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Islamic Finance and Economic Growth: The Case of Pakistan's Economy

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Abstract

Due to the inherent instability of the conventional financial system, the demand for Islamic finance has increased. Islamic finance is more stable because it does not rely on debt-based financing. Currently, Islamic finance is one of the fastest growing sectors of economy in the Muslim world in general and in Pakistan in particular and it plays a vital role in the real sector development. This paper investigated the impact of Islamic viz a viz conventional finance on economic growth of Pakistan. For empirical analysis, quarterly data for the period 2006Q3–2017Q4 was utilized. For Islamic finance, the study used total financing (finance plus investment) by Islamic banks, whereas credit given to the private sector by conventional banks was used as the measure of conventional finance. Using GMM method of estimation, our findings revealed that Islamic finance enhances economic growth and also fulfills some specific needs of economic agents which otherwise would have remained unfulfilled by conventional finance. Further, the study also used government spending, investment, trade openness and inflation as control variables.

Introduction

It is beyond any doubt that there exists a link between growth and finance. This has been one of the most important areas of discussion among economists since the pioneering works of Schumpeter (1932) and Goldsmith (1969). Many researchers including Patrick (1966), De Gregorio and Guidotti (1995), Demetriades and Hussein (1996), Arestis and Demetriades (1997), Levine (1999), Bailliu, (2000), Levine, Loayza and Beck (2000), Al-Yousif (2002), Honohan (2004), Furqani and Mulyany (2009), Abduh and Omar (2012), and Zarrouk, El Ghak & Abu Al Haija (2017) have explored this relationship. These studies highlight the importance of the sectorial position of finance for economic growth.

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Financial intermediation arguably increases the efficiency of capital accumulation as well as its productivity which enhances economic growth (Goldsmith, 1969). It also enhances economic growth by increasing the saving rate and investment (MacKinnon, 1973; Shaw, 1973). Further, it reduces transaction costs and facilitates the mobilization of savings as well as the efficient allocation of funds (Levine, 1997).

Despite the above mentioned roles of the financial sector, the historical analysis of financial crises in the world proves that its failure leads economies into recession. The financial crisis of 2007-08 that kept US and European economies in crisis for almost a decade is the most recent example. Artificial support in the form of large bailout packages was provided by the governments of these countries to help their economies grow at their normal pace. Many voices were raised regarding the role of this highly speculative, (fixed) interest-based financial sector in creating the economic crisis. The report of Sigurjonsson (2015) under the title "*Monetary Reform: A better monetary system for Iceland*" and another report "*Radical Reforms: Switzerland to vote on banking overhaul*" published in Financial Times on May 29, 2018 and written by financial experts and politicians are the most recent examples. Similarly, Mr. Ron Paul who occupied many responsible positions in the US government wrote a great deal on the issue of fractional reserve banking and its inherent instability. Some glimpses of his work include *"Robing the Poor", "Switzerland's Gold Vote", "Collapse of the Petro Dollar" and "What Does Belgium Know".*

Due to the inherent instability in the conventional financial system, the demand for an alternative profit and loss sharing Islamic finance has increased. This is the source of the increasing growth experienced by the Islamic financial sector, particularly in Muslim countries and also in the world in general. Islamic financing is growing on average at the rate of 15% - 20% per annum. The important feature of Islamic financial system is that it works on the basis of profit and loss sharing, which causes equity in resource distribution and ensures social justice. The efficiency of capital increases due to the increase in its productivity. The demand for investment accounts in Islamic banks is higher due to the share of account holders in the profit earned by the banks. Similarly, Islamic financial institutions are considered to be more stable as compared to their conventional counterparts due to less reliance on debt-based financing. Consequently, the loss of capital and assets is minimum which leads to sustained economic growth.

Islamic finance has attracted the increasing interest of researchers since the beginning of the 21st century and a number of studies have investigated the

relationship between Islamic finance and economic growth in different countries. Among them Zarrouk et al. (2017) for UAE, Gheeraert and Weill (2015) for a sample of 70 countries, Rosman, Abd-Wahab and Zainol (2014) for Middle Eastern and Asian countries, Tabash and Dhankar (2014) for Qatar and Middle East, Abduh and Omar (2012) for Indonesia, Goaied and Sassi (2010) for MENA region, Furqani and Mulyany (2009) for Malaysia are prominent studies.

Although Pakistan has a well-established financial system since its independence yet the history of Islamic finance in Pakistan is not very old. Meezan Bank limited was the first Islamic bank in Pakistan which obtained its license and started its operations with 5 branches in 2002. Currently, 21 Islamic banking institutions are working in Pakistan. Out of these, 5 full-fledged Islamic banks are providing services through 2589 branches across the country and 1238 branches of conventional banks operate on the basis of *Shari'ah* compliant modes of financing throughout Pakistan (State Bank of Pakistan, 2018). In March 2018, the total assets of Islamic banks in Pakistan were amounted at 2334 billion rupees and their deposits were 1916 billion rupees. Currently, the share of total assets and total deposits of Islamic banks in the overall banking industry is 13.5% and 14.6%, respectively.

Due to the increasing share of Islamic finance in Pakistan's economy, it is worthwhile to explore its impact on economic growth. Although there is plenty of literature available on this issue internationally but the area has been neglected in Pakistan. One of the possible reasons of this negligence may be the short history of Islamic banking in Pakistan and thus the unavailability of sufficient data about Islamic finance. Kalim, Mushtaq and Arshed (2016) made an effort in this direction but their study suffered from a number of problems including (1) misspecification of the model as other determinants of economic growth such as conventional finance, government spending, and trade openness were excluded from the model which caused biasness; (2) the ignorance of the two way causation that exists between economic growth and Islamic finance and thus their estimates were not only biased but also inconsistent due to the presence of endogeneity in their model; and (3) the use of a short span of data and the fact that almost all the short run coefficients were insignificant. We overcame these problems by including various control variables in our model along with Islamic finance. Further, we used GMM and 2SLS methods of estimation to overcome the problem of endogeneity and also used relatively longer quarterly data from 2006Q3 to 2017Q4. The main objective of our study was to explore the impact of Islamic and conventional finance on economic growth. Moreover, we also

investigated the impact of various control variables such as government spending, investment, trade openness and inflation on economic growth.

The remaining paper is structured as follows. Section II comprises literature review. In Section III, theoretical framework and empirical model are presented. Details about the estimation methods are given in Section IV. The results and their discussion is provided in section V. Finally, Section VI concludes the study.

2. Literature Review

The relationship between financial development and economic growth is widely debated. Researchers in the past focused on the direction of causality between financial development and economic growth. The direction of causality is important because it has implications for policy making. For example, in the situation of supply leading, policies should emphasize the development of the financial sector. On the other hand, more attention should be given to growth enhancing policies in the case of demand following situations (Calderon & Liu, 2003). Authors like Schumpeter (1934), Goldsmith (1969), McKinnon (1973), and King and Levine (1993) considered finance as an important component of economic growth. Due to its intermediary role in investment, Schumpeter (1934) foresaw banking sector as the engine of economic growth. A highly competitive financial sector increases the availability of funds for investment and innovation in technology. It ensures the financial flow according to the needs of businesses by channelizing the savings of households and businesses. The intermediary role of the financial sector in business is carried out by offering an efficient, trustworthy and wide ranging payment system. Patrick (1966) presented the opposing view of demand following. In this view, economic growth in the real sector leads to enhanced financial development.

Goldsmith (1969) was perhaps the first researcher to analyze the nexus of growth and finance. The study used data of 35 countries between 1860 and1963 and concluded that financial structure expedites economic growth as it transfers funds to the best users in the economy, where the funds thus transferred produce the highest social return. King and Levine (1993), based on their analysis of 80 countries, concluded that the financial sector influences economic growth positively. Levine (1999) found that the liquidity of stock market and banking development increase the contemporaneous and future rates of economic growth. The study of Levine et al. (2000) showed the positive impact of finance on economic growth. Analyzing the quarterly data of five developed countries, Arestis, Demetriades and Luintel (2001) found that economic growth is positively influenced by financial sector development and stock markets. The study by Fase

and Abma ([2003](#)) concluded that the financial sector plays a supply leading role which helps in transferring resources to the high growth sectors of the economy from the traditional low growth sectors. Abu Bader and Abu Qarn ([2005](#)) revealed that financial development in Egypt increased investment efficiency and capital accumulation which accelerated economic growth. Kenourgios and Samitas ([2007](#)) explored financing in Poland as one of the main determinants of long run economic growth. Using threshold regression, Huang and Shu ([2009](#)) reported a deeper impact of financial development on the economic growth of low income countries. On the other hand, studies including Odedokun ([1992](#)), Demetriades and Hussein ([1996](#)), Al-Yousif ([2002](#)) Shahbaz, Ahmed and Ali ([2008](#)), and Abduh and Omar ([2012](#)) found a bidirectional link between economic growth and financial development.

Some studies also focused on the relationship between Islamic finance and economic growth. Among them, Furqani and Mulyany ([2009](#)) for Malaysia and Abduh and Omar ([2012](#)) for Indonesia found evidence for the existence of a bidirectional relationship between them. Abduh and Chowdhury (2012) for Bangladesh concluded that both total finance and total deposits of Islamic banks have a positive impact on economic growth in the short as well as in the long run. Ghak and Zarrouk et al. ([2017](#)) for UAE determined that financial development causes economic growth. Kalim et al. ([2016](#)), using quarterly data from 2006Q1 to 2013Q4, found the positive impact of Islamic finance and the products of Islamic banking on the economic growth of Pakistan.

3. Theoretical Framework and Model Building

Financial sector plays a vital role in the transfer of funds from small savers to large investors. The resources are thus transmitted from the traditional sectors to the modern ones and are used to promote entrepreneurship. As a result, output and the availability of funds for the future increase. Borrowing cost also decreases which in turn encourages investors to make a large investment. Cameroon, Crisp, Patrick and Tilly ([1967](#)) emphasized the role of banks in boosting technological enhancement as most technical innovations are launched by firms operating with banks' financing. It is also argued that an increase in economic growth leads to an increased demand for financial services to invest in the rapidly growing sectors of the economy (Patrick, [1966](#)).

We used real Gross Domestic Product (GDP) to represent the real sector of the economy. To establish the relationship between GDP (economic activities) and the financial sector, we divided the financial sector into Islamic finance and conventional finance. Islamic finance included both total finance and net

investment by Islamic banks. These are the sources of mobilizing *Shari'ah* compliant funds from the surplus units of the economy to financing business sector's needs and thus capture the ability and provision of funds by Islamic banks. The provision of interest-based financing by conventional institutions was represented by the credit given to the private sector and served well for comparing the role of the two sectors in the economy. The general form of the relationship between GDP and the financial sector can be represented by the following equation,

$$Y_t = (TFI_t, CR_t) \tag{1}$$

where Y_t is real GDP at time "t", while $TFI_t\ and\ CR_t$ stand for "total finance made by Islamic banks" and "credit given to the private sector by conventional banks" at time "t", respectively.
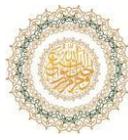
In order to avoid the problem of omitted variable biasness, other control variables such as investment, government spending, trade openness and inflation were also included in the model. For investment (I), we used "gross fixed capital formation" as proxy. Government expenditure (G) was used to represent the size of the public sector. To capture the possible role of external sectors, we used trade openness (OPP)- exports plus imports - as a ratio of GDP. Trade openness usually affects GDP growth negatively in the case of countries like Pakistan due to weak compatibility of domestic market with foreign markets. This is also shown by the huge deficit of current account in Pakistan. Inflation is another determinant of economic growth used as an indicator of macroeconomic stability. Its influence on growth depends on the decisions about consumption, savings, financing and investments made by households, businesses and financial institutions. To capture the impact of the increase in overall general price level (inflation) on economic growth, we used CPI in our analysis. Similar variables were used as determinants of GDP by Patrick ([1966](#)), Demetriades and Hussein ([1996](#)), Al-Yousif ([2002](#)), Honohan ([2004](#)), Furqani and Mulyany ([2009](#)), Abduh and Omar ([2012](#)), Kasim (2016), Zarrouk et al. ([2017](#)).

After incorporating the above variables, equation (1) can be written as follows,

$$Y_t = (TFI_t, CR_t, I_t, G_t, OPP_t, CPI_t) \tag{2}$$

For the purpose of estimation, we used the following stochastic form of the mode,

$$lnY_t = b_1 + b_{tf}lnTFI_t + \alpha_{cr}lnCR_t + \alpha_i lnI_t + \alpha_g lnG_t + \alpha_{opp}OPP_t$$
$$+ \alpha_{inf}lnICPI_t + \mu_t \tag{3}$$

where "ln" represents natural log and μ_t is the stochastic error term.

All the variables were used in real terms and were converted into log except trade openness. Data on all variables except **Islamic finance** was taken from the "World Development Indicators". Data on **Islamic finance** was taken from the quarterly reports of the Islamic Banking Bulletin, SBP. Data on GDP, Islamic finance, credit given to the private sector, investment, government expenditure, and exports and imports was in billion rupees. Prior to statistical analysis, we converted all annual variables into quarterly variables. For this purpose, we used the methodology given in Hanif, Iqbal and Malik (2013).

4. Methodology

As required in time series analysis, we tested the time series properties of the variables before estimating the model using the conventional regression methods. If non-stationary time series variables are not co-integrated then the results obtained through the conventional regression methods are spurious. Therefore, firstly we tested the existence of co-integration among the variables before estimating our model. For this purpose, in the first step we applied the following Augmented Dickey Fuller (ADF) test proposed by Dickey and Fuller (1979) to check the stationarity of the variables.

$$\Delta Y_t = \alpha + \delta t + \gamma Y_{t-1} + \sum_j^m \beta_j \Delta Y_{t-j} + \varepsilon_t \qquad (4)$$

Under the null hypothesis, ADF test assumes that the variable is non-stationary ($H_0: \gamma = 0$) against the alternative that it is stationary ($H_0: \gamma < 0$).

After confirming that all variables were non-stationary at level and were integrated into the same order, we applied Johansen co-integration test to check the existence of a long run relationship among these variables. Johansen co-integration test is based on two test statistics - λ_{trace} and λ_{max}. Both test statistics were calculated using the eigenvalue of stochastic matrix. The null and alternative hypotheses of the λ_{trace} test are given below.

H_0: There are at most r co-integrating equations.
H_A: There are more than r co-integrating equations.

Trace Statistics was calculated as

$$\lambda trace(r) = -T \sum_{i=r+1}^{k} \ln (1 - \hat{\lambda}_i). \qquad (5)$$

The null and alternative hypotheses of the λ_{max} test are given below.

H_0: There are exactly r co-integrating equations.

H$_A$: There are exactly r+1 co-integrating equations.

Max Statistics was calculated as

$$\lambda\max(r, r+1) = -T\ln(1 - \hat{\lambda}r + 1). \qquad (6)$$

Here, $\lambda r + 1, \lambda r + 2, \dots, \lambda k$ are the smallest k-r eigenvalues and T is the number of observations. We tested $r = 0$ and continued testing until we failed to reject the null hypothesis. Once it was established that all the variables were integrated into the same order and were co-integrated, then we estimated the impact of the independent variables including Islamic finance on economic growth using equation (3). Due to the presence of endogeneity (two way causation between dependent variable and independent variables), we used the instrumental variable method GMM for our estimation.

5. Results and Discussion

As limited data is available on Islamic finance, therefore, we used quarterly data spanning from 2006Q3 to 2017Q4. For the existence of unit root, we applied ADF test to all variables. The results are presented below in Table 1.

Table 1
ADF- Unit Root Test

Name	Level	1st Difference
Log Gross Domestic Product	-1.22 (0.89)	-6.07 (0.00)
Log Islamic Finance	-3.12 (0.11)	-5.63 (0.00)
Log Conventional Finance	-3.25 (0.53)	-6.48 (0.00)
Log Government Spending	-2.65 (0.26)	-15.40 (0.00)
Log Investment	-0.51(0.98)	-3.52 (0.05)
Trade Openness	-2.05 (0.56)	-8.23 (0.00)
Log CPI	-0.86 (0.95)	-5.73 (0.00)

Note: values in parenthesis are Mackinnon P-values

The results of ADF test show that all the variables are non-stationary at level as we cannot reject the null of unit root in case of all variables. However, after taking the first difference we rejected the null of unit root and all the variables turned out to be stationary. So, we can conclude that all variables are integrated into the same order, that is, I (1).

After confirming that variables in our model are integrated into the same order, we applied Johansen co-integration test for determining the existence of a long run relationship among them. The results of Johansen co-integration test are summarized below in Table 2.

Table 2
Johansen Co-integration Test

Hypothesized No. of Co-integrated Equation(s)	Eigenvalue	Trace Statistic	Critical Value (0.05)	Max Statistic	Critical Value (0.05)
None	0.749	170.79*	139.28	60.80*	49.57
At most 1	0.572	109.98*	107.35	37.31	43.41
At most 2	0.481	72.67	79.34	28.87	37.16
At most 3	0.387	43.81	55.25	21.48	30.82
At most 4	0.217	22.33	35.01	10.78	24.25
At most 5	0.202	11.55	18.40	9.90	17.15
At most 6	0.037	1.65	3.84	1.647	3.84

Both Trace and Max Statistics confirm the existence of a co-integrating relationship among the variables. The results show that we can reject the null of co-integration equation. However, according to Trace Statistics there are two co-integrating equations. While on the basis of Max Statistics, there exists only one co-integrating equation. Johansen and Juselius (1990) recommended the use of Trace Statistics in case of conflicting results.

After confirming that there exists a co-integrating relationship among the variables, we estimated equation (3) by both GMM and 2SLS regression methods. We used GMM and 2SLS due to the presence of the endogeneity problem in our model, where right sided variables depended on the left sided variable - GDP. Further, there was an inherent problem of autocorrelation in our model due to time series nature of our data. GMM not only handles the problem of endogeneity but also reports autocorrelation-hetroscedasticity consistent standard errors. Table 3 reports both GMM and 2SLS estimates.

Estimates obtained from both methods do not vary too much. All coefficients not only carry the same signs but also carry almost the same magnitudes. The findings from both GMM and 2SLS are consistent and confirm that financial sector development matters for the enhancement of economic growth. The coefficients of Islamic finance and conventional finance from both GMM and 2SLS methods are positive and are highly significant. The positive sign of Islamic finance is according to the theoretical expectation. The result proposes that Islamic finance fulfills some specific types of requirements of economic agents - households and firms - which otherwise would have remained unfulfilled and thus the associated increase in economic growth would have been forgone. This is consistent with the findings of Abduh and Omar (2012) for Indonesia, Yusof and
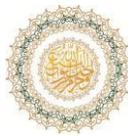
Bahlous ([2013](#)) for Malaysia, Indonesia, and GCC countries, and Kassim ([2016](#)) for Malaysia. Similarly, the positive coefficient of conventional finance indicates that channelizing funds through conventional banks creates real economic activities and thus enhances economic growth[1]. These findings also suggest that Islamic finance does not substitute the conventional finance; rather, it complements the conventional finance. These findings are aligned with Imam and Kapodar ([2016](#)) for the sample of 52 countries.

Table 3
Dependent Variable log GDP

Variable	GMM	2SLS
Constant	12.79*	12.70*
	(0.58)	(0.62)
Log Islamic Finance	0.051*	0.050*
	(0.010)	(0.011)
Log Conventional Finance	0.080*	0.079*
	(0.016)	(0.016)
Log Government Spending	0.013*	0.013**
	(0.004)	(0.005)
Log Investment	0.167*	0.168*
	(0.024)	(0.037)
Trade Openness	-0.089*	-0.092**
	(0.034)	(0.037)
Log CPI	-3.37*	-3.33*
	(0.271)	(0.294)
Log CPI-Squared	0.40*	0.394*
	(0.029)	(0.032)
R-squared	0.998	0.998
F-statistic	2558.1	2621.2
Probability	(0.000)	(0.000)
J-Statistic	0.108	0.108
Probability(J-Statistic)	(0.74)	(0.74)
Endogeneity Test (Chi2)	5.99	5.94
Probability	(0.05)	(0.05)

Note: values in parenthesis are standard errors.

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[1]Although 1% increase in Islamic finance brings a smaller (0.051%) increase in economic growth as compared to conventional finance (0.08%); however, these coefficients are not directly comparable and should be interpreted with caution as the size of Islamic finance is smaller relative to conventional finance.

The impact of other control variables is just as expected. Government spending was found to stimulate economic growth as shown by its positive coefficient and thus the economy grows faster with the increase in government spending. The accumulation of physical capital as represented by investment carries a positive sign indicating that with the increase in investment, economic growth can be increased. Investment increases the productive capacity of an economy and thus accelerates the pace of economic growth. The sign of the coefficient of openness is negative which is not surprising given similar findings in previous studies such as that of Kim, Shu and Yu (2011) for developing countries, Hye (2012) for Pakistan, and Hye and Wee (2015) for India. It is the case with the majority of developing countries. Being weaker in competitiveness, globalization and free trade movement always cast a negative impact on the current account situation of the developing countries and thereby deteriorates their economic growth. Finally, the impact of inflation was found to be non-linear on economic growth.

6. Conclusion and Recommendations

The aim of the study was to analyze the impact of the financial sector, with special reference to Islamic finance, on economic growth. The availability of profit and loss sharing financing viz a viz interest-based financing is a matter of deep concern for a country like Pakistan. This is an issue related to the beliefs of the people. There has been a continuous increase in the demand for Islamic banking products in Pakistan. Consequently, there has been a consistent increase in the number of banks and branches offering financial services based on Islamic guidelines. We found a positive impact of financing by Islamic banks on the economic growth of Pakistan. In the light of the findings of this study and the trends signifying the demand of Islamic financial services in Pakistan, there is a need of reactivating the role of this sector in enhancing the real economy. Currently, Islamic finance has a small share in the overall banking industry. Hence, there is a need of not only increasing the share of Islamic finance but also the institutions offering Islamic financial services need to be competitive and innovative in nature to meet the increasing demand by households and industrial clients. The government should not only encourage the existing Islamic banks to increase their branches but should also stimulate the establishment of new Islamic banks, especially in the rural areas.

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