

Research Application Summary

Determinants of commercial banks' profitability evidence from banking industry in Uganda

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Abstract

Profitability measures the firm's ability to generate revenue in excess of expense an accomplishment that is necessary if the firm is to be considered a going concern. Therefore, the indicators of the profitability are the profits made by the business, the growth and expansion, cost of the operation incurred and demand for goods and services in excess of return over cost economies of scale market power and cost control. A previous study examined the profitability of Kenya's top six commercial banks and showed that the major important determinants of the profitability of the top six commercial banks were operating expenses, ownership, capital strength, bank size and ratio of loans. This study built on the fact that the mean profits for domestic, commercial banks are declining compared to the foreign commercial banks. The study found out that the factors affecting the performance of domestic commercial banks in Uganda are: management efficiency, capital adequacy, inflation, and asset quality and interest income. Further, the determinants of Commercial Banks profitability depend on the relationship between capital adequacy, operational costs and bank size. This empirical study showed that Central Bank Rate, Operational Costs and Capital Adequacy significantly affect the profitability of commercial banks in Uganda. However, the effect of bank size on the profitability of commercial banks is not so strong thus more effort has to be put on internal bank specific factors to enhance performance and profitability. It is important for a bank to understand the source of its risks and the costs associated with the funds.

Key Words: Commercial Banking, profitability, Uganda

Résumé

La rentabilité mesure la capacité de l'entreprise à générer des revenus supérieurs aux dépenses, ce qui est nécessaire si l'entreprise doit être considérée comme une entreprise en activité. Par conséquent, les indicateurs de la rentabilité sont les bénéfices réalisés par l'entreprise, la croissance et l'expansion, le coût de l'opération encouru et la demande de biens et services en excès du rendement par rapport au coût, les économies d'échelle, le pouvoir de marché et le contrôle des coûts. Une étude précédente a examiné la rentabilité des six premières banques commerciales du Kenya et a montré que les principaux déterminants de la rentabilité étaient les dépenses d'exploitation, la propriété, la solidité du capital, la taille de la banque et le ratio des prêts. Cette étude s'appuie sur le fait que les bénéfices moyens des banques commerciales nationales sont en baisse par rapport à ceux des banques commerciales étrangères. L'étude a révélé que les facteurs affectant la performance des banques commerciales nationales en Ouganda sont : l'efficacité de la gestion, l'adéquation du capital, l'inflation, la qualité des actifs et les revenus d'intérêts. En outre, les

déterminants de la rentabilité des banques commerciales dépendent de la relation entre l'adéquation du capital, les coûts opérationnels et la taille de la banque. Cette étude empirique a montré que le taux de la Banque Centrale, les coûts opérationnels et l'adéquation du capital affectent significativement la rentabilité des banques commerciales en Ouganda. Cependant, l'effet de la taille de la banque sur la rentabilité des banques commerciales n'est pas si fort, donc plus d'effort doit être mis sur les facteurs internes spécifiques à la banque pour améliorer la performance et la rentabilité. Il est important pour une banque de comprendre la source de ses ventes et les coûts associés aux fonds.

Mots clés : Banque commerciale, rentabilité, Ouganda

Introduction

This paper focuses on analysis of profitability ratios of the selected commercial banks in Uganda as a case study. Profitability is the capacity to earn a profit. If a company has a higher value relative to a competitor's ratio or same from the earlier period, for most of the ratios, shows that the firm is performing well. Comparing ratios between companies in the same industry is valid and good (www.aaii.com). Banks in Uganda are facing stiff competition from the increasing growth of the banking industry. This has squeezed down profits for the banks. This is evidenced as the banks are facing a declining profitability trend (Kijjambu *et al.*, 2015).

In addition, commercial banks in Uganda are often closed due to being regarded as insolvent by Bank of Uganda. Example in point Global Trust Bank that was closed on July 25, 2014 and many others in the past (www.bou.or.ug). Research done in Uganda on the banking industry is very minimal compared to in other East African countries (Sanya *et al.*, 2012). Therefore, there is a need to analyse and rank the profitability ratios of Uganda commercial banks. Kumar *et al.* (2012) examined the most profitable banks in India. In the study they ranked the banks according to their profitability. The data were analyzed from 2008-2012 by the descriptive ratio analysis and the banks were ranked by using the composite rank table. The findings revealed that Punjab National bank was the most profitable bank in India. Sanya *et al.* (2012) assessed the bank competition within the East African community. They examined the competitiveness of the banking industry in the four East African countries (Kenya, Tanzania, Rwanda and Uganda). It was found that Uganda was ranked third but also concluded that there were few studies done in the banking industry in Uganda. However, in Uganda there has been an overall outcry that banks make a lot of profits due to high interest disparity between the rates given on deposits and loans. On closer scrutiny, despite some banks making high profits some are actually incurring losses or very small margins despite having the same lending interest rates prevailing from the central bank of Uganda (Bank of Uganda). This paper examines various facets of banks' operations in terms of lending rates and profitability. It involved an analysis of various factors determining profitability of selected commercial banks operating in Uganda.

Lending interest rate. An interest rate is described as the price a borrower pays for the use of money the borrower does not own, and has to return to the lender who receives for deferring the bank's consumption, by lending to the borrower. Interest can also be expressed as a percentage of money taken over the period of one year (Devereux *et al.*, 2002). An interest, which is charged or paid for the use of money, is often expressed as an annual percentage of the principal. Lending interest rates often change as a result of the inflation and Government policies. It is also a tool used by the central bank of a country to keep a check on any major currency fluctuations. An increase in lending rates is necessary to stabilize the exchange rate depreciation and to curb the inflationary pressure and thereby helps to avoid many adverse economic consequences.

It is widely believed that fluctuations of market lending rates significantly influence the performance of commercial banks. According to Samuelson *et al* (1945), under general conditions, bank profits increase with rising lending rates. The authors argued that the banking system as a whole is immeasurably helped rather than hindered by an increase in interest rates. A more accurate measurement of how fluctuations in market interest rates affect banking firms largely depends on the sensitivity of banks' assets and liabilities. When interest rates fluctuate as result of changes in monetary policy or general economic conditions, commercial banks usually encounter a comparative change in the rate of return they earn on their assets. This occurs because banks hold many assets of relatively short maturity and the rates booked on short period loans fluctuate quickly when lending rates fluctuate.

Banks' investment portfolio components such as mortgage rates, business term loans, rates on bank credit card loans, and real assets such as rental offices, when lending interest rates decrease they do encounter rapidly falling yields. Consequently, even the longer period components of a bank's assets portfolio are susceptible to yield declines when market rates fall, although the ir yields fall more gradually than short period yields. In the short run, however, as general market lending rates descend, the market value of longer assets with fixed contractual terms will rise.

Profitability. Profit is the ultimate goal of commercial banks. All the strategies designed and activities performed are geared towards realizing this grand objective. Therefore, profitability is the process of evaluating relationships between component parts of financial statements to obtain a better understanding of the firm's financial position. Aburime *et al.*, (2009) observed that the importance of bank profitability can be appraised at the micro and macro levels of the economy. At the micro level, profit is the essential prerequisite of a competitive banking institution and the cheapest source of funds. It is not merely a result, but also a necessity for successful banking in a period of growing competition on financial markets. Hence the basic aim of every bank management is to maximize profit as an essential requirement for successful banking in a period of growing competition on financial markets. Hence the basic aim of every bank management is to maximize profits as an essential requirement for conducting business.

The principle motivating force in any business is profitability, though of course it is not the only motive in any business, it is always the most important (Musumeno *et al.*, 2001). Therefore, there should always be an adequate return on capital invested if any business is to be successful and the argument for this is that the success of any business basically depends on the profitability that it enjoys.

Effect of lending interest rates on profitability. According to Théoden *et al.* (1999) when interest are low people are willing to borrow at the lending rates because they find it relatively easy to repay their debts. However, when interest are high people are reluctant to borrow because repayment on loans cost more. Some consumers may even find it difficult to meet their existing loan repayments, especially if interest rate increases faster than the rise in the consumer income. In addition, if rates rise sharply some consumers will default on their loans. These point out that those high rates can hinder the growth of savings and investments and imply that the cost of using the financial system is prohibitive for certain borrowers and therefore offer low margin. Ndungu *et al.* (2000) explained that macroeconomic environment identifies factors that affect lending rates. The chain reaction triggered off by macroeconomic instability increases uncertainty hence impacting adversely on borrower's credit worthiness thus increasing the risk premium charged by banks. The macroeconomic environment affects the performance of the banking sector by influencing the ability to repay borrowed loans, the demand for loans with the unpredictable returns from investments and the quality of collateral determine the amount of premium charged and therefore the cost of borrowed funds to the investors. With an unstable macroeconomic environment and poor economic growth, investors face

uncertainty about investment return and these raise the lending rates. Chowdhry *et al.* (2010) concur that the bank profit is derived from the difference between the interest rate it charges by lending and interest it pays for the deposit. If a bank is not lending, then there are no profits from the deposits. Therefore, high lending rates can have a major implication for financial intermediation as they can increase the cost of capital which in turn limits financial resources available to potential borrowers thereby reducing the volume of investment opportunities and reducing it to sub optimal level. Moreover, wider spread might reflect a number of problems such as bank unsoundness and moral hazard. Businesses are also indirectly affected by an increase in the discount rate as a result of the actions of individual consumers. But businesses are affected in a more direct way as well. They, too, borrow money from banks to run and expand their operations. When the banks make borrowing more expensive, companies might not borrow as much as they will pay a higher rate of interest on their loans. Less business spending can slow down the growth of a company, resulting in decreases in profit. Securities of firms making continuous losses, usually suffer from price decline (Kisaka *et al.*, 1999).

Determinants of profitability. Most of the studies on bank profitability have categorized the determinants of profitability into internal and external factors (Rasiah *et al.*, 2010; Khrawish *et al.*, 2011). The internal factors are the individual bank characteristics which affects the bank performance, while the external factors are sector-wide factors which are beyond the control of the company and affect profitability of the banks. However, there is general agreement that bank profitability is a function of internal and external factors.

In terms of Bank Specific Factors/Internal Factors as explained above, the internal factors are bank specific variables which influence the profitability of a specific bank. These factors are within the scope of the bank to manipulate and they differ from bank to bank. These include capital size/ capital adequacy, size of the bank in terms of deposit liabilities, operating costs of banks, bank size, ownership and the like. Each of these indicators are further discussed below.

Approaches

Relationship between central bank rate and profitability. The t test statistics was used to give a sense of the relationships between two variables (Table 1). The results show a statistically significant relationship between Return of asset (ROA) and Central Bank Rate (CBR) ($P= 0.0000$). This implies that the Central Bank Rate has an influence on the commercial banks profitability, but the magnitude and direction of relationship is determined by the degree of freedom of the commercial banks.

From the p-value, there is a significant difference between the Return on asset and Central Bank Rate. Further the 95% confidence interval of the difference of the means does not contain zero. These results reveal that there is evidence of significant relationship between return on asset and Central bank rate. When the CBR is high, the banks are restrained from borrowing and this limits credit creation hence putting the income down hence lower profits.

Relationship between capital adequacy and profitability. Capital adequacy ratio shows the internal strength of the bank to withstand losses during crisis. Capital adequacy ratio is directly proportional to the resilience of the bank to crisis situations. It has also a direct effect on the profitability of banks by determining its expansion to risky but profitable ventures or areas (Sangmi *et al.*, 2010). The finding of this study is shown in Table 2. From the p-value, there is a significant difference between the Return on asset and Capital Adequacy. These results indicate that there is evidence of significant relationship between return on asset and Capital Adequacy.

Table 1. T-test statistics and the profitability values fo r Return of Asset (ROA) and Central Bank Rate (CBR)

Variable	Observation	Mean	Std. Urr0r	Std. Dev.
ROA	25	0.034624	0.0038113	0.0190563
CBR	25	16.7204	0.5743653	2.871826
Combined	50	8.377512	1.225267	8.663947
diffrence		-16.68578	0.5743779	

diff' = mean(ROA) - mean(CRR)

Ho: di ll' = 0 -t = -29.0302

degrees of freedom = 48 Ha: did < 0

Pr (T < t) = 0.0000 Ha: dR != 0

Pr (|T| * |t|) = 0.0000 Ha: diff ° 0

Pr (T ° t) = 1.0000

Table 2. t test statistics a nd the pr values fo r return on investment (ROA) and ca pital adequacy

Variable	Obs	Mean	Sid Enor	Std. Dev.
ROA	25	0.034624	0.0038113	0.0190565
Capital Adequacy	125	0.163168	0.0065658	0.032829
Combined	50	0.098896	0.0099206	0.0701794
diff		-0.128544	0.0075918	

diff = mean (ROA) - mean (Capital Adequacy) Ho: diff = 0

t = 16.9319 degrees of freedom = 48

Ha: diff < 0 Pr (T < t) = 0.0000 Ha; diff != 0

Pr (|T > |t) = 0.0000 Ha: diff > 0 Pr (T>t) = 1.0000

Lending interest rates. Lending rate is associated with the macroeconomic instability which affects the performance of the banking sector. According to Ndungu *et al.* (2000) macroeconomic environment identifies both a cause and a consequence affecting lending rates. The chain reaction triggered off by macroeconomic instability increases uncertainty hence impacting adversely on borrower's credit worthiness thus increasing the risk premium charged by banks. The macroeconomic environment affects the performance of the banking sector by influencing the ability to repay borrowed loans, the demand for loans with the unpredicted returns from investments and the quality of collateral determine the amount of premium charged and therefore the cost of borrowed funds to the investors. With an unstable macroeconomic environment and poor economic growth, investors face uncertainty about investment return and these raises the lending rates.

Capital adequacy. According to Athanasoglu *et al.* (2005), capital adequacy is one of the banks specific factors that influence profitability of the bank as it is the amount of own fund that support the banks business and act as buffer in case of adverse situation. It is measured by the ratio of equity to total assets of a bank. Generally, banks with high capital ratio, if other factors are constant, will face relatively lower financial difficulties during general financial crisis within the economy and this will translate to high profits.

Also, well capitalized banks are able to meet the capital requirements set by central bank while the excess can be used to provide loans. The study found out that commercial banks with a high Capital adequacy ratio have the capacity to meet the time liabilities and other risks such as credit risk, operational risk etc. In the simplest formulation, a bank's capital acts as a "cushion" for potential losses, and protects the bank's depositors and other lenders, thereby maintaining confidence in the banking system.

Bank size. Banks have good reason to believe profitability and size are related. Size is measured by the natural log of level of assets of the bank. It accounts for economies and diseconomies of scale. A study by Obamiyi *et al.* (2013), indicated that a bank enjoys economies of scale up to a certain level, beyond which it starts experiencing diseconomies of scale which results in a mixed relationship between size and profitability. When low interest rates are charged to borrowers, larger banks would earn low profits, however, if larger banks control big share of the market in a noncompetitive environment, they may earn higher profits through high lending rates, and low deposit rates. But ideally, bigger banks would be expected to be associated with lower interest rates because of large economies of scale and ability to invest in technology that would enhance efficiency. Bank size (SIZE) is considered as an important determinant of bank profitability. SIZE has an impact on various activities of banks including investing opportunities, portfolio diversification, reputation and access to equity capital (Zhang *et al.*, 2008). Most often large banks have easy access to equity capital market, and as such, a large bank will have lower capital ratio than smaller banks (Aggarwal *et al.*, 2001). In addition, as large banks carry out a large number of different activities, they can diversify their portfolio, and, hence, their credit risk will be decreased (Roy *et al.*, 2008). The SIZE is measured as the natural logarithms of total assets. Kosmidou *et al.* (2002) and Alper *et al.* (2011) reported a positive relationship between ROA and bank size. On the other hand, Syafri *et al.* (2012) found that bank size has negative effect on profitability

The study found out that bigger bank sizes can increase profitability by allowing banks to realize economies of scale. For example, increasing size allows banks to spread fixed costs over a greater asset base, thereby reducing their average costs. Furthermore, as the scale of operation increases, banks could better use specialized inputs such as loan officers with expertise in a particular business line, resulting in greater efficiency. It was also observed that Small banks may be able to form stronger relationships with local businesses and customers than large banks, allowing them access information useful in setting contact terms and making better credit underwriting decisions. The low pricing from larger contacts and information advantages may offset any loss of scale economies.

Relationship between capital adequacy and profitability. Capital is one of a bank's specific factors that influence the level of bank profitability. Capital is the amount of own fund available to support the bank's business and act as a buffer in case of adverse situation (Alhanasoglou *et al.*, 2005). Banks capital creates liquidity for the bank due to the fact that deposits are most fragile and prone to bank runs. Moreover, greater bank capital reduces the chance of distress (Diamond, 2000). However, it is not without drawbacks, i.e., it may induce weak demand for liability. The cheapest sources of fund Capital adequacy is the level of capital required by the bank to enable it withstand risks such as credit, market and operational risks that the bank is exposed to in order to absorb the potential losses and protect the bank's debtors. According to Dang *et al.* (2011), the adequacy of capital is judged on the basis of capital adequacy ratio (CAR). Capital adequacy ratio shows the internal strength of the bank to withstand losses during crisis. Capital adequacy ratio is directly proportional to the resilience of the bank to crisis situations. It has also a direct effect on the profitability of banks by determining its expansion to risky but profitable ventures or areas (Sangmi *et al.*, 2010). Our analysis show that well capitalized banks operating in Uganda tend to borrow less in order to support a given level of assets, and tend to face lower cost of funding due to lower prospective bankruptcy costs. The well capitalized banks in case are less risky and tend to enjoy larger profits. Theoretically, however, higher capital

breeds higher profitability levels since by having more capital, a bank can adhere to the regulatory capital standards so that excess can be provided as loans that earns the bank profits through interests charged.

Conclusion and recommendations

From the above empirical review, it is clear that numerous research works have been done to establish various determinants that affect the profitability of commercial banks world over. Most studies conducted have studied overall banks financial performances but with limited focus on lending interest rates and commercial banks financial performance. Mwangi (2014) studied the effect of lending interest rates on financial performance of deposit in the case of micro finance institutions in Kenya, but like many others did not examine the effect of lending interest rates on commercial banks financial profitability. In Uganda the volatility of lending interest rates greatly affects operations and viability of financial lending institutions.

This review has shown that Central Bank Rate, Operational Costs and Capital Adequacy significantly affect the profitability of commercial banks in Uganda (Table 3.). However, the Effect of bank size on the profitability of commercial banks is not so strong. When the Central Bank Rate is high, it impedes the commercial banks from borrowing from the central bank which makes the commercial banks to limit their lending to the public. This ultimately makes the public to seek financial assistance from the other microfinance institutions apart, which in turn lowers the credit creation in the banks hence declining the profitability of the banks. The gap that exists with regard to this empirical review is that the study did not cover different regions which face different macroeconomic indicators. It only covered banks in Kampala, Uganda's capital city. As such, there is need to broaden the geographical coverage of the study, which should also interrogate different banking/lending/borrower actors. Importantly, there is need to carry out a study on lending interest rates in Uganda in order to come up with findings that will further guide the banking system and borrowers.

The study recommends that commercial banks should put more emphasis on the specific internal and some external bank factors that affect financial performance (profitability). The internal factors include capital adequacy, operating costs, Central Bank Rate and Bank size. Monetary policy tools effect should be handled by the government through reducing the central bank rate for the banks to reduce their lending to the public so as to increase the process of credit creation for the benefit of the bank. The study further recommends that while bank size was found not to lead to better financial performance, more emphasis needs to be put on operational factors such as reducing the operational costs and improving the bank environment.

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Table 3. Profitability value for the Commercial banks in Uganda for the year 2015

Commercial banks	Return on Asset (%)	Central Bank Rate (%)	Capital Adequacy	Operational costs	Bank size
ABC Bank	3.02%	15.5	0.163	0.8175	24.105
Bank of Africa Uganda Ltd	0.33%	19.7	0.1241	0.0667	24.688
Bank of India	3.74%	18.2	0.1656	2.4392	24.148
Barclays Bank of Uganda	5.44%	21.41	0.1689	0.7686	26.144
Cairo International Bank	2.59%	18.5	0.1817	0.2274	26.129
Centenary Bank	5.93%	18.9	0.1914	0.472	26.655
Citibank Uganda	1.02%	15	0.1408	1.3945	24.729
Commercial Bank of Africa	3.11%	20.77	0.0937	0.6732	26.008
Crane Bank	3.13%	20.77	0.1606	0.2078	24.734
DFCU Bank	4.47%	15.4	0.132	0.7104	0.7404
Diamond Trust Bank	4.47%	15.2	0.1525	1.36	26.078
Eco Bank Uganda	1.09%	21.5	0.1704	-1.8718	24.55
Equity Bank Uganda Ltd	7.26%	21	0.1439	0.9033	26.34
Exim Bank Uganda	2.78%	14.62	0.1606	1.0447	23.437
Guaranty Trust Bank	2.59%	20.77	0.1718	0.5325	24.847
Housing Finance Bank	2.08%	19.55	0.2172	0.5965	24.22
KCFI Bank Uganda	3.08%	18.9	0.1914	0.472	26.655
NC Bank Uganda	4.44%	16.12	0.1697	1.58474	25.643
Orient bank	1.073%	21.5	0.2032	0.2159	22.785
Sianbic Bank Uganda Ltd	4.31%	18.5	0.1299	-0.1374	22.905
Tropic Bank	1.86%	23.2	0.163	0.8175	24.105
United Bank for Africa	6.70%	15.6	0.2395	-0.4884	22.283
Standard Chartered Bank	6.42%	18.5	0.1817	0.2274	26.129
Bank of Baroda	4.35%	15.2	0.1593	2.3649	24.849
Finance Trust Bank	1.28%	19	0.1033	0.5049	25.397

Source: Bank of Uganda (December 2015)

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