

Wide interest rate spreads, any hope for small economies? A look at Malawi

Byson Beracah Majanga

Faculty of Commerce, University of Malawi, The Polytechnic. Department of Accountancy

Abstract

The aim of this paper is to study the trend of interest rate spread in Malawi and establish if any association exists between economic growth (measured by real GDP) and the spreads. The study adds to the existing literature in that it analyses in detail the factors that cause wider interest rate spreads in Malawi and other developing countries, and provides suggestions on alternatives to adopt in order to narrow the spreads. The study further establishes a link between a country's economic growth and its real interest rate spread as provided by the commercial banks in Malawi. Using a correlation and regression analysis on data ranging from 2006 to 2014 derived from a sample of Malawian banks, the results suggest that in small economies, the banking sector's over reliance on interest income is significantly correlated with wide interest rate spreads and therefore if commercial banks come up with other revenue generation avenues, other than leaning wholly on interest revenue, the interest rate spread can be narrowed; and that the wider spreads so far recorded have a reasonable contribution to the malfunctioning economy. The study finds a strong relationship between inflation rate and interest rate spreads but fails to establish a strong and significant relationship between interest rate spread and GDP growth.

Key words: interest rate spread, inflation, banking sector, liquidity reserve requirement, GDP.

1. Introduction

Economic growth is a measure of output generated by an economy over a given period and countries that have registered high economic growth possess some features which are lacking in those countries struggling to register a positive economic growth. Unfortunately, foreign investors prefer stable and promising economies as a fertile ground for their investment while the poor economies watch investors packing to other countries. Studies have shown that political and macroeconomic stability, coupled with strong leadership and adoption of sound fiscal and monetary policies have achieved in attracting a substantial volume of foreign direct investments (FDI) in Africa (Basu & Strinivasan, 2002). Trade and investment are key to a country's economic performance and it is anticipated that for a country to grow economically, there must be set some deliberate conditions which will promote trade and investment to both locals and foreign investors. Unlike the public sector, which is concerned much with service provision, the private sector is the primary actor in trade and investment, and so the role of the government is to be found in creating an appropriate environment in which such private sector activities are effectively promoted. In underdeveloped countries, efficient and sustainable economic activities leading to the promotion of trade and investment are constrained by factors such as the underdeveloped legal systems; insufficient transportation infrastructure, energy systems, financial systems; as well as low technical levels of human resources. Policies that encourage production and exporting lead to good economic performance than those that encourage consumption and importation. Similarly, the financial system in a country is also expected to provide conditions which are conducive to production and exportation. It is expected that a good financial system should lead to an even distribution and flow of funds from where it is in excess (investors) to where it is in short supply (borrowers). A financial system must ensure that both the borrower and the lender benefit from the use of the funds and that no one party should excel at the expense of the other. To achieve this goal, the tradition conventional financial system compensates the investor with interest for the investments made and charges the borrower another interest for the use of the funds (whether the borrower benefits from the use of the funds or not). The finance systems simply avail the funds needed for production to producers and traders at the same time allowing some players in the economy an investing platform for their excess resources. This flow of funds however is at a cost in that the investor requires an interest for the investment and the borrower has to pay interest on the funds borrowed. The difference between these two interest rates, called the interest rate spread or IRS, in this paper, is said to have a great impact on the performance of an economy, that is, it affects the trade and investment activities in the country. This study intends to analyse the major factors that cause the IRS to grow wide in Malawi and how the IRS margin impacts the economic performance. To achieve this, the paper is divided into five sections. The next section lays out the existing literature on the IRS world over and its economic implications; followed by the section which explains the methodology and approach adopted in this study. The findings are then reported in the other section and finally a conclusion is drawn on the findings and recommendations are suggested.

2. Literature review

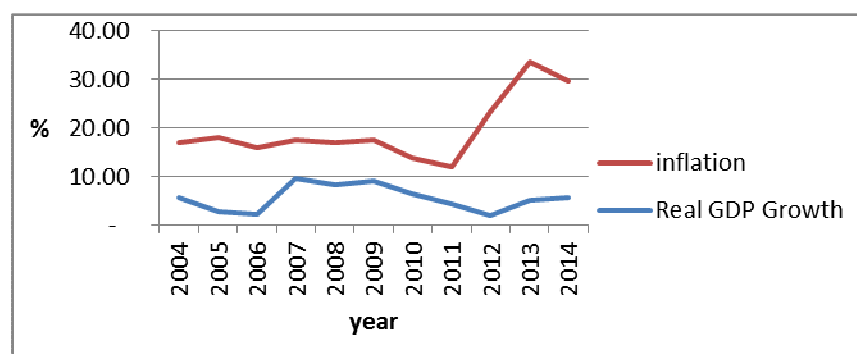
An interest rate spread (IRS), which is the difference between lending and deposit rates offered by a country's banking and financial sector (Mujeri & Younus, 2009), dictates the pace of private sector activeness and investment in an economy. A high IRS implies that banks are charging high interest on credit but offering low interest on deposits. The magnitude of the IRS has very significant implications on the national economy because according to researchers, it acts against stimulating private investment and this negatively impacts on the overall economic growth of a country (Mujeri & Younus, 2009 and Georgievska, et al, 2011). On the behavioral aspect, the increase in interest rate spread discourages savings and investments on the one hand, and raises concerns over the effectiveness of bank lending channel of monetary policy on the other (Khawaja & Din, 2007). Dotsey, 1998 established a positive correlation between interest rate spreads and real GDP and concluded that the spreads indicate whether future output growth will be strong or weak. This means that high interest rate spreads are a typical feature of struggling economies as argued by Jayaraman & Sharma, 2005. In trying to explain what influences the setting of bank interests, Gambacorta (2004) argues that banks set interest rates based on demand for deposits and credit, where he argues that a higher level of income among the investing population increases the demand for deposits and consequently reduces the incentive for banks to set higher deposit rates. This therefore means that if the income levels decrease, the deposits in the bank decrease and this may gradually take the banks into liquidity problems and to overcome this, they try to capture depositors by offering higher deposit rates to improve liquidity. This is supported by the findings of Acharya & Mora (2012) who studied the banks' behaviour in setting interest rates during 2007 to 2009 crisis and found that banks increased their deposit interest rates as their liquidity risks were increasing. Ojeaga, Ojeaga & Odejimi (2013) found, in their study, that interest rates were increasing the volume of bank deposits while income levels affected the deposit levels. In relation to the concept of demand and supply of deposits and credits, Khawaja & Din (2007) found that in Pakistan, the interest rate spread are mainly determined by the inelasticity of deposit supply resulting from limited saving options for depositors which arose from mergers in the banking industry. In addition to the demand for deposits with commercial banks, a survey conducted by the Bank of Zambia (2010) found that the common factors which all the commercial banks take into account in the determination of base lending rates are cost of funds, such as statutory reserve ratio; economic conditions like inflation; market conditions such as credit risk and demand and supply of credit; as well as political risks. A similar study conducted by Folawewo & Tennant (2008) on the factors determining the interest rate spread in the Sub Saharan Africa revealed that the important determinants are the extent of government crowding out in the banking sector, public sector deficits, discount rate, inflationary level, level of money supply, statutory reserve requirement, level of economic development, and population size. In an attempt to establish the factors leading to persistently high interest rate spreads in Tanzania, Mugizi, Ndashau and Aikaeli (2011) found, in a different survey, that the interest rate spread in Tanzania was strongly influenced by among others, net government borrowing from commercial banks, statutory minimum reserve requirement and discount rate. In a different study on causes of interest rate spread, Jayaraman & Sharma (2005) found that interest rate spread in Fiji are high resulting from high administrative costs, increase in provision for loan losses, and the bank's overdependence on loan interest income. Without ruling out the effects of bank size, credit risk and operating costs, Ngugi (2001); Mujeri & Younus (2009); Were & Wambua (2013); Ansari & Goyal (2014); Were & Wambua (2014) concluded in separate studies that the structure of the banking industry in developing economies, which is mostly an oligopolistic structure, significantly affects the interest rate spread. In their study, they found out that big banks, due to their higher liquidity ratios, have higher spreads unlike smaller banks. These findings agree with those of Beck & Hesse (2006) who in their study found that bank-level characteristics, such as bank size, operating costs, and composition of loan portfolio, explain a large proportion of cross-bank, cross-time variation in spreads and margins in Uganda and that banks targeting the low end of the market incur higher costs and therefore higher margins. Rebei (2014) and Kalua & Chirwa (2015) also concur with other researchers that high market concentration in the banking industry can facilitate collusive pricing outcomes with adverse impacts on the low-income and on important but low-return segments of the economy. This situation is common where a few large banks take a bigger market share in an economy as is the situation in most developing countries, including Malawi. On the contrary, a study by Ngari (2013) found that in Kenya, interest rates spreads are higher for larger banks than for medium and small banks possibly due to the fact that small and low-capitalized banks find it relatively difficult to raise funds and have to increase their deposit rates to attract funds and compensate for the perception that they are more risky relative to large, more liquid, well capitalized banks that are perceived to be too-big-to-fail. The findings of Ngari (2013) seem to have overlooked or entirely rejected the findings from a study conducted by Rashid (2011) who highlights the impact of large and foreign banks on the performance of smaller banks hence their interest rate spreads. Rashid (2011) argues that the increased foreign bank presence in developing countries is associated with increased reliance on non-deposit based funding among domestic banks, which leads to higher interest rate spreads, less credit to the private sector, and higher volatility in bank loans. Foreign bank entry reduces domestic banks' share of deposits thereby forcing domestic ones to rely on non-

deposit based funding which has a higher cost causing them to reduce their lending activities. In developing economies such as Malawi, the IRS is extremely high and this is attributed to the factors highlighted in the report by Bank of Zambia (2010) and other factors such as operating costs of banks, absence of competition in the banking system and high inflation rates. The statutory reserve ratio is a country's central bank regulation setting the minimum portion of a bank customer deposits to be held as reserves and not to be lent out as loans. A study by Glocker & Towbin (2011) on macroeconomic effects of the statutory reserve requirements in Brazil found that a discretionary increase in reserve requirements leads to an exchange rate depreciation and an improvement in the trade balance, and that the reserve requirement increases are a way to reduce credit growth without appreciating the exchange rate. This means that when central banks increase the reserve requirements, the commercial banks will have little funds to lend out as loans to borrowers and therefore the funds may be lent out at a high interest rate to the borrower. On the other hand, a decrease in the reserve requirement avails the banks with more funds which they can lend out leading to more supply of credit hence low interest rates to the borrower. In supporting this argument by Glocker & Towbin (2011), it is argued that the quantity of excess reserves vary inversely with interest rates since the reserves do not pay any interest and therefore the opportunity cost of holding these reserves is borne by the borrowers (Reid, 2011), and long before, a number of banking studies found that reserve ratios are correlated with interest rates, the relationship which became the centerpiece of theoretical and econometric models of the financial sector linking the supply of money to market developments (Cagan, 1969)

2.1. The Malawi Economy

Economic growth of any country (which can be stated as the increase in the Gross Domestic Product (GDP) of the country) reflects its capacity to increase production of goods and services. Malawi is one of the world's poorest countries, with an estimated GDP of \$1.75 billion and a per capita GDP of \$220. The country's economy is predominantly dependent on subsistence farming, with 75 per cent of the population living in the rural areas. Since 1980, the urban population has been growing at an average annual rate of 5.2 per cent, thereby increasing the urban population from 9 per cent of the total population in 1980 to 15 per cent in 2003. (Mbekeani, 2013). According to UNDP and UNCDF (2007), the Malawi financial sector is narrowed, with basic and unsophisticated financial services, and not enough to support the development of a dynamic private sector. The market is dominated by few large banks and other small ones. Malawi has been one of the countries in the Sub Saharan Africa registering stunted economic growth (measured by real GDP), and increasing inflation rates as shown in the figure below:

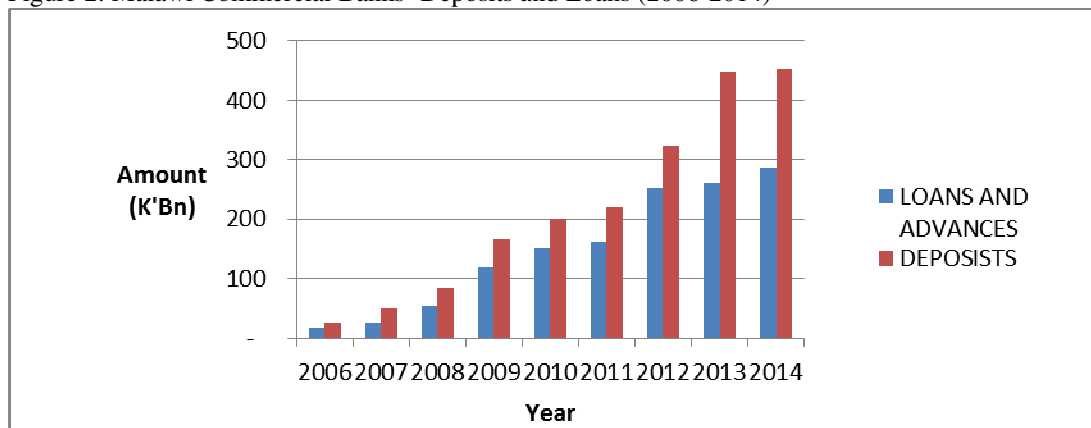
Figure 1: Malawi Inflation and GDP Growth rates (2004-2014)



Source: IMF

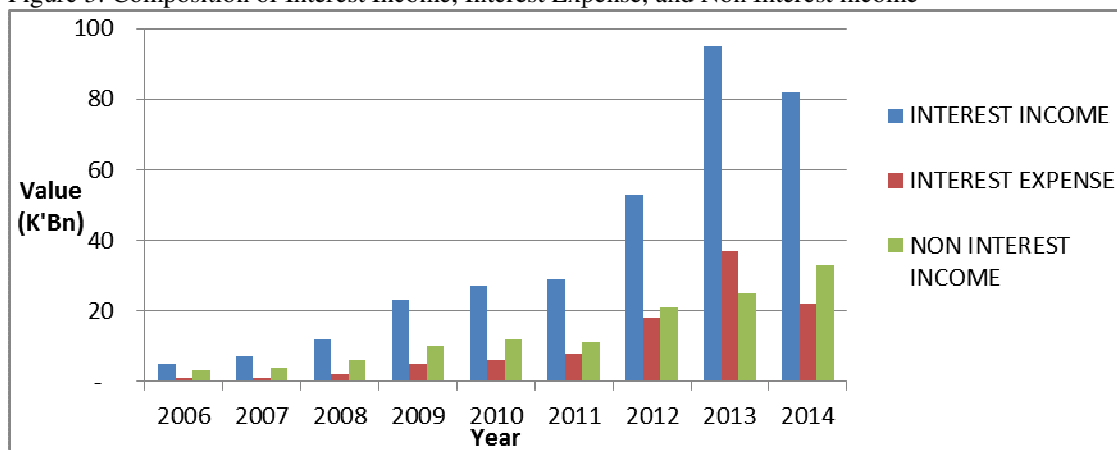
On the financial sector, interest rates on commercial loans in Malawi are far higher than in other countries in the Southern African Development Community region. Estimates range from 20–40%, and these rates are simply too high for the majority of Malawians. This becomes a major obstacle in accessing finance in Malawi. Other studies indicate that the financial sector was liberalized from 1994 and saw the annual inflation rate shooting to a record of over 60% in 1995 countered by a bank rate of 50%. The inflation rate was brought down between 2007 and 2011 at the back of some success with subsidy backed food production. After that it rose to an average over 25% in 2013. (Kalua & Chirwa, 2015). Official statistics show that the customer deposits in the commercial banks still outgrow the credits obtained by lenders from the same, however, the banks' interest income from credit grows at an increasing rate far above the interest expenses they incur in compensating investors or depositors. See figures below:

Figure 2: Malawi Commercial Banks' Deposits and Loans (2006-2014)



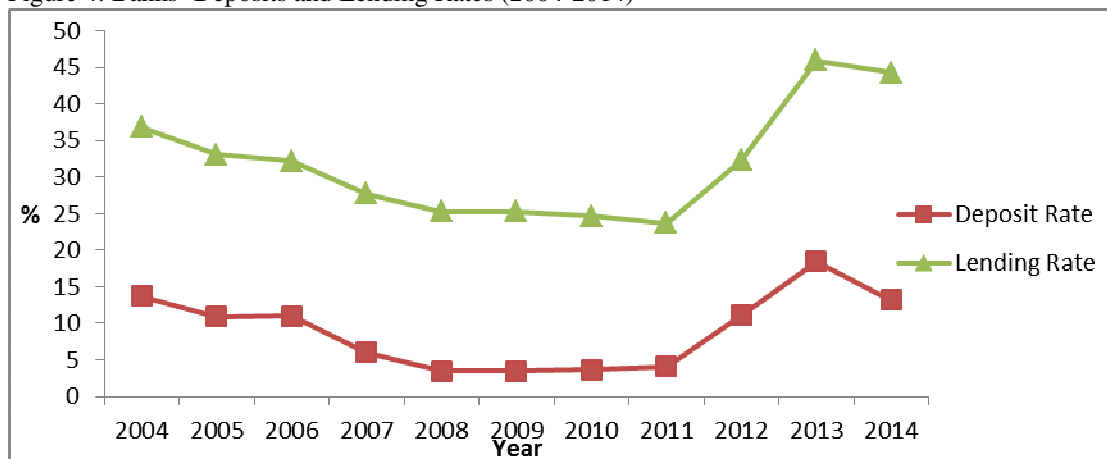
Source: Primary

Figure 3: Composition of Interest Income, Interest Expense, and Non Interest income



Source: Primary

Figure 4: Banks' Deposits and Lending Rates (2004-2014)



Source: IMF

These factors, in addition to corruption and fiscal mismanagement make Malawi score poorly on the international indices for economic success. Index of Economic Freedom (2015),

3. Methodology

The above explanations about the interest rate spreads indicate that the spreads are an outcome of a number of factors. This paper recognises the importance of general factors such as liquidity reserve ratio, inflation rate, cost

of nonperforming loans, corporation taxes, absence of a competitive environment, absence of risk management systems, internal inefficiencies, and overdependence on interest income by banks, just to mention a few. These factors were grouped into three main variables of IRS namely, bank specific variables (BSV), bank industry variables (BIV), and regulatory and macroeconomic variables (RMV) (Mujeri & Younus, 2009). The model therefore for IRS at a particular time t, can be said as a model below:

$$IRS_t = f(BSV_t, BIV, RMV, Constant)$$

Since all commercial banks in Malawi operate in an oligopolistic situation, (few large banks leading the market), the paper considers that the effect of bank specific variables (BIV) is not a significant factor affecting IRS in Malawi. The Bank Industry variables (BIV) and the Regulatory and macroeconomic variables (RMV) are considered to significantly affect the IRS in Malawi. One of the most significant bank industry variable considered in this study is the dependence on interest income as the main source of bank's net operating income. This variable is measured by interest Margin (IM) which is computed as:

$$IM = \frac{\text{Interest Income}}{\text{Total Income}} \times 100\%$$

The higher the IM, the more the banks' dependence on interest income than on other noninterest incomes, such as fees and commissions, hence, the higher the IRS. The study has further narrowed the RMV considering the fact that they apply to the entire banking sector, by isolating inflation (INF) as a key variable. The model in this study has been simplified to be

$$IRS = f(IM, INF, Constant)$$

The study analysed secondary data from a sample of ten privately owned Malawi commercial banks for the years 2006 to 2014. The IRS data was derived as the difference between the bank's lending interest rate and deposit interest rate obtained from International Monetary Fund (IMF) reports, so too the Inflation rates and Real GDP growth rates. (IRS can be computed using other methods as explained by Mujeri & Younus, 2009). The interest margins were obtained from the analysis of the banks' annual reports using the formula stated above. In order to establish the relation between variables, correlation and regression analyses were run, and below is the analysis of the findings.

4. Analysis of results

Firstly, a descriptive statistic of all the variables of IRS, GDP growth, Inflation and Interest Margin are presented below which show mean values of 22.947, 5.509, 11.471, and 1.793 respectively; and standard deviation values of 3.371, 2.676, 7.359 and 5.948 respectively.

Table 1: Descriptive statistics

	Max	Min	Mean	Std Error	Std Dev.	Kurtosis	Skewness
GDP	9.500	1.500	5.509	0.807	2.676	-1.153	0.101
INF	28.315	7.41	11.471	2.219	7.359	-0.397	0.955
IM	83.21	63.37	71.294	1.793	5.948	0.124	0.619
IRS	31.12	19.64	22.947	1.017	3.371	3.048	1.875

The variables were then subjected to a correlation test to establish the existence, if any, of a relationship among them and assess the nature and strength of such a relation. The findings are shown in the table below:

Table 2: Correlation coefficients

	IRS	IM	INF	GDP
IRS	1.000	0.141	0.752	0.047
IM	0.141	1.000	0.421	-0.400
INF	0.752	0.421	1.000	-0.456
GDP	0.047	-0.400	-0.456	1.000

The coefficients of correlation above reveal that IRS is positively correlated with inflation and interest margin and very weakly with GDP

The IRS, INF, and IM relationship was further tested using a regression model where IRS was an independent variable and the others were explanatory variables as shown in table 3 below. The R and the R-square given in the above regression summary table are coefficient of correlation, and coefficient of determination respectively. The value of R shown in the model summary table suggests that 0.875 or 88% correlation exists between dependent variable (IRS) and the independent variables (GDP, INF and IM); and the value of R square is 0.765 or 77% which shows that 77% variation in IRS is a result the independent variables, that is, R square shows 77% explanatory power of independent variables. The value of adjusted R-square which is 0.664 or 66% also shows the explanatory power of these variables in determining the IRR after taking residual and error terms.

The results from the correlation analysis in table 2, and the regression analysis in table 3 suggest that there is a relationship between IRS and INF, IM and to some extent GDP growth.

Table 3: Regression statistic (5% significance level)

	Coefficient	Std Error	t-value	P>t	95% conf. interval
Intercept	17.135	8.771	1.953	0.092	-3.606 – 37.876
GDP	0.587	0.269	2.187	0.065	-0.048 – 1.222
INF	0.461	0.099	4.669	0.002	-0.227 – 0.694
IM	-0.054	0.119	-0.459	0.659	-0.335 – 0.226
F-Statistic = 7.587		Multiple R = 0.875			
R-Square = 0.765		Adjusted R-Square = 0.664			

The above findings in this study agree with those of Gertler, Hubbard & Kashyap (1990); Chirwa & Mlachila (2004); Bech & Hesse (2006) and Georgievska, et al (2011).

5. Summary and recommendations

The importance of the banking sector as financial intermediaries cannot be overemphasised as they help to avail finances to those that need it, an exercise that would be selective and biased, if not inefficient, in their absence. Banking activities promote economic activities in both developed and developing economies because they

provide a platform for investment and acquisition of long term finance for business operations. The disparity between the deposit and borrowing interest rates has however, suffocated many business activities as operators in the economy either get discouraged to invest, due to low interest rates; or fail to acquire the necessary funds required for their level of operations, due to high borrowing rates offered by the banks. This is a common feature in the developing economies. Developing economies are associated with high, inconsistent and unpredictable inflation rates which obscure the business environment including the banking environment which values the time value of money concept in determining their return on investments. This aside, the study has just shown that if banks create other ways of making income, such as providing other services (in addition to lending out funds), they would increase their income base rather than narrowing it to interest charged on loans and advances to customers. Cognisant of the other important factors affecting the interest rate spreads, the study recommends that banks should explore other forms of trade within their sector which should be properly marketed in order to expand their income base. This according to the findings would narrow the interest rate spread and consequently increase economic activity among economic players as funds would be easily accessible and affordable. The macroeconomic regulators, on a similar note, should ensure proper policies are devised and implemented in an attempt to control the consumption and expenditure levels which influence inflation in an economy. As the study has revealed, high inflation breeds high interest rate spreads due to the uncertainty which comes along with an inflationary environment.

6. References

Acharya, V & Mora, N (2012) *Are Banks Passive Liquidity Backstops? Deposit Rates and Flows During the 2007- 2009 Crisis*. Federal Reserve Bank of Kansas City.

Ansari, J & Goyal, A (2014) *Banks Competition, Managerial Efficiency and the Interest Rate Pass-through in India*. Indira Gandhi Institute of Development Research. Working Paper – 2014-007.

Bank of Zambia (2010) *Survey On How Commercial Banks Determine Lending Interest rates in Zambia*.

Basu, A & Strinivasan, K (2002) *Foreign Direct Investment in Africa-Some Case Studies*. IMF Working Paper, WP/02/61.

Beck, T & Hesse, H (2006) *Bank Efficiency, Ownership and Market Structure. Why Are Interest Spreads So High in Uganda?* World Bank Policy Research Working Paper 4027.

Cagan, P (1969) *Interest Rates and Bank Reserves—A Reinterpretation of the Statistical Association*. Essays on Interest Rates Vol 1. National Bureau of Economic Research.

Chirwa, E & Mlachila, M (2004) *Financial Reforms and Interest Rate Spreads in the Commercial Banking System in Malawi*. IMF Staff Papers. Vol 51, No 1.

Dotesy, M (1998) *The Predictive Content of the Interest Rate Term Spread for Future Economic Growth*. Federal Reserve Bank of Richmond. Economic Quarterly, Vol 84/3 Summer 1998.

Folawewo, A & Tennant, D (2008) *Determinants of Interest Rate Spreads in Sub-Saharan African Countries: A Dynamic Panel Analysis*. 13th Annual African Econometrics Society Conference, 9 – 11 July, 2008, Pretoria, Republic of South Africa.

Gambacorta, L (2004) *How Do Banks Set Interest Rates?* National Bureau of Economic Research Working Papers, 10295, Cambridge.

Georgievskia, L., Kabashi, R., Trajkovska, N., Mitreska, A., and Vaskov, M (2011) *Determinants of Lending Interest Rates and Interest Rate Spreads*. Bank Of Greece. Special Conference Paper. ISSN: 1792-656

Gertler, M., Hubbard, R & Kashyap, A (1991) *Interest Rate Spreads, Credit Constraints, and Investment Fluctuations: An Empirical Investigation*. University of Chicago Press

Glocker, C & Towbin, P (2011) *The Macroeconomic Effects of Reserve Requirements*. Banque de France.

Jayaraman & Sharma (2005) *Why is Interest Rate Spread High in Fiji? Results from a Preliminary Study*. Fiji Institute of Applied Studies. Vol 1 No. 1

Kalua, B & Chirwa, G (2015) *Competition and Banking Industry in Malawi: to whom it may concern*. Unpublished.

Khawaji, I & Din, M (2007) *Determinants of Interest Spread in Pakistan*. PIDE Working Papers. 2007:22

Mbekeani, K (2013) *Malawi: Studies on Past Industrial Trade Reforms Experience and Economic Implications*. Found on http://www.unctad.info/upload/TAB/docs/TechCooperation/malawi_study.pdf.

Mugizi, F., Ndashau, M and Aikaeli, J (2011) *Determinants of Interest Rate Spreads in Developing Countries: Evidence on Tanzania, 1991 – 2009* Working Pare series. No 02/11. www.economics.udsm.ac.tz/research/

Mujeri, M & Younus, S (2009) *An Analysis of Interest Rate Spread in the Banking Sector in Bangladesh*. The Bangladesh Development Studies. Vol XXXII, No 4.

Ngari, B (2013) *The Relationship Between Interest Rates Spread and The Financial Performance of Commercial Banks in Kenya*. Masters' Degree Thesis, University of Nairobi.

Ngugi, R (2001) *An empirical analysis of interest rate spread in Kenya*. African Economic Research Consortium, Nairobi. Paper 106.

Ojeaga, P., Ojeaga, D and Odejimi, D (2013) *The Impact of Interest Rate on Bank Deposits Evidence from the Nigerian Banking Sector*. Munich Personal RePEc Archive. Paper No. 53238.

Rashid, H (2011) *Credit to Private Sector, Interest Spread and Volatility in Credit-Flows: Do Bank Ownership and Deposits Matter?* DESA Working Paper No 105.

Rebei, N (2014) *Determinants of Interest Rate Spreads in Solomon Islands*. IMF Working Paper. WP/14/105.

Reid, K (2011) *Excess reserves in Jamaican Commercial Banks: The implications for Monetary Policy*. Bank of Jamaica

UNDP and UNCDF (2007) *Building an Inclusive Financial Sector in Malawi (FIMA) 2007 – 2011*, Project Document May 2007.

Were, M & Wambua, J (2013) *Assessing the determinants of interest rate spread of commercial banks in Kenya: An empirical investigation*. KBA Centre for Research on Financial and Policy. Working Paper series.

Were, M & Wambua, J (2014) *What factors drive interest rate spread of commercial banks? Empirical evidence from Kenya*. Review of Development Finance 4 (2014) 73-82.

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