

# Deposits of Conventional and Islamic Banks in Perception of Macroeconomics Variables in Pakistan

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## Abstract

This research examines the effect of various macroeconomics variables on deposits of both conventional along with Islamic banks in Pakistan. The data has been taken from conventional banks, Islamic Banks, state bank of Pakistan and Economic Survey of Pakistan from the period of 2006-2015. The ARDL technique is applied to find the association among the deposits in conventional, Islamic banks and macroeconomics variables. The outcomes of this research work demonstrates that interest rate, profits of Islamic banks, inflation, real exchange rate, lending rate have different affect on deposits of conventional and Islamic bank. This study reveals that religious factor is most important to attract depositors towards Islamic banks. This study gives suggestion that Islamic banks collect maximum deposits than conventional banks if Islamic banks offer more competitive rates of profit than conventional banks.

**Keywords:** Deposits, Interest rate, Conventional Banks, Islamic Banks, Pakistan

## Introduction:

Financial system play vital role to improve level of the economy in a country.<sup>1</sup> The various studies have strong associations among financial sector and growth of economic.<sup>2</sup> Nevertheless, it is not easy to locate the accurate the direction of association among financial sector and growth of economic.<sup>3</sup> The some Islamic studies demonstrate long- run causality among financial sector and economic growth and state that the people keep their money in conventional banks to earn maximum profit.<sup>4</sup> They get reward and earn profit to meet their current, precautionary and speculation expenditures. As a result changes in interest rate influence the levels of deposits in conventional banks. For that reasons conventional banks offer various incentive for their' customers to raise deposits.<sup>5</sup> The Muslims community discussed concept of interest rate at large scale. Nonetheless, there is common agreement that interest rate which is awarded on the deposits is known as riba, but it is absolutely banned in Islam.<sup>6</sup> He stated that Islam prohibited taking interest; however it encourages several types of investment, which are consisting on equity and trading. Now a day's both conventional and Islamic banks do their business in Pakistan.

This research tries to assess the effect of interest rate, GDP, inflation, stock

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<sup>1</sup> Asteriou, D., & Hall, S. G: "a modern approach using EViews and microfit: Palgrave Macmillan" *Applied econometrics* (2007).

<sup>2</sup> McKinnon, R. I. "Money and capital in economic development: Brookings Institution Press" (1973).

<sup>3</sup> Shaw, E.S., "Financial Deepening in Economic Development." (London and New York: Oxford University Press, 1973).

<sup>4</sup> I.Schumpeter, J. "A *Business cycles*" (Vol. 1), (Cambridge University Press, 1939).

<sup>5</sup> Gregorio, J., & Guidotti, P. E.. "Financial development and economic growth." *World development*, 23(3), (1995), pp.433-448

<sup>6</sup> Arestis, P., & Demetriades, P. "Financial development and economic growth: Assessing the evidence." *The Economic Journal*, 107(442), (1997), pp.783-799

market prices, capital formation, M1 and lending rate on deposits in Islamic bank and deposits in conventional bank. More precisely, the conventional banks employ the interest-based banking tool to get their targets, whereas the Islamic banks employ equity-based tools to get their targets.

The frame work of this study is given as: section-II sketch picture of literature, section III presents snapshot of methodological framework, section IV provides results of analysis from given data and talk about in the light of previous studies. The conclusion and some suggestions are presented in section in V.

## II. Review of literature:

Samad explored that Islamic and Conventional banks have same targets regarding profit and accumulation of liquid assets. They observes the effectiveness of the Islamic and conventional banks in area of deposits.<sup>7</sup> They state that Islamic banks earn more yields than Conventional banks. Hamid, and Nordin (2001) people have less awareness of Islamic Financial system.

They recommended that the Islamic Banks in India provided opportunities for investment and introduced Islamic banking through seminars. These institutes provide training to borrowers and investors.<sup>8</sup> This motivation would augment the customers of the Islamic banks.<sup>9</sup> He founded that the record of Islamic Bank of Malaysia shows quite inspiring of its business during the first six years<sup>10</sup> He assessed the effectiveness picture of the Islamic bank and conventional bank during 1992-1996.<sup>11</sup> He found that Islamic Banks of Malaysia got comparatively higher return than the conventional banks.<sup>12</sup>

The various economist concluded that generally people have less information regarding the rules of the Islamic Banks.<sup>13</sup> The customers have faith that Islamic banks are not interest-free by nature.

They stated that customers keep their money in Islamic banks and they get benefits, online facilities and quick services.<sup>14</sup> The association between deposit of Islamic banks and monetary policy shocks in Bahrain and Malaysia are examined by.<sup>15</sup> They

<sup>7</sup> Calderón, C., & Liu, L.. "The direction of causality between financial development and economic growth." *Journal of Development Economics*, 72(1), (2003), pp.321-334

<sup>8</sup> Shahbaz, M., & Rahman, M. M. "The dynamic of financial development, imports, foreign direct investment and economic growth: cointegration and causality analysis in Pakistan." *Global Business Review*, 13(2), (2012), pp.201-219

<sup>9</sup> Khan, M. S. N., Hassan, M. K., & Shahid, A. I. "Banking behaviour of Islamic bank customers in Bangladesh". *Journal of Islamic Economics, Banking and Finance*, 3(2), (2007), pp.159-194 K

<sup>10</sup> Kasri, R., & Kassim, S. Empirical determinants of saving in the Islamic banks: evidence from Indonesia (2009).

<sup>11</sup> SBP "Pakistan Financial Sector Assessment", Research Department, (Karachi: State Bank of Pakistan, 2010).

<sup>12</sup> Samad. "A. Performance of interest-free Islamic Banks Vis-à-vis interest based conventional banks of Bahrain," *IJUM Journal of Economics and Management* 12, no.2 (2004), pp.342-356

<sup>13</sup> Alam, M. N. "Islamic banking in Bangladesh: A case study of IBBL", *International Journal of Islamic Financial Services*, 1(4) (2000), pp.124-135

<sup>14</sup> Hamid, A.H., and Nordin, N.Z. "A Study on Islamic Banking Education and Strategy for the new Millennium- Malaysian Experience", *International Journal of Islamic Financial Services* 2, No. 4, (2001)

<sup>15</sup> Dar, Humayon A. and John R. Presley.. "Lack of Profit and Loss Sharing in Islamic Banking: Management and Control Imbalances." *International Journal of Islamic Finance* 2(2): (2000), pp.3-18

Deposits of Conventional and Islamic Banks in Perception of Macroeconomics Variables in Pakistan found that deposits in Islamic bank and monetary policy shocks have significantly association with each other.<sup>16</sup>

### III. Data and Research Methodology:

**Data:** The data for this research collected from Economic Survey of Pakistan, Pakistan Bureau of Statistics, State Bank of Pakistan, Conventional and Islamic banks in Pakistan. They meet the following criteria: 1. Banks must remain in business for all the study period. 2 In the whole study period data must be available. The data has been taken from 2006 to 2015.<sup>17</sup>

#### Research Methods:

In this study generally the economic variables have trend. In econometric model this trendiness creates issue of spurious regression. The basic requirement of cointegration in an economic model is based on time series data. They suggested that the validity of cointegration is associated with the cancellation of two stochastic trends each other.<sup>18</sup> Augmented Dickey and Fuller is used to check the non-Stationarity and stationarity in variables. The ARDL bounds testing equation is given below:

$$\begin{aligned} \Delta Y_t = & \alpha^0 + \gamma^1 \sum_{j=1}^k \Delta Y_{t-j} + \delta_1 \sum_{j=0}^k \Delta X_{1t-j} + \delta_2 \sum_{j=0}^k \Delta X_{2t-j} + \delta_3 \sum_{j=0}^k \Delta X_{3t-j} + \delta_4 \sum_{j=0}^k \Delta X_{4t-j} \\ & + \delta_5 \sum_{j=0}^k \Delta X_{5t-j} + \delta_6 \sum_{j=0}^k \Delta X_{6t-j} + \delta_7 \sum_{j=0}^k \Delta X_{7t-j} + v^1 Y_{t-1} + v^2 X_{1t-1} + v^3 X_{2t-1} \\ & + v^4 X_{3t-1} + v^5 X_{4t-1} + v^6 X_{5t-1} + v^7 X_{6t-1} + v^8 X_{7t-1} \end{aligned}$$

Change in deposits in year t is represented by  $\Delta Dt$ . Independent variable is represented by vector X. The ARDL technique is employed to find the impacts of interest rate on deposits in conventional banks and Islamic banks in Pakistan. The affect of inflation rate, GDP, interest rate, real exchange rate, money supply (m1) and PROF of Islamic banks' on deposits in Conventional and Islamic Banks is evaluated.

### IV. Results and Discussions:

The cointegration approach is employed to find the association among dependent and explanatory variables. This approach can be applied on stationarity of all variables at I (0) or I (1). Therefore, it is compulsory to check stationarity of the all variables. The ADF technique is employed to test stationarity of variables after taking log of the variables.

Table.1 Results of Augmented Dicky Fuller Test

| Variables |           |           |
|-----------|-----------|-----------|
| In TCD    | -1.765    | -4.486**  |
| In IBD    | -1.234    | -4.387**  |
| In INR    | -1.765    | -5.123*** |
| In EXP    | -3.765    |           |
| In GDP    | -4.535*** |           |

<sup>16</sup> Zineldin, M. "Managing in the @ age: Banking service quality and strategic positioning", Measuring Business Excellence, Vol. 6 Iss: 4, (2002), pp.38 – 43

<sup>17</sup> Williams, G. and Zinkin, J. Islam and CSR: "A study of the compatibility between the tenets of Islam and the UN global compact." Journal of Business Ethics, 91, (2010) pp.519-533

<sup>18</sup> Yusof, R. M., Al Wosabi, M., & Majid, M. S. A. "Monetary Policy Shocks and Islamic Banks Deposits in a Dual Banking System: Empirical Evidence from Malaysia and Bahrain" *Journal of Economic Cooperation and Development*, 30(2), (2009), pp.1-26

|        |         |         |
|--------|---------|---------|
| FCF    | -4.00** |         |
| In INF | -1.673  | -3.39*  |
| In MI  | -1.987  | -4.23** |
| PROF   | -.1.453 | -4.67** |

Level of significance at 1%

\*\* Level of significance at 5%

\* Level of significance 10%

The log is used to create smoothness and linearity in the model.<sup>19</sup> The findings of ADF technique are presented in Table-1 the ADF technique is employed to test stationarity of variables after taking log of the variables. The log is used to create smoothness and linearity in the model. The various variables cannot be rejected at level; Gross domestic product, FCF and EXP are rejected at level.

#### ARDL Bounds Testing Technique:

The ARDL technique is used to find the association between the variables dependent and independent variables. This technique was developed by.<sup>20</sup> The ARDL technique can be employed both ways on variables either they are integrated at level or at the 1st difference. The t-statistics values are valid for endogenous variables.<sup>21</sup> This test can employ on small size data also and it gives appropriate results.<sup>22</sup> The presence of cointegration in the perception of macroeconomics variables and deposits in conventional and Islamic Bank is determined by bound the lagged levels variable equal to zero.

Therefore, the null hypothesis of cointegration is  $H_0: \epsilon_1 = \epsilon_2 = \epsilon_3 = \epsilon_4 = \epsilon_5 = \epsilon_6 = \epsilon_7 = \epsilon_8 = 0$

And the alternative hypothesis of cointegration is  $H_1: \epsilon_1 \neq \epsilon_2 \neq \epsilon_3 \neq \epsilon_4 \neq \epsilon_5 \neq \epsilon_6 \neq \epsilon_7 \neq \epsilon_8 \neq 0$

The long run association exists among the variables at 5 per-cents in Pakistan. This is so because the value of F-statistics is larger than critical bound value of Bounds test. The value of F-statistics is 3.89 and 6.7 respectively.

#### Results of Long Run Associations:

**Table. 2: Long Run results of total conventional bank deposit**

| Dep Var DCB | Coeff value | T-value   |
|-------------|-------------|-----------|
| Ind Var     |             |           |
| C           | -26.678     | -2.1986** |
| In INR      | -0.432      | -2.4891** |
| In EXP      | 0.521       | -2.1987** |
| In GDP      | -0.760      | -1.5982   |
| FCP         | -0.234      | -1.9112   |
| In INF      | 0.332       | 0.8971    |
| In M1       | 1.543       | 4.1646*** |
| RROF        | 0.287       | 0.0311**  |
| R-Sq        | 0.8675      |           |
| Adi R-sq    | 0.8765      |           |

<sup>19</sup> Dusuki, A. W. and Abdullah, N. I. "Why do Malaysia customers patronise Islamic banks. International Journal of Bank marketing," 25 (3), (2007b) , pp.142-160

<sup>20</sup> Gujarati, D. N., & Porter, D. C. "Essentials of econometrics:" (New York: McGraw-Hill, 1992), pp.189-205

<sup>21</sup> Inder, B.."Estimating long-run relationships in economics: A comparison of different approaches." *Journal of econometrics*, 57(1), (1993), pp.53-68

<sup>22</sup> Pesaran, M. H., Shin, Y., & Smith, R. J. "Bounds testing approaches to the analysis of level relationships." *Journal of applied econometrics*, 16(3), (2001), pp.289-326

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|               |         |  |
|---------------|---------|--|
| F-statistic   | 52.7861 |  |
| Prob (F-stat) | 0.00    |  |
| Ak info crit  | -2.897  |  |
| Sch crit      | -2.3543 |  |

**Notes:** Description of Variables: TDCB, INR, EXP, GDP, FCF, M1, PROF

\*\*\*Level of significance at 1%, \*\* Level of significance at 5% and \* Level of significance 10%

The critical values of ARDL of lower bound I (0) and upper bound I (1) are 2.96 and 4.26 at 1 % respectively.

**Table-2: Long-Run Results of Deposits of Conventional Banks**

Table-2 represents long-run association between the regressors and deposit of conventional banks.

The interest rate positively influences deposit of conventional bank. The sign of coefficient of INR (interest rate) is a positive and it is significant at 5 % level. The EXP (exports) has 0.30 coefficient value, which shows that there is positive association between exports and deposits in conventional banks; however the value of EXP is significant at 1 % level. The value of GDP is negative but it is insignificant. These findings indicate that investors withdraw their money from the conventional banks during high growth period. There is positive association between FCF and deposit in conventional bank. The value of coefficient of FCF (fixed capital formation) is -0.234 but it is insignificant. There is negative long run relationship between deposits of conventional banks and INF and its value is insignificant. There is positive association among M1 and the deposit in conventional bank. The coefficient value of M1 (money supply) is 1.52 and it is significant 10 % level. This association shows that one percent change of money supply bring 15.2 percent change in deposit of conventional bank. For profit the value of coefficient PROF (profit) is 0.28 and it is significant at 10 percent level. This shows that that there is negative association between PROF and deposit in conventional bank. The investors give preference to earn maximum profit, thus they invest more amount of money in different projects, which reduces deposits in conventional bank.

**The values of independent variables and deposits in Islamic bank are reported in Table-3.**

The interest rate positively influences deposit of Islamic Bank. The sign of coefficient of INR is a positive which is significant at 5% level. This positive association shows positive relationship between deposit in Islamic Bank and interest rate. The EXP has 0.12 coefficient value, which shows that there is positive association between exports and deposits in Islamic banks; however the value of EXP is significant at 5 % level. The value of GDP is negative but it is insignificant. These findings indicate that investors withdraw their money from the conventional banks during high growth period. There is positive association between FCF and deposit in conventional bank. The value of coefficient of FCF is -0.34 and it is significant at 5 percent level of significance.

**Table-3: Long-Run Results of Deposits of Islamic Banks**

| Deep Var DIB | Coeff value | T-value   |
|--------------|-------------|-----------|
| Ind Var      |             |           |
| C            | -20.678     | -2.5986** |
| ln INR       | 0.312       | 2.4891**  |
| ln EXP       | 0.121       | -2.1987** |
| ln GDP       | 0.560       | -1.5982   |

|               |        |           |
|---------------|--------|-----------|
| FCP           | -0.134 | -2.9112** |
| ln INF        | -0.332 | -0.8971   |
| ln M1         | 1.346  | 4.1646*** |
| RROF          | 0.187  | 0.0311    |
| R-Sq          | 0.769  |           |
| Ad R-sq       | 0.789  |           |
| F-statistic   | 51.654 |           |
| Prob (F-stat) | 0.00   |           |
| Ak info crit  | -2.798 |           |
| Sch crit      | -2.434 |           |

**Notes:** Description of Variables: DIB, INR, EXP, GDP, FCF, M1, and PROF

\*\*\* Level of significance at 1%,

\*\* Level of significance at 5%,

\* Level of significance 10%

The deposits of Islamic banks have a significant long-run relationship with the INF but it is negatively linked to deposits of Islamic banks and its value is insignificant. There is positive association among M1 and the deposit in Islamic bank. The coefficient value of M1 is 1.34 and it is significant 1 percent level. This association shows that one percent change of money supply bring change in deposit of Islamic bank 13.4 percent. For profit the value of coefficient PROF is 0.18 and it is significant at 10 percent level. This shows that that there is negative association between PROF and deposit in Islamic bank. The investors give preference to earn maximum profit, thus they invest more amount of money in different projects, which reduces deposit in Islamic bank.

#### V. Discussion:

Table-2 and 3 show the long-term association between the explanatory variables and deposits of both conventional and Islamic banks. Empirically, it is observed that customers of Islamic Banks significantly affected by any changes in interest rate or profit rate. As a result, Islamic banks' customers are motivated by profit, because they give prefer to profit than religious motive. This finding coincides with result of <sup>23</sup>

#### VI. Conclusion and Policy Recommendations:

This study examined that how macroeconomics variables such as INR, EXP, GDP, FCF, INF, M1 and PROF influence deposit of conventional and Islamic bank in the long-run. However, the conventional and Islamic banks have different direction of association with each other. Money supply significantly influences the deposits of conventional banks. The saving behavior theories of conventional banks justified this association accordingly. The relationship of interest rate is insignificant with Islamic Banks deposit, while INF has an adverse association with the deposits of Islamic banks.

This study shows that profit motivate influence customers of Islamic banks significantly. Finally, results show that religious factors motivate customers significantly. In the perspective of policy implications, Islamic banks may collect more deposit with respect to conventional bank if it offers more competitive rates of profit than conventional banks.

<sup>23</sup> Adelakun, O. J. "The Nexus of Private Savings and Economic Growth In Emerging Economy: A Case Of Nigeria." *Journal of Economics and Sustainable Development*, 2(6), (2011), 31-45.