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Islamic banks do not turn "more Islamic" when their contracting environments get better: They remain similar to conventional banks

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Abstract

Islamic banks, as their charters require, should share their profits and losses with their customers through equity financing; but they do mark-up financing instead, which is similar to bank loans. Theoretically, one of the reasons is Islamic banks operate in poor contracting environments where equity financing is very risky. Using fixed effects models, we examine what Islamic banks do when the countries they are in reform their economies. We do not find better contracting environments induce Islamic banks to do more equity financing, which suggests that Islamic banks are unlikely to shift from mark-up to equity financing in the near future—they are likely to remain similar to conventional banks.

Keywords: Islamic banks, equity financing, mark-up financing, contracting environments

JEL Classifications: D22, G21, P51

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1. Introduction

Islamic banks, as their charters require, should share their profits and losses with their customers through equity financing (such as *musharakah* and *mudarabah*), but they do not—most of their assets are mark-up financing (*murabahah*), which is similar to bank loans.[1] Islamic banks should do profit and loss sharing because their transactions must be free of interest; they should not do mark-up financing, which may invite backdoor interest (Siddiqi, 1983; Khan and Mirkhor, 1987).[2] In practice, however, Islamic banks do not differ from conventional banks (Chong and Liu, 2009; Khan, 2010; Aggarwal and Yousef, 2000). For example, Islamic banks in Malaysia (whose Islamic financial market is perhaps one of the most developed) have less than one percent of their assets as equity financing (Chong and Liu, 2009). Among three large Islamic banks in 2006, Al Rajhi Bank, Bank Islam Malaysia, and Dubai Islamic Bank, only the third has some equity financing (14 percent) while the first two have equity financing close to zero percent (Khan, 2010).

One of the reasons is Islamic banks operate in economies where doing business is difficult (enforcing contracts, resolving insolvencies, and

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[1] In *musharakah* projects, banks and entrepreneurs invest money and expertise; in *mudarabah* projects, banks invest only money while entrepreneurs only their expertise; in *murabahah* projects, banks buy goods that entrepreneurs need and resell them to the entrepreneurs at some mark up. See Chapra (1992) and Kuran (1995, 2005) on debate over the principles of Islamic finance.

[2] Mark-up financing is permissible, but according to Islamic banks' charters, Islamic banks should try to avoid it.

protecting investors are time-consuming, complicated, and costly), which

makes equity financing very risky.[3] Aggarwal and Yousef (2000), for

example, theoretically show that Islamic banks, when they are in poor

contracting environments that lead to severe agency problems between banks

and entrepreneurs, will rationally do mark-up financing so that debt-like

instruments dominate their assets. Because most Islamic banks are in Muslim-

majority countries, which are also developing countries whose quality of

government institutions and contracting environments are poor, perhaps these

banks find equity financing both less profitable and too risky.

In this paper we examine whether Islamic banks do more equity

financing when the countries they are in improve their contracting

environments. Will Islamic banks extend more equity financing when they

find it easier and cheaper to enforce contracts or resolve insolvency? As the

countries where the banks are in reform their economies, will the growth of

equity financing be sufficiently high so that Islamic banks begin to differ from

conventional banks? These questions are important not only because Islamic

banking grows fast and helps develop financial markets in muslim countries

(Gheeraert, 2014; Beck et al., 2013; Khan, 2010), but also because regulators

need to know how different Islamic banks from other banks are to decide

whether they need to regulate Islamic banks differently.

Using fixed effects models, by controlling for country- or bank-

specific time-invariant variables and year fixed effects that may affect both

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[3] See Abdul-Rahman et al. (2014) and Khan (2010) for a discussion of other reasons.

contracting environments and equity financing, we do not find better

contracting environments induce Islamic banks to extend more equity

financing. (In some specifications, we also control for country-specific time

trends or country-year fixed effects; the results are robust.) Almost all

estimates are small in magnitude and statistically insignificant.

　　　The literature shows that Islamic banks resemble conventional banks;

we contribute to the literature by showing that, in the near future, they are

likely to remain similar to conventional banks. As far as we know, we are the

first who empirically examine whether contracting environments affect

Islamic banks' equity financing.

　　　We proceed as follows. Sections 2 and 3 describe the empirical

strategy and data. Section 4 discusses the results. Section 5 concludes.

2. Empirical starategy

We estimate the effects of contracting environments on Islamic banks' equity

financing using fixed effects models as follows:

$$y_{ijt} = \alpha + \beta env_{jt} + \xi_{i/j} + \xi_t + \varepsilon_{ijt} \qquad (1)$$

where y_{ijt} is the proportion of equity financing in total assets of bank i in

country j at time t, env_{jt} is a measure of contracting environments of country j

where the Islamic banks operate at time t, $\xi_{i/j}$ is bank- or country fixed effects,

ξ_t is year fixed effects, and ε is the error terms. The country fixed effects

control for both observed- and unobserved country-specific characteristics that may affect both contracting environments and the dependent variable (such as muslims' view of Islamic banking in a country, governments' regulation of Islamic banking, or governments' commitment to economic reform) to the extent that they are time-invariant during the period of analysis. The bank fixed effects control for bank-specific characteristics (in addition to country-specific characteristics) such as the banks' preferences towards equity financing or their managers' expertise in equity financing.[4] The year fixed effects control for worldwide shocks that may affect all banks in each year such as global economic growth or innovations in Islamic finance.

The estimates of β in Equation (1) may be biased because it omits time-varying bank characteristics such as whether managers of a bank change their policies on equity financing over time or some governments change banking regulation or monetary policies. Therefore, to allow banks to follow different time trends of these variables, we also estimate the following model:

$$y_{ijt} = \alpha + \beta env_{jt} + \xi_i + \xi_t + \delta_i t + \varepsilon_{ijt} \qquad (2)$$

where δ_i is a bank-specific trend coefficient and t is a time-trend variable.

Equations (1-2) look restrictive, but they are sufficiently good because we are interested in only the coefficient of contracting environments. We could include bank time-varying characteristics such as banks' profits,

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[4] We can include either bank- or country fixed effects in a regression because each bank operates in one country only.

deposits, total assets, or non-performing assets, but these variables and the dependent variable, the proportion of equity financing, are likely to be endogenously determined, which means specifications that include these bank time-varying variables may have biased estimates. To avoid these endogeneity problems, we, therefore, prefer to estimate Equations (1-2) without bank time-varying independent variables. The specifications may suffer from omitted-variable-bias problems, but we also allow banks to have different time trends in some specifications to capture the possibility that each bank may differ in some characteristics over time, albeit in a limited way.[5]

In some specifications, we include country-year fixed effects as a set of control variables that capture country-specific time-varying variables that may affect contracting environments and the proportion of equity financing such as changes in governments' regulation of Islamic banks or changes in country-specific charters of Islamic banks. We estimate the following model:

$$y_{ijt} = \alpha + \beta env_{jt} + \xi_i + \xi_{jt} + \varepsilon_{ijt} \qquad (3)$$

where ξ_{jt} is the country-year fixed effects.

If better contracting environments induce Islamic banks to extend more equity financing, we expect the coefficient of *env* in Equations (1-3) to be positive.

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[5] Short of using instrumental variable techniques or regression discontinuity designs, Equations (1-2) are perhaps the best specifications to estimate the effects of contracting environments on the proportion of equity financing.

3. Data

We get data on the proportion of equity financing from the Bankscope and contracting environments from the World Bank's Doing Business.[6] We include Islamic banks whose breakdown of assets by type of financing is available and Islamic banks that operate in countries whose measures of contracting environments are available in the World Bank's Doing Business. We have a sample of 34 Islamic banks over the 2004-2011 period in seven countries (Bahrain, Indonesia, Jordan, Malaysia, Pakistan, Saudi Arabia, and United Arab Emirates), all are Muslim-majority- and developing countries.

We define a bank's proportion of equity financing as the ratio between the bank's amount of equity financing and its total financing. We categorize *mudarabah* and *musharakah* as equity financing and all others (such as *murabahah* and *ijarah*) as non-equity financing, most of the latter are *murabahah* or mark-up financing.

We use aggregate measures of the World Bank's Doing Business as the measures of contracting environments in our basic specifications, though we also use individual measures in some specifications. We use only measures that are relevant to contracting environments: resolving insolvency, getting credits, enforcing contracts, and starting a business.[7] Each aggregate measure

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[6] The data are available at http://www.doingbusiness.org/, which we access on 3 November 2014.

[7] We use getting credits as a measure of contracting environments because it includes, among others, strength of legal rights and credit bureau coverage.

has a value between zero and one hundred; it is the distance between a country to the "frontier", the best performing country in that measure across all countries and years whose data are available in the World Bank's Doing Business. For example, a country whose score of resolving insolvency is 30 means the country is very far away from the frontier, 70 percentage points away from the best performing country, Japan. The aggregate measure of resolving insolvency incorporates, among others, the time it takes to resolve insolvency, its cost, and its recovery rate.[8] Getting credits includes the strength of legal rights, depth of credit information, credit registry coverage, and credit bureau coverage. Enforcing contracts includes the time and the costs it takes to enforce contracts and the number of its procedures. Starting a business includes the number of procedures, time, and cost of starting a business and the minimum paid-in capital.

Table 1, which presents the summary statistics of key variables, shows that most of the Islamic banks' assets are mark-up financing and the contracting environments they operate in are very poor. Islamic banks in the sample have on average less than ten percent equity financing out of their total assets. Resolving insolvency in these seven countries is on average 67 percentage points away from the best performing country in resolving insolvency (Japan), 54 percentage points away from the United Kingdom in getting credits, 49 percentage points away from Singapore in enforcing

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[8] See the World Bank's Doing Business for the definitions of the measures of contracting environments.

contracts, and 33 percentage points away from New Zealand in starting a

business. Individual measures of contracting environments are also very poor

(we do not present the summary statistics for brevity): Average recovery rate

in insolvency cases is 31 cents on the dollar; only 13 percent adults are

covered by credit bureau; it takes 616 days to enforce contracts; it costs 30

percent of income per capita to start a business.

<Insert Table 1 here>

4. Results

As Table 2 shows, we do not find evidence that better contracting

environments induce Islamic banks to extend equity financing. (The number in

each cell is the estimate of β in Equation (1) using a measure of contracting

environments listed in the left column and a set of fixed effects listed at the

bottom of the table; robust standard errors are in parentheses and square

brackets, the latter are clustered by bank.) Contracting environments

negatively correlate with the proportion of equity of financing (column 1),

they do even after we control for year fixed effects (column 2), but the

estimates are statistically insignificant when we add country fixed effects

(column 3) or bank fixed effects (column 4) regardless of the measure of

contracting environments that we use (resolving insolvency, getting credits,

enforcing contracts, or starting a business). All estimates except the estimates

of enforcing contracts are, in fact, negative, which is not the expected sign if better contracting environments increase equity financing (though they are statistically insignificant). All estimates in columns 3-4 are not statistically significant at all as the large standard errors indicate—the standard errors are similar to, if not larger than, the estimates.

<Insert Table 2 here>

Not only that the estimates in columns 3-4 of Table 2 are statistically insignificant, their magnitude is also small. The largest, the coefficient of enforcing contract in column 4, is about 0.4, which means ten-percentage-point increase in the index of enforcing contract (ten percentage point closer to the best performing country in contract enforcement) increases the proportion of equity financing by only four percentage points. For example, a country like Malaysia (whose proportion of equity financing in the sample is two percent on average) can have this four percentage point increase by improving its contract enforcement so that it becomes as good as Switzerland's (about 10 percentage points higher), a feat that no developing country finds it easy to achieve.

Allowing banks to follow different time trends or adding country-year fixed effects as a set of control variables shows similar results (Table 3): Contracting environments do not seem to matter. (We present the results of regressions with year fixed effects, bank fixed effects, and bank-specific time trends or country-year fixed effects only for brevity.) The estimates in column

1 are positive except that of starting a business, as we expect if contracting environments matter, but their magnitude is small and almost all are statistically insignificant. The only statistically significant estimate in column 1 is that of resolving insolvency when we use the clustered standard error to make statistical inference (statistically significant at five percent level). However, it is statistically insignificant when we use heteroscedastic-robust standard error, which means that we should not rely too much on the clustered standard error to make statistical inference (clustered standard errors should be bigger than heteroscedastic-robust ones). When we add country-year fixed effects (column 2), we find the estimates are positive, but they are statistically insignificant (we present the standard errors under homoscedasticity assumption because the heteroscedastic-robust and clustered standard errors are smaller).

<Insert Table 3 here>

We also estimate Equation (1) using random effects models to check whether the estimates of the coefficients of contracting environments are statistically significant if we assume contracting environments do not correlate with the unobserved heterogeneity. Random effects models are more efficient than fixed-effect models if the assumption is satisfied, which means that we will have larger power to reject the null hypothesis of no effect of contracting environments.

Even though we use the more efficient random effects models, we find no positive effects of contracting environments on the proportion of equity financing (Table 4). (We present clustered standard errors only for brevity.) All estimates are negative and two of them are statistically significant. We should not take these estimates seriously, however, because the no-correlation assumption between contracting environments and the unobserved heterogeneity is unlikely to hold. Besides, the magnitude of the estimates is small. In any case, even though we consider between-variations of contracting environments, not only their within-variations (like we do in Tables 2-3), we do not find evidence that better contracting environments increase the proportion of equity financing.

<Insert Table 4 here>

Instead of using aggregate measures of contracting environments, we also use their individual measures, but, again, we do not find evidence that contracting environments matter (Table 5). (For brevity, we present one individual measure for each aggregate measure; we choose individual measures that are available in most years.) Most estimates are positive, but the magnitude of all estimates is small and they are statistically significant with standard errors as big as the estimates.

<Insert Table 5 here>

5. Concluding remarks

Islamic banks do not seem to increase their equity financing even though the economies they are in improve their contracting environments. We find positive estimates in some specifications, which indicates better contracting environments increase the proportion of equity financing, but some others are negative. Almost all estimates are statistically insignificant with standard errors as big as the estimates.

We offer five explanations why we do not find contracting environments matter.[9] One, mark-up financing is simpler, less risky, and more profitable than equity financing so that Islamic banks prefer to extend mark-financing, not equity financing. Two, contracting environments of the countries in our sample may be too poor for equity financing to be profitable; with recovery rate of insolvency cases of only about 30 cents of the dollar or it takes almost two years to enforce contracts, these Islamic banks cannot not afford to extend equity financing. Three, the reforms that the governments of countries in our sample have done are probably too modest. We do not rule out the possibility that contracting environments matter; perhaps we will see some effects if the Muslim-majority countries do major reforms so that they are closer to the best performing countries like Singapore and Japan. (Developing countries are unlikely to do this in the near future, however, if

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[9] See also Khan (2010).

history is any guide.) Four, managers of Islamic banks may not have the expertise to extend equity financing; they may in the future, in which case contracting environments may matter. Five, regardless of how good the contracting environments are, equity financing may be too risky for banks given that small- and short-term deposits dominate their liabilities. If this fifth explanation is true, Islamic banks may never specialize on equity financing, they keep extending mark-up financing like they do now.

It is also possible that we find statistically insignificant results because of the lack of power to reject the null hypothesis, which may happen when the measures of contracting environments change little from year to another. But, we think our basic results are robust because we do not find positive effects of contracting environments even when we use random effects models that also use variations of contracting environments across countries.

It is beyond the scope of this paper to examine which of these reasons is the most important, but (given the contracting environments of the countries and the reforms they do) we can perhaps say that Islamic banks are unlikely to turn "more Islamic" and increase their equity financing in the near future— they are likely to remain similar to conventional banks.

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Table 1

Summary statistics

Key variables	
The proportion of equity financing (percent)	9.3
	(14.6)
Measures of contracting environments (0 to 100)	
Resolving insolvency	33.2
	(8.6)
Getting credits	46.3
	(25.7)
Enforcing contracts	51.1
	(9.1)
Starting a business	66.1
	(17.7)

Notes: The number in each cell is the mean; the standard deviations are in parentheses. The measures of contracting environments are the distance to the best performances (for example, a score of 70 means a country is 30 percentage points away from the best performance). The sample has 34 Islamic banks in eight countries over eight-year period. The number of bank-year observations is 162; the number of country-year observations varies from 46 to 52.

Table 2

Basic results

Dependent variable: The proportion of equity financing				
	(1)	(2)	(3)	(4)
Resolving insolvency	-0.49	-0.42	-0.06	-0.06
	(0.18)**	(0.21)*	(0.46)	(0.17)
	[0.35]	[0.41]	[0.20]	[0.13]
Getting credits	-0.17	-0.17	-0.02	-0.07
	(0.03)**	(0.03)**	(0.12)	(0.09)
	[0.06]**	[0.06]**	[0.12]	[0.11]
Enforcing contracts	-0.77	-0.73	0.29	0.35
	(0.10)**	(0.11)**	(1.89)	(0.96)
	[0.23]**	[0.24]**	[1.27]	[1.58]
Starting a business	-0.60	-0.76	-0.14	-0.14
	(0.15)**	(0.20)**	(0.15)	(0.10)
	[0.26]*	[0.34]*	[0.16]	[0.17]
Fixed effects				
Year		✓	✓	✓
Country			✓	
Bank				✓

Notes: The number in each cell is from a regression of *the proportion of equity financing* in total financing on a measure of contracting environments and a set of fixed effects. The number of observations is about 144; the adjusted-R-squared varies from 0.1 to 0.8. The figures in parentheses are robust standard errors; those in square brackets clustered by bank.

Table 3

Regressions that include country-specific time trends or country-year fixed effects

Dependent variable: The proportion of equity financing	Bank-specific time trends	Country-year fixed effects
	(1)	(2)
Resolving insolvency	0.37	0.54
	(0.28)	{0.36}
	[0.17]*	
Getting credits	0.14	0.06
	(0.09)	{0.12}
	[0.09]	
Enforcing contracts	1.07	0.21
	(1.12)	{0.38}
	[0.98]	
Starting a business	-0.02	-
	(0.08)	
	[0.12]	

Notes: The number each cell is from a regression of *the proportion of equity financing* in total financing on a measure of contracting environments, year fixed effects, bank fixed effects, and country-specific time trends or country-year fixed effects. The number of observations is about 144; the adjusted-R-squared is about 0.85. The figures in parentheses are robust standard errors; those in square brackets clustered by bank; those in curly brackets standard errors under homoscedasticity assumption. The estimate of the coefficient of starting a business is very small.

Table 4

Random effects models

Dependent variable: The proportion of equity financing	
Resolving insolvency	-0.14
	(0.14)
Getting credits	-0.12
	(0.06)*
Enforcing contracts	-0.66
	(0.23)**
Starting a business	-0.27
	(0.21)

Notes: The number each cell is from a random effects regression of *the proportion of equity financing* in total financing on a measure of contracting environments, and year fixed effects. The number of observations is about 144; the adjusted-R-squared varies from 0.04-0.32. The figures in parentheses are robust standard errors clustered by bank.

Table 5

Using individual measures of contracting environments

Dependent variable: The proportion of equity financing	
Resolving insolvency	
Recovery rate (cents on the dollar)	1.25
	(1.49)
Getting credits	
Credit bureau coverage (percent of adults)	-0.05
	(0.05)
Enforcing contracts	
Time (days)	0.26
	(0.24)
Starting a business	
Cost (percent of income per capita)	0.11
	(0.12)

Notes: The number each cell is from a regression of *the proportion of equity financing* in total financing on a measure of contracting environments, year fixed effects and bank fixed effects. The number of observations is 110; the adjusted-R-squared is about 0.7. The figures in parentheses are robust standard errors clustered by bank.