JOURNAL OF DEVELOPMENT ECONOMICS AND FINANCE
Vol. 7, No. 1, 2026, pp. 159-181
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URL : www.arfjournals.com
https://DOI:10.47509/JDEF.2026.v07i01.08

Quantifying the Contributions of Bank Deposits to the Growth of Banks in Cameroon

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Article History

Received: 19 May 2026

Revised: 20 June 2026

Accepted: 29 June 2026

Published: 20 July 2026

To cite this article

Achamoh Victalice Ngimanang (2026). Quantifying the Contributions of Bank Deposites to the Growth of Banks in Cameroon. *Journal of Development Economics and Finance,* Vol. 7, No. 1, pp. 159-181.

Abstract: This paper has as objective to empirically investigate the contribution of bank deposits on the growth of total banks' assets in Cameroon. The study was motivated by the fact that, bank assets played a mighty role in the economy, but recent study have almost neglected it. To address this situation, after exploring related theoretical and empirical literature, time series data collected mainly from WDI and IFS from 1998 to 2023 were used. Multivariate causal research design was adopted. Ordinary least square technique was used to estimate the parameters of the model after verifying its pre-tests. The model was found to be in correct functional form after diagnosing the residual for heteroscedasticity, autocorrelation and the normality. The regression model was globally significant at 1% and satisfactorily adequate with all the independent variables accounting for 94.4 percent of the changes in growth of banks. After controlling for a good number of other macroeconomic variables, all the three components of bank deposits positively influence the growth of banks as expected. The effect of demand deposits was positive but insignificant, the effect of saving deposits was significantly positive and that of time deposits was also positive and highly significant. Growth of bank can therefore be accelerated by efficiently attracting more of long-term deposits, saving deposits and demand deposit in that order.

Keywords: Bank deposits, growth of banks, Cameroon

INTRODUCTION

The practice of deposit mobilization has undergone significant transformations over time. In the early 20th century, the establishment of institutions like the Federal

Deposit Insurance Corporation (FDIC) in the United States in 1933 provided a safety net for depositors, thereby enhancing public confidence in the banking system. (Kasin & Mekonnen, 2022). Such regulatory frameworks have been instrumental in promoting deposit growth and, by extension, the expansion of banking institution. Several factors influence the growth of bank deposits. These include macroeconomic indicators such as interest rates and inflation, as well as bank-specific variables like profitability, liquidity, and capital adequacy. For instance, a study on commercial banks in Ethiopia found that profitability positively affects deposit mobilization, as higher returns signal financial stability to potential depositors. Conversely, excessive lending relative to deposits can lead to liquidity constraints, deterring depositors due to perceived financial instability. (Dongol, 2024)

The relationship between bank deposits and economic growth is well-documented. In developing economies like Cameroon, the banking sector plays a pivotal role in financial inclusion and economic development. Despite challenges such as financial repression and limited access to banking services in rural areas, the sector has shown resilience and growth, contributing significantly to the country's GDP. (Jacob *et al*., 2019). Advancements in technology have transformed the landscape of deposit mobilization. The advent of mobile banking and digital financial services has expanded access to banking, particularly in underserved regions. These technological innovations have not only facilitated the growth of deposits but have also introduced new dynamics in customer behavior and expectations, thereby influencing the strategies employed by banks to attract and retain depositors. (Market Watch *et at*.,2024)

Theories of financial intermediation, such as the Modigliani-Miller theorem and the pecking order theory, provide frameworks for understanding the role of deposits in bank growth. These theories suggest that banks' capital structures and funding sources are influenced by factors like market conditions and regulatory environments. In the context of deposit mobilization, these theories underscore the importance of maintaining an optimal balance between deposits and other funding sources to ensure financial stability and growth.

Bank deposits serve as a fundamental component of the banking industry worldwide. In Cameroon, like in many developing economies, deposits not only form the primary source of banks' operational funds but also play a crucial role in determining the scale and scope of financial services. The growth of Cameroonian

banks over the past few decades has been significantly shaped by trends in customer deposits. This paper explores how bank deposits have contributed to the expansion of banks in Cameroon, focusing on financial intermediation, investment capacity, customer outreach, and macroeconomic stability Bank deposits comprising savings, fixed, and demand deposits constitute the largest portion of liabilities for most Cameroonian banks. These deposits provide the capital that banks use to issue loans, invest in government securities, and fund development projects. The ability of a bank to mobilize large and stable deposits often determines its lending power and, by extension, its profitability and growth.

Teutio (2021) In Cameroon, the expansion of deposit accounts over the past decade has improved banks' liquidity positions, enabling them to scale up their lending portfolios. For instance, banks like Afriland First Bank and Société Générale Cameroun have seen increases in customer deposits, which have been reinvested into key sectors such as agriculture, real estate, and small- and medium-sized enterprises (SMEs). This has had a ripple effect, creating more opportunities for economic engagement and increasing the overall relevance of banks in the national economy. In the banking sector, deposits constitute a fundamental source of funding and are critical to the operational and financial growth of banks. However, the relationship between deposit levels and bank growth measured in terms of profitability, asset expansion, and financial stability remains complex and influenced by various internal and external factors. Despite the acknowledged importance of deposits, there is limited empirical research that systematically examines how fluctuations in deposit volumes directly impact bank growth metrics. This research aims to investigate the extent to which customer deposits contribute to the growth of banks, identify the underlying mechanisms, and explore whether higher deposit levels always translate into enhanced financial performance and expansion. Specific research questions are:

- How does demand deposit affect the growth of banks?
- What is the effect of saving deposit on the growth banks?
- Does term deposit matter for the growth of banks?

To achieve these objectives, the rest of the sections are structured as follows; Section two discusses the literature review and theoretical framework. Section three describes data and econometric techniques used in investigating the short and long-run relationships between the variables. The empirical results are presented

in section four while section five focuses on the conclusion and policy implications emanating from the study.

2. LITERATURE REVIEW

2.1. Theoretical Review

Financial Intermediation Theory developed by Gurley and Shaw in 1960, explains the role of financial institutions especially banks in transferring funds from surplus units (savers) to deficit units (borrowers). It emphasizes the importance of financial intermediaries in reducing transaction costs and addressing information asymmetries in the lending process. This theory assumes that; There is an imperfect market with asymmetric information between savers and borrowers. Savers prefer safety and liquidity. Banks possess expertise to evaluate, monitor, and manage credit risks.

Banks collect deposits from individuals and entities and reallocate these funds to borrowers who need capital for investment. This activity not only supports the flow of money in the economy but also generates income for the banks through the interest rate spread (difference between interest paid on deposits and earned on loans). As such having the following limitation. It does not fully account for non-bank financial institutions or digital platforms. Assumes banks always act rationally and efficiently. Ignores the growing importance of capital markets in financial intermediation. Though having these limitations, the theory is very relevant to this study in that it directly supports the idea that banks need deposits to perform their intermediary role effectively. An increase in deposits enhances the bank's lending ability, thereby promoting bank growth.

Liquidity Preference Theory was developed by John Maynard Keynes (1936) and posits that individuals and institutions prefer to hold their wealth in liquid form (i.e., money) for transaction, precautionary, and speculative purposes. It suggests that interest rates adjust to balance the supply and demand for money. It assumes that; People demand liquidity primarily for transaction, precautionary, and speculative reasons. Interest rate is the reward for parting with liquidity. Money is the most liquid asset, and deposits are a close proxy. Depositors choose to place their money in banks because it provides them with liquidity, security, and potential earnings. Banks, in turn, manage this liquidity to meet withdrawal demands and also allocate funds to income-generating uses like lending. The size and stability

of deposits affect a bank's liquidity position and operational stability. As such the following limitations; It places excessive emphasis on interest rates, ignoring other factors like trust and convenience. Less applicable in near-zero or negative interest environments. Does not fully consider the role of financial innovation and digital banking. However, the theory supports the importance of a strong deposit base in maintaining liquidity. Proper liquidity management made possible through deposits can enable banks to operate efficiently and grow sustainably.

Modern Portfolio Theory (MPT) established by Harry Markowitz (1952) argues that investors (including banks) can maximize expected returns for a given level of risk by diversifying their asset portfolios. Risk is considered in terms of variance or standard deviation of returns. And it assumes that; Investors are rational and risk-averse. Risk and return can be quantified and managed through diversification. Assets are normally distributed and their performance can be predicted from historical data. Banks however use the deposits they collect to construct diversified portfolios of loans and investments. A stable and predictable deposit base allows banks to diversify their portfolios effectively, thus managing risk and enhancing profitability. As such having the following limitations; Assumes efficient markets and rational behavior. Doesn't fully account for systemic risks or behavioral finance factors. Requires reliable historical data, which may not always predict future performance. The theory however supports the idea that deposit mobilization contributes to growth by enabling banks to spread risk and optimize returns through diversified portfolios of assets.

2.2. Empirical Review

The empirical review presents a synthesis of scholarly works that have examined the relationship between bank deposits and bank growth. It evaluates studies across different contexts and methodologies to inform the current research and identify knowledge gaps.

Al-Jarrah and Malkawi (2014) carried out a study titled Deposits and Bank Performance: Evidence from Jordanian Commercial Banks. The study was to assess the relationship between deposit mobilization and bank financial performance. They used a panel data approach covering 13 commercial banks in Jordan from 2000 to 2012. The study employed regression analysis using ROA (Return on Assets) and ROE (Return on Equity) as performance indicators. The study reviled that there

was a significant positive relationship between total deposits and both ROA and ROE. The study concluded that deposit mobilization significantly enhances a bank's growth and profitability. This study supports the current research by empirically confirming that deposit levels are a major determinant of bank expansion and financial strength.

Olokoyo (2012) carried out a study on the Determinants of Commercial Banks' Lending Behavior in Nigeria this was to analyze how deposits affect lending behavior, which is a core component of bank growth. However he used time series data from 1980 to 2005 and an error correction model. However the study showed that deposits were found to be a major driver of loan growth, which in turn significantly contributed to bank growth. The study also highlighted the importance of macroeconomic stability in supporting deposit mobilization. It shows that in a developing economy like Nigeria, bank deposits provide the necessary liquidity for credit creation, which stimulates bank growth and financial development.

Asamoah (2008) conducted a study titled The Impact of Bank Credit on Economic Growth in Ghana. The objective of study was to show that While the primary focus was on credit, the study included deposit mobilization as a key variable. The study made use of Time series econometric modeling covering data from 1975 to 2006. And it reviled that high deposit levels led to increased credit extension, which positively influenced both bank performance and the broader economy. Demonstrates the centrality of deposit mobilization in building a bank's capacity to support growth through lending and investment.

The relationship between deposits and the growth of banks has been explored in several studies across different regions and banking environments. However, despite the growing body of literature, some notable gaps remain that this study seeks to address. A major gap in the existing literature is the tendency of scholars to focus more on how deposits affect profitability indicators such as Return on Assets (ROA) and Return on Equity (ROE), rather than examining how deposits influence overall bank growth. While profitability is a key component of bank performance, it does not fully capture aspects such as asset base expansion, customer acquisition, branch network growth, market share, and financial resilience. Studies like those of Mushtaq and Siddiqui (2017) and Al-Jarrah and Malkawi (2014) found strong links between deposits and profitability but did not go beyond that to assess how deposits contribute to broader institutional development. This limited focus leaves

a gap in understanding the full role that deposits play in shaping the long-term growth trajectory of banks.

3. METHODOLOGY

3.1. Research Design

This study employs a quantitative research design with a correlational approach to determine the relationship between bank deposits and bank growth. The design is suitable for examining numerical data obtained from published financial reports, and for identifying statistical relationships between variables.

3.2. Data source

The study uses purely secondary data, which are historical and already published. The data were sourced from the following: Annual financial statements and reports of selected banks (e.g., Balance Sheet and Profit & Loss Accounts), Central Bank publications Reports **from regulatory** bodies such as the Bankers' Committee, Financial Stability Reports, and deposit insurance corporations, Published research articles, journals, and books, Websites of the banks and financial institutions, World Bank and IMF financial sector databases 2024.

3.3. Method of Data Analysis

Data were analyzed using quantitative techniques, including. Descriptive statistics. mean, standard deviation, minimum, and maximum values. Trend analysis. to observe the movement of deposits and growth indicators over time**.** Correlation analysis. To determine the strength and direction of the relationship between deposits and bank growth. Regression analysis. To estimate the effect of deposits on growth indicators such as total assets, revenue, or net profit The statistical analysis was conducted using specify software like SPSS, STATA.

3.4. Model specification

To empirically model the determinants of bank growth in Cameroon, the following functional model is used

$$GB_t = F(BD_t, C_t) \quad (1)$$

Where:

GB_t is Growth of bank measured in terms of total assets to GDP ratio in the economy

BD_t is the bank deposits taken as DD, SD and TD
C_t is the set of controlled variables

3.5. Specification of the econometric model for the Growth of banks

To empirical investigate the relationships between Growth of banks and the three components of bank deposits used in the study (demand deposit, saving deposit and time deposits), time series data are compiled from World Development Indicators CD-ROM (2024), the International Financial Statistics- IFS CD-ROM (2024), and Statistics from the National Institute of Statistics (NIS) in Yaounde. The following multivariate regression equation is specified:

$$Log(GB)_t = b_0 + b_1 Log(DD)_t + b_{2l} Log(SD)_t + b_3 Log(TD)_t + b_4 (PopG)_t + b_5 Log(GOV)_t + b_6 Log(INV)_t + b_7 Log(REM)_t + b_8 Log(OP)_t + b_8 (MEI)_t + e_t \quad (4.7)$$

Where;
$LogGB_t$ is the Log of total bank assets used as a posit for Growth of banks in the economy
LogDD is the Log of Demand deposits
LogSD is the Log of Saving deposits
LogTD is the Log of Time deposits
PopG is the population growth rate
LogGOV is the Log of size of the government
LogINV is the Log of investment rate
logREM is the Log of remittance as a ratio of GDP
logOP is the Log of the degree of openness as a ratio of GDP
MEI is the variable for macroeconomic instability taken as inflation rate
b_s are the coefficients to estimate
e_t is the error term

Variables Description

Dependent variable
Growth of Banks (GB)
Growth of banks refers to the overall performance of the bank as reflected by return to asset, return to equity, total asset of the bank and growth in the total number of banks and branches. The opening of new bank branches would encourage

the inhabitants to transform part of their wealth from other forms of assets into commercial bank deposits (Ddumba 1996) and is therefore likely to be influenced by aggregate bank deposits (BD_t) and its various components (DD_t, SD_t and TD_t).

Independent variables

Demand deposits (DD_t)

Demand deposits reflect clients working balances and are thus transaction oriented. A demand deposits account in the strict sense means that the customer can withdraw the money on demand i.e. without giving any notice of intention to withdraw (Lipsey & Steiner, 1981). Demand deposits are the most liquid and constitute a medium of exchange. They are held largely to satisfy the liquidity motive of the bank and to facilitate payment. Generally, current account deposits earn very low or no interest at all and are expected to have a positive effect on the growth of banks in Cameroon.

Savings account deposits (SD_t)

Saving deposits generally reflect small-scale private saving at rate between the demand deposits and time deposits rates (Vogel et al 1987). The average account size of saving deposits varies inversely with the operating cost per given amount of deposits. It is less liquid than demand deposits and constitutes a relatively more stable form of funding from the public. Banks have some minimum direct control over saving deposits. Saving deposits earn certain minimum rate of interest, to compensate the account owners for the short period they are being deprived of their financial resources (Abdul & Bhole, 2002). Saving deposit is expected to have a positive effect on the growth of banks in the present study.

Time deposits (TD_t)

Time deposits is an interest-bearing liability that is legally withdrawable only after a certain amount of notice, such as 30 days for a pass book account, and up to six months on certificate of deposits in general. Customers of this deposits account are issued a certificate of deposits (CDs). Fixed term deposits are the most illiquid liabilities of commercial bank. As such, they constitute a source of more stable investment funds for commercial banks. Time deposit has relatively the highest rate of interest as a reward for parting with customers' financial resources for the long duration. Time deposit is therefore hypothesized to have a positive effect on the growth of banks in Cameroon.

Control variables

GDP growth (GDP)

The growth of real GDP of a country apart from increasing the transaction demand for money will also increase the savings of the community (Abdul & Bhole, 2002). As income increases, savings of the community also increases and some of the saving is deposited with bank in current accounts for various transactions purposes. Therefore, an increase in the general level of country's income will stimulate the banking transaction and promote growth.

Population growth (PopG)

Population growth has to do with the change in the number of individuals over time. The change can be positive or negative. Positive growth is associated with an increase in the number of individuals. Population growth ha to do with a rise in country's population. Cameroon population has been growing steadily since independence to present days and a segment of this population constitute the bank customers. In this analogy, population is hypothesized to have a positive effect the growth of banks in Cameroon.

Level of public expenditure (GOV)

Public expenditure increases aggregate demand in the economy and its impact on real exchange rate does not only depend on its level but also on its distribution between tradable and non-tradable goods. Increase in government consumption is expected to enhance bank growth.

Investment (INV)

Both domestic and foreign capital inflow is an important source of external financing to a country which increases physical and bank deposits for recipient households. Developing countries witnessed constant influx of foreign capital mostly from developed nations, and this increased increases the rate of bank growth.

Remittances (REM)

Remittances are funds repatriated by migrant workers to family and friends back home which provide the most tangible link between migration and development. remittances are unilateral transfers from the population that has migrated to another

country. Giving that most of these transfers of funds officially passes through the banking systems, remittances is expected to enhance the growth of bank assets

Openness of the economy (OP)

Degree of Growth of banks of an economy considers the relation of an economy with the rest of the world and could be used to capture how trade restrictive policies influence the real exchange rate through their impact on the price of tradable goods. The openness variable is taken as the sum of imports and exports as a ratio of GDP (X+M)/GDP. Growth of banks is expected to have a positive effect on the bank growth in Cameroon.

Inflation rate (MEI_t)

Macroeconomic instability captured using inflation rate another variable which is likely to affect the level and nature of bank growth in an economy. High inflation rate reduces the level of saving in favour of inflationary hedges such as real estates and foreign exchange and then discourage productive investment (Ddumba, 1996). Rapid price increase may trigger the need to borrow because such price reduces the real value of disposable personal income and for the same reason reduces the amount of deposits that flow in to banks. We therefore posit a negative effect price on bank growth

Estimation procedure

The method of multiple regression is employed in estimating the Growth of banks equations. This method has gained increasing importance in analyses that describe equilibrium relationships. As a pretesting procedure, a correlation matrix and variance inflation factor shall be used to verify that the data are not prone to the problem of multicollinearity. To ascertain that the regression model *is correctly specified, the model residual is diagnosed for autocorrelation, heteroscedasticity and the normality*. Jarque-Bera test for normality of errors is used to check if the estimated error terms follow a normal distribution or not. The ARCH (Auto-regressive Conditional Heteroscedasticity) test for heteroscedasticity was used to ascertain the robustness of the regression result. The result is robust only when the error term exhibits the features of Homoscedastic indicating that the variances of the error term are constant over the observations. Then, Breusch-Godfrey Serial

Correlation LM Test for serial correlation of successive error terms is used to verify whether the values of the error term are the correlated over the period of study. If this happens, it means that the variance of the error terms is correlated and as such the inferences from the standard errors are likely to be misleading. As a rule of thumb, the regression is said to be in the correct functional form only if all these tests are insignificant (pv>0.05)

PRESENTATION AND DISCUSSION OF THE RESULTS

Descriptive Analysis

Before getting into the data analysis of the study, a prior statistical analysis relative to the sample of study needs be effectuated. Table 4.1 bellow, shows the descriptive statistics relative to the variables used for the sample used.

Table 1: Summary of Descriptive Statistics

	N	*Minimum*	*Maximum*	*Mean*	*Std. Deviation*
Bank asset to GDP ratio	26	2.28	3.11	2.6166	.30215
Banking network	26	6	15	11.54	2.437
LnDD	26	4.87	6.25	5.5728	.37000
LnSD	26	4.67	6.47	5.7650	.40837
LnTD	26	5.47	7.06	6.3714	.37471
Pop growth	26	2.63	3.14	2.7791	.12900
LnGOV	26	2.29	2.51	2.4301	.06475
LnINV	26	2.84	2.99	2.9261	.03899
LnREM	26	-2.02	.24	-.5952	.61806
LnOP	26	2.83	3.35	3.0980	.13188
LnMEI	26	4.32	4.95	4.6070	.17929
Valid N (listwise)	26				

Source: Author computation using data from WDI (2024)

From the above, the scale of the bank deposits' components was very large like many other variables control variables hence there was the need of logging most of these variables so as to reduce the scale. Therefore, the variable save was logged before running regression of our study so as to reduce the scale effect of the variable. Variable for the GDP growth was dropped from the analysis because of endogeneity problem it created

Trend Analysis

The evolution of the three variables used in this research report from 1998 to 2023 as per World Development indicator data base are summarized as follows:

Evolution of bank asset to GDP growth in Cameroon (1998 to 2023)

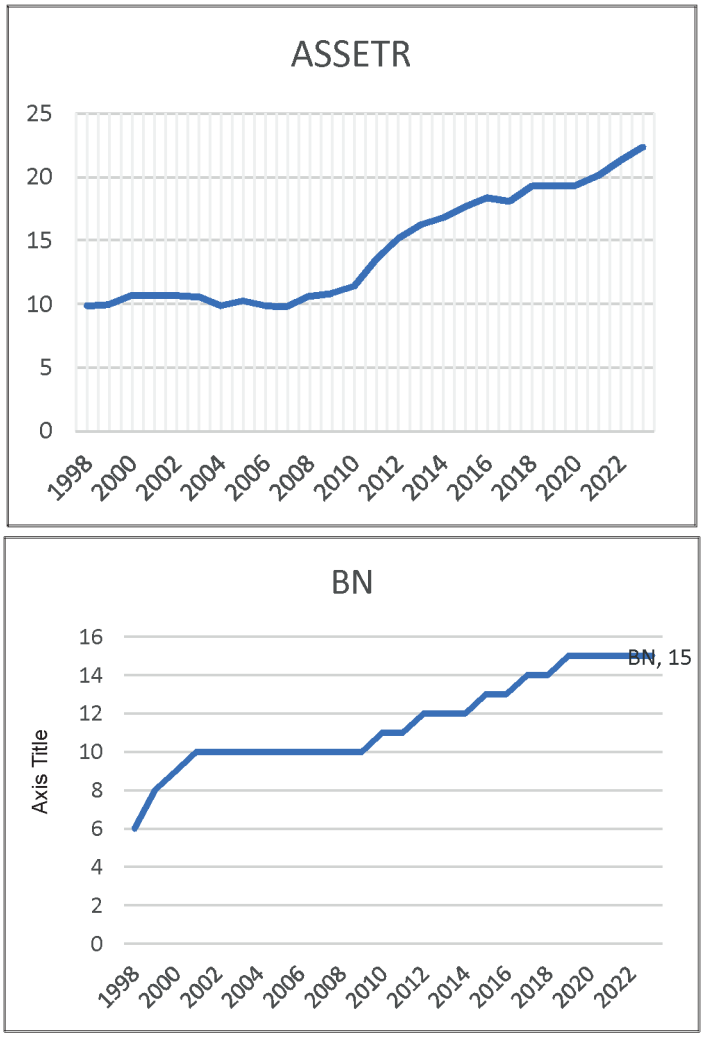

Figure 4.1: Trend analysis for trade openness

Source: Author computation

Figure 4.1. indicates that the **bank asset** as a ratio of GDP (ASSETR) which stable around 10 percent between 1998 and 2010 and been on a steady rise from the

2010 to 2023. A similar trend is observed for the number of commercial banks (BN) in the country.

Evolution of Demand Deposit in Cameroon (1992-2021)

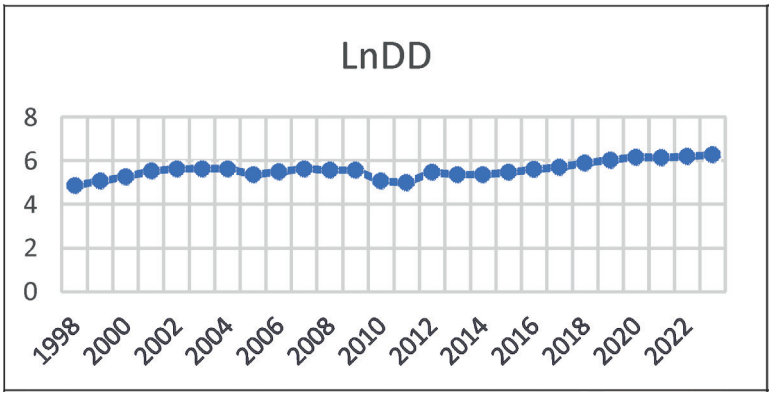

Figure 2: Trend analysis for demand deposit, saving deposit

Source: Author computation

The trend of current account deposit (demand deposit) in Cameroon is presented on Figure 2 shows that the variable has been slightly stable between 5 to 6 percent throughout the period of under study from 1998 to around 2023.

Evolution of saving account deposits (1998 – 2023)

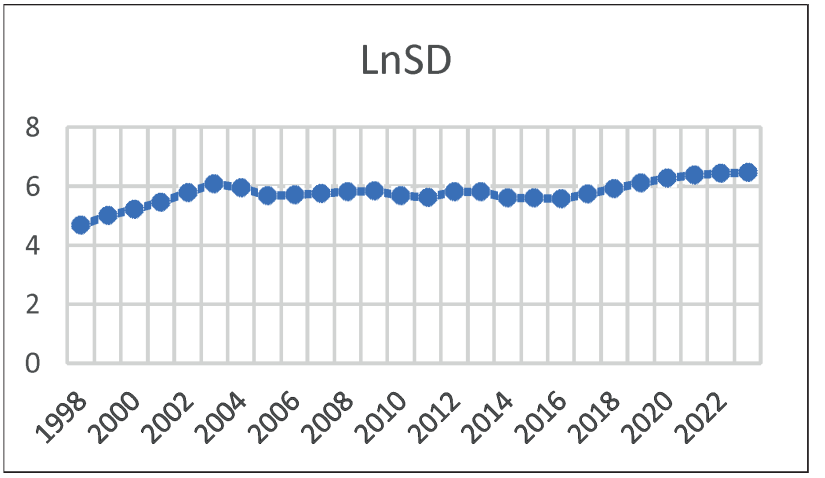

Figure 3: Trend of saving account deposit in Cameroon.

Source: Author computation

Figure 3 provide the graphical evolution of saving deposit in Cameroon from 1998 to 2023. The rate rises slightly from 1998 to 2003 and become stable from 2017 from where it witnessed steady rise up to 2023.

Evolution of time or long-term deposits (1998 – 2023)

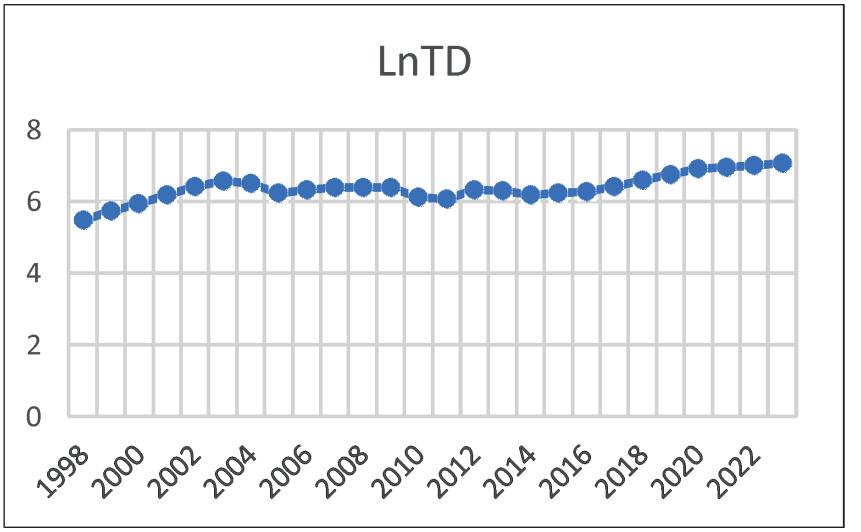

Figure 4.3: Trend of time deposit in Cameroon.

Source: Author computation

Figure 4.3 provide the graphical evolution of time deposit in Cameroon from 1998 to 2023. The rate rises slightly from 1998 to 2003 and become stable from 2015 from where it witnessed steady rise up to 2023.

Correlation Analysis

To have a previewed knowledge of the relationship between the variables, we constructed the correlation metric to show a preview of the trend of the relationship between the variables used. The results of the correlation metric are therefore presented on table 4.2 below. The pairwise correlations, as presented in Table 2, indicate the strength and direction of the linear relationships between the variables. According to Pallant (2016), correlation analysis is a useful technique for identifying the relationships between variables. The results show that log to demand deposit (LnDD) (r = 0.651) is positive and moderately correlated with total asset of banks used as the posit for bank growth. log to saving deposit (LnSD) (r = 0.576) is positive

and also moderately correlated with bank growth well as the log to time deposit (LnTD) (r = 0.730) is positive and strongly correlated with total asset of banks in Cameroon. All these indicates that bank deposit irrespect of the type are important stimulators of bank growth. The same analogy goes for the control variables..

Table 2: Pairwise Correlation Matrix

	LnASSET	*LnDD*	*LnSD*	*LnTD*	*PopG*	*LnGOV*	*LnINV*	*LnREM*	*LnOP*	*LnMEI*
LnASSET	1.000									
LnDD	.651	1.000								
LnSD	.576	.872	1.000							
LnTD	.730	.655	.678	1.000						
PopG	.187	-.196	-.080	-.137	1.000					
LnGOV	.542	.066	.123	.104	.450	1.000				
LnINV	.339	.257	.228	.248	.289	.142	1.000			
LnREM	.731	.636	.753	.727	.380	.244	.362	1.000		
LnOP	.433	.476	.300	.390	.289	.092	.135	.189	1.000	
LnMEI	.834	.693	.720	.734	.262	.417	.376	.878	.340	1.000

The correlation results presented in Table above, show that there exist both positive and negative relationships between the variables included in the study. This table shows both the relationship between the independent and the dependent variables and between the independent and independent variables. The correlation results could also be used as a prelude to investigate the presence of multicollinearity within the independent variables if the correlation coefficient is as large as 0.8 or more. it implies that there exists a weak correlation between the pair of variables and if the correlation coefficient is more than 0.8, it implies that there exists a strong correlation between the pair of variables.

Multicollinearity test

The VIF results, as presented in Table 3, provides a measure of the multicollinearity between the predictor variables. According to Pallant (2016), VIF values greater than 10 indicate high multicollinearity, while values between 5 and 10 indicate moderate multicollinearity.

The results show that the VIF values for all the predictor variables are less than 5, indicating low multicollinearity. The highest VIF value is for the log value of remittance (VIF = 4.566), which is slightly below 5 indicating low level of multicollinearity with other predictor variables. The mean VIF value of 2.865 is well

below the threshold of 5, indicating that multicollinearity is not a major concern in this model and this increases confidence in the results of the multiple linear regression analysis (Field, 2018).

Table 3: Coeficients of VIF

Varaiables	*Tolerance*	*VIF*
LnDD	.155	3.472
LnSD	.137	4.283
LnTD	.416	1.602
PopG	.349	2.867
LnGOV	.509	1.966
LnINV	.716	1.397
LnREM	.105	4.566
LnOP	.574	1.742
LnMEI	.127	3.890
Mean		2.865

REGRESSION ANALYSIS

The strength of multiple regression model of household savings in Cameroon was tested using Analysis of Variance (ANOVA) which summarizes the relationship between regression mean square and error mean square given F-statistical value of 53.19 with the p-value of <0.001 indicating the that the model is reported to very significant at 99% confidence level and 1% significant level.

Table 4: ANOVA of the regression

Model		*Sum of Squares*	*df*	*Mean Square*	*F*	*Sig.*
1	Regression	2.195	8	.274	53.190	.000[b]
	Residual	.088	17	.005		
	Total	2.282	25			
a. Dependent Variable: LnASSET						
b. Predictors: (Constant), LnMEI, PopG, LnINV, LnGOV, LnOP, LnSD, LnDD, LnTD, LnREM						

This implies that the model is significant in explaining the relationship between the bank growth and bank deposits. Therefore, the model is globally significant with all the exogenous variables included in the model capable of explaining over 94 percent of the variations in bank groath as shown by the adequacy test measured using R square ajusted (adjust coeficient of determination) as in ttable 4.4. The results indicate that the model is satisfactorily adequate.

Table 5: Model Summary

Model	*R*	*R Square*	*Adjusted R Square*	*Std. Error of the Estimate*	*Durbin-Watson*
1	.981[a]	.962	.944	.07182	1.57
a. Predictors: (Constant), LnSD, LnDD, LnTD, LnMEI, PopG, LnINV, LnGOV, LnOP, LnREM					
b. Dependent Variable: LnASSET					

The regression results are presented in Table 6. The coefficient, standard deviation, beta coefficient, t-statistics, P-values and confidence interval are presented in the respectively columns. The intercept (constant term) is the expected mean value of growth of the Bank when all independent variables are set to zero. Everything else constant, banks in Cameroon will make a negative Growth in the absence of bank deposits . Furthermore, the country will witness a significant Growth of the Bank when the Log of demand deposit , saving deposits and time deposits are held constant, as given by the significance of the t - statistic of 0.00% which is lower than the level of significance of 0.05.

Table 6 Regression coefficients

Model		*Unstandardized Coefficients*		*Standardized Coefficients*	*t*	*Sig.*
		B	*Std. Error*	*Beta*		
1	(Constant)	5.736	1.495		3.837	.001
	LnDD	.380	.317	.785	1.198	.256
	LnSD	.244	.099	.299	2.469	.024
	LnTD	.329	.095	.445	3.469	.003
	PopG	.367	.189	.157	1.946	.068
	LnGOV	1.146	.311	.246	3.685	.002
	LnINV	2.421	.840	.368	2.882	.010
	LnREM	.029	.072	.060	.408	.688
	LnOP	.082	.144	.036	.569	.576
	LnMEI	1.545	.225	.917	6.865	.000

a. Dependent Variable: LnASSET

Source: by author using Eviews 9

Log of demand deposit has a positive but insignificant effect on the growth of the Bank all other variables being constant. For each unit increase in the Log of demand deposit , growth of the Bank increases by over 38%. Inferring from the significance of the t statistic of 1.19 we will be taking a 25.6% risk in assuming that

the Log of demand deposit have a significant effect on Growth of the Bank which is greater than the level of significance of 5%. We therefore conclude that Log of demand deposit has a positive but insignificant effect on growth of banks.

At a 95% confidence interval, Log of saving deposits has a positive and significant effect on growth of the bank all other variables being constant. For each 100% increase in the log of saving deposits usage, Growth of the Bank increases by 24.2%. Inferring from the significance of the t statistic of 2.47 we will be taking a 2.4% risk in assuming that the Log of saving deposits have a significant effect on the Growth of the Bank which is less than the level of significance of 5%. We therefore conclude that the Log of saving deposits has a positive and significant effect on the growth of banks

Log of time deposit has a positive and significant effect on Growth of the Bank all other variables being constant. This implies that an increase in log of time deposit is associated with an increase in growth of banks. For each point increase in the service for the log of time deposits, growth of the Bank increases by 32.9 percent. Inferring from the significance of the t statistic of 3.47, we will be taking a 0.3% risk in assuming that Log of time deposit has a statically significant effect on Growth of the Bank which is far less than the threshold of 5%. We therefore conclude that Log of time deposit service has an important positive contributor of the growth of banks, which is consistent with the theoretical expectation. And a similar result was obtained by Tabi et al. (2013).

The regression results equally reveal that the variable for population growth rate taking as one of the controls, variable was important in influencing growth of banks using cameroon time series data from 1998 to 2023. The variable was positive as hypothesized and slightly significant tin contributing to the growth of banks. The regression results depict that the effect of population growth rate with the coefficient of 0.367 has a p-value of 0.00.068 ($pv < 0.1$) indicating that population growth rate is only significant at ten percent level in promoting the bank growth. This results implies that 100 percent growth in population is associated with over 36 percent growth in banks' assets.

The coefficient of log of government expenditure was highly significant in contributing to the growth of banks during the period under study. The variable was positive as hypothesized and has a very high significant. The regression results show that the effect of government expenditure with the coefficient of 1.14 has a

p-value of 0.002 (pv < 0.01) indicating that the variable is significant at one percent level in contributing to the growth of banks. This results implies that 100 percent increment in goverment spending leads to more than proprtionate increase (114%) in the growth of banks. Log of investment rate has a positive coefficient. This implies that an increase in Log of investment rate is associated with an increase in growth of banks. An increase in the log of investment by one percent will result to an increase in Growth of the Bank by 242 percent. Inferring from the significance of the t statistic of 2.88, it implies that we will be taking a 0.00% risk in assuming that the Log of investment rate have a statistically significant effect on the Growth of the Bank at 1% level of significance. We therefore conclude that Log of investment rate has a positive effect which is consistent with the a priori expectation and has important implications in influencing Growth of banks.

The log of remittance has a positive but insignificant effect on the growth of the Bank all other variables being constant. For each 100% increase in the Log of remittance , Growth of the Bank increases by 2.9%. Inferring from the significance of the t statistic of 0.41 we will be taking a 68.8% risk in assuming that the Log of remittance have a significant effect on Growth of the Bank which is higher than the level of significance of 5%. We therefore conclude that the Log of remittance has a positive but insignificant effect on the growth of banks during the period under study.

It is equally observed from the regression results that the variable for log of the trade openness was positive as hypothesized but not also very significant in contributing to the growth of banks. The coefficient of log of the trade openness in the regression results is reported to be 0.082 has a p-value of 0.576 (pv > 0.05) indicating that log of the trade openness is not a significant determinant of the growth of banks. This results implies that an improvement on log of the trade openness has a positive but less crucial force in fostering the growth of banks in cameroon from 1998 to 2023.

Inflation rate has a positive and significant effect on growth of banks all other variables being constant. For each unit increase in the inflation rate in the country during the period under study, qrowth of the Bank increases by 1.54 points. Inferring from the significance of the t statistic of 6.87, we will be taking a 0.00% risk in assuming that Inflation rate has a significant effect on Growth of the Bank which is lower than the level of significance of 5%. We therefore conclude that Inflation rate

used in this study to capture macroeconomic instability has instead a positive and significant effect on the growth of banks. The result is not so astonishing as banking transactions are expected to boost during inflation than when there is shortage of money in circulation.

Using the above results, we can therefore establish the regression equation as:

$$\text{Log}(GB)_t = -5.736 + 0.383\text{Log}(DD)_t + 0.244\text{Log}(SD)_t + 0.329\text{Log}(TD)_t + 0.367(PopG)_t + 1.14\text{Log}(GOV)_t + 2.42\text{Log}(INV)_t + 0.029\text{Log}(REM)_t + 0.082\text{Log}(OP)_t + 1.54(MEI)_t \quad (4.7)$$

Post Test Estimations

Three major diagnostic Test were conducted of the residual of the regression model to ascertain that the model is in the correct functional form. This include the test for normality, heteroscedasticity and that for autocorrelation of the residual term.

Table 7: post estimation diagnosis test on the residual

Residual Diagnoses tests	*Statistics*	*Probability*
Jacque- Bera for Residual Normality	1.4452	0.1227
Breusch-Pagan-Godfrey Heteroscedasticity	0.7221	0.3102
Breusch-Godfrey Serial Correlation LM Test	2.1104	0.1174

Source: by author using Eviews 9

The results reveal that Jarque-Bera statistics is insignificant indicating that the regression analysis is normally distributed. The study used the Breusch-Panga test to determine presence of heteroscedasticity and because the p-value is high, the test is statistically insignificant at 5% indicating the absent of heteroscedasticity problem. Serial correlation used to verify whether the values of the error term are the correlated over the period of study was also statistically insignificant at 5% level of significant meaning that the values of the error terms are not correlated over the period of the study. Thus, the regression model is in the correct functional form

CONCLUSION AND RECOMMENDATIONS

In modelling the determinants of bank growth in Cameroon, this study uses mainly time series data from 1998 to 2023 collected from the World Bank database and applied multiple regression analysis to find out that, demand deposit contributes positively but insignificantly to total bank asset. The effect of saving deposit as well as

that of time deposit were found to be positive and highly significant in contributing to bank growth during the period under study. Main findings of the study suggest that the growth of banks (taken as total assets) could be encouraged by attracting more saving and long-term deposits. Equally by attracting more of current account deposits so as to render the banks more liquid and competitive in the financial market.

SUGGESTIONS FOR FURTHER RESEARCH

The findings presented in this study are a result of a macro and time series from 1998 to 2023. Other estimation technique can be used to examine the same factors. Again, since Cameroon belong to a monetary union, the central Africa franc zone, it may be interesting to extend the study to cover the CEMAC zone.

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