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Determinants of Bank Deposits in Ghana: A Cointegration Approcah

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Abstract

The study investigates the influence of selected macroeconomic and financial level variables on bank deposits in Ghana. It specifically examines the dynamic effect of deposit interest rate, inflation, monetary policy rate, growth of money supply and stock prices (All Share Index) on the level of bank deposits. The dataset for the study consisted of quarterly data spanning the years of 2000 to 2013 gathered from the Bank of Ghana (BoG) monetary time series database and the World development Indicator (WDI) database. Employing a Co-integration analysis and Fully Modified Ordinary Least Square (FMOLS), both short and long run elasticity's of the model are estimated. The preliminary test for unit root indicated that all the variables are integrated of order one (an I (1) process) and the co-integration revealed the presence of one co-integrating equation. Empirical findings form the study indicates a significantly negative short-term impact of both inflation and growth of money supply of bank deposits in Ghana. The long-run effects of the various independent variables on bank deposit are also discussed. Some of the variables conformed to priori expectations, albeit insignificant. Appropriate measures are also recommended based on the findings thereof.

Keywords: Bank deposits, Cointegration, deposit interest rate, Inflation, Monetary policy rate, Growth of money supply, All Share Index.

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1. Introduction

The capacity of Ghanaian banks, especially commercial banks, is to accept deposits from the general public for the purport of lending and investment. This makes depositors the major stakeholders of the banking system. While sundry deposits products by banks are assigned different names for which they are designated to accommodate varying purposes, the deposit products of commercial banks can be broadly categorized into demand deposits, savings deposits, and term or fixed deposits. The Banks provide various services to sectors of the economy, e.g., liquidity services, information, maturity intermediation, transaction cost, credit allocation, payment services, and money supply services, among others (Elsevier, 2014).

The size of the local economy and prevailing legal restrictions as well as consumers propensity to save, coupled with other financial variables have an important influence on the growth of deposits with banks. With competition intensified through the process of financial liberalization, banks are being compelled to compete for deposits in various forms (Haron and Wan Azmi, 2006).

The banking sector in Ghana is expected to be very vibrant in coming years as it is currently faced with unused lending capacity and depressed market values; situations that leave the industry and for that matter most banks ripe for takeovers and acquisitions with preparatory discussions already held with a number of financial institutions from South Africa (SA) and Nigeria for possible acquisition. Recent development is the acquisition of Procredit Savings and Loans Company Ghana Limited by Fidelity Bank Ghana Limited.

However, the nation has seen the sale and merger of some banks in Ghana due to the inability of these banks to meet the Bank of Ghana's deadline for the recapitalization of local banks to Gh¢60 million (BoG, 2014). Deposits from individuals and private enterprises have been and continued to be contribute the largest share of bank's total deposits. Savings according to conventional economists is the excess income over consumption expenditure (Keynes, 1936). Accepting deposits is one of the basic functions of all commercial banks. A number of factors have been found to influence deposits of bank, especially commercial banks. In Malaysia, Haron and Wan Azmi (2006) investigates the structural determinants of deposits level of commercial banks. The study found rates of profit, rates of interest, base lending rates, money supply, Consumer Price Index (CPI), Kuala Lumpur Composite Index, and Gross Domestic Product (GDP) to have significant impact on deposits.

This study however employs some economic and financial variables in examining how the variables determine deposits of commercial banks in Ghana.

Bank operations are usually dependent on demand and supply factors as well as legal issues. The resource supply of the bank, the demand for its services and legal requirements are all major determinants of the level of bank operations. Individual and firm deposits at the bank play important role in the survival of commercial banks. Commercial banks are recognized as a vital institution in the business environment and in the economic development of a nation. In developing economies like Ghana, Commercial banks play vital role in the economy as they aid individuals, and organizations (small, medium, or large) continue to meet their ever growing credit demands. For commercial banks to be able to meet this growing demand for credit by both micro and macro units (households and firms), it is however necessary to enhance the deposit rate or the willingness of the public to reduce the propensity to hold cash (Nishat and Bilgrami, 1989).

The recent and persistent increases in the cost of living resulting from major cost indicators (i.e. depreciation of the cedi, increase in fuel prices, high tariff on imports, among others) with its associated increases in prices of goods and services, leads to increased consumption expenditure (given that households maintain their level or volume of consumption) all things being equal. This situation leaves less in the hands of individuals or households to put into savings with non-commensurate increases in incomes and profits (for individuals and firms).

According to the Bank of Ghana report on the general liquidity of the sector, although the central bank anticipated a possible slowdown in economic activities the sector is said to still remain strong and making remarkable strides with improved financial indicators, with robust portfolio quality, earnings, liquidity, and capital adequacy. The financial soundness indicators like inflation, and depreciation of the Ghana cedis against the major trading currencies (British Pound, US Dollar and the Euro) indicates that the sector still remains sound and solvent (BoG, 2014). This situation of the banking sector contrast the expectation of changes in the macroeconomic variables on the performance of the economy, especially the banking sector (given the recent depreciation of the local currency and its anticipated effect on savings behavior of households and firms).

It is therefore imperative to explore and expose the determinants of bank deposits by the general public in order to aid commercial banks succeed in their quest to enhance customer deposits in the face of the current economic dispensation.

2. Literature Review

2.1. Theories of Savings Behaviour

According to Haron and Wan Azmi (2006), there are three theories of savings from the depositor's perspective: the traditional models of the life-cycle hypothesis by Modigliani and Brumberg (1954), the permanent income hypothesis (Friedman, 1957), and the buffer-stock theory (Deaton, 1991; Carroll Christopher, 1992). These theories explain why the individual depositor would like to hold part of his or her asset portfolios in savings.

2.2. The Life-Cycle Hypothesis of Savings

This model of savings, the life-cycle hypothesis was developed by Franco Modigliani and his student, Richard Brumberg in the early 1950s. According to them, the rational individuals makes their consumption decision based on the resources available to them over their life time, and also on their stages in the life cycle. Thus, the life-cycle hypothesis of savings postulates that the individual's consumption in a particular period depend on their expectation about lifetime income so as to ensure a smooth consumption pattern over the lifetime. Further, the model predicts that in order to ensure a smooth level of consumption over time, by individual tend to save more in the early ages of life in order to provide for retirement. This theory assumes the individual to be a net saver during the early stages of life, and dissevers during retirement. And as Haron and Wan Azmi (2006) put it, the cornerstone of the life-cycle hypothesis is age related consumer heterogeneity. According to the predictions of the this model of savings, the savings curve takes a hump-shaped pattern which peaks in the middle ages of one life, with low savings during the young and old ages.

2.3. The Permanent-Income Hypothesis of Savings

The Permanent-Income Hypothesis was first propounded by Economist Milton Friedman in his treatise “A theory of consumption” in 1957. This model abstracted from retirement saving decisions. This theory distinguishes between permanent and temporary income. Income is argued by this model to consist of the permanent (anticipated and planned) component which is the expected long-term average income, and the temporary (transitory or windfall gain or unexpected) component. According to the permanent-income hypothesis, consumption at a particular point in time is dependent on not only on one’s current income but also on their expected future income (permanent income). The theory postulates that a consumer will save only if he expects that his long-term average income (permanent income) will be less than his current income.

2.4. The Buffer-Stock Theory of Savings

This theory of saving is usually termed as the precautionary savings model. It argues that consumers are impatient and prudent in the face of unpredictable income fluctuations. The buffer-stock theory assumes consumers to be impatient because they resort to borrowing against future income in order to meet (finance) current consumptions if income were certain, and also as prudent because they have precautionary motives. To avoid or avert the dangers associated with future fluctuations in income and also retain a smooth consumption pattern, individuals are forced to set aside some precautionary reserves by way of reducing current consumption in order to save against the contingent occurrences. Therefore, one would expect savings rate to be pro-cyclical, with individuals saving more when incomes are higher, in order to smoothen consumption in bad times.

2.5. Empirical Review

Although research on savings behaviour of individuals is enormous, much has not actually been done on determinants of deposit levels of commercial banks. According to Haron and Wan Azmi (2006), efforts has been made by some researchers to examine the determinants of private saving and private saving behaviour within countries as well as cross-country comparison of private savings behaviour.

In a similar study conducted in Indonesia and employing the case of Bank Muamalat Indonesia, by Mangkuto (2004) examined the effect bank deposit yield and interest rate on the level of deposits. Using data monthly for the period January 2000 to July 2004 the study found a direct correlation between the level of Islamic bank deposit and its yield which reflects the attractive nature of higher returns on bank deposits. With a negative correlation between the conventional interest rate and bank deposits, the results also indicated the significance of interest rate in affecting customers saving decisions in the Islamic Banks.

On the empirical determinants of saving in the Islamic Banks in Indonesia, Kasri and Kassim (2009) also found conventional interest rate and real rate of return to be significant in determining the level of deposits with the Islamic Banks. The study employed the cointegration technique, the Vector Autoregressive (VAR), and Impulse Response Functions (IRF) analysis. A similar study in Colombia by Cardenas and Andreas (1998) to study savings behaviour revealed a perfect correlation between savings and investment. Savings was found to positively influence growth; with urbanization, age dependency and higher taxation negatively affecting savings.

Again on Islamic Banks, Muhammad *et al.* (2011) studied the impact of crisis and some macroeconomic variables on Islamic banking deposits in Malaysia. The study uses monthly data from January 2000 to December 2010, a cointegration test and vector error correction model the study found interesting results. The variables adopted in the study are the average rate of return in conventional banking fixed-deposits, the consumer price index as proxy of inflation, growth of industrial production index, the base lending rate as a proxy for rental rate, and a dummy for crisis. The variables displayed an I(1) process with the cointegration result indicating at least one cointegration exists at 1% level of significance. The VECM found interesting results. They found negative relationship for both inflation and base lending rate on bank deposits. The growth of industrial productivity index was also found to negatively impact on the level of bank deposits. in conformity to findings of Haron and Ahmad (2000); Kasim *et al.* (2009) and Kasri and Kassim (2009), the study also found negative and positive effect rate of return in Islamic and Conventional banks respectively on bank deposits.

Apart from the crisis and inflation results, however, Muhammad *et al.* (2011) could not provide strong evidence of the short run effect of shocks in the other variables of the model. The study also tested for model robustness or efficiency and found that the model was efficient. There model was normal, no serial correlation, absence of heteroscedasticity, and there also no evidence of ARCH effects in the disturbance term.

In the study by Kasim *et al.* (2009) which employed monthly data for the period of January 1999 to December 2006, they examined the impact of monetary policy shock on balance sheet of Islamic bank in Malaysia. Findings from the study suggested that the effect of policy shocks on Islamic bank are more destabilizing than on conventional banks

Study by Dadzie Kofi *et al.* (2003) found age and formal education variables to be insignificant in influencing the level of personal savings. Empirically, the study revealed a significantly positive relationship between savings on one side, and income, service quality, income and demographic characteristics (number of dependents and location) on the other hand.

Similarly, Masson *et al.* (1998) looked at the factors that influence private savings behaviour of developed and developing countries. The study found demographic characteristics to be very significant in determining the rate of saving in both countries. Findings also indicated that factors such as GDP growth, changes in the terms of trade, and real interest rate had positive relation with saving for both group of countries although the magnitude of the relationship differed for the countries. Contrary to theory, the level of foreign savings was found to have a negative relationship with savings in the developing countries.

The savings behavior in OECD countries was investigated by Sarantis and Chris (2001). Demographic factors and credit constraints were significant and had the anticipated sign in the overwhelming majority of OECD countries. Greater financial liberalization and integration minimized the liquidity constraints, thus leading to lower savings. One of the interesting findings presented by the authors is that government deficit does not increase savings, which is in contrast to the Ricardian Equivalence. Cohn Richard and Bharat Kolluri (2003) also used developed nations in their study. They examined the long run relationship between per capita households saving and the real rate of interest, government savings and social security contributions. Their results indicated that savings reacted positively to interest rate, but negatively to government savings and social security contributions.

A literature on savings behavior by Hondroyiannis (2004), who used cointegration approach in estimating the behavior of Greece households. He provided empirical evidence that in the long run savings function is sensitive to fertility changes, old dependency ratio, real interest rate, liquidity and public finance.

The work of Haron and Wan Azmi (2006) found a significantly positive result for money supply on savings account. According to them, an increase in money supply will would mean individuals will have more money to hold for speculative motive as postulated by the liquidity preference theory.

Afanasieff *et al.* (2002) examines the determinants of banks interest spreads using macro and micro variables in Brazil and find that macroeconomic variables have the most impact on bank interest spread in Brazil. Naceur (2003) investigates the impact of banks characteristics, final structure and macroeconomic indicators on banks net interest margin and profitability in Tunisian Banking Industry for the 1983-2000 period. High net interest margin and profitability tend to be associated with banks that hold o relatively high amount of capital, and with large overheads. Naceur finds that inflation and growth rates have negative and stock market development has positive impact on profitability and net interest margin.

Athukorala and Long Pang (2003) employing the standard life cycle hypothesis examined the effect of disposable income growth, population, social security contribution, financial reforms, and credit availability on savings. They found growth of disposable income, the aged population, changes in social security contributions, and credit availability to be significant determinants of the level of savings. Findings also shows that interest rate had a significant positive impact on savings, while results on inflation variable showed a significant negative effect on savings. Ozcan *et al.* (2003) in a study to investigate the savings behaviour in Turkey found a significantly positive effect of inflation, financial depth and measures, and income level on savings.

The research in Switzerland, Dietrich and Wanzenried (2009) found significant differences in profitability between commercial banks and these differences can to a large extent be explained by the factors included in the analysis. It found that, better capitalized banks seem to be more profitable. Also, in case that a bank's loan volume is growing faster than the market, the impact on bank profitability is positive. They find that banks with a higher interest income share are less profitable. The most important factors are the GDP growth variable, which affects the bank profitability positively, and the effective tax rate and the market concentration rate, which both have a significantly negative impact on bank profitability in Switzerland.

3. Methodology

3.1. Data and Model Specification

The study evaluates the determinants of bank deposits in Ghana using time series data of financial (bank level data) and macroeconomic variables for the period 2000 to 2013. The methodology of the study provides a brief description of the model, estimation technique, data source, and definition of the variables of the model with the prior expectations.

This study employ two broad category of time series variables; economic and financial variables in the deposit determinants of banks in Ghana. The economic variables were the growth of money supple (GM2+), Consumer Price Index (CPI), the monetary policy rate (MPR), and the All Share Index (ASI) whereas the financial variables consist of the interest rates on deposits (DIN).

In order to determine the effect of the above mentioned economic and financial variables on customer deposits at banks in Ghana, the study employ the mathematical model as below:

$$D_t = f(DIN_t, MPR_t, GM2_t^+, ASI_t, CPI_t) \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots . (1)$$

Where D = Total Deposit Balance at Banks
DIN = deposit interest rate
MPR = Monetary Policy Rate
GM2+ = Growth of broad money supply
ASI = Composite Index (All Share Index)
CPI = Consumer Price Index; and t denotes time.

The dependent variable of the model is the total bank deposits (including current account balance, savings account balance, and fixed deposit balance) and the independent variables are deposit interest rate (DIN), monetary policy rate (MPR), growth in money supply (GM2+), Consumer Price Index (CPI), and All Share Index (ASI). Table.1 below shows the variables of the model, and expected effect of the various variables on consumer deposits.

Table-1. Variables, their Denotations and Expected Signs

Variables	Denotation	Unit	Expected Sign
Total Bank Deposit	D	Ghc	
Interest Rate	DIN	Percentage	+
Monetary Policy Rate	MPR	Percentage	+
			Continue

All Share Index	ASI	Numeral	-
Growth of Money Supply	GM2+	Percentage	-
Inflation	CPI	Percentage	-

3.2. Empirical Model and Estimation Technique

The relationship of the various variables under consideration against time are used in examining the trend of bank deposits (D), inflation rate (CPI), money supply (M2+), All Share Index (ASI), monetary policy rate (MPR), and deposit interest rate (DIN). With the objective to examine the determinants of bank deposits. The model to be estimated is as follows:

$$LD_t = \beta_0 + \beta_1 LDIN_t + \beta_2 LCPI_t + \beta_3 MPR_t + \beta_4 GM2_t^{+} + \beta_5 LASI_t + \varepsilon_t . \dots\dots\dots\dots\dots (2)$$

Where D, DIN, MPR, ASI, GM2+, and CPI is as defined above, and L denote the log
$\beta_{i,}$ i=0,1,2…. is the parameter estimates of the regressors, and ε_t is error term.

Annual data is employed to undertake the analysis in examining the effect of the selected macroeconomic variables on bank deposits. There is the need to ensure that the data coverage is sufficient enough for meaningful analysis hence the period under consideration is 2000 -2013**.**

4. Data Analysis and Findings

4.1. Unit Root Test – Augmented-Dickey Fuller

The results of the unit root test (table. 2) demonstrate that all the variables asides growth of money supply are not stationary at the level. Growth of broad money supply is I(0) at the level showing the acceptance of the null hypothesis that there is unit root or I(1) for those variables.

Nonetheless, all display stationarity after the first distinction I(1). The I(1) time series variables subsequently warrants the conduction of a Johansen-Juselius Cointegration analysis. Below are the results of the unit root test:

Table-2. Augmented Dickey - Fuller (ADF) Test for Unit Root

Variables	Test Statistic	Level of Integration
LD ***	-7.534	I(1)
LGM2+ *	-3.796	I(1)
LDIN **	-3.349	I(1)
LCPI **	-3.123	I(1)
LMPR ***	-4.530	I(1)
LASI ***	-3.843	I(1)

*, **, & *** represent stationarity at 10%, 5%, & 1% respectively.

4.2. Cointegration Test - Johansen-Juselius Multivariate

While one of the variables was I(0) at the levels, five variables were found to be stationary only after the first difference. Having such a cumulation of I(0) and I(1) series made it imperative for a cointegration test to be conducted to ascertain if the variables have a long run relationship, otherwise a drift away will not be impermanent. In the test for cointegration, we use the Johansen-Juselius Multivariate Cointegration test. The results show that there is a long run relationship between the variables or cointegration. The residuals are stationary which confirms the long run relationship or convergence of inflation (the dependent variable) and the explanatory variables.

Table-3. Johansen-Juselius Multivariate Cointegration test

Variable	Order of integration
Residual series	I(0)

Table-4. Residual Diagnostic Test for Model Efficiency

Variables	Coefficients	t-values
DIN = deposit interest rate	0.0258	0.271
MPR = Monetary Policy Rate	0.0103	0.125
GM2+ = Growth of broad money supply	-0.010	-1.756*
ASI = Composite Index (All Share Index)	-0.0106	-0.107
CPI = Consumer Price Index; and t denotes time	-0.6862	-2.362**
DIN = deposit interest rate	0.0258	0.271

*** (**)* indicate that the null hypothesis is rejected at 1%, 5% and 10% respectively.

Table 4 above presents the short-run elasticities between the variables and their lags. The R-squared and Adjusted R-squared values of 0.651 and 0.585 respectively is an indication that the model is a good fit. This means more than 65% of variations in bank deposit were explained by the model. The F-statistics of 6.851, with a probability ratio of 0.004 indicates that the overall model is highly significant and that all the independent variables are jointly significant in causing variation in bank deposit.

Evidence from the table indicates that deposit interest rate and monetary policy rate have a positive insignificant relationship with bank deposit. This implies that deposit interest rate and monetary policy rate are not a major factor in explaining the short run dynamics of the Commercial Banks' deposit in Ghana. However, all share index have an insignificant negative relationship with bank deposit.

Inflation represented by consumer price index is shown to be statistically significant (5%) in explaining levels of bank deposits. The relationship however is negative. The negative relationship between inflation and bank deposits could be attributed to the fact that inflation increases the cost of living, "ceteris paribus". Consumers in an attempt to maintain the same standard of living will forgo current savings, hence the possibility of a negative relationship between inflation and bank deposits in the short-run. In other words, higher inflation would mean that people will need more money for expenses which will lead to cash withdrawals and a reduction in the level of deposits in general. This finding is in line with the findings of Muhammad *et al.* (2011).

Furthermore, the growth of money supply also has a significant negative relationship with commercial bank deposits. The bank's deposits increases with an increase in money supply and vice versa. As expected, increase in money supply reduces the cost of loanable funds which in turn leads to increased borrowing and increased consumption which will mean less savings (reduction in bank deposits) all things being equal. This result for money supply contrasts the work of Haron and Wan Azmi (2006) that found a significantly positive result for money supply on savings account. According to their findings, an increase in money supply would mean individuals will have more money to hold for speculative motive as postulated by the liquidity preference theory.

5. Conclusion

The study revealed that apart from growth of money supply, the variables of the model are not stationary at levels. However they become stationary after first difference (an I(1) process). The test for cointegration also reported one cointegrating equation at the 5% level of significance for both trace and maximum eigenvalue test statistics. The cointegration equation for the model also suggested that in the long run, a change in deposit interest rate and inflation (CPI) are negative and will both have negative effect on bank deposits, furthermore, a change in monetary policy rate, growth of money supply, and all share index negatively impact bank deposits.

The short run effects of a change in the independent variables on bank deposit were found to have the expected influence on bank deposits. However, only inflation and growth of money supply variables were found to be significant in explaining the short run dynamics of bank deposit. A change in the growth of money supply produced a negative sign as expected by the model and a change in CPI also produced a negative impact on bank deposit, which conforms to theory.

The study results also reported a significant speed of adjustment (error correction term) with the sign of the error correction factor indicating that the variables share a common trend in the long run, and that approximately 15 per cent of any disturbances in the model is corrected every year.

The results also revealed that the saving pattern of the Ghanaian depositor conforms to existing theories, although there were some deviations.

The study found that inflation as a measure of consumer price index (CPI) negatively impacts on bank deposits in both the short run and long rum. This means that in periods of high inflation, economic agents, both households and firms are forced to supplement their expenses by drawing from the bank accounts, hence a reduction in bank deposits. It is therefore imperative for banks to adopt some promotional campaigns and other prudent measures to curb the adverse effects of inflation on deposits. In anticipation of inflation, banks could adjust their deposit interest rate in some high volume deposits in order to minimize the level of leakages (withdrawals) from the bank's vaults.

Again, the growth of money supply was found to have both negative and positive impacts on the level of bank deposits in the short and long run. However the long run positive effect of growth of money supply on bank deposits was found to far outweigh the negative effect in the short run. It is however also important that the bank curbs the level of withdrawals in the short run when there is an increase in money supply.

On the macroeconomic level also, this result serves as a tool to the policy makers, especially the Central Bank in its monetary policy. Thus, if the bank of Ghana wants to reduce the level of loan advancement by commercial banks in the short-run, it could achieve this by implementing a contractionary policy through decreases in money supply. This results in excess demand for money which increases the cost of loanable fund, hence a reduction in people's willingness to acquire or take bank loans all things being equal.

References

Afanasieff, T., P. Lhacer and M. Nakane, 2002. The determinants of bank interest spreads in Brazil. Banco Central Di Brazil Working Papers.

Athukorala, P.-C. and T. Long Pang, 2003. Determinants of household saving in Taiwan: Growth, demography and public policy. Journal of Development Studies, 39(5): 69-88.

BoG, 2014. Supervision and regulation. Available from http://www.bog.gov.gh/index.php [Accessed 23 September 2014].

Cardenas, M. and E. Andreas, 1998. Saving determinants in Colombia: 1925-1994. Journal of Development Economics, 57(1): 5-44.

Carroll Christopher, D., 1992. The buffer-stock theory of saving: Some macroeconomic evidence. Brookings Papers on Economic Activity, 1992(2): 61-156.

Cohn Richard, C. and R. Bharat Kolluri, 2003. Determinants of household saving in the G-7 countries: Recent evidence. Applied Economics, 35(10): 1199-1208.

Dadzie Kofi, Q., W. Evelyn and A. Kofi, 2003. The effects of normative social belief systems and customer satisfaction on rural savings programs in Ghana. Management Decision, 41(3): 233-240.

Deaton, A.S., 1991. Saving and liquidity constraints. Econometrica, 59(5): 1221- 1248.

Dietrich, A. and G. Wanzenried, 2009. What determines the profitability of commercial banks? New evidence from Switzerland. 12th Conference of the Swiss Society for Financial Market Researches, Geneva.

Elsevier, 2014. Commercial banks. Available from http://www.elsevier.com/locate/econbase [Accessed 1 August 2014].

Friedman, M., 1957. A theory of the consumption function. General Series No. 63. National Bureau of Economic Research, Cambridge, Mass. Processed.

Haron, S. and N. Ahmad, 2000. The effects of conventional interest rates and rate of profit on funds deposited with islamic banking system in Malaysia. Intl. J. Islamic Financial Services, 1(4): 1-7.

Haron, S. and W.N. Wan Azmi, 2006. Deposit determinants of commercial banks in Malaysia. Creating Dynamic Leaders. Working Paper Series No. 009, 20(2).

Hondroyiannis, G., 2004. Estimating private savings behavior in Greece. Journal of Economic Studies, 31(5): 457-476.

Kasim, S.H., M.S.A. Majid and R.M. Yusof, 2009. Impact of monetary policy shocks on the conventional and islamic banks in a dual banking system: Evidence from Malaysia. J. Econ. Coop. Dev, 30(1): 41-58.

Kasri, R.A. and S.H. Kassim, 2009. Empirical determinants of saving in the islamic banks: Evidence from Indonesia. Journal of King Abdul-Aziz University: Islamic Economics, 22(2): 181-201.

Keynes, J.M., 1936. The general theory of employment, interest, and money. Japan: Maruzen Co., Ltd.

Mangkuto, I.J., 2004. The effects of conventional deposit interest rate and mudharaba deposit yield to the deposit growth at bank muamalat Indonesia. Unpublished Master Thesis,University of Indonesia, Jakarta.

Masson, P.R., T. Bayoumi and H. Samiel, 1998. International evidence on the determinants of private savings. The World Bank Economic Review, 12(3): 483-501.

Modigliani, F. and R. Brumberg, 1954. Utility analysis and the consumption function: An interpolation of the cross-section data, in post-Keynesian economics, (Eds). K. Kurihara. New Brunswick, NJ: Rutgers U. Press. pp: 388-436.

Muhammad, F., A. Khizer and S. Shama, 2011. Liquidity risk management: A comparative study between conventional and islamic banks of Pakistan. Interdisciplinary Journal of Research in Business, 1(1): 35-44.

Naceur, S.B., 2003. The determinants of the Tunisian banking industry profitability: Panel evidence. Universite Libre de Tunis Working Papers.

Nishat, M. and N. Bilgrami, 1989. Determinants of growth of bank deposits in Pakistan. Giordano dell-amore foundation. Savings and Development, 13(4): 391-400.

Ozcan, K.M., A. Gunay and S. Ertac, 2003. Determinants of private savings behaviour in Turkey. Applied Economics, 35(12): 1405-1416.

Sarantis, N. and S. Chris, 2001. Saving behaviour in OECD countries: Evidence from panel cointegration tests. The Manchester School Supplement, 69(s1): 22-41.

Bibliography

Friedman, M. and L.J. Savage, 1984. The utility analysis of choice involving risk. The Journal of Political Economy, 56(4): 270-304.

Kiiza, B. and G. Pederson, 2011. Household financial savings mobilization: Empirical evidence from Uganda. Journal of African Economics, 10(4): 390-409.