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Islamic Economics, Finance, Entrepreneurial Development & Public Policy for the Ummah's Socio-economic Wellbeing

Under the above theme, the speakers / paper presenters will discuss the vision of Islamic economics, business and finance, public policy for entrepreneurial development and to enhance social inclusion and good governance, meaning how to develop Islamic countries' economies giving fair opportunity to all segments of the society and provide them not only suitable jobs / employment but also dignity and respect in the society and falah in this world and the Hereafter. As it is possible only through application of the principles of the Shariah, in letter and spirit, in all socio-economic disciplines and business and finance affairs, Shariah compliance of all institutions, products and activities would also be covered in the Theme of the ICIB-2016 event.

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On the Co-existence of Conventional and Islamic Banks: Do These Banks Differ in Business Structure

Moazzam Farooq and Sajjad Zaheer

Motivation

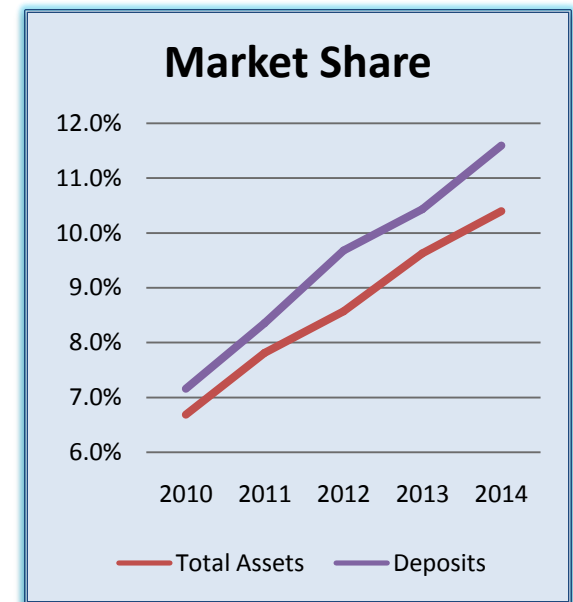
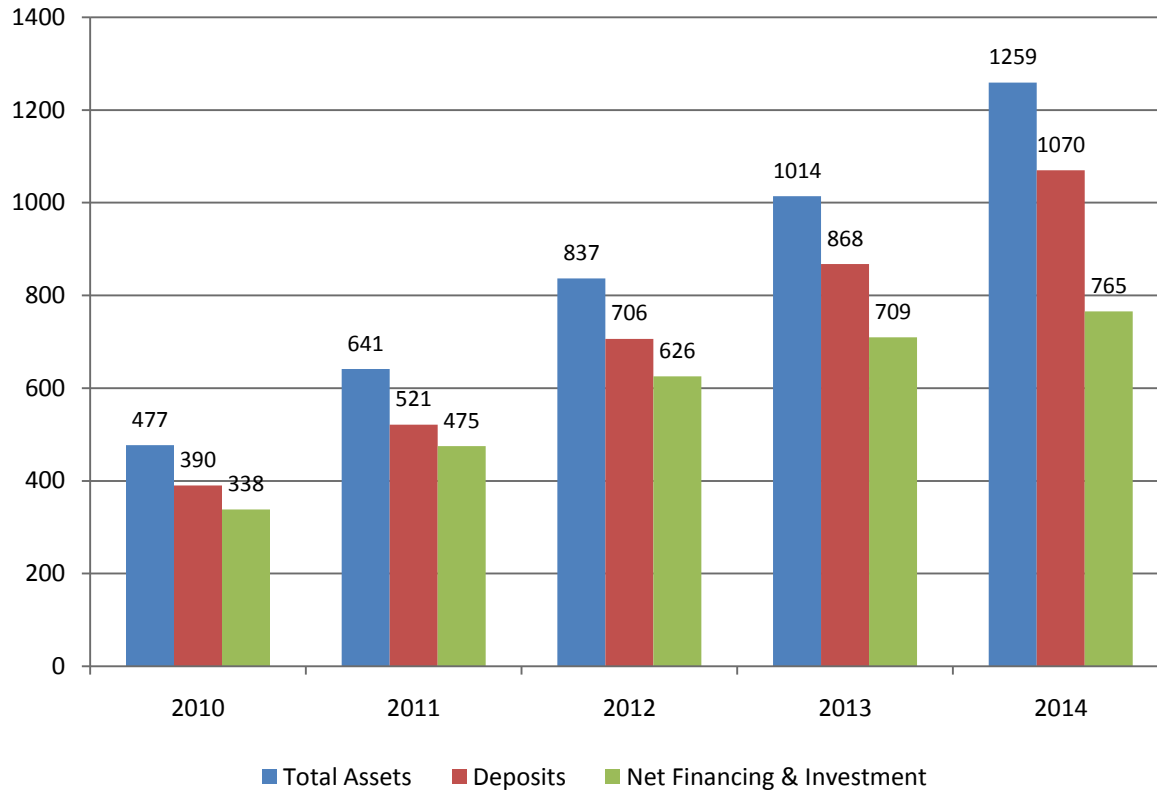
- Islamic and conventional banking institutions co-exist in many Muslim countries as well as in few western states.
- In some jurisdictions the share of Islamic banking and finance (IBF) is substantial while in other it is still at nascent stages.
- However, the growth of IBF suggest bright future prospects of the industry, especially due to its relatively better performance in the recent financial crisis ([Hasan and Dridi \(2010\)](#)).

Key Financials of Islamic Banking Industry in Pakistan as of 30-06-2015

Full fledged Islamic Bank	5
Islamic Banking Divisions of Conventional Banks	17
Total Islamic Banking Institutions	22
Total No. of Islamic Banking Branches	1,702
Islamic Banking Windows	1,006

Islamic Banking Industry of Pakistan - Snapshot

Industry Progress (bln pkr)



Motivation

- **Important question:** Whether the business structure of the Islamic banks is different from that of conventional commercial banks?
- We address this issue, using income, funding and financing structure of Islamic and conventional banking.
- For this purpose, we generally follow the methodology in [Beck, Demirgüç-Kunt and Merrouche \(2013\)](#).
- Our main contribution to the continuing research on this subject is that, we apply bank-time fixed effects to decipher how Islamic and conventional operations differ in terms of their business structure and efficiency within the *same* bank and a specific year-quarter.

Data

- The data covers 32 quarters starting from June 2002 to March 2010.
- There were 21 conventional banks (CBs), 6 full-fledged Islamic banks (IBs) and 13 mixed banks with both Islamic (IBDs) as well as conventional operations.
- IBDs and full-fledged Islamic banks (IBs) form the Islamic banking institutions (IBIs).

Econometric Specification

$$M_{ijt} = \alpha_t + \beta ISL_j + \gamma_1 B_{ijt} + \varepsilon_{ijt}$$

- Where dependent variable is one of the measures to business model and efficiency of bank i , branches/operations type j , in quarter t .
- Mainly we
- α_t is coefficient for time fixed effects.
- ISL_j is the dummy for Islamic banking institutions, which includes both IBBs and IBs. The dummy is one when the IBI is Islamic and zero otherwise.
- B_{ijt} are the time-variant banking characteristics as control variables. Specifically, we include log of assets, non-lending operations and fixed assets of the banks to control size and asset structure of banks.
- We first estimate (1) with an intercept and a dummy for IBIs only (in order to compare CBIs and IBIs) without any covariates. Then we control the results for an array of bank/ segment-level time-changing features which might affect the differences across bank types.

Econometric Specification

$$M_{ijt} = \alpha_t + \beta_1 ISLb_j + \beta_2 ISLbb_j + \gamma_1 B_{ijt} + \varepsilon_{ijt}$$

- Further, to see the corresponding difference from CBIs, we also split the dummy for IBIs into dummy for Islamic banks (IBs) and Islamic banking branches (IBBs).
- Where $ISLb_j$ and $ISLbb_j$ are dummies for full-fledged Islamic banks and Islamic banking branches of mixed banks respectively.

Econometric Specification

- Our main contribution to the emerging research on the topic is that we apply bank-quarter fixed effects

$$M_{ijt} = \alpha_{it} + \beta ISL_i + \varepsilon_{ijt}$$

- That is, we measure how conventional banking branches of a mixed bank are different from Islamic banking branches of the same bank across different financial indicators of riskiness and asset quality. Thus we estimate following model

Table 1. Descriptive Statistics

The table shows the descriptive statistics of all the indicators used for estimation in all specifications. We also report p-values for the test of difference in means between Islamic banking Institutions and conventional banking institutions. All the bank balance sheet data from State Bank of Pakistan is quarterly and cover the period from 2002-Q2 to 2010-Q1. There are 6 full-fledged Islamic banks (IBs) 21 conventional banks (CBs) and 13 conventional banks which have conventional banking branches (CBBs) and Islamic Banking Branches (IBBs). We call these banks as *mixed banks*. For estimation purpose we treat these IBBs as separate entities. So there are 53 banks with 32 quarters for whole sample (Sample A). Sample B contains only mixed banks with comparison of their conventional banking and Islamic business. Higher number of the z-score suggests greater stability. All ratios are in percentages. All variables are winsorized at the 1% and 99% level to remove outliers.

Sample A All Banks

Variable	Normalized by	Obs.	Mean	Median	Std. Dev.	Max.	Min.	IBIs	CBIIs	p-value
Non interest / Markup Income	Total Income	1417	17.73	15.31	13.30	66.70	0.00	9.84	20.23	0.00
Non-Deposit Funding	Total Funding	1423	22.46	13.15	24.87	96.88	0.00	16.03	24.51	0.00
Gross Loans	Total Assets	1423	52.61	53.35	22.23	128.40	0.00	49.68	51.23	0.23
Cost Income Ratio		1417	87.73	75.65	52.92	393.40	9.17	90.67	85.38	0.11
Operating Cost	Total Cost	1389	47.14	45.51	20.08	99.94	11.58	48.73	46.62	0.00
<i>Bank Level Controls</i>										
Size		1423	10.00	10.01	1.91	13.49	4.53	7.99	10.61	0.00
Non-Loan Earning Assets	Total Earning Assets	1423	52.19	48.43	18.99	99.55	9.19	44.16	54.42	0.00
Fixed Assets	Total Assets	1423	2.98	1.70	3.93	22.90	0.00	3.43	2.75	0.00

Sample B Mixed banks

Variable	Normalized by	Obs.	Mean	Median	Std. Dev.	Max.	Min.	IBIs	CBIIs	p-value
Islamic Banking Branches		832	0.50	0.50	0.50	1	0			
Non interest / Markup Income	Total Income	247	7.13	5.07	10.34	83.94	0.00	7.01	20.14	0.00
Non-Deposit Funding	Total Funding	666	15.52	10.26	18.27	87.44	0.00	20.03	12.81	0.00
Gross Loans	Total Assets	665	53.69	54.96	17.16	128.4	0.00	52.28	54.63	0.09
Cost Income Ratio		661	74.07	70.32	41.53	320.80	0.20	251.00	415.00	0.00
Operating Cost	Total Cost	632	43.93	40.26	20.33	100.00	9.33	40.42	42.66	0.22
<i>Bank Level Controls</i>										
Size		665	10.26	10.98	2.42	13.62	4.05	7.56	11.88	0.00
Non-Loan Earning Assets	Total Earning Assets	661	36.36	36.92	19.53	100.00	0.00	43.78	48.31	0.00
Fixed Assets	Total Assets	665	2.69	1.78	3.58	21.95	0.00	3.23	2.40	0.01

Table 4 In this table we show the results of specification (2). The table reports the estimated coefficients with various stability (Panel A) and asset quality (Panel B) measures as dependent variables of bank i in year: quarter t . The independent variables *Islamic Banks* and *Islamic Branches* are dummies which takes value of 1 if the institution is full-fledged Islamic bank or Islamic branches of the mixed banks respectively and zero otherwise. Size is natural log of the assets. Fixed assets are normalized by the total assets and non-loan earning assets are normalized by the total earning assets of the each banking intuition. The estimations use various banking institution– year: quarter observations. Standard errors (in parentheses) are clustered at the bank (segment) level. *** Significant at 1%, ** significant at 5%, * significant at 10%.

Coefficients	Non-interest/ markup			Non-deposit Funding			Loans-Asset Ratio			Cost Income Ratio			Operating Cost		
Islamic Banks	-1.074 (2.807)	-0.567 (2.986)	18.423 (24.378)	-13.799*** (4.090)	-22.43*** (5.334)	-74.396** (34.101)	-3.186 (5.328)	-8.556** (3.978)	-25.671* (14.664)	11.098 (14.062)	-0.039 (11.320)	39.142 (123.962)	8.960 (8.404)	7.410 (6.141)	68.373** (31.060)
Islamic Banking Branches	-11.53*** (1.801)	-10.76*** (3.622)	-12.796 (11.578)	-3.447 (8.001)	-26.732*** (10.128)	-94.169*** (27.795)	1.170 (5.486)	-12.749* (6.579)	-38.446* (20.886)	3.061 (10.090)	-24.234 (15.698)	-11.034 (60.618)	2.438 (4.898)	1.439 (5.435)	68.47*** (23.894)
(4) Size		0.065 (0.705)	0.054 (0.854)		-6.345*** (1.457)	-7.97*** (1.481)		-1.904 (1.297)	-2.517 (1.634)		-9.702*** (2.794)	-9.333*** (3.397)		-0.961 (1.221)	0.259 (1.203)
Fixed Assets		-0.150 (0.189)	-0.169 (0.191)		0.195 (0.810)	0.239 (0.776)		-0.611** (0.260)	-0.596** (0.255)		2.735*** (0.745)	2.697*** (0.720)		1.486*** (0.291)	1.345*** (0.280)
Non-Loan Earning Assets		0.059 (0.043)	0.058 (0.043)		-0.308 (0.191)	-0.34* (0.187)		-0.838*** (0.113)	-0.85*** (0.107)		0.365* (0.198)	0.373* (0.202)		0.212*** (0.076)	0.251*** (0.068)
(7) Islamic Banks*Size			-1.954 (2.276)			5.182 (3.294)			1.701 (1.103)			-3.991 (11.705)			-6.141** (2.817)
(8) Islamic Banking Branches*Size			0.257 (1.048)			8.182** (3.649)			3.12* (1.775)			-1.578 (6.575)			-7.999*** (2.879)
Constant	19.83*** (1.430)	16.379* (9.003)	16.625 (10.716)	24.238*** (3.850)	108.065*** (21.938)	126.914*** (21.983)	52.673*** (3.224)	120.211*** (12.787)	127.325*** (16.653)	86.247*** (6.146)	161.971*** (34.913)	157.764*** (42.614)	45.969*** (2.090)	40.412*** (15.586)	25.78* (15.245)
(4) + (7)=0			-1.900			-2.788***			-0.816*			-13.324			-5.882***
(4) + (8)=0			0.311***			0.212***			0.603***			-10.911***			-7.74***
R-squared	0.257	0.265	0.266	0.045	0.159	0.194	0.029	0.448	0.454	0.017	0.18	0.18	0.178	0.313	0.351
Observations	1417	1417	1417	1423	1423	1423	1424	1424	1424	1417	1417	1417	1389	1389	1389

Table 5 In this table we report the results of specification (3) for Sample B (only dual banks) using bank-time fixed effects with and without bank controls. The table reports the estimated coefficients for specifications with the various business structure and efficiency measures as dependent variable of bank *i* in year: quarter *t*. The independent variables *Islamic* is a dummy variable which takes the value of 1 if the branches of a mixed bank are Islamic and zero otherwise. For model 2, 4, 6, 8 and 10, *Islamic* take a value of 1 for small Islamic windows of mixed banks and zero otherwise. *Large Islamic* is a dummy used for Islamic windows of big banks with assets more than around USD2 billion. The estimations use various numbers of banking institution– year: quarter observations. Standard errors (in parentheses) are clustered at the bank-segment level. *** Significant at 1%, ** significant at 5%, * significant at 10%.

Coefficients	Non-interest/ markup		Non-Deposit Funding		Loans-Assets Ratio		Cost-income Ratio		Operating cost	
	1	2	3	4	5	6	7	8	9	10
(1) <i>Islamic</i> @	-10.801*** (0.833)	-10.921*** (1.152)	7.644 (5.380)	4.212 (4.238)	0.925 (3.653)	8.358** (3.385)	21.542*** (4.774)	10.424* (5.564)	7.893** (3.742)	9.065*** (3.447)
(2) <i>Large Islamic</i>		-10.625*** (1.171)		12.741 (11.327)		-9.730 (6.210)		37.886*** (3.586)		5.761 (8.281)
C	12.904*** (1.309)	12.815*** (1.429)	0.682 (6.468)	12.741*** (0.000)	27.917*** (0.510)	31.506*** (2.134)	63.4*** (2.843)	55.228*** (4.598)	46.262*** (4.277)	47.328*** (6.188)
P value (1)-(2)=0		0.857		0.000		0.011		0.000		0.713
R-squared	0.814	0.814	0.507	0.481	0.516	0.560	0.557	0.577	0.709	0.710
Observations	661	661	666	666	666	666	661	612	632	661

@ For model 2, 4, 6, 8 and 10, *Islamic* represent '*Islamic*' is a dummy for small IBBs, which otherwise represent Islamic windows of mixed banks.

Results

- After controlling for an array of bank level characteristics, our findings suggest that there is a significant difference in business orientation of Islamic and conventional banking institutions, measured by non-deposit funding to total funding, and gross loans to total assets ratios.
- The results demonstrate that Islamic Banking Institutions (IBIs) rely less on non-deposit funding which implies that they are more engaged in core banking business. However, their asset portfolio reveals that they have lower loans to total asset ratio than that of Conventional Banking Institutions (CBIs). This outcome indicates that IBIs are less involved in financial intermediation than their conventional counterparts. On the other hand, IBIs are less efficient than CBIs.
- However, with increase in their size the differences between IBIs and CBIs in terms of cost efficiency and business structure decline. The results are robust to changing the data and estimation technique. To analyze the data further, we segregate Islamic Banks (IBs) and Islamic Banking Branches (IBBs) of *mixed* banks and check how these are different from CBIs in aforementioned aspects.
- The estimates show that both IBs and IBBs rely less on non-deposit funding, have less loans to assets ratio, and are less efficient. However, as IBIs become larger their cost efficiency level also improves and the difference between IBIs, which comprise IBs and IBBs, and CBIs fades away. Similarly, with the increase in size IBs rely more on non-deposit funding and are engaged less financing activities. But IBBs rely more on non-deposit funding and financing activities as they grow bigger.

Results

- The model with bank-time fixed effects demonstrates that Islamic windows of both large and small mixed banks rely less on fee based income. Further, contrary to Islamic windows of large mixed banks, Islamic windows of small mixed banks are more involved in financial intermediation shown by their higher loans to assets ratio. However, Islamic windows both small and large of mixed banks are less efficient than CBBs as their cost indicators are higher than those of CBBs.
- Non-deposit funding includes borrowing from financial institutions including central bank and bills payable. Mainly borrowings are categories secure and unsecure borrowings. Secured borrowing also includes repos that are zero in case of Islamic banking institutes due to its inhibition of interest in Islamic law. A priori, therefore, funding from the money and capital market is expected to be lower in IBF.
- Since bank-quarter fixed effects account for all time varying observed and unobserved bank heterogeneity, the specification does not need bank characteristics to be added in the specification.

Conclusion

- Results for applying bank-quarter fixed effects suggest that Islamic operations of mixed banks have less reliance on fee based income. Further, contrary to large mixed banks' Islamic windows, Islamic windows of small mixed banks are more involved in financial intermediation as their loans to assets ratio is higher than that of CBBs. However, both Islamic operations of small and large mixed banks are less efficient than CBBs as their cost indicators are higher than those of CBBs. The fact that IBBs are less efficient may be because of complex contracts and higher monitoring costs and transaction costs in IBF ([El-Gamal \(2007\)](#)).
- The results have important implications for the co-existence of conventional and Islamic banking systems. These results imply that there is an inherent difference in the business orientation of IBIs and CBIs. Moreover, within mixed banks there are additional differences in efficiency indicators as well.

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