INTERNATIONAL JOURNAL OF ISLAMIC ECONOMICS AND FINANCE STUDIES

Uluslararası İslam Ekonomisi ve Finansı Araştırmaları Dergisi

November 2018, Vol:4, Issue:3
Kasım 2018, Cilt:4, Sayı: 3

e-ISSN: 2149-8407
p-ISSN: 2149-8407

journal homepage: http://ijisef.org/

How Shariah Compliance and Traditional Banks are Performing? A Case of Pakistan

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Doi: 10.32957/ijisef.416706

Article Info:
Received: *18 April 2018*
Accepted: *16 September 2018*

Keywords:
Shariah Compliance Banks, Traditional Banks, Performance

JEL classification:
G2, G3

ABSTRACT

The study is conducted with the objective of comparing shariah compliance and traditional banks of Pakistan from performance perspective. The relative investigations are conducted by means of t-test, for the period 2010-2017. Ratios based on CAMELS approach are applied to identify the managerial and monetary performance of shariah compliance and traditional banks of Pakistan. It is observed that Shariah compliance banks are significantly better in managing capital adequacy, management adequacy/quality, earning ability, liquidity and sensitivity to risk as compared to their traditional counterparts. The findings reveal significant implications for policy makers in assessing the capabilities of Shariah compliance and traditional banks in Pakistan, and for ascertaining the direction of future banking system in Pakistan. Findings of the study also underpin awareness and trust in Shariah compliance banks of Pakistan. Furthermore, according to authors information, there is no comprehensive research in Pakistan that differentiate the performance of Shariah compliance and traditional banks by applying CAMELS approach on variables under study as well as on current data set.

Introduction

Evaluating the performance has always remained a topic of discussion among researchers and corporate readers. Performance in terms of banks is defined as a capability of establishing a sustainable profitability (Bank, 2010). Profitability is necessary for banks to gain a sound return on resources and to maintain sufficient funds for current activities. Banking transactions such as lending and borrowing actually accelerate the process of wealth consumption, exchange, production and distribution. Better performance acts as a means for encouraging shareholders to bring additional investment which leads to economic growth. On the contrary poor financial performance may lead to failure and crises of banking system (Ongore & Kusa, 2013). Therefore, performance of banks may necessary in the process of economic development of a country (Dincer, Gencer, Orhan, & Sahinbas, 2011).

In Pakistan, Shariah compliance banks have made a stable improvement, after the development of first Shariah compliance bank, the performance of Shariah compliance banking system have been progressing in an upward trend. According to Islamic banking bulletin, the assets and deposits of Shariah compliance banks in terms of market share in overall banking industry of Pakistan have reached 12.90 % and 14.80% respectively. Number of branches has also been improved, from 2589 branches till March 2018 to 2685 branches till June 2018[1].

Among various indicators of performance, financial ratios act as an important indicator of financial health of banking sector. A well-known framework for measuring banks performance is the CAMELS ratios. US federal regulators have developed this index in 1970s. It has six elements, namely Capital Adequacy, Asset Quality, Management adequacy, Earning ability, Liquidity and Sensitivity. These ratios serve as an in-house tool for measuring risk and allocating resources. These ratios are also used in determining the financial, managerial and operational strengths and weaknesses. Finally, these ratios also determine the overall banking conditions of a bank. Therefore, it is pertinent to identify whether Shariah compliance banking system is actually a doable business or Shariah compliance banks are merely following regulating bodies' instructions to promote Shariah compliance banking system in Pakistan.

Keeping in mind the intense competition, along with the pressing macro-economic condition it is vital to look into the performance of Shariah compliance banks to observe where the banks stand and how they are performing against their counterparts.

1. Objectives

The aim of this study is to ascertain, how Shariah compliance banks are performing relative to traditional banks in Pakistan. CAMELS approach based on ratios over the period 2010-2017 are applied to make a comparative examination of Pakistan's interest-free banking with its counterpart interest-based traditional banks.

1.1. Research Questions

In general, the study is conducted for answering the following research questions.

1. Are Shariah compliance banks relatively better than traditional banks in Capital adequacy?
2. Are Shariah compliance banks relatively better than traditional banks in Assets quality?
3. Are Shariah compliance banks relatively better than traditional banks in Management adequacy?
4. Are Shariah compliance banks relatively better than traditional banks in Earning ability?
5. Are Shariah compliance banks relatively better than traditional banks in Liquidity?
6. Are Shariah compliance banks relatively better than traditional banks in term of Sensitivity to risk?

This study is segregated into following sections. After the introduction of the study, the 2nd section covers the previous literature in the area. 3rd section presents the rational for hypothesis development. 4th section covers the methodology of the study. 5th section covers the results and analysis and 6th section covers conclusion and policy implications.

[1] http://www.sbp.org.pk/ibd/bulletin/2018/Jun.pdf

2. Literature Review

In early studies Ariff (1989) observed the performance of Shariah compliance banks in Malaysia, and observed that in early six years, Shariah compliance bank demonstrated a notable improvement. Samad (1999) and Samad and Hassan (1999) analyzed the ratios related to finance in late 90s. The study indicates that traditional banks are superior than Shariah compliance banks in-terms of managing risk associated with liquidity and competency of management. Azhar Rosly and Afandi Abu Bakar (2003) also found similar consequences for Shariah compliance banks operating in Malaysia. Accordingly Kamaruddin, Safab, and Mohd (2008) employed data envelopment technique (DET) for analyzing the performance of Shariah compliance banks of Malaysia. The analyses period was from year 1998 to 2004. They suggest that Shariah compliance banks are more cost effectual in making profits. In a study Hisham Yahya, Muhammad, and Razak Abdul Hadi (2012) analyzed the productivity level between Shariah compliance and traditional bank in Malaysia by applying DEA technique. The study period was 2006-2008. According to Hisham Yahya et al. (2012) Shariah compliance banks are able to maintain performance level equal to their traditional counterparts. Most recently Kamaruddin and Mohd (2013) found liquidity ratios and capital adequacy ratios of Shariah compliance banks are significantly better than traditional banks. Similarly Husna and Rahman (2012) found that Shariah compliance banks are above than traditional banks in dealing with capital adequacy and assets quality.

Comparing the banking performance in Bangladesh Sarker (1999) employed efficiency model for banks. He claimed that Shariah compliance banking products are different and there is a need to modify prudential regulation. It is observed that from year 1993-98 in terms of growth in deposit and investments private banks were showing low performance than public banks such as Shariah compliance bank of Bangladesh (Kabir Hassan, 1999). Most recently Ahsan (2016) conducted the study on Shariah compliance and traditional banks in Bangladesh. The study period was from year 2007-2014. He applied CAMEL analysis technique on three Shariah compliance banks operating in Bangladesh. He suggests that financial performance of all selected banks is superior in all CAMEL dimensions. Similarly Safiullah (2010) suggests that in terms of business development, liquidity, solvency and profitability Shariah compliance banks are far superior than traditional banks.

In another study comparing the performance of Shariah compliance and traditional banks in Bangladesh Islam and Ashrafuzzaman (2016) found that Shariah compliance banks plays a very good role in maintaining capital adequacy ratio and liquidity ratio. Another finding of their study is that assets quality of Shariah compliance banks is better than traditional banks.

In analyzing the performance of Shariah compliance and non-Shariah compliance banks of different countries for the year 1990-98, Iqbal (2001) found that Shariah compliance banks are more profitable, stable and capitalized than non-Shariah compliance banks. Bashir (2001) conducted a study for the period 1993-98 on eight Middle Eastern countries. He found that high leverage and large loans have significant impact on performance of Shariah compliance banks.

Saleh and Zeitun (2006) conducted a study to estimate the performance of Shariah compliance banks operating in Jordan, the analysis period was from 1998-2003. He suggests that in term of credit facilities and profitability there are more growth opportunities for Shariah compliance banks. Similarly in another study Alzghoul (2015), found that in managerial competency, liquidity and profitability Shariah compliance banks are better.

In term of participation banks in Turkey, Erol, F. Baklaci, Aydoğan, and Tunç (2014) conducted a study on Turkish banking sector and found that participation banks are superior than traditional commercial banks in profitability and asset quality ratios, however participation banks are more prone to sensitivity to risk. Later Karapinar and Dogan (2015a) found that participation banks are less sensitive to risk, however they are poor in managing liquidity and management adequacy. Most recently Akala (2018) found that non-participatory banks are superior than participatory banks in dealing with liquidity, capital adequacy and sensitivity to risk.

In the context of Saudi Arabia Saif-Alyousfi, Saha, and Md-Rus (2017) found that conventional banks have higher capital ratio, credit risk and liquidity ratio than Islamic banks, however higher capital ratio, credit risk and liquidity ratio are related with low shareholder's value in traditional banks, thus Islamic banks are performing better than traditional banks.

In the context of Pakistan Jaffar and Manarvi (2011) suggest that performance of Shariah compliance banks during the period 2005-2009 is better in terms of establishing adequate capital and better position of liquidity, in contrary traditional banks are above in establishing management and earning quality. Both groups of banks are almost same in term of asset quality. It is also observed that loan loss ratio of traditional banks is low due to improved loan recovery policy. However, according to Kouser and Saba (2012) Shariah compliance banks are performing better in managing expenses.

From literature it is evident that Shariah compliance banks are performing better than their traditional counterparts in most of the Shariah compliance countries. It is also evident studies related to comparison of performance under CAMELS standard are limited. Furthermore, selecting this particular area of study is supported by the fact that in Pakistan Shariah compliance banking activities are increasing significantly, the statement is supported by the growth of Shariah compliance banking assets. This study is differentiated from previous studies in term of sample, variables, study period and methodology.

3. Hypotheses

This section provides the basis and rational for hypothesis development. So, the study has following literature-based hypotheses.

3.1. Capital Adequacy

Level of financial leverage of any bank is called capital adequacy (Al Freahat, 2009). It is also described as the tendency of the bank to protect its depositors from sudden losses (Nimalathasan, 2008). The first hypothesis of the study is,

H-1 Shariah compliance banks have better capital adequacy than traditional banks.

3.2. Assets Quality

Ability of banks to recover its outstanding loan and advances at due time is called assets quality (Kabir & Dey, 2012). The second hypothesis of the study is,

H-2 Shariah compliance banks have better asset quality than traditional banks.

3.3. Managerial Quality

Managerial quality is a very important factor for determining the soundness of banks health and insurance (Roman & Şargu, 2013). Efficient management may result in increased profitability. Management should consist of professional competency and quality of service. Therefore management can be a factor in determining performance of banks (Muhmad & Hashim, 2015). Third hypothesis of the study is,

H-3 Shariah compliance banks are better than traditional banks in management adequacy.

3.4. Earning Ability

Assets and liabilities play a vibrant role in ascertaining the effectiveness and efficiency of earning quality of an institution. For attracting potential depositors, creditors and inventors a significant increase in earnings is necessary. Similarly, present and future prospects of an institution are dependent on the ability of earning and profits. Therefore ability of earning is an important determinant of financial performance of banks (Shar, ali Shah, & Jamali, 2010). Fourth hypothesis of the study is,

H-4 Shariah compliance banks have higher earning ability than traditional banks.

3.5. Liquidity

Liquidity position of banks is regarded as protecting solvency and ability to pay its current obligations. Banks need to keep enough liquidity for future loan requirements and unexpected drain of deposits. On the contrary excessive dependency on liquidity may affect profitability of banks. The prime cause of the failure of banks is the shortage of optimal level of liquidity (Liu & Pariyaprasert, 2014). The fifth hypothesis of the study is,

H-5 Shariah compliance banks have better liquidity management than traditional banks.

3.6. Sensitivity to Risk

According to Rostami (2015a) sensitivity ratios are those which are related to risk, these ratios are used to finalize banks' performance. In this study we have employed the sensitivity to risk ratio used by Rostami (2015a). The sixth hypothesis is,

H-6 Shariah compliance banks are less sensitive to risk than traditional banks.

Figure 1: Conceptual Frame Work

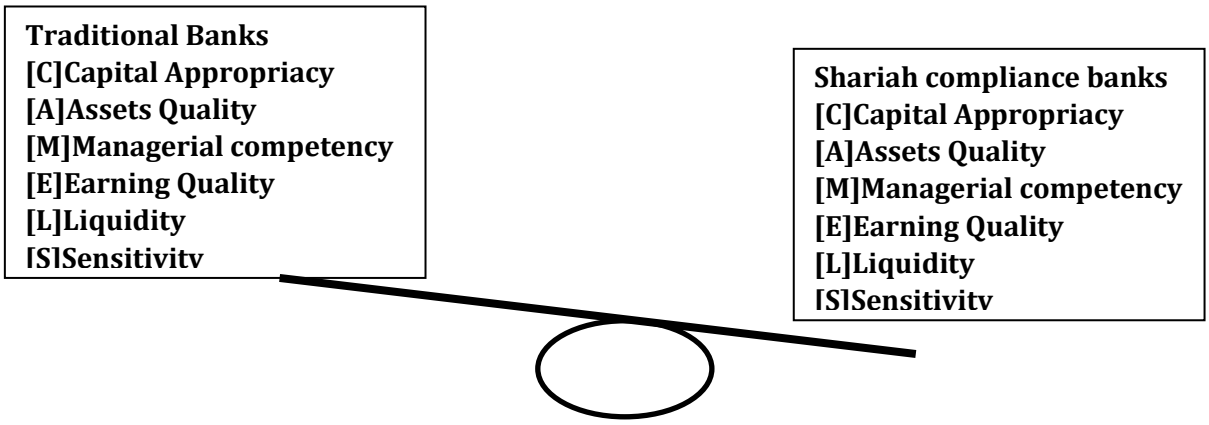


Figure 1 represents the conceptual framework, depicting the five-dimensional CAMELS structure of two groups of banks. On the basis of literature, it was ascertained that Shariah compliance banks performing better than traditional banks in all areas of performance.

4. Methodology and Data

CAMELS standard is applied to estimate the performance of Shariah compliance banks and traditional banks of Pakistan. CAMELS standard consists of six dimensions. Each dimension can be measured through different ratios. These ratios along with their measures are grouped in Table-1.

Table 1 :Variable and Their Calculations

	Symbol	Calculation	References
Capital Appropriacy (CA)	TCTA	Total capital to total assets ratio.	e.g (Erol et al., 2014)
	TLTC	Total loans to total capital ratio.	e.g (Kamaruddin & Mohd, 2013)
Asset Quality (AQ)	TLTA	Total loans to total assets ratio.	(De Jonghe & Öztekin, 2015)
Managerial competency (MC)	OETA	Operating expenses to total assets ratio.	e.g (Moussa, 2018; Olson & Zoubi, 2008)
	IETA	Interest expenses[2] to total assets ratio.	(Ara & Haque, 2015; Bennett, Güntay, & Unal, 2015)
Earning Quality (EQ)	NITA	Net income to total assets ratio.	e.g (Azhar Rosly & Afandi Abu Bakar, 2003; Du & Palia, 2018)
	NIITA	Net interest income[3] to total assets ratio.	e.g (Demirgüç-Kunt & Huizinga, 1999)
Liquidity (LQ)	LATA	Total liquid assets to total assets ratio.	e.g (Erol et al., 2014; Li, Chen, Gao, & Xie, 2018)
	LATD	Total liquid assets to total deposits ratio.	e.g (Ara & Haque, 2015)
Sensitivity (S)	PGL	Provision to gross loan	e.g (Rostami, 2015b)

[2] In Shariah compliance banks it is the profit paid to total assets.
3 In Shariah compliance banks it is profit earned to total assets.

4.1. Data Collection

Banking sectors data is obtained from financials such as profit and loss accounts, balance sheets and notes to the accounts of Shariah compliance and Traditional banks for each year. Means of eight years for each of the above ratios from year 2010 to 2017 are calculated to estimate the financial performance of Shariah compliance banks and Traditional banks.

4.2. Sample Banks

Presently there are total four Shariah compliance banks and twenty-two traditional commercial banks are operating in Pakistan. In this study all four Shariah compliance banks and four traditional banks are chosen for comparison. Banks which are similar in size (e.g assets size, deposits size and branch networks) are selected in order to make analysis more realistic.

Table 2 : List of Shariah Compliance and Traditional Banks Chosen for Analysis (2010-2017)

Sr.	Shariah Compliance Banks	Traditional Banks
1	Meezan Banks Limited	Habib Metropolitan Bank
2	Bank Islami	Samba Bank
3	Al Baraka Bank Pakistan Ltd	JS Bank
4	Dubai Islamic Compliance Bank	Silk Bank

4.3. Methodology

Descriptive statistics are applied in this study for measuring, comparing and classifying CAMELS indicators of Shariah compliance banks and traditional banks of Pakistan. Independent sample *t-test* is then employed to confirm the difference in means of each ratio is significant. The NULL hypothesis of equal means of CAMELS ratios, of shariah bank and traditional banks, is confirmed with the help of independent sample t-test. This test indicates that means of each measure of performance is different significantly between two groups, and the difference is true and not due to chance.

But before performing the independent sample t-test, its assumptions are tested. Initially all outliers with the help of BOX plot are identified in each variable for each category of bank and subsequently deleted from the data set. Then normality of data is tested with the help of skewness and kurtosis test and finally equality of variance is tested through variance ratio test, all tests are performed with the help of Stata 13.

The coming section covers the empirical analysis of the performance of Shariah compliance banks as compared to traditional banks. The performance of two types of banks is compared on three scales that is the performance of Shariah compliance banks of Pakistan is superior, equal or lowers than traditional banks of Pakistan?

5. Results and Analyses

Results of descriptive statistics and independent sample t-test are presented in this section. The analysis covers the most recent period i-e from year 2010 to 2017. Table-4 and Table-5 depicts the descriptive statistics of all variables for Shariah compliance and tradition banks respectively, the results indicate that mean values are close to median and in-between the range of minimum and maximum, with skewness near to zero and kurtosis near to 3. The tables indicated the apparent sign of normality of data.

Table 3 : Other Performance Measures and Their Comparison at a Glance (2010-2017)

Sr.	Variables	Measure	Mean percentage		Performance Compared to Traditional Banks
			Shariah Banks	Non-Shariah Banks	
1	Return on assets	ROA	0.405098	0.434104	Lower
2	Return on equity	ROE	6.958039	5.195096	Higher
3	Earning before tax depreciation and amortization over total asset	EBITDA	1.307739	1.058102	Higher
4	Capital adequacy ratio	CAR	14.33248	18.89277	Lower
5	Net interest margin	NIM	3.807274	3.188494	Higher
6	Profit per branch	PPB	3384.896	7383.830	Lower
7	Profit per staff	PPS	216.1442	458.4146	Lower
8	Non-performing loan over total loan	NPL	7.578466	11.45968	Higher

Table- 3 presents the descriptive comparison of some important measure of performance between two groups of banks, the table indicates that in return on assets (ROA), capital adequacy (CAR), profit per branch (PPB) and profit per staff (PPS) traditional banks are better than sharia compliance banks, however, in terms of return on equity (ROE), earning before tax depreciation and amortization (EBITDA), net-interest margin (NIM) and non -performing loan (NPL) shariah compliance banks are performing better than traditional banks.

Table 4 : Descriptive Statistics Shariah Compliance Banks for the Period 2010-2017

-> type = 0

stats	tcta	tltc	tlta	oeta	ieta	nita	niita	lata	latd	pgl
mean	7.289999	656.4801	48.44672	7.009568	3.82161	.473355	3.168749	18.73461	22.53425	3.818437
p50	6.940197	667.7551	45.09581	7.189582	3.973655	.5444003	3.141709	18.86431	22.14461	3.06
max	12.94454	1135.444	67.89026	10.5923	6.89397	1.691118	4.868497	29.08221	34.95834	8.65
min	4.279489	383.1242	34.39858	4.074812	1.953794	-.8700762	.8889951	8.554456	10.18833	1.44
skewness	.7512302	.4329181	.6238999	.2506103	.422204	-.079188	-.0920961	.1306919	.0515616	.5387474
kurtosis	3.309591	2.993671	2.238966	2.516112	2.694175	3.286631	2.634866	2.873451	2.707377	1.948361
sd	2.024227	180.6929	9.14883	1.60458	1.245704	.5260955	.9390248	5.163411	6.214676	2.131671
N	31	30	32	32	32	31	32	30	31	32

Table 5 : Descriptive Statistics Traditional Banks for the Period 2010-2017

-> type = 1

stats	tcta	tltc	tlta	oeta	ieta	nita	niita	lata	latd	pgl
mean	8.498685	513.806	44.53334	8.122826	5.026737	.6795721	2.684219	9.116326	14.18745	8.1325
p50	8.104142	472.6697	43.90239	8.170279	4.596698	.7176489	2.67202	8.416503	12.91505	8.535
max	14.78179	1155.067	72.82947	12.49517	8.1555	1.562821	4.495044	15.0048	26.10703	17.69
min	4.166541	185.8222	25.77685	4.698946	3.082314	-.3919686	1.168361	5.532774	7.406382	1.47
skewness	.8916332	.8685154	.4593827	.4823372	.7275755	-.6063774	.3382232	.7357945	.9059887	.4039566
kurtosis	3.050722	2.782394	2.253906	2.43254	2.720837	3.342231	3.267652	2.798041	3.132268	2.752019
sd	2.703226	284.0319	12.38347	2.023982	1.267735	.4563316	.6868732	2.546256	5.113058	3.964391
N	27	32	32	32	32	28	32	29	30	32

Note: Total capital over assets-(TCTA)-Total loan over assets-(TLTA)-Operating expenses over assets-OETA)-Interest-expenses/profit paid over assets-(IETA)-Net income over assets-(NITA)-Net interest-income/net profit earned over assets-(NIITA)-Liquid assets over total assets-(LATA)-Liquid assets over deposits-(LATD)-Provision for loans to total loan-PG

Table 6 : Normality Test (Shariah Compliance Banks)

Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	adj chi2(2)	Prob>chi2
tcta	31	0.0622	0.3704	4.39	0.1111
tltc	30	0.2682	0.6135	1.60	0.4502
tlta	32	0.1104	0.3494	3.72	0.1554
oeta	32	0.5045	0.7604	0.56	0.7565
ieta	32	0.2680	0.9791	1.31	0.5192
nita	31	0.8338	0.3847	0.84	0.6561
niita	32	0.8049	0.9372	0.07	0.9669
lata	30	0.7328	0.7384	0.23	0.8922
latd	31	0.8913	0.9516	0.02	0.9889
pgl	32	0.1632	0.0673	5.16	0.0759

Table 7 : Normality Test (Traditional Banks)

Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	adj chi2(2)	Prob>chi2
tcta	27	0.0391	0.5475	4.66	0.0973
tltc	32	0.0323	0.8619	4.64	0.0981
tlta	32	0.2300	0.3696	2.44	0.2958
oeta	32	0.2087	0.6324	1.95	0.3768
ieta	32	0.0667	0.9427	3.68	0.1589
nita	28	0.1386	0.3472	3.40	0.1830
niita	32	0.3710	0.3984	1.63	0.4436
lata	29	0.0738	0.8183	3.58	0.1671
latd	30	0.0301	0.4922	5.07	0.0792
pgl	32	0.2883	0.9011	1.22	0.5440

Table-6 and Table-7 present the results of skewness and kurtosis test for normality of data for each variable. Table-6 depicts the results of each variable for Shariah compliance banks and Table-7 depicts the results of each variable for traditional banks. The NULL hypothesis is that the data for each variable is normally distributed. The probability value of chi square for each variable in each group is greater than 0.05. The results confirm that data for each variable is normally distributed.

Table 8 : Results of Variance Test Ratio (Shariah Compliance VS Traditional Banks of Pakistan) Study Period 2010-2017

Performance Measures	Variables	Mean		*t*-Test for equality of variance		
		Shariah compliance banks	Traditional Banks	*F*-value	*p*-value	Variance
Capital Appropriacy	TCTA	7.289999	8.498685	0.5607	0.1280	**Equal**
	TLTC	656.4801	513.806	0.4047	0.0164	Unequal
Asset Quality	TLTA	48.44672	44.53334	0.5458	0.0970	**Equal**
Management Capability	OETA	7.009568	8.122826	0.6285	0.2017	**Equal**
	IETA	3.82161	5.026737	0.9655	0.9229	**Equal**
Earnings	NITA	0.473355	0.6795721	1.3291	0.4580	**Equal**
	NIITA	3.168749	2.684219	1.8690	0.0866	**Equal**
Liquidity	LATA	18.73461	9.116326	4.1122	0.0003	Unequal
	LATD	22.53425	14.18745	1.4773	0.2964	**Equal**
Sensitivity	PGL	3.818437	8.1325	0.2891	0.0009	**Unequal**

Note: Total capital over assets-(TCTA)-Total loan over assets-(TLTA)-Operating expenses over assets-OETA)-Interest expenses/profit paid over assets-(IETA)-Net income over assets-(NITA)-Net interest income/net profit earned over assets-(NIITA)-Liquid assets over assets-(LATA)-Liquid assets over deposits-(LATD) -Provision for loans to total loan-PGL

In order to meet the third assumption of independent sample t-test, equality of variance test is applied. The NULL hypothesis is that variables have equal variances. If the probability value of F-statistics is greater than 0.05, the variables are considered as having equal variances. Variable with equal variance and unequal variance are identified through F-statistics and their corresponding p-values and are reported separately in Table-8. The results indicate that only three variables, (TLTC, LATA and PGL) have p-value <0.05 and have unequal variance. Rests of the variables have equal variance. Variables with unequal variance are treated separately and independent sample t-test is applied differently on these variables after controlling the effect of unequal variance. The results of independent sample t-test with equal and unequal variances are depicted separately in Table-9 & 10 respectively.

Table 9 : Results of t-test (Equal Variance) (Shariah Compliance VS Traditional Banks of Pakistan) Study Period 2010-2017

	(1)						
	Mean(type=1)	Mean(type=0)	Diff.	Stdev	Obs.	t-stats	p-values
tcta	8.4987	7.2900	-1.2087*	0.6223	58	-1.9424	(0.0571)
tlta	44.5333	48.4467	3.9134	2.7217	64	1.4378	(0.1555)
oeta	8.1228	7.0096	-1.1133**	0.4566	64	-2.4382	(0.0176)
ieta	5.0267	3.8216	-1.2051***	0.3142	64	-3.8356	(0.0003)
nita	0.6796	0.4734	-0.2062	0.1289	59	-1.6002	(0.1151)
niita	2.6842	3.1687	0.4845**	0.2057	64	2.3559	(0.0217)
latd	14.1874	22.5343	8.3468***	1.4598	61	5.7178	(0.0000)

* p<0.10 ** p<0.05, *** p<0.01

Table 10 : Results of t-test (Un-Equal Variance corrected through Satterthwaite's degrees of freedom) (Shariah compliance VS Traditional banks of Pakistan) study period 2010-2017

	(1)						
	Mean(type=1)	Mean(type=0)	Diff.	Stdev	Obs.	t-stats	p-valus
tltc	513.8060	656.4801	142.6742**	60.0783	62	2.3748	(0.0212)
lata	9.1163	18.7346	9.6183***	1.0546	59	9.1200	(0.0000)
pgl	8.1325	3.8184	-4.3141***	0.7957	64	-5.4217	(0.0000)

* p<0.10 ** p<0.05, *** p<0.0

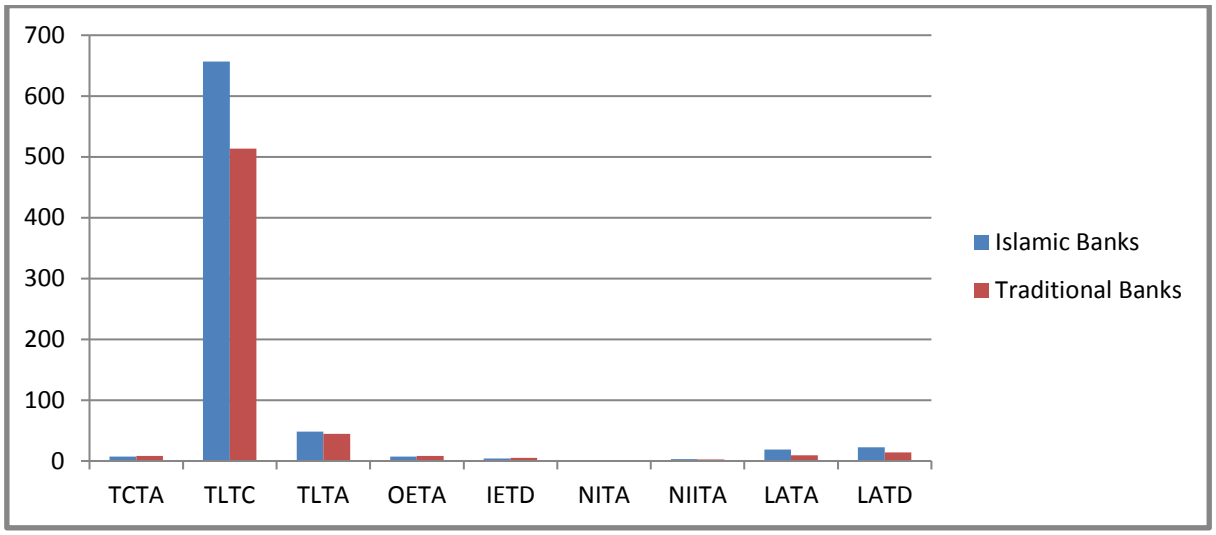
Table-9 & 10 depicts the t-*test* for the means financial and managerial indicators. To check whether the difference in means are significant, the level of significance is 0.05. If value of significance is < than 0.05 than NULL hypothesis that is "There is no difference between group mean" is rejected (Azhar Rosly & Afandi Abu Bakar, 2003).

5.1. Capital Adequacy

There are two measures of capital adequacy. First is total capital to total assets (TCTA). In first ratio significant different is observed between two types of banks. The p-value of t-statistics is less than 0.05. (*P-value*= 0.0571>0.05) but less than 0.10. The results indicate that 7.29 per cent of the assets of Shariah compliance banks are financed by capital, while traditional banks are financing 8.49 per cent of their assets with capital.

Second measure of capital adequacy is loans to total capital (TLTC). This ratio is also significantly different between two types of banks, because *t*-value is significant at 5 percent level (*p*-value 0.0212). According to (Fatima, 2014) reasonable amount of capital appropriacy helps in absorbing unexpected losses and also helps in reducing the cost of funds which ultimately leads to better profitability of banks. The results show that Shariah compliance banks are above than traditional banks in managing capital adequacy ratio.

Figure 2 : Graphical View of CAMEL Ratio Comparison (Shariah Compliance vs Traditional Banks) 2010-2017



5.2. Asset Quality

Assets quality is estimated by one measure i-e total loan divided by total assets (TLTA). Table 9 shows that mean of (TLTA) ratio between two group is not significantly different. The *p*-value is 0.1555> 0.05.

5.3. Management adequacy/Quality

First ratio to measure management quality is operating expenses to total assets (OETA), results presented in table-9 indicate that mean value of this ratio is significantly (*p*-value 0.0176<.05) different between two group of banks. The result indicates in terms of managing operating expenses Shariah compliance banks are showing better performance. The second measure of managerial competency is calculated as interest expenses/profit paid to assets (IETA). Result of table-9 shows that mean of IETA ratio is different significantly between two groups of banks. The *p*-value is 0.0003<0.01. Shariah compliance banks are more efficiently controlling their interest expenses in relation to assets.

5.4. Earnings

Earning ability is determined by using to estimators. First is net income to assets. Second estimator of earning ability is ratio of net interest income/profit earned to assets (NIITA). Table-9 shows that mean value of (NITA) ratio is insignificant between two banking groups, because p-value 0.1151>0.05. However, there is a significant difference in NIITA ratio p-value0.0217<0.05. The result indicates that Shariah compliance banks are better in NIITA ratio.

5.5. Liquidity

Liquidity confirms the ability of the banks to meets their short-term obligation and to safe guard from insolvency. The first ratio is measured by dividing liquid assets on total assets (TLTA). The next ratio is estimated by dividing total liquid assets on total deposits (TLTD).

According to (Kamaruddin & Mohd, 2013)

> "*Modern Intermediate financial theory states that, banks exist because the of role they played in generating liquidity and transferring risk in real economy. Theory on analysis of banks role in generating liquidity and in future driving economic growth is a long chain of theories which was first introduced by economist Smith (1776). The revived form of this theory states that creation of liquidity is the main function of financial institutions. On the basis of the modern form of this theory some researchers such as (Bryant, 1980) and (Diamond & Dybvig, 1983) suggest that process of creating liquidity by banks are relied on the balance sheet of funding relatively illiquid assets by relatively liquid liabilities. In this scenario, banks acting as financial intermediaries receive funds from depositors and then provide these funds to firms for getting profits and for offsetting the liquidity of assets and liabilities. For meeting sudden demand of*

liquidity from depositors banks usually maintain a special pool for this internal liquidity (Diamond & Dybvig, 1983)".

According to Table-10, significant difference is observed between mean value of liquidity ratio of Shariah compliance and traditional banks, *p*-value is less than 0.01 for LATA measure of liquidity. (Samad & Hassan, 1999) and (Kamaruddin & Mohd, 2013) also found that liquidity ratios of Shariah compliance and Traditional banks are significantly different. The mean value of liquid assets to total assets ratio for Shariah compliance banks is 18.73 percent, on the other hand for traditional banks this ratio is 9.11 percent. The result can be interpreted as for every Rs. of total assets of Shariah compliance banks there is 18.73 per cent of liquid assets, which is higher than traditional banks.

The second measure of liquidity is liquid assets to deposits (LATD). This ratio specifies the capability of the banks to cover unexpected deposit drain. Deposit drain takes place when withdrawal activities are in a lager frequency. Table-9 shows that Shariah compliance banks are more able to cover unexpected deposit drain. The mean of this ratio for Shariah compliance banks is 22.53 percent, while traditional banks have only 14.18 percent. The result suggests that against each rupee of deposits, Shariah compliance banks have Rs. 0.22 to cover the sudden withdrawals of customers, whereas traditional banks have only Rs. 0.14. This is also necessary because Shariah compliance banks needs to provide guarantee and trust to the depositors against their deposit. (Kamaruddin & Mohd, 2013).

5.6. Sensitivity

Sensitivity to risk is measures by provision to loan (PGL) ratio. The ratio is significantly different between two groups of banks. The p-value of t-statistics is less than 0.01. (*P-value*= 0.0000>0.01). The results indicate that Shariah compliance banks are maintaining 3.818 percent provision against their total loan portfolio, while traditional banks are maintaining 8.132 percent provision against total loans. Result indicates that shariah compliance banks are less sensitive to risk as compared to their traditional counter parts.

On the basis of above findings, a summary is given below that presents the conclusion on performance comparison between Shariah compliance banks and traditional banks (Table-11).

Table 11 : Summary of Results of Comparison between Shariah compliance and Traditional Banks (2010-2017)

Sr.	Performance Indicators	Measures	Difference	Performance Compared to Traditional Banks
1	Capital Adequacy	TCTA	Significant[1]	High
		TLTC	Significant	Low
2	Assets Quality	TLTA	Insignificant	-
3	Management Quality	OETA	Significant	High
		IETD	Significant	High
4	Earning	NIITA	Significant	High
		NITA	Insignificant	-
5	Liquidity	LATA	Significant	High
		LATD	Significant	High
6	Sensitivity	PGL	Significant	High

[1] The difference is marginally significant though the threshold for significance is <0.05, but the difference between TCTA of both group is significant at 0.10 because the p-value is 0.0571. Therefore, this ratio can be considered as at par of significance level.

6. Conclusion and Policy Implications

The study was initiated with the aim to equate the performance of Shariah compliance banks and traditional banks in Pakistan. Relative performance was compared by applying *t*-test. Four Shariah compliance banks and four traditional banks equal in size *(Total assets, deposits and number of branches)* were taken for making comparison more realistic. The study period was the most recent period i-e 2010 to 2017. The CAMELS approach was applied with its six measures namely, Capital Adequacy, Asset Quality, Management Adequacy, Earnings Ability, Liquidity and Sensitivity to Risk to access the managerial and financial performance of Shariah compliance and Traditional banks of Pakistan.

The study finds that performance of Shariah compliance banks is better but also varies and it depends on the variables. The study also found that performance of two group is significantly different. Shariah compliance banks are better in managing capital adequacy, gaining more net interest income, controlling operating and interest expenses, securing better liquidity position as compared to Traditional banks. Furthermore, shariah compliance banks are less sensitive to risk than traditional banks. The results suggest that future of Shariah compliance banking may be bright as compared to its counterpart traditional banking system. Furthermore, despite Shariah compliant restrictions imposed on Shariah compliance banks, it is still a profitable venture.

Recommendations

1. Shariah Banks have surplus of liquidity and this surplus of liquidity may impact negatively on banks' performance, as Shariah Banks have surplus of liquidity and in order to gain benefit of this surplus, Shariah Banks can invest this surplus in CAPITAL MARKET. In Pakistan Meezan KMI-30 Index is a Shariah compliance index and Shariah Banks can invest the surplus in this market without any fear, because businesses of this index are purely Shariah compliance and it is free from prohibited trades.
2. Similarly, other indexes such as DOW JONES and other Shariah indexes are good options to invest internationally by Shariah Banks.
3. The profits gain from such businesses are pure profit free from gambling and prohibited trades, furthermore these indexes are traded in market, so it is very easy for Shariah Banks to convert these investments in to cash whenever Shariah Banks face the problem of shortage of liquidity.

Overall results are in confirmatory with the findings of (Alzghoul, 2015; Islam & Ashrafuzzaman, 2016; Kamaruddin & Mohd, 2013; Karapinar & Dogan, 2015b; Rozzani & Rahman, 2013) and (Jaffar & Manarvi, 2011; Kouser & Saba, 2012). They also found that Shariah compliance banks are better in managerial quality, liquidity, profitability and capital adequacy.

Study can guide the managers, in particular to choose better, assets quality and earning quality for their banks. It will enhance the confidence of foreign and local investors to invest in Shariah compliance banks in Pakistan. There is an indirect contribution of the study in Pakistan from the perspective of development and economic activities. From the academic perspective, the study can provide evidence on the level of CAMELS ratios to enhance the performance of banks. The results of this study can only be generalized on the same size of banks included in the study. A further research can be done on a larger sample consists of various banks across different countries.

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