



**Strathmore**  
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**Determinants of Commercial-Banks Profitability in Kenya**

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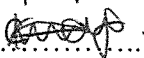
**July, 2015**

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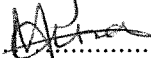
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## ABSTRACT

The purpose of this research is to examine the relationship between bank specific (internal) and macro-economic (external) determinants of banks profitability. This is done by using data of all the banks in Kenya from the year 2005-2010. The paper uses the method of pooled ordinary least square to investigate the impact of loans, deposits, assets, capital, GDP and inflation on two major profitability indicators i.e. Return on Assets (ROA) and Return on Equity (ROE). The empirical results have found that both the internal and external factors have a strong and significant impact on banks profitability. The results of the study are valuable to both policy makers and academicians.

## CHAPTER 1: INTRODUCTION

### 1.0 BACKGROUND

The performance of the banking sector of Kenya has continually improved over the past decade despite global financial instabilities. This may be due to the fact that a lot of reforms have been implemented to improve the banking sector in the country. There have also been changes in technology in this sector and a lot of financial innovative products have been developed by the banks so as to increase their competitive advantage. Indeed, increased competition in the Kenyan banking system is attributed from large entry of foreign banks as well as ongoing reforms and restructuring within the overall financial system together with the emergence of an enlightened banking population (G.N, 2011)

The banking sector is an important part of an economy as it is one of its major drivers. The banking sector is among the sectors under the financial services that is expected to contribute greatly to the realization of Kenya's Vision 2030. An efficient banking sector contributes positively in the economy through its intermediation role. It does this by providing capital to investors using the money that has been deposited to them. The sector also mobilizes and allocates savings, supports trade, helps in diversification and hedging of risk, and contributes to overall economic growth of a country through provision of credit to the private sector. For the sustainability of this sector, it must be able to make profits from their operations. The commercial banks are the major transmitters of monetary policies implemented by the Central Bank in the economy (Saddiqui & Shoaib, 2011). For these reasons, analyzing the determinants of banks profitability is important for the growth of that sector and the economy.

The available literature shows that many studies have been done on the determinants of banks profitability. However, many of them have been done on developed economies and few on developing economies. The aim of this research paper is to fill this gap by evaluating the internal and external determinants of banks profitability in Kenya. This will be achieved by analyzing all the banks in Kenya from the period 2005-2014.

### **1.1 Brief overview of the banks in Kenya.**

By December 2014, Kenya had one central bank, which is the regulatory authority, 44 banking institutions (43 commercial banks and 1 mortgage finance company), 8 representative offices of foreign banks, 9 Microfinance Banks (MFBs), 2 Credit Reference Bureaus (CRBs), 13 Money Remittance Providers (MRPs) and 87 Foreign Exchange (Forex) Bureaus. (CBK, 2014). Of the 44 banking institutions, 6 are classified as the top commercial banks. There are: Kenya Commercial Bank Limited, Cooperative Bank of Kenya Equity Bank Limited, Barclays Bank (K) Limited, Standard Chartered (K) Limited, and CFC Stanbic Bank (K) Limited. The other 38 banks are classified as either medium banks or small banks based on their total assets and market share.

### **1.2 Problem statement**

An efficient and profitable banking sector is essential for the growth of the economy. Kenyan banks are currently facing a number of challenges such as high rate of technological changes in the modern banking sector, increased competition due to entry of foreign banks in the market, increased expectations by shareholders which increase pressure on profitability, increase in the levels of non-performing loans etc. reforms in the banking sector has also put them under pressure in terms of performance and profitability.

Profitability has therefore become a major area of focus by banks in the country. Studies that have been conducted on the performance of the banking sector in Kenya limited. Most studies have focused on the developed countries. This forms the basis of this study, which is to answer the question: what are the factors that influence banks profitability in Kenya?

### **1.3 Research objectives**

The main objective of this paper is to investigate the factors that determine banks profitability.

The study shall investigate the influence of the industry specific and external factors that may have an effect on banks profitability.

## 1.4 Hypothesis

The study seeks to address the following hypothesis;

• **Null Hypothesis (H<sub>0</sub>):**

Bank Profitability is significantly influenced by the SIZE

Bank Profitability is significantly influenced by LOAN

Bank Profitability is significantly influenced by CAPITAL

Bank Profitability is significantly influenced by DEPOSIT

Bank Profitability is significantly influenced by INFLATION

Bank Profitability is significantly influenced by GDP

**Alternative Hypothesis (H<sub>1</sub>):**

Bank Profitability is not significantly influenced by the SIZE

Bank Profitability is not significantly influenced by LOAN

Bank Profitability is not significantly influenced by CAPITAL

Bank Profitability is not significantly influenced by DEPOSIT

Bank Profitability is not significantly influenced by INFLATION

Bank Profitability is not significantly influenced by GDP

## 1.5 Significance of the study

This study attempts to find the relationship between internal and external determinants of banks' profitability. This will help banking regulatory authorities to come up with policies and regulations that will improve the profitability and stability of the banking sector in Kenya.

The study will also make a contribution to existing literature on the same issues. Most of the existing empirical evidence based on past research is on developed countries and thus this paper will seek to fill that gap by contributing evidence from a developing country.

Last but not least, the study will be of great importance to the management and Board of Directors of banks in Kenya who seek to make decisions that will increase the performance of their banks in terms of profitability.

## CHAPTER 2: LITERATURE REVIEW

The determinants of banks' profitability are usually divided into internal and external factors. Internal factors are those that are influenced by the bank's management decisions. Management decisions such as the bank size and capital adequacy are some of the internal factors that can influence its profitability (Athanasoglou, P. et al., 2006). Good banks performance is usually attributed to the banks quality management by many researchers. The external factors include the macroeconomic environment within which the banking sector operates in such as inflation and the level of economic growth.

(Goddard, J. et al., 2005) Found a positive relationship between a bank's size and its profitability. They linked the bank size to capital ratios and found out that as size increased, especially from small banks to medium sized banks, profitability increased. (Akhigbe, A., and McNulty, J., 2005) Examined the differences in profitability among 3000 commercial banks in the USA from the period 1995-2001. They found an economically significant difference in average profitability with the small banks with the lowest profitability and large banks with the highest profitability. However, (Tavakoli, M. et al, 2005) found out that increasing the size of a bank tends to lead to reduction of the bank's profitability. This could be due to the diseconomies of scale. However, he also concluded that it could increase the market share of the bank on average. Similarly, (Saira, 2011), show that small banks have advantages of economy of scale over larger banks and thus larger banks obtain lower levels of profits compared to larger banks. Other researchers such as (Micco, 2007) and (Athanasoglou, P. et al., 2008) claim that no significant relationship exists between the size and profitability of banks. There is thus no consensus on the impact of size and profitability of banks among researchers.

Research done by (Havrylchyk, Olena and Emilia Jurzyk, 2006) concluded that a positive relationship exists between capital and banks' profits. This implies that a more efficient bank should have higher profits than less efficient banks, since they are able to maximize on their net interest income. (Goddard, J. et al., 2005) Support the past findings of the existence of a positive relationship between capital/asset ratio and banks earnings. (Morris, 2010) Point to the expected bankruptcy cost hypothesis as the cause of the positive relationship between capital and banks profitability that has been observed. The expected bankruptcy costs are relatively high for banks with capital below its equilibrium ratio. An increase in the capital ratio will lower interest expense on uninsured debt and thus raise expected profits. This

positive impact can be due to the fact that capital acts as a safety net in the case of adverse developments ( Athanasoglou, P. et al., 2008). This relation will help the bank finance its assets at favourable interest rates, increasing the bank's expected profitability and offsetting the cost of equity (García-Herrero, et al., 2009). The Basel Accord requires banks to hold a minimum level of capital as a percentage of risk-weighted assets. Higher levels of capital may thus denote banks with riskier assets, which translate to higher revenues that increase the bank's profitability (Iannotta, G. et al., 2007). Past studies which show a positive relationship between capital profitability are abundant and include: ( Athanasoglou, P. et al., 2008), (Saira, 2011), (García-Herrero, et al., 2009), (Iannotta, G. et al., 2007) and (Saddiqui & Shoaib, 2011). We therefore expect to observe a positive relationship between capital and profitability.

A negative relationship exists between credit risk and net interest income (Al-Hashimi, 2007). This implies that the greater the risk that is linked with loans, the higher the level of loan loss supplies which reduces the ability of a bank to make profits. The evidence of this occurred during the financial crisis in 2008, when banks lent money to many non-credits worthy borrowers without screening and when many defaulted in payments it led to many banks making huge losses.

An increase in economic growth will likely increase the credit worthiness of potential borrowers. This will reduce their credit risk which will enable banks to lend more money and thus increase their profitability. It is therefore expected that an increase in economic growth will increase the performance of banks. On the other hand, bad economic condition will potentially worsen the bank's loan portfolio, which will generate credit losses making banks to hold more money rather than lend and this will reduce banks profitability. Studies done by (Alexandru, 2008), (Azam, 2012), and ( Athanasoglou, P. et al., 2008) recognize the positive impact of economic growth on the banks' performance. We therefore hypothesize that a positive relationship exists between economic growth and banks profitability.

The effect of inflation is also another important determinant on banks profitability. Generally, higher inflation results in higher income by banks due to the higher interest rates it charges. The effect of inflation on banking performance however is likely to depend on whether inflation is anticipated or unanticipated so that banks can prepare early and make the necessary changes. If inflation is anticipated and interest rates adjusted accordingly, it will

result in a positive impact on the bank's profitability. However, if rise in inflation is unanticipated and banks react slowly in adjusting their interest rates, it is highly likely that banks costs will increase faster than banks revenues. High and variable inflation may cause difficulties in planning and in negotiation of loans (Hoggarth, G. et al., 2008). This is because it is difficult to accurately predict the expected future inflation rate as it may turn out to be unexpectedly high or low and this will have either a positive or negative impact on the bank and borrower. Past research findings on the relationship between inflation and banks' profitability are mixed. Studies carried by (Guru B. et al., 2005) in Malaysia conclude that higher inflation rate leads to higher bank profitability. However, according to research by (Ramlall, 2009), banks in developing countries are less profitable in an environment with high inflation. In these countries, the bank costs will increase faster than banks revenue in such environments.

The discussion above indicates a strong linkage between the internal and external factors that affects banks profitability. The aim of this paper is to address a gap in the literature above by using econometrics methods to test some of the factors discussed above so that we can find out their impact on banks profitability.

### CHAPTER 3: METHIODOLOGY

We will use panel data in our analysis which will cover the period from 2005- 2014 with data from all the banks in Kenya during that period. The data were taken from the banks' financial reports and the Central Bank of Kenya supervisory report. Data on economic growth (GDP) and inflation were obtained from the World Bank. The strategy employed in the analysis will involve pooling of observations across banks and applying regression analysis on the samples.

A pooled OLS equation will be obtained in the form of:

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \beta_5 X_{5it} + \beta_6 X_{6it} + \beta_7 X_{7it} + u_{it}$$

Where;

$Y_{it}$  represents, Return on Assets (ROA) and Return on Equity (ROE)

Where;

$X_{1it}$  represents the ratio of Total Loans to Total Assets (LOAN) for bank  $i$  at time  $t$

$X_{2it}$  represents the ratio of Equity Capital to Total Assets (CAPITAL) for bank  $i$  at time  $t$

$X_{3it}$  represents the natural logarithm of Total Asset (SIZE) for bank  $i$  at time  $t$

$X_{4it}$  represents the ratio of Total Deposits to Total Assets (DEPOSITS) for bank  $i$  at time  $t$

$X_{5it}$  represents the Consumer Price Index (INFLATION) for bank  $i$  at time  $t$

$X_{6it}$  represents the Gross Domestic Product (GDP) for bank  $i$  at time  $t$

$i = 1-45$  banks

$t = 2005-2014$

$u_{it}$  = the error term

Some of the advantages of using pooled data are that it reduces the chances of having specification error (error of omitted variables) since one can include all the relevant variables in the analysis. They are also simple to explain and justify once you have done the regression

analysis. Furthermore, pooling enables more reliable estimates of the parameters used in the model to be obtained. Pooling is reasonable procedure to use when the relationship between variables is stable across cross-section units. The reason why we choose to use Pooled OLS is because we believe that Kenyan banks show similar responses to cyclical movements based on our data set. For example, when you compare banks performance and the GDP between different time periods, an increase in GDP generally had a positive impact on all banks, thus it made them all have a similar response and movements. We also believe that the relationship between a bank's asset and its profitability are stable across all banks.

When analyzing the internal and external factors that determine banks profitability, we will focus on the following variables:

(a) Return on Equity (ROE): This is the amount of net income generated by the company as a percentage of the shareholders equity in that company. It measures a company's efficiency in generating profits with the money that shareholders have invested in it. It is expressed as a percentage and is calculated by dividing Net Income by the Shareholder's Equity. Net income is for the full fiscal year, after dividends have been paid to the preferred stock holders but before it has been paid to the common stock holders while shareholders equity does not include preferred shares.

ROE provides information that shows how well the company uses investment funds to earnings growth. ROEs of between 15% to 20% are desirable.

(b) Return on Assets (ROA): is an indicator of how profitable a corporation is relative to the total assets that it has. It indicates the level of efficiency of the management in using the company's assets to generate earnings. It is expressed as a percentage and is calculated by dividing the company's net income by its total assets. ROE has been widely used in many studies to measure banks profitability.

(c) LOAN is the main source of income for banks and we expect it to have a positive impact on banks' profitability. Holding other factors constant, the more the deposits are transformed into loans, the higher the interest margin and profits. Furthermore, since loan is the main source of income for banks, we expect a negative relationship between a bank's non-interest bearing assets and profits. It is also expected that a bank with higher the equity-to-capital ratio will have more funds than the one with a lower ratio and this will reduce its need for external funding and thus increase its profits. A well-capitalized bank also has a low chance of going bankrupt and thus its cost of funding will be relatively lower.

(d) CAPITAL: It is expected that banks with higher capital will be more profitable since by having more capital, it will be able to easily adhere to regulatory capital standards so that the excess capital can be provided as loans which will be used to generate more earnings for the bank (Azam, 2012). Capital will be calculated by dividing equity capital by the total assets.

(e) SIZE is used to test the hypothesis that larger banks are at an advantage than smaller banks since they are able to harness economies of scale in their transactions and thus enjoy higher levels of profitability. A positive relationship is therefore expected between size and profits. (Tavakoli, M. et al, 2005). (Goddard, J. et al., 2005) Found size to have a positive relationship to banks' profitability. In this research, the total assets of a bank will be used as the proxy for a bank's size. It will be included as an independent variable in this study so that it can account for the bank's related economies and diseconomies of scale.

(f) DEPOSITS are money kept in the bank for safekeeping by depositors. It is the principle source of a bank's funding and thus it has an effect on the bank's profitability. It will be taken as a ratio of total deposits to total assets and included as an independent variable in the study.

(g) INFLATION is an important factor that affects banks performance primarily based on how it influences banks to charge interest rates to potential lenders. For instance if the banks expect inflation rare to increase in the future, they may believe that they can charge higher interest rates without suffering a drop in demand for their output. If their expected inflation

will be equal to the actual inflation, the rise in inflation will have no negative effect on the bank's performance. However, if their projected future inflation is higher than the expected inflation, it will have a negative impact on the bank's profitability.

(h) GDP is often used as an indicator of a country's economic health and productivity. Economic growth increase banks' profitability for a large number of countries ( Athanasoglou, P. et al., 2008). GDP captures the booms and recessions of business cycles, which are expected to have direct effects on the banks profitability.

## CHAPTER 4: RESULTS OF THE MODEL

This section will deal with results from the study which will include descriptive statistics and econometric results. The descriptive statistics is presented in table 1 below.

Table 1

Descriptive statistics

	ROA	ROE	CAPITAL	DEPOSITS	GDP	INFLATION	LOAN	SIZE
<b>Mean</b>	2.370813	17.66475	0.174938	0.745705	39.79956	11.64724	0.506055	10.18895
<b>Median</b>	2.615	20.38	0.145308	0.767263	38.51	9.87	0.522407	10.08962
<b>Maximum</b>	10.4	49.99	1.316565	7.973692	60.94	26.2	0.743095	11.57631
<b>Minimum</b>	-17.47	-90.8	0.051173	0.001142	18.74	5.8	0	8.691081
<b>Std. Dev.</b>	2.955193	17.20614	0.117271	0.388123	12.283	5.903426	0.128489	0.60698

Table 1 shows the descriptive statistics for the variables. The mean value for ROA and ROE are positive which shows that on average the banks in Kenya are profitable. ROE is shown to be relatively higher than ROA for the banks on average. The standard deviation for ROE is relatively large. This can be explained by the fact that in the data set, there exist banks which are older and well established in the economy and also relatively smaller banks which are new in the economy. The well-established banks thus have relatively higher equity capital which increases its ROE. The high standard deviation of GDP shows that over the last ten years, the economy has generally been growing at a fast rate and this may have a significant impact on the banks performance. All the other data set have generally low S.D. and this shows the consistency that exists in the data set. In table 2 below, we are going to analyze the relationship that exists among the independent and dependent variable (ROA) for all the banks in general.

Table 2

The relationship between the independent variables and ROA for all the banks

```
. encode bank, gen( bank1)

. xtset bank1 Year, yearly
    panel variable:  bank1 (unbalanced)
    time variable:  Year, 2005 to 2014
                delta:  1 year

. regress ROA Size Capital Loan Deposits GDPbillion Inflation
```

Source	SS	df	MS	Number of obs =	161
Model	211.456115	6	35.2426858	F( 6, 154) =	8.91
Residual	609.340657	154	3.95675751	Prob > F =	0.0000
Total	820.796771	160	5.12997982	R-squared =	0.2576
				Adj R-squared =	0.2287
				Root MSE =	1.9892

ROA	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
Size	1.799508	.3542094	5.08	0.000	1.099772	2.499245
Capital	1.34123	2.660851	0.50	0.615	-3.915249	6.597709
Loan	-.1481831	1.266924	-0.12	0.907	-2.650976	2.35461
Deposits	2.578984	1.726071	1.49	0.137	-.8308482	5.988817
GDPbillion	.075104	.0355402	2.11	0.036	.0048948	.1453132
Inflation	-.0655166	.0315881	-2.07	0.040	-.1279185	-.0031148
_cons	-19.11884	4.41519	-4.33	0.000	-27.841	-10.39669

The results show that SIZE has a direct and very significant effect on the ROA of banks. This suggests that large banks are able to benefit more from economies of scale than smaller banks. The larger banks have an advantage over the smaller banks since they are able to put more of their assets into productive use and thus generate more revenues and increase their

profitability. For example, since they have more branches, it becomes convenient for their customers and this attracts more potential customers to open an account with them and obtain loans etc. and this increases their profitability.

GDP has a positive and significant impact on profitability of banks in Kenya as is shown by the positive value of the coefficient and the p value of 3.6%. This suggests that as the economy grows it positively impacts on the profitability of banks. This may be due to the fact that there would be more money available to the banks which they are able to invest more and thus increase their chances of making more profits. It also strongly suggests that the economic conditions of the country have a direct impact on the performance of the banking sector. For example, during recessions, banks will perform poorly while during economic booms, banks will perform well. This is evidenced by the recession which occurred in 2008, where most banks in the affected countries performed poorly with some having to close down like in the USA.

LOANS show a negative but insignificant impact on the profitability of banks as measured by ROA. This result may suggest that in Kenya, some banks incur losses due to loan default. However, since the size is very low, it means that it does not have much impact on the performance of banks. It is expected that the higher the amount of loans a banks makes, the higher the profitability, due to the return on those loans. However, in developing countries such as Kenya, it is sometimes difficult to establish accurate information on the credit worthiness of customers and this may sometimes result in banks giving loans to non-credit worthy customers and this may make them obtain losses. It is thus advisable that systems are put in place to help banks determine the credit worthiness of potential borrowers and legislations that protect banks against loan defaults.

DEPOSITS also have a positive but insignificant impact on banks profitability. Ideally, banks with more deposits should be able to make more loans and other investments so as to generate more revenues and increase their profitability. However, banks may also use them to make wrong investments and this will results in losses. The success of this thus depends on the management decisions on how to use these deposits. This may explain the results obtained.

CAPITAL which is a ratio of equity capital to total assets is shown to have a positive but insignificant relationship to profitability. Banks with more capital are able to put it into more projects and investments and thus have a greater chance of making more profits. This

however depends on the type of projects and investments that they are put in. Banks with more capital also have an advantage over the reserve requirements. In case the Central Bank increases it, they will not be affected as much as those with lower capital. This may explain this relationship that exists.

INFLATION is shown to have a negative and significant impact on the profitability of banks. In the presence of high inflation in the economy, the value of money held by banks decreases and also it discourages borrowing by individuals and firms and this may be the reason behind this negative relationship.

Table 3 below shows the results for regression using ROE as the dependent variable for all the banks in Kenya.

**Table 3**

**The relationship between the independent variables and ROE for all bank**

. regress ROE Size Capital Loan Deposits GDPbillion Inflation

Source	SS	df	MS	Number of obs =	161
Model	16128.2139	6	2688.03564	F( 6, 154) =	23.49
Residual	17622.5498	154	114.432141	Prob > F =	0.0000
Total	33750.7636	160	210.942273	R-squared =	0.4779
				Adj R-squared =	0.4575
				Root MSE =	10.697

ROE	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
Size	16.02668	1.904866	8.41	0.000	12.26364	19.78972
Capital	2.555533	14.30951	0.18	0.858	-25.71274	30.8238
Loan	-6.440207	6.813258	-0.95	0.346	-19.89972	7.019303
Deposits	19.5037	9.282457	2.10	0.037	1.166319	37.84108
GDPbillion	.1856066	.1911279	0.97	0.333	-.1919642	.5631775
Inflation	-.3269171	.1698741	-1.92	0.056	-.6625013	.0086672
_cons	-154.4827	23.74399	-6.51	0.000	-201.3887	-107.5768

The results above are almost similar for that of ROA in that all the independent variables are similar except only for DEPOSIT and GDP.

For DEPOSIT it shows that it has a positive and significant impact on profitability measured by ROE. This suggests that in Kenya, banks with more customer deposits highly advantageous since they are able to use it effectively together with the shareholders equity to generate more profits. This gives them more funds in engaging in more investments which generate revenues to them.

GDP is shown to have a positive but insignificant impact on ROE. This suggests that the economic growth rate does not significantly affect the way banks generate profits from the shareholders equity. This is because the level of economic growth may not necessarily affect the ways in which banks use the shareholders equity capital to conduct their business e.g. investment decisions. Ideally, a higher GDP should impact positively on ROE as is proven but not as much due to the reason above.

The reason for the apparent similarity of results may be due to the fact that both ROA and ROE are both indicators of banks profitability and hence should have more or less similar results.

In tables 4 and 5 below, we will show the results of ROA for foreign and domestic banks and then compare them

Table 4

The relationship between the independent variables and ROA for domestic banks

```
. encode bank, gen( bank2)

. xtset bank2 year, yearly
    panel variable:  bank2 (unbalanced)
    time variable:  year, 2005 to 2014
                   delta: 1 year

. regress ROA size capital loan deposits GDP inflation
```

Source	SS	df	MS	Number of obs =	113
Model	165.635047	6	27.6058412	F( 6, 106) =	5.26
Residual	556.521114	106	5.25019919	Prob > F =	0.0001
Total	722.156161	112	6.44782287	R-squared =	0.2294
				Adj R-squared =	0.1857
				Root MSE =	2.2913

ROA	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
size	1.973867	.5249974	3.76	0.000	.9330089	3.014726
capital	2.421602	3.430994	0.71	0.482	-4.380677	9.223881
loan	1.525379	1.899941	0.80	0.424	-2.241438	5.292196
deposits	2.578053	2.08734	1.24	0.220	-1.560303	6.716408
GDP	.0802442	.0487233	1.65	0.103	-.0163544	.1768428
inflation	-.0772723	.0434959	-1.78	0.079	-.1635072	.0089626
_cons	-21.96816	6.377647	-3.44	0.001	-34.61247	-9.323855

Table 5

The relationship between the independent variables and ROA for foreign banks

. regress ROA size capital loan deposit GDP inflation

Source	SS	df	MS	Number of obs =	48
Model	55.832667	6	9.3054445	F( 6, 41) =	10.56
Residual	36.121658	41	.881016049	Prob > F =	0.0000
Total	91.954325	47	1.956475	R-squared =	0.6072
				Adj R-squared =	0.5497
				Root MSE =	.93862

ROA	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
size	2.011089	.3003643	6.70	0.000	1.404491	2.617687
capital	9.577272	4.558815	2.10	0.042	.3705588	18.78398
loan	-3.132728	1.064009	-2.94	0.005	-5.281537	-.9839183
deposit	4.447117	3.025285	1.47	0.149	-1.66257	10.5568
GDP	.0846828	.0347166	2.44	0.019	.0145713	.1547944
inflation	-.0485627	.0276283	-1.76	0.086	-.1043592	.0072338
_cons	-22.72497	5.079211	-4.47	0.000	-32.98265	-12.4673

From table 4 and 5 above, we will compare the performance of both domestic and foreign banks. The results are similar except for LOAN and CAPITAL.

Domestic banks have a positive and insignificant relationship with LOAN while foreign banks have a negative and significant relationship with LOAN. This result suggests that in Kenya, foreign banks incur more losses on loan defaults than the domestic banks. One of the reason for this may be that foreign banks more often give loans to non credit worthy customers and this usually negatively impacts them in terms of performance due to the loss

they obtain from the defaults. Foreign banks should thus develop good measures of accessing the credit worthiness of their customers.

Domestic banks have a positive but insignificant relationship with CAPITAL while foreign banks have a positive and significant relationship with CAPITAL. This result suggests that foreign banks are more effective in the management of their capital which helps them to become more profitable than domestic banks in Kenya. They are able to put it into more productive investments which generate them more revenues and profits.

All the other variables are more or less similar for both the domestic and foreign banks. We can thus conclude that there is not much difference between the performance of foreign and domestic banks in terms of their Return on Assets.

In tables 5 and 6 below, we will show the results for ROE for both the domestic and foreign banks and then compare them.

**Table 6**

The relationship between the independent variables and ROE for domestic banks

. regress ROE size capital loan deposits GDP inflation

Source	SS	df	MS	Number of obs =	113
Model	10678.9403	6	1779.82339	F( 6, 106) =	13.44
Residual	14034.2415	106	132.398505	Prob > F =	0.0000
				R-squared =	0.4321
				Adj R-squared =	0.4000
Total	24713.1818	112	220.653409	Root MSE =	11.506

ROE	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
size	15.85078	2.636397	6.01	0.000	10.62387	21.0777
capital	12.1564	17.22954	0.71	0.482	-22.00283	46.31563
loan	5.166364	9.540995	0.54	0.589	-13.74959	24.08232
deposits	21.91482	10.48207	2.09	0.039	1.133098	42.69653
GDP	.1197934	.2446752	0.49	0.625	-.3652991	.6048859
inflation	-.3518171	.2184249	-1.61	0.110	-.7848657	.0812315
_cons	-160.9762	32.02684	-5.03	0.000	-224.4725	-97.47989

**Table 7**

The relationship between the independent variables and ROE for foreign banks

. regress ROE size capital loan deposit GDP inflation

Source	SS	df	MS	Number of obs = 48		
Model	5543.4595	6	923.909917	F( 6, 41) = 14.48		
Residual	2616.8409	41	63.8253877	Prob > F = 0.0000		
Total	8160.3004	47	173.623413	R-squared = 0.6793		
				Adj R-squared = 0.6324		
				Root MSE = 7.9891		

ROE	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
size	18.53202	2.556543	7.25	0.000	13.36898	23.69506
capital	18.21311	38.80224	0.47	0.641	-60.14959	96.57582
loan	-23.52218	9.056285	-2.60	0.013	-41.81172	-5.232639
deposit	13.49126	25.74964	0.52	0.603	-38.51119	65.49371
GDP	.3727208	.2954892	1.26	0.214	-.2240318	.9694733
inflation	-.3215185	.2351577	-1.37	0.179	-.796429	.1533921
_cons	-171.8566	43.23158	-3.98	0.000	-259.1646	-84.54869

The results above are quite similar, and thus shows that the independent variables used are similar for both domestic banks and foreign banks in Kenya. The only exception is LOAN and DEPOSITS.

Domestic banks in Kenya have a positive but insignificant relationship between LOAN and ROE while foreign banks have a negative and significant relationship with ROE. This result is similar to the comparison made for ROA. It suggests that foreign banks are more vulnerable to making losses due to loan defaults as compared to domestic banks. This severely affects their performance and thus they should implement effective measures for screening their customers and determining their credit worthiness before giving them loans.

Domestic banks have a positive and significant impact between DEPOSIT and ROE while foreign banks have a positive but insignificant impact between DEPOSIT and ROE. This result suggests that domestic banks in Kenya are more efficient in managing their deposits so as to generate more revenues and increase their returns on the shareholders equity than foreign banks. For example, they may efficiently combine it with the shareholders funds and invest it in more profitable ventures and investments and thus increase their profitability.

We can thus conclude from the two results above that there exist similarities between the independent variables and ROE for both the domestic and foreign banks in Kenya.

### ROA v ROE which is the best measure to use in measuring banks profitability in Kenya?

Both ROA and ROE are indicators of financial performance of a company. ROA is a measure of how efficiently a company uses its assets to obtain profits while ROE measures how efficiently a company uses shareholders equity capital to make profits.

One of the major differences between ROE and ROA is debt. In the presence of no debt, shareholder's equity and total assets of the company will be equal. However, if the company decides to take a loan, ROE would become greater than ROA. A higher ROE is not always an indicator of an impressive performance of a company. In this regard, ROA is a better indicator of the financial performance of a company.

It is prudent to look at both ROE as well as ROA to come to an accurate conclusion about the financial health and performance of a company. Both provide a different perspective, but when the results of the two are combined, they provide a clearer picture of the effectiveness of the management of an organization. With a high ROA and manageable debt, if ROE is also high it means that the company is generating decent profits using shareholder's money. But if ROA is low and there is huge debt carried by the company, even a high ROE can only be a misleading figure.

It is therefore advisable to look at both ROA and ROE when determining the profitability of the banks in Kenya.

## CHAPTER 5: CONCLUSION

The study investigates the internal and external determinants of banks profitability in Kenya for all the forty five banks in Kenya for the period 2005-2010. From the empirical results of the research, we have shown that banks with more assets, deposits and loans are at a better advantage and are able to translate this into higher profits. When the GDP is high, banks are also able to make more profits. We had developed two hypothesis i.e. internal factors have an impact on banks profitability and external factors have an impact on banks profitability. The results show that both hypotheses have an impact on the performance of banks in Kenya and should be accepted

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