



Do Islamic Banks Perform Better than Conventional Banks?

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Abstract: This study aims to compare the performance of Islamic and conventional banks in Pakistan for the period 2007-2016. For the purpose, the study first employs CAMELS composite rating to find the ratios to highlight the managerial and financial performance of the banks. The study then uses logistic regression technique for the performance comparison of Islamic and Conventional banks. The composite rating results reveal that both Islamic and conventional banks fall in rank 3 and need help from regulatory authorities to improve the performance of banking sector in Pakistan. Furthermore, the logistic regression results reveal that Islamic banks perform well in asset quality, management adequacy and sensitivity to market risk whereas conventional banks are efficient in capital adequacy and liquidity. Robustness of results is achieved by performance comparison of the same size Islamic and conventional banks. This analysis is important because Pakistan's banking sector is hybrid where both Islamic and conventional banks work in the same environment and under the same regulator. Findings of this study are not only useful for Islamic and conventional banks operating in Pakistan but would also help the policymakers in devising future policies.

Keywords: Islamic banking, Conventional banking, Financial ratios, Financial performance, Logistic regression, CAMELS model, Aggregate composite ranking

JEL Classification: G20, G21, G29

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Introduction

Well-functioning and sound banking system provides safety and stabilization to an economy. In Pakistan, since 2000, banks have been operating either in the form of Islamic banks (interest free) or conventional banks (based on interest). The aim of the conventional banks is to earn profit while Islamic banks aim to earn profit as well as achieve economic stability to ensure that there is no customer exploitation (Saleh & Zeitun, 2006). Conventional banks operate since the seventeenth century while Islamic banks started their operations in the last decade of the 20th century and rapidly grew especially in Muslim countries. Although Islamic banks are new entrants but due to the rapid growth of Islamic banks a debate is generated among researchers on the performance of both types of banks. Many studies have been conducted to examine the performance of Islamic and conventional banks in different countries as well as in Pakistan (Erol et al., 2014; I. Khan et al., 2017; Majeed & Zanib, 2016). Currently there are twenty-one banks in Pakistan that include five full-fledged Islamic banks with 1250 branches and sixteen conventional banks with 931 Islamic branches and 1220 Islamic windows. Total assets of Islamic banking have grown to PKR.1853 billion and deposits up to PKR.1573 billion and in banking industry share of Islamic bank assets and deposits is 11.7 and 13.3 percent respectively. Profit after tax is recorded at 11.8% on 31 December 2016 (State Bank of Pakistan, 2016).

Pakistan's banking sector is hybrid of Islamic and conventional banks. Conventional banks are working from the first day of independence while Islamic commercial banks are new entrants and are rapidly growing in Pakistan. Both Islamic commercial banks and conventional commercial banks work in the same environment and under same regulator, therefore, a study is required to compare the performance difference of Islamic and conventional banks. The aim of this study is to investigate using CAMELS model whether there exists any performance difference between Islamic and conventional banks in Pakistan. This study also investigates whether the size of a bank affects its performance. Lastly, this study also investigates how CAMELS composite rating changes the performance of both types of banks.

This study compares and contributes to the empirical literature in several ways. Firstly, we have used a time period of 10 years for all banks operating in Pakistan. After reading previous literature we have found that other studies that have been conducted have either considered shorter periods or fewer banks. Second importance of this study is that our study used aggregate CAMELS composite rating for performance difference between all Islamic and conventional banks of Pakistan for a period of ten years. Neither such a long period nor a comparison have not been

done for Islamic and conventional banks in Pakistan on aggregate composite rating scale has not been investigated in earlier literature to the best of our knowledge which we have never seen in literature for such long-time period and even. The last element which differentiates this study from pervious literature is that this study includes six components of CAMEL i.e. sensitivity to market risk, which have rarely been used in previous studies.

Literature Review

Modern interest free banking originated with the birth of “MitGhamr” bank which was developed in Egypt and was rapidly copied by other Islamic as well as European countries (Erol et al., 2014). Later on, OIC decided to establish “Islamic Development bank” in 1974. In Pakistan the first attempt towards making an Islamic bank was made in January 2001, when the State Bank of Pakistan (SBP) started its drive towards developing an interest free banking system under its department named “Islamic banking Department”. The first license for Islamic banking was issued to Meezan bank in 2002 which hence became the first full-fledged Islamic bank of the country.

Different studies have been conducted using CAMELS technique to compare the performance of conventional and Islamic banking systems, and the results found have been different for different regions and different techniques. In Pakistan, CAMELS model was used by (Jaffar & Manarvi, 2011; Kouser & Saba, 2012; Rehana et al., 2011) to compare the performance of Islamic and conventional banks, where the result of the former study was in favor of Islamic banking but the latter two found it less efficient as compared to the conventional banks. Moreover, (Azizuddin et al., 2016) comparisons in term of performance measurements and evaluation of the financial health for both type of banks are essential. The main purpose of this study is to analyse the differences between Islamic and commercial banks performance. Five years secondary data were collected from the annual report for each bank. Return on Asset ratio is chosen as the dependent variable, while capital adequacy, asset quality, management quality, earning, liquidity and sensitivity to market risk (CAMELS concluded in their study in Malaysian context that Islamic banks were less efficient in term of capital adequacy and asset quality as compared to conventional banks in the period from 2010 to 2014. Similar results were found by other studies like Islam & Ashrafuzzaman (2016)t-test(independent sample who used T-test to check the significance of the CAMEL variables and found that significant difference existed in asset quality and all other variables. Mohammad et al. (2017) found that the earnings of five Islamic and five conventional banks in Bangladesh

are almost same, but the management and asset quality of Islamic banks is lower than conventional banks. Further Islamic banks were found best in terms of their capital adequacy and liquidity from 2010 to 2014. Doumpos, Hasan, & Pasiouras (2017) used CAMEL based ratios to examine the performance of Islamic banks vs conventional banks, and conventional banks vs Islamic windows for 22 OIC country banks by using overall financial strength index for time series 2001-2011 and found Islamic banking to be in sound position as compared to conventional banking system. Hadriche (2015) also found Islamic banking in a dominant position after comparing the performance of Islamic and conventional banks in GCC based on CAMEL ratio for an eight-year duration (2005-2012). Moreover, Ahsan (2016) Export Import Bank of Bangladesh Limited, Shahjalal Islami Bank Limited also found Islamic banking system better as compared to conventional banking system while using CAMEL model ratio for Bangladesh.

Erol et al. (2014) applied logistic regression approach on CAMELS based ratio for the comparison of Islamic banks and commercial banks in Turkey for the period, 2001 to 2009. According to results of the study the Islamic banks are performing well in earning power while conventional banks are showing better performance in term of capital adequacy, liquidity and sensitivity to market. According to I. Khan et al. (2017) Islamic banks have shown better performance in terms of risk, profitability, efficiency and liquidity management, while conventional banks have a better position in asset quality.

Rahman & Rashidah (2013) conducted a study to find a composite rating for Malaysian conventional and Islamic banks using CAMELS approach for 2008-2011. They concluded that Islamic and conventional banks mostly serve their clients similarly with composite rating 2.81 for both types of banks. Management for both banks is ranked 1 with mean value 1.00 followed by asset quality of Islamic banks, 1.88 and conventional banks, 1.93 while, conventional banks are prior in capital adequacy (1.92) and earning (3.25) relative to Islamic banks (2.31 and 4.13).

Rashidah & Mazni (2014) Asset Quality, Management Quality, Earnings Efficiency, and Liquidity applied CAMEL based rating technique with the addition of sharia compliance to find the financial distress of Malaysian Islamic banks. The study included data of seventeen Islamic banks for the time frame, 2006 to 2010. The results show that Islamic banks have high capital adequacy, asset quality ratio, earnings and liquidity indicating that Islamic banks can better face the financial crisis whereas for management quality ratio they found that Islamic banks maintain a low ratio. Some other studies (Hassene & Kais, 2016; Kakakhel et al., 2013; Wasiuzzaman & Gunasegavan, 2013) especially when it comes to their profitability,

capital adequacy, liquidity, operational efficiency and asset quality are also considered. Corporate governance issues and economic conditions are also included in the analysis. Design/methodology/approach: A total of 14 banks (nine conventional and five Islamic have used financial ratios for comparing performance of Islamic banks with conventional banks. Wasiuzzaman & Gunasegavan (2013) especially when it comes to their profitability, capital adequacy, liquidity, operational efficiency and asset quality are also considered. Corporate governance issues and economic conditions are also included in the analysis. Design/methodology/approach: A total of 14 banks (nine conventional and five Islamic used financial ratios for 5 Islamic and 9 Conventional banks for the period 2005-2009. Their results specify that return on average asset, bank size and board size is better for conventional banks while conventional banks perform lesser in terms of profitability, asset quality, operational efficiency, liquidity, capital adequacy and board independence. Aziz, Husin, & Hashmi (2016) have taken the average value of different ratios to compare the performance of both banking systems and have found that conventional banks in Pakistan are performing better in advances, investment, liquidity, deposits and capital while Islamic banks are better in terms of spread and liquidity.

Massah & Al-Sayed (2015) have used ratio of profitability, liquidity, solvency and credit risk for the period 2008-2014 for 5 Islamic and 11 conventional banks in UAE. Their study findings indicate that Islamic banks show better performance in terms of liquidity while conventional banks are superior in profitability, solvency and credit risk. Samad (2004) conducted a comparative study for Islamic and conventional banks operating in Bahrain from 1991 to 2001. Nine financial ratios were used to check the profitability, liquidity and credit risk performance. The study found that due to maintaining high equity per capita the Islamic banks' performance in terms of credit risk was superior than that of interest based conventional banks. Awan (2009) conducted a study for a comparison between Islamic and conventional banks using a sample of 6 conventional and 6 Islamic banks for the period, Sep 2006 – Sep 2008. The author found that all the ratios of earning, asset quality, debt management, liquidity and solvency were better for Islamic banks. Kakakhel et al. (2013) conducted their study to compare the performance of two conventional and two Islamic banks using liquidity, profitability, solvency and activity analysis to measure their overall performance for the period 2008 to 2010 and found that conventional banks perform better in Pakistan.

CAMELS model is very effective, efficient and accurate tool to measure the performance of financial institution (Rostami, 2015). CAMELS method is one of the widely practiced and applicable methods in financial and managerial analysis, evaluation and assessment in banks and other financial firms (Erol et al., 2014).

The undergoing study employed logistic regression model on CAMELS based ratio to compare the performance of Islamic and conventional banks in Pakistan. Previous studies conducted on this topic in Pakistan have a limited scope with respect to the number of banks they investigate, and methodologies used by them for performance comparison and robustness of results. Current study birdges this gap by investigating an extended time period of ten years using CAMELS ratios from all Islamic and conventional banks. Furthermore, robustness of results is ensured by using different methodologies and splitting the sample according to the size of the banks.

Data, Model and Methodology

This study first compared the performance of four Islamic and twenty-five conventional banks, and then three small size Islamic banks and eleven small size conventional banks (banks are selected using Klynveld Peat Marwick Goerdeler (KPMG) criteria based on 10-year average value of assets). Lastly, a comparison of performance of all banks operating in Pakistan is made on the basis of their composite rankings. The secondary data was extracted from financial statements, Balance sheets and annual reports for each bank for the period, 2007-2016. This sample period was chosen because of the availability of data for this period as most of the banks started their operations as Islamic banks during or after year 2006. Studies including (Azizud-Din et al., 2016; Erol et al., 2014; Jaffar & Manarvi, 2011; Karapinar & Dogan, 2015; Kouser & Saba, 2012) use financial ratios based on CAMELS model to compare the performance of Islamic and conventional banks. To investigate and measure the performance, financial ratios are the best tool. The CAMELS method is one of the widely practiced and applicable methods in financial and managerial analysis, evaluation and assessment in banks and other financial firms. Therefore, in this study, ratios including Capital adequacy, Asset quality, Management efficiency, earning power, Liquidity, and Sensitivity to market risk (CAMELS) are utilized to compare the performance of Islamic and conventional banks in Pakistan. Until 1996 first five elements were considered as CAMEL model. Sensitivity to market risk was added to CAMELS model in 1997, (Karapinar & Dogan, 2015). CAMEL and details of its ratios are given in table 1.

Table 1*Ratio Used to Predict the Six Component of CAMELS Model*

Variables	Ratios
Capital adequacy	Shareholders' equity/total assets (E/TA)
Asset quality	Fixed assets/total assets (FA/TA)
	Non-performing loans/ total loans (NPL/TL)
Management adequacy	Operating expenses/total assets (OE/TA)
	Operating expenses/total Revenue (OE/TR)
Earnings power	Income before taxes/total assets (PBT/TA)
	Income after taxes/total assets (PAT/TA)
Liquidity	Total liquid Assets/total assets (TLA/TA)
	Advances/deposits (AD/DE)
Sensitivity to Market Risk	Foreign Exchange assets/Foreign exchange liabilities (FXA/FXL)
	Total Investment in Securities/total asset (TS/TA)

Composite Ranking of Islamic and Conventional Banks

All commercial banks operating in Pakistan were selected to check composite performance of Islamic and conventional banks. By using CAMELS based financial ratios, regulator can rank as well as rate the performance of banks. A regulator can assign 1-5 rating scale to banks based on their performance using CAMELS model. This 1-5 rating scale will be assigned to each bank based on the averages of the variables used in CAMELS model. A bank will be rated one if it performs WELL in all aspects while a bank will be rated 5 when it performs the WORST.

Table 2*Interpretation of CAMELS Composite Rating*

Rating	Rating Range	Rating Analysis	Interpretation
1	1.0-1.4	Strong	Bank is safe and sound in all aspects.
2	1.5-2.4	Satisfactory	Bank performance is good but still has some weaknesses
3	2.5-3.4	Fair, with some categories to be watched	Bank has financial, operational, or compliance weaknesses that give reasons for supervisory concerns.
4	3.5-4.4	Marginal, with some risk of failure	Bank has serious financial weaknesses that could damage future capability to ensure normal growth and development.
5	4.5-5.0	Unsatisfactory with a high degree of failure	Bank has critical financial weaknesses that show a possibility of solvency to occur extremely soon.

Source: (Rahman & Rashidah, 2013)

The current study investigated the performance level of Islamic and conventional banks operating in Pakistan. (Rahman & Rashidah, 2013) classified the ratios into different classes as shown in table 3 below.

Table 3
Ratio Classification for Components of CAMELS Rating

CAMELS Components	1	2	3	4	5
Capital Adequacy Ratio	Above 11%	8% - 11%	4% - 8%	1% - 4%	Below 1%
Assets Quality Ratio	Below 1.5%	1.5%-3.5%	3.5%-7%	7%-9.5%	Above 9.5%
Management adequacy	≤25%	30% – 26%	38% – 31%	45% – 39%	≥46%
Earnings (ROA)	Above 1.50%	1.25%-1.50%	1.01%-1.25%	0.75%-1.00%	Below 0.75%
Liquidity Ratio	≤0.55	0.62 - 0.56	0.68 – 0.63	0.80 – 0.69	≥0.81
Sensitivity Ratio	≤0.25	0.30 – 0.26	0.37 – 0.31	0.42 – 0.38	≥0.43

Source: Rozzani & Rahman (2013), NCUA letter: 00-CU-08

Table 4
Descriptive Statistics

	E_TA	FA_TA	NPL_TL	OE_TA	OE_TR	PAT_TA	PBT_TA	TLA_TA	AD_DE	FXA_fXL	TS_TA
Islamic banks											
Mean	0.114	0.040	0.066	0.088	0.515	0.001	0.012	0.394	0.543	1.070	0.285
SD	0.079	0.026	0.057	0.229	0.216	0.009	0.031	0.296	0.117	0.393	0.166
Minimum	0.051	0.012	0.001	0.003	0.078	-0.028	-0.040	0.067	0.374	0.269	0.067
Maximum	0.427	0.107	0.229	1.077	1.261	0.015	0.098	1.562	0.767	1.955	0.859
Skewness	2.102	1.092	1.218	4.106	1.320	-1.095	1.378	2.960	0.390	-0.054	1.570
Kurtosis	7.631	3.180	3.954	17.929	5.555	4.127	5.005	12.386	1.859	2.923	5.865
Observations	40	40	40	40	40	40	40	40	40	40	40

Conventional banks											
Mean	0.130	0.027	0.134	0.027	0.383	0.012	0.011	0.400	0.579	0.834	0.358
SD	0.113	0.032	0.128	0.011	0.258	0.025	0.246	0.164	0.253	0.665	0.166
Mini- mum	0.016	0.000044	0	0.002	0.107	-0.064	-0.091	0.00004	0.013	-4.224	0
Maxi- mum	0.876	0.339	1	0.089	3.464	0.119	0.082	0.894	2.678	4.316	0.889
Skew- ness	2.949	7.398	2.362	1.179	7.551	1.097	-1.159	0.844	3.720	-1.001	0.032
Kurtosis	14.210	69.854	12.578	6.183	86.305	8.369	6.650	3.606	31.218	21.074	3.226
Obser- vations	250	250	250	250	250	250	250	250	250	250	250
Same size Islamic banks											
Mean	0.131	0.047	0.071	0.108	0.560	-0.002	0.010	0.378	0.567	0.994	0.277
SD	0.085	0.026	0.064	0.263	0.232	0.008	0.035	0.339	0.118	0.328	0.174
Mini- mum	0.051	0.012	0.001	0.003	0.078	-0.028	-0.040	0.068	0.375	0.284	0.068
Maxi- mum	0.427	0.107	0.229	1.077	1.261	0.007	0.098	1.562	0.767	1.772	0.860
Skew- ness	1.740	0.788	1.004	3.456	0.943	-1.419	1.427	2.794	0.155	-0.235	1.784
Kurtosis	6.001	2.627	3.098	12.996	4.670	4.393	4.287	10.264	1.713	3.322	6.549
Obser- vations	30	30	30	30	30	30	30	30	30	30	30
Same size Conventional banks											
Mean	0.188	0.023	0.134	0.032	0.489	0.132	0.006	0.423	0.574	0.806	0.334
SD	0.151	0.021	0.148	0.014	0.361	0.034	0.029	0.206	0.353	0.941	0.209
Mini- mum	0.022	0.00004	0	0.002	0.107	-0.064	-0.073	0.00004	0.013	-4.224	0
Maxi- mum	0.876	0.115	1	0.089	3.464	0.119	0.082	0.894	2.678	4.316	0.890
Skew- ness	1.826	1.605	2.374	0.470	5.694	-0.270	1.030	-0.008	3.354	-0.667	0.260
Kurtosis	6.910	6.211	13.010	3.995	46.290	4.122	4.449	2.860	20.014	12.444	2.755
Obser- vations	110	110	110	110	110	110	110	110	110	110	110

Table 4 includes the descriptive statistics for all the ratios used as CAMELS components for the four Islamic and twenty five conventional, as well as three small size Islamic and eleven small size conventional banks. The table shows that the mean values of asset quality, liquidity and sensitivity to market risk indicate better per-

formance for Islamic banks which in turn reveals that odds of failure are greater in these components or in conventional banks as compared to Islamic banks. The descriptive results further reflect that mean values of capital adequacy, earning power and management are higher for conventional banks which hence conventional banks are performing better in these components than the Islamic banks.

As two groups of Islamic and conventional banks are to be compared and the dependent variable used in this study is binary i.e. Islamic vs all conventional banks, and same size Islamic banks vs same size conventional banks, dummy dependent variable model (logit and probit model) is the best tool to examine the relationship between the two alternatives (Erol et al., 2014). Logit analysis is a frequently used method for calculating relationship between two alternatives. Logit analysis is thus used instead of ordinary least squares or discriminant analysis because it has been tested and found best for calculation (Erol et al., 2014; I. Khan et al., 2017). Logistic regression does comparison between different sizes of a peer group and is fit for configuration of this study. In logit model we can obtain the values for dependent variable based on independent variables $X_1, X_2 \dots X_n$.

$$P_i = E(Y=1 | X_{1i}, X_{2i}, \dots, X_{ki}) = 1 / (1 + e^{-z})$$

$$Z_i = \text{Logit}(Y) = \alpha_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \dots + \beta_k X_{ki}$$

Where P_i/Z_i or logit is treated as dependent variable and takes value 1 for Islamic banks and 0 for conventional banks. $X_{1i}, X_{2i} \dots X_{ki}$ are independent variables used for Capital adequacy, Asset quality, Management efficiency, earning power, Liquidity and Sensitivity to market risk, $\beta_{1i}, \beta_{2i} \dots \beta_{ki}$ are the coefficients of logistic regression and α_0 is constant variable. We used different proxies for the same variable for robustness purpose.

Results and Analysis

Table 5 provides the results obtained from logistic regression analysis, by using the CAMELS performance ratios. Model of fitness has been checked by Hosmer-Lemshow (HL) test. After applying Hosmer-Lemshow we got 7.75 value for Islamic and all conventional banks and 3.28 for same size Islamic banks. The probability of HL test shows it to be insignificant at 5 percent level suggesting that the model is fairly fits while comparing all Islamic banks with all conventional banks we got 17.28 which is significant at 5 percent level suggesting overall model is not fit.

Table 5*Logistic Regression Results*

	Variables	Islamicbanks- All conventional	Islamic banks-All conventional	Same size Islamic- Conventional banks
Capital adequacy	Share holders' equity/total assets	-7.265* [4.095]	-10.609*** [3.129]	-10.571*** [2.770]
Asset quality	Fixed assets/total assets	7.347** [3.707]		68.172*** [12.003]
	Non-performing loan/total asset		-13.982*** [3.694]	
Management adequacy	Operating expenses/total asset	72.479*** [18.044]		10.848*** [2.436]
	Operating expenses/total Revenue		1.506 [3.262]	
Earnings power	Income before taxes/total assets	15.902*** [7.323]		43.080*** [9.257]
	Income after taxes/ total assets		-49.788*** [11.984]	-7.193*** [1.711]
Liquidity	TC liquid Assets/ total assets	-3.728*** [1.337]		
	Advances/deposits		-1.820 [1.398]	
Sensitivity to Market Risk	FC assets/FC liabilities	1.541*** [0.374]		1.081*** [0.389]
	Total Security/total asset		-4.438*** [2.452]	
H-L statistic		7.75	17.28	3.28
p-value		(0.457)	(0.027)	(0.915)

Standard error is given in bracket & *** ** * show statistical significance at 1, 5 and 10% level

Results indicate that all conventional banks and same size conventional banks are superior in capital adequacy. Our results support the results obtained by (Erol et al., 2014; Jaffar & Manarvi, 2011; Rahman & Rashidah, 2013) however are conflicting to the results of (Islam & Ashrafuzzaman, 2016; T. Khan et al., 2018; Kouser & Saba, 2012). The results suggest that conventional banks are mostly large with huge bundles of asset and Islamic banks are new and small thus the Islamic banks perform less as compared to conventional banks. According to our results, asset quality of Islamic banks (FA_TA) is higher than their counter part conventional banks which shows that Islamic banks' management is performing better in utilizing bank asset. In case of non-performing loans performance of Islamic bank is poor compared to conventional banks. Since conventional banks' equity finance portion is higher than asset based financing, the asset quality performance of conventional banks is lower when compared to Islamic banks. Our study produces same results as obtained by (Erol et al., 2014; Jaffar & Manarvi, 2011; I. Khan et al., 2017; T. Khan et al., 2018). The failure of Conventional banks may be attributed to the financial crisis. Islamic banks remained sound in financial crisis as their investment was backed by physical assets (I. Khan et al., 2017). The results further signify that Islamic banks are less liquidated than conventional banks in Pakistan. Our results are different from ones obtained by some other studies conducted by (Erol et al., 2014; Karapinar & Dogan, 2015) for Turkey. As in Turkey, conventional banks act as the financier of the government and are required to maintain a considerable amount in their short-term asset portfolios. Due to this fact, conventional banks are highly liquidated in Turkey. These results are in contrast to the studies conducted by (Islam & Ashrafuzzaman, 2016; I. Khan et al., 2017; T. Khan et al., 2018; Rahman & Rashidah, 2013). These results suggest that Islamic banks are less risky (invest on the bases of asset) and maintain sufficient cash balances to meet customer obligations. Sensitivity to market risk of Islamic banks is higher compared to conventional banks and same size banks operating in Pakistan. Sensitivity to market risk tells us about the security/reserve of banks against fluctuations in exchange rates. Organization with high foreign exchange assets to foreign exchange liabilities ratio will be more trustable since based on our results Islamic banks foreign reserve ratio is high and more trustable in Pakistan as compared to their counterpart. These finding support the findings of (Karapinar & Dogan, 2015).

Table 5 signifies that all ratios perform differently for Islamic and conventional banks. The results copied in this table indicate that conventional banks perform well in capital adequacy and earnings. The earnings after tax for Islamic banks are very low compared to conventional banks which reveals that Islamic banks pay more tax as compared to their counterparts. In terms of asset quality and sensitivity to market risk, the performance of Islamic banks is better than conventional banks.

Composite Ranking of Islamic and Conventional Banks

To compare the performance of Islamic banks and conventional banks based on aggregate CAMELS rating, data is calculated from the annual reports of the selected banks and financial statements of SBP for the period from 2007 to 2016. CAMELS ratios are calculated for the period, 2007-2016 for all banks. These ratios are then ranked based on criteria specified in table 3. After that a composite rank is calculated for each bank under study. Two tail t-test is run on the composite rank values to check the significance among the ratios of Islamic and conventional banks and t-test results are mentioned in table 6.

The statistical results indicate that overall performance of both Islamic and conventional banks falls in rank 3 showing that both the banks are weak in different component areas. At this stage, both the banks should be monitored properly, if the banks are not properly monitored it may lead them towards bankruptcy. At this stage, management of banks is unable to control the situation and proper direction is required from regulatory authorities. The regulatory authority is required to help the banks' managements to recognize their weaknesses and provide solutions to in improv the performance of banks. In addition, the results reveal that Islamic and conventional banks ranked 2 in capital adequacy show strong performance and longtime survival. Asset quality for conventional banks is unsatisfactory (falls in rank 4), an instant supervision is required, and asset quality of Islamic banks is better than conventional banks but supervision is still required to improve the performance. The results show that Islamic banks in terms of management quality and earning power fall in ranks 4, hence their performance is considered unsatisfactory and requires an instant action from regulatory authorities whereas conventional banks fall in ranks 3 showing a slightly better performance however supervision is required from regulatory authority to improve their performance too. The composite rating table indicates that both banks are strong in liquidity. These results indicate that both banks can pay their liabilities on time. Conventional banks need help from regulatory authority to improve their sensitivity to market risk while Islamic banks are strong in sensitivity to market risk.

Table 6

Composite CAMELS Rating (2007-2016)

	Conventional Banks		Islamic Banks		Sig.
	Mean	Rank	Mean	Rank	
Composite	2.922	3	3.041	3	0.829
Capital adequacy (equity/total assets)	1.990	2	2.225	2	0.573
Asset quality (non-performing loans/total loans)	3.972	4	3.375	3	0.375
Management quality (operating expenses/total assets)	2.921	3	4.1	4	0.062*
Earnings quality (profit after tax/total assets)	3.338	3	4.475	4	0.115
Liquidity (advances/deposits)	2.148	2	1.9	2	0.612
Sensitivity to market risk (Total security/total assets)	3.161	3	2.175	2	0.065*

*t-value is significant at 10% level

Further, the statistical results for composite rating for Islamic and conventional banks indicate that the average composite mean values for Islamic banks (3.041) and conventional banks (2.922) are highly insignificant showing a very small difference in both types of banks. The t-test results reveal that there is no difference between Islamic and conventional banks of Pakistan and indicate that Islamic banks and conventional banks perform similarly. Same results are found for capital adequacy, asset quality, earnings quality and liquidity.

The composite rating table shows that management quality and sensitivity to market risk are significant at 10 percent level indicating that a difference exists between Islamic and conventional banks of Pakistan in the components namely, management quality and sensitivity to market risk. The results show that Islamic banks are efficient as compared to conventional banks in CAMELS component in terms of their sensitivity to market risk. It means that Islamic banks do not invest all their assets and instead keep some of these assets as a security to meet the challenges of the market. A study conducted by (Karapinar & Dogan, 2015) for Turkey also found the same results.

The composite rating results further indicate that conventional banks are more efficient in term of management quality (2.921) as compared to Islamic banks

(4.1). This shows that Islamic banks are less efficient in controlling operating expenditures than conventional banks. Islamic banks have newly entered the market and have less experience to control their operating expenses as compared to conventional banks. The results are consistent with the studies conducted by (Jaffar & Manarvi, 2011; Majeed & Zanib, 2016). Our results from the results obtained by (I. Khan et al., 2017; Rahman & Rashidah, 2013).

Conclusion

The results obtained from comparing Islamic banks with all conventional banks, and same size Islamic banks with same size conventional banks (using KPMG criteria) indicate that the performance of conventional banks and Islamic banks is different. The logistic regression results indicate that conventional banks perform well in capital adequacy, liquidity and earnings after tax. The earnings after tax of Islamic banks are lower than earnings of conventional banks which reveals that Islamic banks pay more tax as compared to their counterparts. In terms of asset quality and sensitivity to market risk, the performance of Islamic banks is better than that of their conventional banks. Further, by comparing Islamic banks and conventional banks based on aggregate CAMELS rating score we found that both the banks fall in rank 3 which indicates the need for help from regulatory authority to find out the area of weaknesses and take remedial action. Furthermore, the statistical results for composite ratings of Islamic and conventional banks indicate that the average composite mean value for Islamic banks (3.041) and conventional banks (2.922) is highly insignificant showing a very small difference for both types of banks. The t-test results reveal that overall, there is no difference between the performance of Islamic and conventional banks of Pakistan.

Recommendations of the Study

The performance of Islamic banks is worse in terms of management quality and earning power due to the lack of management training and awareness about Islamic banking. This study suggests that an awareness campaign should be initiated to increase the awareness about Islamic banking in public using electronic and social media. For creating awareness among people, universities in Pakistan should be taken on board and separate departments may be opened in their institutions, to train and produce scholars with vast knowledge of Islamic banks in order to improve Islamic banking efficiency in Pakistan.

Islamic banks grow slowly in Pakistan as compared to other countries due to the unfair imposition of liquidity requirement policy on both types of banks (I.

Khan et al., 2017). The results of this study also reveal that Islamic banks are less liquidated than conventional banks in Pakistan. Liquidity position of Islamic banks is better due to restriction on them regarding investing in projects which are considered illegal in Islam. The other reason is that Islamic banks in Pakistan mostly invest in Musharika and Murabaha etc. Instruments of financing like (bymajal, sukuk, mudarabah etc.) are rarely used because of better liquidity of Islamic banks in Pakistan. It is recommended that Islamic banks should utilize other sources of financing like ijaara, bamajal etc. to overcome the liquidity problem.

We have also found that the profit of Islamic banks after tax is very low compared to conventional banks. This study's results reveal a small difference between Islamic and conventional banks in terms of profit before tax but when we look at profit after tax of Islamic and conventional we observe a very huge difference between the two. According to previous literature (Awan, 2009), earnings after tax of Islamic banks is low because Islamic banks pay double tax i.e. once when they purchase commodities from a company and second when the Islamic banks sell those commodities to the clients. So, it is recommended that the government should develop a policy to ensure that Islamic banks pay tax single time and are not taxed twice. Lastly, another reason for low earnings after tax of Islamic banks is their high operating expenses and non-performing loan ratio compare to conventional banks in Pakistan.

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