banks and state owned banks. Efficiency study on the Indian banking sector by Kumar (2011) between the years 1992 and 2007 found that the public sector banks were the most efficient banks followed by the domestic private sector and foreign banks, which was in line with previous studies conducted on the Indian banking sector for different time periods**.**

Choi & Clovutat's (2004) study in Asian Countries indicated that ownership reforms facilitated banks in the importation of international best practices and technological benefits. Okafor (2011) argues that banking sector reforms refer to changes or shift in the banking processes and practices on banks by banking regulators. Bernard and Obialor (2014) argue that reforms are a mechanism to drive a desired change: a shift from one normative course of action to another in a social or economic system in order to control the operations and operators of the system and enhance system performance.

3. Conceptual Framework

We conceptualize the independent variable of this study as bank ownership structure and economic efficiency as our dependent variables. We conceptualize that there is relationship between banks ownership structure and economic efficiency of Tanzanian Commercial banks. We believe that change in bank ownership structure whether private banks or semi-quasi banks are likely to have influence on the economic efficiency of

commercial banks.

Independent Variable

Bank ownership Structure

Bank ownership structure takes various types to include state owned, semi-quasi or private banks. **Semi-quasi banks** have mixed type of ownership while private banks are those banks with one hundred percent of private ownership. Prior to financial sector reforms only one type of ownership existed. All commercial banks in Tanzania were state owned banks. This was impairment to banks competitions and hence a major factor for poor efficiency of the state owned banks. It is evidenced by various scholars that prior to financial sector reforms commercial banks were not operating efficiently (Stitligz 1994: Bagachwa 2004: Inanga 2001) However; financial sector reforms led to the introduction of semi quasi and private banks types of ownership which never existed before. In this study we adopt the independent variable to be bank ownership structure represented by private banks and semi-quasi banks

Dependent Variable

Bank efficiency

Measuring economic efficiency of banks can adopt different approaches, though some of the approaches have been criticised due to their limitations. Other ratios that have been used to measure efficiency of banks include the study by Keeton & Matsunage (1985) who used operating efficacy ratio. Hussein's (2014) study on Commercial Banks in India used the cost to income ratio (CIR) approach to assess the operational efficiency of the commercial banks in India and found that banks operating in India operate under competitive CIR ratio well in line with the international operational efficiency standards. The study also revealed the strong influence of size and ownership characteristics in determining the operational efficiency of banks operating in India. Other studies have regarded bank efficiency in terms of bank performance and measured efficiency using financial ratios such as return on equity (ROE) or return on assets (ROA).

Another common acceptable approach in measuring bank efficiency that has gained recognition in the modern literature is the Stochastic Frontier Approach (SFA). Aigner et al. (1977), and Meesun and Van den Broek (1977) developed the stochastic Frontier approach as a measure of economic efficiency. The approach assumes to have a functional frontier for cost, profit and a production frontier. The production function is then modified to allow for inefficiencies to be included in the error term. Interpreting results of the SFA is on the basis of the prediction of standard cost function which is characterised by the frontier and inefficiency as captured by the error term of the construction of the orthogonal to the predictor term (Tahir and Harori, 2008). The SFA approach helps to distinguish what is cost efficiency from profit efficiency. Cost efficiency is measured by how close a bank's actual cost is to what a best practice would be to produce the same bundle of outputs (Berger and Muster, 1997). This gives the understanding that cost inefficient banks are likely to waste their inputs (technical inefficiency) or are using a wrong mix of inputs (allocative inefficiency) to produce output or both (Muster, 2005). On the other side profit efficiency is measured by how close the bank's profit to that what the best practice bank would produce given the same input conditions (Fang et al., 2011).The data envelope analysis is another method for determining bank efficiency as explained by Feth et al. (2010) and Grove et al. (2011).

Measuring efficiency of banks can adopt both qualitative and quantitative indicators. The study adopts first the qualitative factors, by measuring bank efficiency by use of questionnaires. These questionnaires will measure bank efficiency in terms of adequacy of banks' operating hours, banks having adequate number of staff to offer the required services, banks having high transparency in dealing with customers, banks having transparency in the disclosure of financial statements, banks offering services at minimal costs. This study adopts also financial ratios as measures of bank efficiency quantitatively. Of course, there are various studies that criticise the use of financial ratios as measure of bank efficiency. Berger et al. (1993) argued that financial ratios could be misleading indicators of bank efficiency because they do not have a control for product mix or input prices, though they did not conclude not to use them. Studies by Keeton & Matsunaga (1985) used operating efficiency ratio to measure bank efficiency. The adopted quantitative factors to measure bank efficiency, include the operating efficiency ratio, staff income to staff portfolio, average loan portfolio, portfolio yield and earning per staff. The explanation of these variables is given in the following table below (Table 2).

Table 2. Measurement of Bank Efficiency

Qualitative Indicators	Adequacy of banks operating hours, adequate number of staff to give the required services, banks having high transparency in dealing with customers, banks having transparency in the disclosure of financial statements, banks offering services at minimal costs.
Quantitative Variables	
Operating Efficiency	This is the ratio that indicates the relationship between expenses of the bank and loans and advances given by the bank. It is measured in terms of percentage. The ratio shows expenses as percentage of loans and advances. It is used to measure how efficient the bank has made its loans while keeping its costs down. The lower the % of the bank operating ratio means that the bank is more efficient. *Operating Efficiency = Non -Interest Expense + Interest Expenses / Loans and Advances (Including interbank) + Probable Losses*
Portfolio Yield	This is expressed as a percentage and it measures what the portfolio actually earned. It is considered prudent if this ratio should be at least equal to bank annual interest rate or much better. A yield below the bank rate shows the inefficiency of the bank.
Staff income to staff portfolio	This shows the net income each staff earned in percentage terms of the average portfolio each theoretically manages (BOT, 2011) *Staff Income to Staff portfolio = Total Earnings / Number of Staff*
Earning per staff.	This is a measure of efficiency. It is the measure for staff productivity. Theoretically, it measures to what extent each staff member contributes to profitability *Earning per Staff = Total Earnings / Number of Staff*

Source: Researcher 2015

4. Research Hypothesis

The main Hypothesis and the minor hypotheses formulation are on the basis of the research question and literature review which seeks out to evaluate the relationship between bank ownership structure and bank efficiency indicators of banks. Thierno et al. (2005) study on impact of change in bank ownership on bank efficiency, in Asian countries during the post-Asian crisis period 1999-2004 concluded that banks privately owned perform better than the state owned banks. In view of Micco et al. (2007) state owned banks are usually less efficient. The hypotheses are stated here under:

H: 1: There is a relationship between bank ownership structure and economic efficiency of Tanzanian banks

Hypothesis five has another five minor hypothesis stated here under:

H: 1a: There is a relationship between bank ownership structure and banks operating efficiency.
H: 1b: There is a relationship between bank ownership structure and banks portfolio yield.
H: 1c: There is a relationship between bank ownership structure and bank's staff income to staff portfolio ratio.
H: 1d: There is a relationship between bank ownership structure and bank's average loan portfolio.
H: 1e: There is a relationship between bank ownership structure and banks earning capacity per staff.

We test the above hypothesis by using various statistical techniques as summarised in the table below. (Table 3) .We test hypothesis one by using the mean scores and t-test Hypothesis two is tested by using the t-test and regression analysis of the variable study. We test hypothesis two by using mean scores and t-test.

Table 3.Hypothesis testing techniques

Hypotheses	**Hypothesis testing technique**
H:1a- H:1e **H2a- H:2d**	Mean Scores and T-Test

Source: Researcher 2015

5. Research Methodology

Data were collected from bank customers and bank officials of Tanzanian Commercial banks that were already registered by the central bank of Tanzania by the end of year 2011. We collect information from customers and

bank officials of the 32 commercial banks from four regions in Tanzania, namely Mwanza, Arusha, Kilimanjaro and Dar-es-salam where majority of customers of these banks are situated. These regions are more likely to have many economic activities leading to the desire of bank services by people. We use random sampling to pick bank customers but use purposed sampling to select bank officials to answer the research questionnaires. We distributed 224 questionnaires to bank officials and only (53%) was returned from bank officials. In addition to administered questionnaires we interviewed bank managers to obtain relevant answers. A total number of one thousand six hundred (1600) questionnaires were distributed to bank customers and only sixty percent (60%) of the questionnaires was returned from customers.

Data Reliability

The study adopted Crobach Alpha coefficient as measure of data reliability. Crobach Alpha is a statistic technique which is used to measure internal consistency or reliability of data. The idea of Crobach Alpha is to split the data into two parts and test for their consistency and reliability. The rule of thumb is that the value of Crobach alpha should be >0.6 to give confidence of relying on the data. If Crobach alpha is < 0.6 we conclude that there may be variable indicators which are not reliable for measuring a variable construct and therefore a need to conduct a factor reduction analysis. Data Reliability on economic efficiency indicators measured seven variables constructs for questions administered to bank customers which were then measured on the five Likert scale points. Our results (Table 4) shows that reliability scores for economic efficiency variable constructs as measured by customers perception is 0.763 which means that our data are reliable and hence a confidence to rely on set of questionnaires for further analysis. Economic efficiency indicators on reliability were also measured by using variables which were administered to bank officials. The results shows a reliability score of α =0.930 which shows that we can rely on the set of questionnaire's for further analysis

Table 4: Reliability Scores for Economic Efficiency (Customers and Bank Officials)

	Customer Perception		Bank Officials Perception	
Variable Dimension	**Item**	**Reliability Score (α)**	**Items**	**Reliability Score (α)**
Economic Efficiency Indicators				
Customers Perceptions	7	0.763		
Bank Officials Perceptions			7	0.930

Research Data 2015

6. Research Findings

This section presents the descriptive statistics, hypothesis testing, results analysis, discussions, and recommendations for research question "*To what extent does bank ownership structure affect the efficiency of Tanzanian commercial banks?*

Summary statistics

In order to answer the research question and understand the relationship between bank ownership structure and economic efficiency, we first gave the findings on demographic characteristics above (Table 1) and then calculated the mean scores and standard deviation for each of the economic efficiency variable as perceived by both bank customers and bank officials. The results are presented below:

Bank Customers Responses on Economic Efficiency Variables

The economic efficiency of banks was measured by using four variables on a five Likert scale indicators ranging from one to five, where 1 is equated to strongly disagree, 2 equated to disagree, 3 to neutral, 4 equated to agree, and 5 equated to strongly agree. The variables were intended to gather information on whether banks are having adequate operating hours which are convenient to bank customers, banks having adequate number of staff to deliver the required service, banks being transparent when dealing with customers and banks having proper disclosure of financial statements.

According to table 5 below it shows that a high percentage of customers from semi-quasi banks (59%) and private banks (54%) disagreed that banks have convenient operating working hours for their customers. This shows that both banks do not have convenient hours for their bank customers, although private banks (33%) are perceived to have more convenient hours for bank customers than the semi-quasi banks (25%). Results show that 43% of customers from private banks and 42% of customers from semi-quasi banks disagreed that banks do have adequate number of staff. Results show that 43% of customers from private banks and 40% of customers from semi-quasi banks disagreed banks have high transparency when dealing with customers finally results shows that 42% of customers from private banks and 42% of customers from semi-quasi banks disagreed that banks give proper disclosure of financial statements. Comparing between private and semi-quasi banks, it shows that both banks, private banks are the same as far as financial statement disclosure.

Table 5: Customer Responses on Bank Efficiency Variables

	Private				Semi-Quasi			
	A	NT	D	Total	A	NT	D	Total
Dimensions	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)
Bank operating Hours	69 (33)	28 (13)	112 (54)	209 (100)	156 (25)	98 (16)	368 (59)	622 (100)
Adequate number of Staff	64 (31)	52 (25)	88 (43)	204 (100)	226 (37)	132 (22)	255 (42)	613 (100)
High transparency in dealing with customers	62 (30)	58 (28)	90 (43)	210 (100)	171 (28)	198 (32)	249 (40)	618 (100)
Proper and Accurate disclosure of Financial Statements	61 (29)	60 (29)	88 (42)	209 (100)	174 (28)	182 (29)	263 (42)	619 (100)

Source: Research Data 2015
Note: A= Agree NT= Neutral D= Disagree N= Actual Number

Bank Officials Responses on Economic Efficiency Variables

We also measure economic efficiency by using seven dimension statements as perceived by bank officials, The dimension statements of economic efficiency asked for responses on whether banks have high transparency when dealing with customers, whether banks have adequate required number of staff to provide the required service, whether banks have the latest and friendly technology to provide services to the customers, whether the banks services are available at minimum costs (interest charges and ledger fees) and finally whether the bank is able to manage its costs of operations efficiently (Q22). The responses are presented under table 6 below.

According to Table 6 the results show that high percentage of bank officials (Private: 59% and Semi-Quasi 44%) from both banks agreed that banks have high transparency when dealing with their customers while low percentage disagreed (Private: 27% and Semi-Quasi 36%) and other customers were neutral in their responses (Private 14% and Semi-quasi 20%). These results contradict with the view of the customers on the same issue as discussed above. This is due to difference understanding of transparency among customers and bank officials, customers understanding of transparency is that banks should disclose all information on transaction costs and hidden interests while banks believe that not all information has to be disclosed to customers.

The results also show that majority of both bank officials (Private 50%: Semi-quasi: 52%)] agreed on banks having the required number of staff to provide the required services while low percentage disagreed (Private 25%, Semi-quasi 36%), while others were not sure (Private 25%, Semi-quasi 12%).The results also show that high percentage of bank officials (Private: 59% and Semi-Quasi 44%) from both banks agreed that banks are using latest and friendly technology to provide efficient services to customers while low percentage disagreed (Private: 27% and Semi-Quasi 36%) and other customers were neutral in their responses (Private 14% and Semi-quasi 20%). The results show that high percentage of bank officials (Private: 48% and Semi-Quasi 44%) from both banks agreed that banks are paying highest paying deposits to customers while low percentage disagreed (Private: 23% and Semi-Quasi 36%) and other customers were neutral in their responses (Private 29% and Semi-quasi 30%).

The results show that high percentage of bank officials (Private: 52% and Semi-Quasi 64%) from both banks agreed that banks are providing services at minimum costs (Interest charges and Ledger Fees) while low percentage disagreed (Private: 29% and Semi-Quasi 36%) and other customers were neutral in their responses (Private 14% and Semi-quasi 20%) The results show that high percentage of bank officials (Private: 59% and Semi-Quasi 44%) from both banks agreed that banks are using latest and friendly technology to provide efficient services to customers while low percentage disagreed (Private: 29% and Semi-Quasi 20%) and other customers were neutral in their responses (Private 19% and Semi-quasi 16%).

Table 6: Bank Officials Responses on Bank Efficiency

Dimensions	Private				Semi-Quasi			
	A N (%)	NT N (%)	D N (%)	Total N (%)	A N (%)	NT N (%)	D N (%)	Total N (%)
High transparency when dealing with its customers	33 (59)	8 (14)	15 (27)	56 (100)	11 (44)	5 (20)	9 (36)	25 (100)
Required number of staff who can provide the required services by the customers	28 (50)	14 (25)	14 (25)	56 (100)	13 (52)	3 (12)	9 (36)	25 (100)
Latest and friendly technology to provide services to the customers	31 (55)	9 (16)	16 (29)	56 (100)	13 (52)	4 (16)	8 (32)	25 (100)
Highest paying deposits and best financial services	27 (48)	16 (29)	13 (23)	56 (100)	11 (44)	5 (20)	9 (36)	25 (100)
Services availability at minimum costs (Interest Charges and Ledger fees)	29 (52)	11 (19)	16 (29)	56 (100)	16 (64)	4 (16)	8 (32)	25 (100)
The Bank is able to manage its costs of operations efficiently	27 (48)	10 (18)	19 (34)	56 (100)	12 (48)	5(20)	8 (32)	25 (100)

Source: Researcher Data 2015

Note: A= Agree NT= Neutral D= Disagree N= Actual Number

Mean Scores on Bank Efficiency Indicators (Customers Perceptions)

Table 7 shows the individual mean scores on economic efficiency as perceived by bank customers. Scores on banking operating hours shows that private banks have high mean (SD) scores of 2.67 (1.351) as compared to semi-quasi banks with mean scores of 2.51(1.217) at significance level of p-value 0.099. These results mean that private banks are more likely to have adequate operating hours that are more convenient to customers as compared to private banks. These results show that Semi-quasi banks have higher mean (SD) score of 2.89 (1.247) against low mean (SD) score of 2.77 (1.207) of private banks meaning that semi-quasi banks are likely to have adequate number of staff to deliver the services as compared to private banks. On high transparency in dealing with customers private banks have mean (SD) scores of 2.81 (1.135) while Semi-quasi have mean (SD) scores of 2.80 (1.163) at significance level of P-value 0.982 showing no major difference on both banks, though private banks are more likely to deal in high transparency with their customers than the private banks. Finally, on banks having proper and accurate disclosure of financial statements, the results show that private banks have higher mean (SD) scores of 2.84 (1.183) as compared to semi-quasi banks having mean (SD) scores of 2.81 (1.142) at significance level of p-value 0.719. These results mean that private banks are more likely to have proper and accurate disclosure of financial statements as compared to semi-quasi banks.

Table 7.. Mean Scores and Standard Deviation-Economy Efficiency-Bank Customers

	Bank Ownership	N	Mean	Std. Deviation	Std. Error Mean	P-Value
The bank does not have operating hours convenient for all their customers.	Private	211	2.67	1.335	0.092	0.099
	Semi-quasi	625	2.51	1.217	0.049	
The Bank have Adequate number of staff to offer better services	Private	209	2.77	1.207	0.083	0.235
	Semi-quasi	624	2.89	1.247	0.05	
There is high transparency in dealing with customers	Private	211	2.81	1.183	0.081	0.883
	Semi-quasi	623	2.80	1.142	0.046	
There is proper and accurate disclosure of Financial Statements	Private	211	2.84	1.183	0.081	0.719
	Semi-quasi	623	2.81	1.142	0.046	

Source: Research Data 2015

Mean Scores on Bank Efficiency Indicators (Bank Officials Perceptions)

Table 8 shows the individual scores on economic efficiency as per responses from bank officials. Scores on whether the bank ensures that there is high transparency when dealing with its customers show that private banks have high mean (SD) scores of 3.43 (1.450) as compared to semi-quasi banks with mean scores of 3.16 (1.434) at significance level of p-value 0.442. This means that private banks are likely to ensure high transparency when dealing with their customers as compared to semi-quasi banks. The results further show that

private banks are likely to be more using latest and friendly technology when providing services to their customers as compared to semi-quasi banks as they have higher mean (SD) scores of 3.29 (1.345) against those of e Semi-quasi have mean (SD) scores of 3.20 (1.354) at significance level of P-value 0.793. It is also clear that private banks are likely to be providing highest paying deposits and best financial services as compared to semi-quasi because of high mean (SD) scores of 3.30 (1.111) as compared to semi-quasi banks having mean (SD) scores of 3.12 (1.269) at significance level of p-value 0.448.

Scores on whether the banks services are available at minimum costs private banks have high mean (SD) scores of 3.21 (1.331) as compared to semi-quasi banks with mean scores of 3.20 (1.291) at significance level of p-value 0.75122 showing no major difference on both banks though private banks are likely to offer their services at minimum costs. Finally, on banks whether banks are able to manage their costs of operations efficiently private banks have higher mean (SD) scores of 3.21 (1.331) as compared to semi-quasi banks having mean (SD) scores of 3.20 (1.291) at significance level of p-value 0.964 showing no major difference on banks although private banks are likely to manage their costs more efficiently

Table 8: Mean Scores and Standard Deviation-Economic Efficiency as perceived by bank Officials

Variable Constructs	Bank Ownership	N	Mean	Std. Deviation	Std. Error Mean	P-Value
The bank ensures that there is high transparency when dealing with its customers	Private	56	3.43	1.45	0.194	0.442
	Semi-Quasi	25	3.16	1.434	0.287	
The bank uses the latest and friendly technology to provide services to the customers	Private	56	3.29	1.345	0.18	0.793
	Semi-Quasi	25	3.2	1.354	0.271	
Bank services are available at minimum costs (interest charges and ledger fees)	Private	56	3.21	1.124	0.15	0.751
	Semi-Quasi	25	3.12	1.269	0.254	
The bank is able to manage its costs of operations efficiently	Private	56	3.21	1.331	0.178	0.964
	Semi-Quasi	25	3.2	1.291	0.258	

Source: Research Data 2015

The study also adopted financial ratios as quantitative indicators of bank efficiency. These data are obtained from banks financial statements for the period of six years between year 2005 ad 2011. We analyse the mean scores of bank efficiency ratios as presented below:

Mean Scores - Panel Data: Bank Efficiency ratios

Table 9 shows the mean scores on bank efficiency indicators as measured by using financial indicators as per banks panel data for the period beginning of the year 2006 to year 2011. Mean scores for operating efficiency shows that private banks have high mean (SD) scores of 14.53 (14.53) as compared to semi-quasi banks with mean scores of 13.83 (4.35). This means that semi-quasi banks were more able to manage their operating costs than semi-quasi banks. On banks staff income to staff portfolio ratio private banks have mean (SD) scores of (26.33) (310) & Semi-quasi 7.77(7.49) Results also show that semi-quasi banks had higher mean scores of Tanzanian Million Shillings of 400,245.27 (368,041.31) against private banks with mean scores of Tanzanian shillings of 76,660 (103,695.96). This means semi-quasi banks had more lending activities than semi-quasi banks. On portfolio yield semi-quasi banks had higher mean score (SD) of 14.16 (5.75) against private banks with mean score (SD) of 12.10 (6.40). Finally, the results show that private banks had higher mean scores (SD) of 38.87 (10.30) against semi-quasi banks, which had a mean score (SD) of 24.32 (16.42).

Table 9. Mean Scores Economic Efficiency Indicators-Panel Data

Variable		N	Mean	Std. Deviation	Std. Error Mean
Operating Efficiency	Private	156.00	14.38	14.53	1.16
	Semi-Quasi	30.00	13.83	4.35	0.79
Staff Income to Staff Portfolio	Private	146.00	(26.33)	310.89	25.73
	Semi-Quasi	30.00	7.77	7.49	1.37
Average Loans	Private	148.00	76,660.62	103,695.96	8,523.76
	Semi-Quasi	30.00	400,245.27	368,041.31	67,194.84
Portfolio Yield	Private	152.00	12.10	6.40	0.52
	Semi-Quasi	30.00	14.16	5.75	1.05
Earnings Per Staff	Private	145.00	38.87	1030	8.33
	Semi-Quasi	30.00	24.32	16.42	3.00

Source: Research Data 2015

Trend Analysis - Bank efficiency Performance

This section gives the trend analysis of bank efficiency indicators for both semi-quasi and private banks over the period of six years. The results depict different trends in terms of operating efficiency, staff income to staff portfolio, average loans, portfolio yield and earning per staff. This section also gives the results for individual banks in the same variables.

Operating efficiency

The results (Table 10) show a general increase in operating efficiency by all types of banks from the year 2006 to the year 2011, though semi-quasi banks were led into all year. In the year 2006, semi-quasi banks had higher mean scores of operating efficiency (X = 16. 66) against mean scores of operating efficiency (X = 10.97) for semi-quasi banks. In the year 2007, operating efficiency of private banks decreased by 9% with the mean scores of (X = 11.85) against an increase of operating efficiency by 27% for semi-quasi banks with mean scores of Tanzanian million shillings (X = 240,392.20) for semi-quasi banks.

The following year (2008) showed an increase in operating efficiency by 51 % on semi-quasi banks with mean scores of (X = 12.24) against an increase in operating efficiency by 21% with mean scores of operating efficiency (X = 13. 02) for private banks. In year 2009 the results show an increase in operating efficiency by 16% on private banks with mean scores of (X = 12.24) against an increase in average loans by 27% with mean scores of operating efficiency (X = 14.28) for semi-quasi banks. In year 2010 the results show an increase in operating efficiency of 16% by private banks with mean scores of (X = 12.41) against an increase in operating efficiency by 14 % with mean scores of the operating efficiency of (X = 13) for semi-quasi banks. Finally, in the year 2011 the results show an increase in operating efficiency by 33% on private banks with mean scores (X = 12.36) against an increase in operating efficiency by 18% with mean scores (X = 12.90) for semi-quasi banks.

Table 10: Trend analysis - Bank Operational Efficiency

Year	Private Banks	Change	Semi-Quasi Banks	change
2006	10.97		16.66	
2007	11.85	-9%	15.02	27%
2008	12.24	21%	13.02	51%
2009	12.67	16%	14.28	27%
2010	12.41	16%	13	14%
2011	12.36	33%	12.96	18%

Source: Research Data 2015

Staff Income to Staff Portfolio

The results (Table 11) show a general decrease in staff income to staff portfolio for all types of bank ownership from year 2006 to the year 2011 though same banks were better than private banks. Private banks had a mean score (X = 7.15) of staff income to staff portfolio against mean scores (X = 14.34) for semi-quasi banks. In the year 2007, staff income to staff portfolio decreased by 34% with the mean scores (X = 4.69) against a decrease of staff income to staff portfolio by 24% for private banks with mean scores (X = 10.88) for semi-quasi banks.

The following year (2008) showed a decrease in staff to a staff portfolio by 19% on private banks with mean scores (X = 3. 81) against a decrease in earnings per staff by 32% with mean scores (X -7.38) of semi-quasi banks. In the year 2009, trend results an increase in staff in income by 4108% on private banks with mean scores (X = 152.72) against a decrease in staff income to staff portfolio by 24% with mean scores (X = 5.64) of semi-quasi banks. In the year 2010 the results show an increase in staff income to staff portfolio by 93% of private banks with mean scores (X = 4. 24) against a decrease in staff income to staff portfolio by 27% with mean scores (X= -4.12) of semi-quasi banks. Finally, the year 2011 results show an increase in staff income to staff portfolio by 118% of private banks with mean scores (X = 1. 88) against an increase in staff income to staff portfolio by 3% with mean scores (X -4.24) of semi-quasi banks.

Table 11. Trend Analysis - Semi Income to Staff Portfolio

Year	Private Banks	Change	Semi-quasi Banks	Change
2006	7.15		14.34	
2007	4.69	34%	10.88	24%
2008	3.81	19%	7.38	32%
2009	-152.72	4108%	5.64	24%
2010	-10.47	93%	4.12	27%
2011	1.88	118%	4.24	-3%

Source: Research Data 2015

Average Loans per Customer

The results show a general increase in average loan per customer for all types of banks from the year 2006 to the year 2011 (Table 12) though semi-quasi banks were leading in all years. Private Banks had a mean score of Tanzanian Shillings [(X=58,559: Approx.: U$47] on average loans against mean scores of Tanzanian Shillings (X =189,339:Approx.: U$151) for semi-quasi banks. In year 2007 average loan of private banks decreased by 9% with the mean scores of Tanzanian shillings (X = 53,208 Approx.: U$43) against an increase of average loan by 27% for semi-quasi banks with mean scores of Tanzanian shillings (X = 240,392 Approx.: U$195) The following year (2008) show an increase in average loan by 21% on private banks with mean scores of Tanzanian shillings (X = 64511.84 Approx.: U$47) against an increase in average loans by 51% with mean scores of Tanzanian shillings (X = 363,375. Approx.: U$268) for semi-quasi banks.

In year 2009 the results show an increase in average loan by 16% on private banks with mean scores of Tanzanian shillings (X = 75098 Approx.: U$56) against an increase in average loans by 27% with mean scores of Tanzanian shillings (X = 461,032: Approx.: U$349) for semi-quasi banks. In year 2010 the results show an increase in average loan by 16% on private banks with mean scores of Tanzanian shillings (X = 87,167 Approx.: U$62) against an increase in average loans by 51% with mean scores of Tanzanian shillings (X = 525,782 Approx.: U$376) for semi-quasi banks. Finally, in the year 2011 the results show an increase in average loan by 33% on private banks with mean scores of Tanzanian shillings (X = 115,668 Approx.: U$376) against an increase in average loans by 18% with mean scores of Tanzanian shillings (X = 621, 551.20 Approx.: U$376) for semi-quasi banks.

Table 12. Average Bank Loans

Year	Private Banks			Semi-Quasi Banks			Exchange Rates
	Tshs	Usd	% Change	Tshs	Usd	% Change	USD/ TSHS
2006	58,560	47		189,339	151		1252
2007	53,208	43	-9%	240,392	195	27%	1233
2008	64,512	47	21%	363,375	268	51%	1354
2009	75,098	56	16%	461,032	349	27%	1320
2010	87,166	62	16%	525,782	376	14%	1396
2011	115,668	81	33%	621,551	438	18%	1420

Source: Research 2015

Portfolio Yield

The results (Table 13) show different variations in terms of portfolio yield by all types of banks from year 2006 to the year 2011 though semi-quasi banks were leading in most years. Private Banks had a mean score in portfolio yield (X=10.97) was lower than that of semi –quasi banks (X = 16.66) in the year 2006 while in year In year 2007 portfolio yield for private bank (X =11.85) decreased by 9% against portfolio yield of semi-quasi banks (X = 15.02) Which was an increase of 27%. The following year (2008) showed an increase in portfolio yield of 21% on private banks with mean scores (X = 12.24) against an increase in portfolio yield of 51% with mean scores of portfolio yield (X = 13.02) for semi-quasi banks. In the year 2009, the results show an increase in portfolio yield by 16% (X = 12.67) on private banks against an increase by 27% (X = 14.28) for semi-quasi banks. In year 2010 the results show an increase in portfolio yield by 16% (X = 12.41) on private banks against an increase of 14% (X = 13) for semi-quasi banks. Finally, in the year 2011 the results show an increase in portfolio yield by 33% (12.36) on private banks against an increase of 18% (12.96) with mean scores for semi-quasi banks.

Table 4.13: Trend Analysis - Bank Portfolio Yield

Year	Private	% Change	Semi-quasi	% change
2006	10.97		16.66	
2007	11.85	-9%	15.02	27%
2008	12.24	21%	13.02	51%
2009	12.67	16%	14.28	27%
2010	12.41	16%	13	14%
2011	12.36	33%	12.96	18%

Source: Research Data 2015

Earning per staff ratio

The results (Table 14) show a general increase in earnings per staff for all types of bank ownership from the year 2006 to the year 2011, though private banks were led into all year. Private banks had a mean score of 38% earning per staff against mean scores of 26.5% for semi-quasi-banks. In the year 2007, earnings per staff increased by 13% with the mean scores of 43.1% against an increase of earning per staff by 3% for private banks with mean scores (X = 27.2) for semi-quasi banks. The following year (2008) showed an earning per staff by 7% on private banks with mean scores (X = 40.2) against a decrease in earnings per staff by 1% with mean scores (X-26.8) of semi-quasi banks. In the year 2009, trend results a decrease in earnings per staff by 6% of private banks with mean scores (X = 37.6) against a decrease in earnings per staff by 7% with mean scores (X-24.8) of semi-quasi banks.

In the year 2010, the results show an increase in earnings per staff by 1% in private banks with mean scores (X = 37.7) against a decrease in earnings per staff by 21% with mean scores (X-24.8) of semi-quasi banks. Finally, year 2011 results show a decrease in earnings per staff by 2% on private banks with mean scores (X = 37.1) against an increase in earnings per staff by 7% with mean scores (X-=21) of semi-quasi banks.

Table 4.14 Trend Analysis - Banks Earning per staff Ratio

Year	Private Banks	% Change	Semi-Quasi Banks	% Change
2006	38		26.5	
2007	43.1	-13%	27.2	-3%
2008	40.2	7%	26.8	1%
2009	37.6	6%	24.8	7%
2010	37.7	0%	19.6	21%
2011	37.1	2%	21	-7%

Source: Researcher Data 2015

7. Hypothesis Testing

We test two main hypotheses by using various statistical methods. The testing of these hypotheses is explained below: Hypothesis one is tested by using a t-test for testing for the existence of any significant relationship between bank ownership structure and various dimensions of bank efficiency as measured by qualitative factors and bank customers. The aim of this hypothesis is on understanding the relationship between bank ownership structure and economic efficiency following the privatisation of banks

Ha:1: There is a relationship between bank ownership structure and bank efficiency

The results (Table 15.) for t-test for bank efficiency dimension as per the customer's perception are presented

under table 5.10. The t-test matrix given in the table below shows that there is no significant relationship between bank ownership structure and banks having operating hours that are convenient to all customers (t (8364 = 1.653, P = 0.099) as p>0.05. There is also no significant relationship between bank ownership structure and banks having adequate numbers of staff to offer better services (t (831) = -1.189, p = 0.235) as p>0.05. There is no significant relationship between bank ownership structure and banks dealing with high transparency with customers (t (834) = 0.147, P = 0.883) as p>0.05. Finally, there is a significant relationship between bank ownership structure and banks having proper and accurate disclosure of financial statements (t (832) = 0.360, P = 0.719) as p>0.05. We can therefore conclude that there is no significant relationship between bank ownership structure and economic efficiency of banks and therefore accept the Null hypothesis (H0:9)

Table 15 T-test Results-Bank Efficiency as per Customers Perception

	t-test for Equality of Means		
Variable	**t**	**df**	**P-Value**
The bank does not have operating hours convenient for all their customers.	1.653	834	.099
The Bank have Adequate number of staff to offer better services	-1.189	831	.235
The bank deals in High Transparency with Customers	.147	834	.883
There is proper and accurate disclosure of Financial Statements	.360	832	.719

Source: Research Data 2015

Based on bank official perceptions on bank efficiency, we perform t-test statistics in order to understand further if there is any relationship between bank ownership structure and bank efficiency. The t-test results are presented under table 4.56. The t-test matrix given in the table below shows that there is no significant relationship between bank ownership structure and banks ensuring that there is high transparency when dealing with customers (t (79) = 0.772, P = 0.442) as p>0.05. There is also no significant relationship between bank ownership structure and banks having adequate numbers of staff to offer the required services to customers (t (79) = 0.112, p = 0.911) as p>0.05. There is no significant relationship between bank ownership structure and banks using the latest and friendly technology to provide services to the customers (t (79) = 0.264, P = 0.792) as p>0.05. There is no significant relationship between bank ownership structure and banks' ability to manage its cost of operations efficiency (t (79) = 0.045, P = 0.964) as p>0.05.

Table 16. Independent Samples Test-Bank Efficiency - Bank Officials Perception

	t-test for Equality of Means		
Variables	**t**	**df**	**Sig. (2-tailed)**
The bank ensures that there is high transparency when dealing with its customers	.772	79	.442
The bank has required number of staff who can provide the required services by the customers	-.112	79	.911
The bank uses the latest and friendly technology to provide services to the customers	.264	79	.792
The bank services are available at minimum costs (interest charges and ledger fees)	.335	79	.738
The Bank is able to manage its costs of operations efficiently	.045	79	.964

Source: Research Data 2015

Based on panel data from 32 banks in Tanzania obtained for the period 2006 -2011 the above hypothesis is further tested with other four minor hypotheses *below:*

Ha: 1a: There is a relationship between bank ownership structure and banks operating efficiency
Ha: 1b: There is a relationship between bank ownership structure and banks portfolio yield
Ha: 1c: There is a relationship between bank ownership structure and bank's staff income to staff portfolio ratio
Ha: 1d: There is a relationship between bank ownership structure and bank's average loan portfolio
Ha: 1e: There is a relationship between bank ownership structure and banks earning capacity per staff

Based on bank panel data, we perform t-test statistics in order to understand further if there is any relationship between bank ownership structure and bank efficiency variables. The t-test results are presented under table 4.57. The t-test matrix given in the table below shows that there is no significant relationship between bank ownership structure and banks operating efficiency (t (184) = 0.203, P = 0.839) as p>0.05. There is also no significant relationship between bank ownership structure and bank's staff income to staff portfolio (t (174) = -1.630, p = 0. 550) as p>0.05. There is a significant relationship between bank ownership structure and banks average loans (t (176) = -9.135, P = 0.000) as p>0.05. There is no significant relationship between banks

ownership structure and banks portfolio yield (t (180) = -1.630, P = 0.790) as p>0.05. There is no significant relationship between banks ownership structure and bank earning per staff ratio (t (173) = 0.790, P = 0.430) as p>0.05

Table 17: Independent T-test Bank Efficiency Indicator-Panel Data

	t-test for Equality of Means		
	t	**df**	**Sig. (2-tailed)**
Operating Efficiency	.203	184	.839
Staff Income to Staff Portfolio	-.599	174	.550
Average Loans	-9.135	176	.000
Portfolio Yield	-1.630	180	.105
Earnings Per Staff	.790	173	.430

Source: Research Data 2015

8. Discussions on Research Findings

This study aimed at examining the extent to which bank ownership structure has influenced banking competitiveness in respect of economic efficiency of Tanzanian commercial banks. The study follows the fact that bank ownership structure in Tanzania has changed from typical state ownership leading to semi-quasi and private ownership of banks. This was the result of the financial sector reforms, which was undertaken by the Tanzanian government in the mid-nineties. Two main hypotheses were tested: Hypothesis 1 tested if there was any significance relationship between bank ownership structure and bank efficiency and the second hypothesis tested if there were any significant differences between banks in terms of bank efficiency. Hypothesis test results reveal that there is no relationship between bank ownership structures in almost all variables of bank efficiency as perceived by bank customers and bank officials. The results revealed that there is no significant relationship between bank ownership structure and banks having operating hours that are convenient to all customers. There is also no significant relationship between bank ownership structure and banks having adequate numbers of staff to offer better services. The results also revealed that there is no significant relationship between bank ownership structure and banks dealing with high transparency with customers. Finally, the results reveal that there is a significant relationship between bank ownership structure and banks having proper and accurate disclosure of financial statements.

Further testing of the same hypothesis by using the qualitative variables as perceived by bank official results show that there is no significant relationship between bank ownership and bank efficiency variables indicators, there is no significant relationship between bank ownership structure and banks ensuring that there is high transparency when dealing with customers and there is also no significant relationship between bank ownership structure and banks having adequate numbers of staff to offer the required services to customers. The test further reveals that there is no significant relationship between bank ownership structure and banks using the latest and friendly technology to provide services to the customers, no significant relationship between bank ownership structure and banks' ability to manage its cost of operations efficiently. We also further tested the hypothesis by using quantitative indicators of bank efficiency and the results reveal that there was no significant relationship between bank ownership structure and bank efficiency. These results reveal that there is no significant relationship between bank ownership structure and banks operating efficiency. There is also no significant relationship between bank ownership structure and bank's staff income to staff portfolio. There is a significant relationship between bank ownership structure and banks average loans. There is no significant relationship between bank ownership structure and banks portfolio yield. There is no significant relationship between banks ownership structure and bank earning per staff ratio. We can therefore conclude that there is no significant relationship between bank ownership structure and economic efficiency of banks and therefore accept the Null hypothesis.

Conclusions and Policy Recommendations

This paper explains the research findings bank ownership structures influence on economic efficiency of commercial banks. The findings are supported by the reliability of the data collected from bank customers and bank officials. Cronbach alpha results reveal the reliability of the research instruments used to collect the data. The results indicate no significant relationship between bank ownership structure and bank efficiency. This is evidenced by no significant relationship between bank ownership structure and banks operating efficiency, no significant relationship between bank ownership structure and bank's staff income to staff portfolio, no significant relationship between bank's ownership structure and banks portfolio yield and finally no significant relationship between banks ownership structure and bank earning per staff ratio. However, the study found that there is a significant relationship between bank ownership structure and bank's average loans. The results also show that the difference in bank efficiency indicators between semi-quasi and private banks were not

significantly different from each other except for average loans between banks. There is no significant difference between private and semi-quasi banks in terms of operating efficiency, there is no significant difference between banks in terms of staff income to staff portfolio, no significant difference in terms of portfolio yield and finally no significant difference in terms of earning per staff though there is a significant difference between banks in terms of average loans.

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