

The Influence of Culture on Economic Outcomes: An Exploration of Islamic Finance as a New Transmission Channel

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Abstract

Islamic finance is one of the most prominent phenomena over the last decade in the banking industry in the Middle-East and South-East Asia. It has recently spread in non-Muslim countries, such as the UK or the US. Globally, assets on the books of Shariah-compliant commercial banks have exceeded 350 Billion USD in 2005 and grown by an average of 29% annually from 2000.

In spite of the substantial size and growth of this segment, the role of Islamic banking in the economy is still heavily debated and very few empirical work is available. This paper studies the impact of Islamic banking on financial sector development. It circumvents the lack of data through a newly-constructed and comprehensive database, "IFIRST", covering Islamic commercial banks worldwide over the period 2000-2005. This database is, to our knowledge, unique in the industry.

After controlling for standard determinants and potential endogeneity, using religion as an instrument, we find strong and significant empirical evidence of a positive role of Islamic banking on countries' financial sector development, as measured by private credit over GDP.

Key words: culture, religion, Islamic Finance, financial sector development, growth.

JEL: F37, O16, Z12

1. Introduction

Islamic finance can be defined as a way of doing finance in line with the Shariah, or Islamic law (see, for example, Warde, 2000). The major features of Islamic finance are both a series of prohibitions or restrictions, and an encouragement of preferred financial methods or techniques. The Shariah law prohibits interest (called “riba”), gambling, speculation, and being involved in prohibited areas such as the sale of pork meat, alcohol, weapons or pornography. Instead, Islamic finance strives to favor “profit and loss sharing” in financial instruments, and to foster a productive use of money through requiring a non-monetary underlying in financial transactions (such as a consumer good, a commodity).

The practical application of Shariah rules to finance leaves a large room for interpretation by “Shariah scholars” and Islamic finance practitioners. The “Islamic financial system” has developed since the 1970s in the Middle-East and South-East Asia, with the foundation of several “Islamic banks” and the creation of a rapidly increasing set of specific financial instruments. After a series of ups and downs (several Islamic banking institutions went bankrupt in the 1980s), Islamic banking seems to have reached a favorable period since the mid-1990s and has displayed since then high growth rates, in terms of both assets and number of active institutions, an increasing interest from the non-Muslim world. And, noticeably, it resisted, in most of the cases, the 09-11 shock.

The theoretical motivation behind the development of Islamic banking is the enhancement of both economic and social welfare, e.g., through allowing more people to participate in a “fairer” banking system (see, for example, Warde, 2000 or Karich, 2002). But at the same time, some authors argue that Islamic banking had detrimental economic consequence, e.g., due to the role of certain values or restrictions (see, for example, Hillman, 2007).

The objective of this paper is to test empirically at macro-economic level the impact of the recent development of the Islamic banking industry. We focus on assessing whether Islamic finance had a stimulating effect on the overall financial sector development, as measured by private credit over GDP. Financial sector development is important, as literature has confirmed its positive role in economic growth (e.g., Levine, Loayza, Beck, 2000).

We propose and use an original and comprehensive database “IFIRST”¹, covering key economic and accounting elements of Islamic commercial banks worldwide over the period 2000-2005, and based on Islamic institutions accounts and reports. The “IFIRST” database used is, to our knowledge, unique in the industry.

To test the role of Islamic banking on financial sector development, we rely on two streams of literature. First, we apply econometric techniques developed by a recent literature which establishes the importance of culture to economic outcomes and treats potential endogeneity issues (Guiso, Sapienza, Zingales, 2006). Second, we use the theory of the determinants of financial sector development to build our empirical model. The control variables used in our model are inspired from Djankov, McLiesh and Shleifer (2007), La Porta, Lopez-de-Silanes, Shleifer, and Vishny

¹ Islamic Finance Industry Recording and Sizing Tool, 2007 ©

(1997) – hereafter LLSV – La Porta, Lopez-de-Silanes and Shleifer (1998) and Levine, Loayza and Beck (2000).

Using two-stage least square regressions, we explain the cross-sectional variation of financial sector development by the penetration of Islamic banking and a set of control variables (such as macro-economic, legal and information sharing variables, as proposed by Djankov, McLiesh and Shleifer, 2007). We instrument the Islamic Finance variable with its cultural and legal determinants to treat potential causality issues², i.e., the proportion of Muslims in each country and the number of years since the introduction of an “Islamic finance friendly” regulation.

We conclude that the exogenous, culture- and legal-driven component of Islamic banking on financial sector development has a positive impact on a country’s financial development. Therefore, we find that Islamic finance is a channel through which culture influences economic outcomes.

The next section presents our original dataset and establishes a few facts on Islamic commercial banking. Section 3 describes our full dataset, including macro-economic and legal environment data. Section 4 explains our model and examines the impact of the Islamic banking sector on private credit. Section 5 assesses the robustness of our results. Section 6 concludes.

2. Islamic banking data and main facts

It is still difficult today to find reliable macro-economic data on the Islamic banking sector. The directories published since a few years by the CIBAFI (e.g., CIBAFI, 2006) are a valuable source of information and include some accounting information, but its coverage is partial. Researchers and practitioners are still hardly able to size the market properly, and to run macro-economic cross-country tests. This lack of reliable and comprehensive data is mainly due to the short history of the industry, as well as to the wide variety of rules and types of institutions both across and within countries.

Therefore, we built, in close collaboration with major actors in the industry, what is to our knowledge the first comprehensive database on Islamic commercial banks over the world. The “IFIRST” database was constructed by collecting key accounting and economic data from various sources (e.g., individual bank’s annual reports and other factual reports, central banks, press clippings) in a bottom-up manner, institution per institution, and country per country. When data were not available, they were approximated using comparables. Each monetary data is being converted in USD using exchange rates at the time of accounting closure (or year-averaged exchange rates for P&L elements)³.

² It could also be argued that culture is the product of socio-economic conditions. Guiso, Sapienza and Zingales (2006) focus their approach of culture on “those customary beliefs and values that ethnic, religious and social groups transmit fairly unchanged from generation to generation”, which allows to identify a causal effect from culture to economic outcomes.

³ The aggregation is then made by summing all USD-denominated data. Impreciseness from summing data at different accounts closing dates across the year is minor, as the vast majority of the institutions have a 31st December end-year date.

The segment covered by IFIRST at this stage comprises of all active Shariah-compliant commercial banks or institutions accepting individual deposits, over the period 2000-2005. This includes Islamic “windows”, i.e., Shariah-compliant departments of non-fully Islamic institutions. The criteria used to categorize an institution as Islamic or not is the presence of a Shariah board approving and monitoring Shariah compliance of the institution products or operations⁴. IFIRST has gone through a validation round with professionals in the industry, about both the data and the list of institutions.

We find that total assets on the books of Shariah-compliant commercial banking institutions over the world have grown by an average 29% between 2000 and 2005, and the number of institutions involved with Islamic commercial banking has almost doubled over the same period. At the end of 2005, we count almost 200 Islamic commercial banks operating in the world, including Islamic “windows” of conventional major finance institutions such as, to name only a few, HSBC (Amanah), Citibank (Citi-Islamic), or Standard Chartered.

Global assets of Islamic banking institutions in 2005 amounted to 354 Billion USD (197 Billion USD without the fully Islamic finance countries, Iran and Sudan⁵). If Islamic banking globally is to grow in the near future at the same pace as between 2000 and 2005, Islamic commercial banking assets, excluding Iran & Sudan, would reach a trillion USD by 2012. This is a rather optimistic assumption though.

3. Our database

Firstly, let us describe the data used in the first stage of our two-stage regression, where we identify the exogenous, religious- and legal-driven component of Islamic banking penetration (IF) in each country.

Total assets of Islamic banks in each country are provided by IFIRST on a yearly basis over 2000-2005. Note that, in 2005, this value is 0 for 148 countries out of the 180 World Bank countries (32 countries, i.e., approximately 18% of the world’s countries had Islamic banking in 2005). IF is being computed as the ratio of total Islamic banking assets over the country’s total deposit money banks’ asset. The latter variable, computed from IFS data, is provided by Levine (2006).

The religious explanatory variable is the percentage of Muslims in total population, computed using 2005 data from the Association of Religious Data Archives (ARDA), which itself takes its sources in United Nations Human Development Reports (HDR) and the Central Intelligence Agency (CIA) World Factbook.

⁴ Indeed, if we solely relied on the definition of Islamic finance in section 1 above, strictly speaking, we could have included substantial portions of the conventional banking system. This would make the Islamic finance sector very large – even Buddhists or Christians could, for example, be compliant with the Shariah in certain financial transactions.

⁵ Iran and Sudan are the two only countries in the world with 100% penetration of Islamic banking. These two countries went through a legislation-driven process of full conversion from a conventional to an Islamic banking system. The average growth rate of Islamic banking in these countries over 2000-2005 amounted, respectively, to 33 and 32%. Hence, they contributed equally to the growth of the sector. However, due to the important size of these countries’ banking sectors (more than one third of global Islamic banking assets), especially Iran, we examine the robustness of our results to inclusion or exclusion of these countries (see section 5 below).

The Islamic finance legal variable is the age of the oldest Islamic bank in each country in 2005, as provided by IFIRST. We use it as a proxy for the age of an Islamic banking friendly regulation.

Secondly, let us examine the variables needed for our final-stage regression.

Our dependent variable, financial sector development, is measured by the ratio of private credit over GDP, provided by Levine (2007) and averaged over 2000-2005.

As to our control variables, we strictly follow the standard determinants (macro-economic, legal and information-related) of financial sector development identified by Djankov, McLiesh and Shleifer (2007).

Data on the standard macro-economic variables (such as GDP in current USD, GDP per capita PPP, GDP per capita PPP growth, inflation rate) come from the World Economic Outlook (IMF) database and the World Development Indicators (World Bank). We average those over 2000-2005, except GDP per capita PPP growth, which is averaged over 1980-2005.

The legal variables we use are the legal origin (dummy variables for English, French, German, Nordic and Socialist origin, in the line of LLSV, 1997), the rating of creditor protection laws (an index between 0 for low creditor rights and 4 for high creditor rights), and the quality of law enforcement (measured by the estimated number of days to enforce a contract of unpaid debt worth 50% of the country's GDP per capita). The value of these variables in 1999 are provided by Djankov, McLiesh and Shleifer (2007), which improved LLSV (1997)'s methodology and increased the data sample from 49 to 129 countries.

We use the information sharing variables proposed by Djankov, McLiesh and Shleifer (2007). "Private bureau" ("public registry") is a dummy that indicates the presence of an active private (public) credit information bureau in 1999. Information sharing is a dummy yielding 1 if at least a private or a public bureau is active in 1999. These data are available from Djankov, McLiesh and Shleifer (2007).

Our final sample contains 118 countries. Out of the 129 countries from Djankov, McLiesh and Shleifer (2007), 6 are excluded due to missing private credit over GDP and total banking assets data, 2 more due to one missing private credit data only, 1 due to missing GDP per capita PPP, and 1 due to missing estimate of the Muslim population. Finally, we decide, in our main regressions, to exclude from our sample the fully Islamic finance countries (i.e., Iran) due to the peculiarity of their financial system (which was converted one-shot to a fully Shariah-compliant financial system). We consider Iran, though, in our robustness checks.

Table 3 summarizes a few features of our final 118-country sample and confirms its representativeness. The number of countries with Islamic banking is 16% of total (which is very close to the 18% globally). Moreover, over 80% of total Islamic banking assets are included in our sample.

4. Model and empirical tests

Our model is inspired by two streams of literature, i.e., the impact of culture on economic outcomes (e.g., Guiso, Sapienza, Zingales, 2006), and the determinants of financial sector development (e.g., Djankov, McLiesh and Shleifer, 2007).

We use a two-stage least squares regression to assess the impact of "IF", the penetration of Islamic banking, on private credit over GDP ("PC").

In the first stage regression, we regress IF on the number of Muslims and the number of years of operation of the oldest Islamic institution. The two latter variables qualify as instrumental variables, as (1) they are not determined by IF, and (2) they explain a large portion of IF variations (the adjusted R^2 is 46%). Note that the proportion of Muslims in a country is a relatively poorer predictor of the penetration of Islamic banks than legal aspects. We indeed observe that some important Muslim countries do not have Islamic banking (such as Morocco or the Sultanate of Oman). Also, a few countries with a minority Muslim community, have Islamic banks (such as the U.K., Russia or the U.S.). Therefore, we need to control as well for the (exogenous) legal variable.

Our second-stage regression equation looks as follows:

$$PC_i = \alpha + \beta IF_i + \gamma GDPpc_i + \delta X_i + \varepsilon_i$$

where PC is the private credit over GDP, IF is the penetration of Islamic banking, GDPpc is a control for GDP per capita PPP, X is the standard set of controls used in Djankov, McLiesh and Shleifer, 2007), and ε is the country-specific error term.

We justify the presence of an additional control, GDP per capita, by the fact that countries with Islamic banking clearly display a lower average rate of development than our sample average (see Table 2). Failing to control for level of development would result in IF capturing this additional effect. We also note that the use of a control for level of development is a common practice in the literature (e.g., Djankov, McLiesh and Shleifer, 2007; Levine, Loayza, Beck, 2000), unless there is multicollinearity with another control variable (e.g., LLSV 1997; Djankov, McLiesh and Shleifer, 2007). In the next section, we show that potential multicollinearity with other variables in X do not affect our conclusions.

Following Djankov, McLiesh and Shleifer, 2007, we test various specifications of our models. The results of four specifications are displayed in Table 1.

The impact of (the culture- and legal-driven exogenous component of) Islamic banking on private credit is always significant and positive. All other things being equal, an increase of Islamic banking penetration of 1 percent is associated with a 1% higher level of private credit over GDP.

The role of our GDP per capita control is confirmed by a significant coefficient in every model specification. As to the behavior of the standard control variables, we observe few differences with the existing empirical literature. The legal origin variables have no significance in our regressions at any conventional level. Information sharing and private bureau variables have a significant and positive impact on private credit. However, we observe that the significance of the creditor rights variable disappears in three cases out of four. One possible explanation for this fact is the presence of a religious variable in our regressions, in the form of an instrument. Indeed, as shown by Stulz and Williamson, 2003, religion seems to be a good predictor of creditor protection.

Table 1 – Private credit to GDP, regression analysis

<i>Dependent variable: private credit to GDP</i>				
IF	1.066+	1.183*	1.159*	1.625**
	(1.91)	(2.12)	(2.12)	(2.78)
GDP per capita	0.003**	0.003**	0.002**	0.002**
	(6.93)	(6.72)	(6.57)	(5.72)
GDP	2.912+	3.675*	3.251+	2.566
	(1.73)	(2.21)	(1.97)	(1.53)
GDP per capita growth	1.621	1.693	2.167	2.091
	(1.09)	(1.14)	(1.47)	(1.43)
Contract enforcement days	-8.603*	-9.233*	-9.627*	-10.161**
	(2.23)	(2.41)	(2.56)	(2.67)
Inflation	-0.071	-0.058	-0.024	-0.016
	(0.77)	(0.63)	(0.26)	(0.17)
Creditor rights	3.200	3.230	3.810+	2.882
	(1.47)	(1.60)	(1.90)	(1.43)
French legal origin	-4.313			
	(0.76)			
German legal origin	-13.003			
	(1.62)			
Nordic legal origin	-24.860+			
	(1.78)			
Socialist legal origin	-14.781			
	(1.47)			
Information sharing			11.294*	
			(2.19)	
Private bureau				17.901**
				(3.12)
Public registry				2.818
				(0.59)
Constant	-6.069	-23.760	-20.549	2.110
	(0.14)	(0.57)	(0.50)	(0.05)
Observations	118	118	118	118
R-squared	0.74	0.72	0.73	0.73

Absolute value of t statistics in parentheses

+ significant at 10%; * significant at 5%; ** significant at 1%

5. Robustness

In addition to the various specifications exposed above, we perform a series of robustness checks.

First, we exclude the variable “contract enforcement days” from our main regression framework. Djankov, McLiesh and Shleifer (2007) argue that “GDP per capita” is an alternative proxy for the quality of law enforcement, even though “contract enforcement days” is their preferred proxy. In our dataset, we indeed note that the correlation between these two variables has a somewhat high absolute value: 45% (see Table 4). Regression results are displayed in Table 5 and display a very high stability in the effect of Islamic banking on private credit.

Second, we consider countries with a fully Islamic banking system, i.e., Iran and Sudan. The effect of Islamic banking in those countries may indeed differ from the effect in other countries, for two reasons. One, the measure of Islamic banking penetration in those countries is invariant through time over 2000-2005. Two, the development process of Islamic banking was abrupt in Iran and Sudan, and gradual in

other countries. Hence, the macro-economic effects of the development of Islamic banking may be very different. Empirically, we add Iran to our regression sample (we are unfortunately missing data for Sudan), and add a dummy variable whose value is 1 for Iran and 0 for all other countries. The dummy variable is intended to capture the varying effects of an abrupt versus gradual conversion to an Islamic banking system. Results are shown in Table 6). We observe no material change in our IF variable. In turn, the dummy variable is significant and negative, indicating that private credit to GDP in Iran is lower than its expected value under our standard model given a 100% Islamic banking penetration.

6. Concluding remarks

Using “IFIRST”, a newly-constructed database on Islamic banks worldwide, we are able to assess empirically the role of Islamic banking in stimulating financial sector development. We measure the latter by the ratio of private credit over GDP, and the former by the penetration rate of Islamic banking in each country.

We apply a two-stage least square regression, in line with the literature on the impact of culture on economic outcomes, and the determinants of financial sector development. We instrument the penetration rate of Islamic banking with the proportion of Muslims and the number of years of Islamic banking history (a proxy for the age of an Islamic banking friendly regulation). We observe a significant and positive impact of Islamic banking on private credit. This result is robust to many specifications.

This result is strengthening, at least partially, the argument of some academics and practitioners that the development Islamic finance has a positive impact on the economy. Islamic banking, all other things being equal, seems to stimulate private credit.

According to an established literature, higher private credit is associated with higher economic growth (Levine, Loayza, and Beck, 2000). However, the link between Islamic banking and economic growth remains to be established in further research. We should indeed understand whether Islamic finance impacts other key determinants of economic growth, before asserting that Islamic banking is good for growth. In our eyes, a complementary avenue for further research is the more micro-economic study of the particular aspects of Islamic banking that stimulate private credit.

7. Bibliographic references

- Aggarwal, Rajesh K., and Tarik Yousef, 2000, Islamic Banks and Investment Financing, *Journal of Money, Credit and Banking* 32, 93-120.
- Beck, Thorsten, Asli Demirgüç-Kunt, and Ross Levine, 2007, A New Database on Financial Development and Structure, *World Bank Economic Review* 14 597-605.
- Beck, Thorsten, Asli Demirgüç-Kunt, and Ross Levine, 2002, Law, Endowments, and Finance, *Journal of Financial Economics* 70, 137-181.
- Beck, Thorsten, and Ross Levine, 2004, Stock Market, Banks, and Growth: Panel Evidence, *Journal of Banking and Finance* 28, 423-442.
- Beck, Thorsten, and Ross Levine, 2005, Legal Institutions and Financial Development, in Claude Menard and Mary M. Shirley, ed.: *Handbook for New Institutional Economics* (Norwell MA: Kluwer Academic Publishers,).
- CIBAFI, 2006. *Islamic Finance Directory 2006*.
- Djankov, Simeon, Caralee McLiesh, and Andrei Shleifer, 2007, Private Credit in 129 Countries, *Journal of Financial Economics* 84, 299-329.
- Durlauf, Steven N., Andros Kourtellos, and Chih Ming Tan, 2006, Is God in the Details? A Reexamination of the Role of Religion in Economic Growth, *Discussion Papers Series, Department of Economics, Tufts University 0613, Department of Economics, Tufts University*.
- Granato, Jim, Ronald Ingelhart, and David Leblang, 1996, The Effect of Cultural Values on Economic Development: Theory, Hypotheses, and Some Empirical Tests, *American Journal of Political Science* 40, 607-631.
- Guiso, Luigi, Paola Sapienza, and Luigi Zingales, 2006, Does Culture Affect Economic Outcomes?, *The Journal of Political Economy* 20, 23-48.
- Hillman, Arye L., 2007, Economic and Security Consequences of Supreme Values, *Public Choice* 131, 259-280.
- Karich, Imane, 2002. *Le système financier islamique: De la Religion à la Banque* (Larcier, Bruxelles).
- La Porta, Rafael, Florencio Lopez-de-Silanes, and Andrei Shleifer, 1998, Legal Determinants of External Finance, *Journal of Political Economy* 106, 1113-1155.
- La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer, and Robert W. Vishny, 1997, Legal Determinants of External Finance, *The Journal of Finance* 52, 1131-1150.
- Levine, Ross, Norman Loayza, and Thorsten Beck, 2000, Financial Intermediation and Growth: Causality and Causes, *Journal of Monetary Economics* 46, 31-77.

McKinsey & Company, Islamic Finance Interest Group, 2005, Islamic Banking Competitiveness Report, Tracking an Industry in Transition, 12th World Islamic Banking Conference (Manama, Bahrain).

McKinsey & Company, Islamic Finance Interest Group, 2006, Islamic Banking Competitiveness Report, Exploring the Wholesale Banking Opportunity, 13th World Islamic Banking Conference (Manama, Bahrain).

McKinsey & Company, Islamic Finance Interest Group, 2007, Islamic Banking Competitiveness Report, Capturing the Trillion Dollar Opportunity, 14th World Islamic Banking Conference (Manama, Bahrain).

Stulz, René M. M., and Rohan G. Williamson, 2003, Culture, Openness, and Finance, *Journal of Financial Economics* 70, 313–349.

Vogel, Frank E., and Samuel L. Hayes III, 1998. *Islamic Law and Finance: Religion, Risk and Return* (Kluwer Law International, The Hague).

Warde, Ibrahim, 2000. *Islamic Finance in the Global Economy* (Edinburgh University Press, Edinburgh).

8. Appendix

Table 2 - Islamic Finance penetration per country and GDP per capita in countries with Islamic Finance

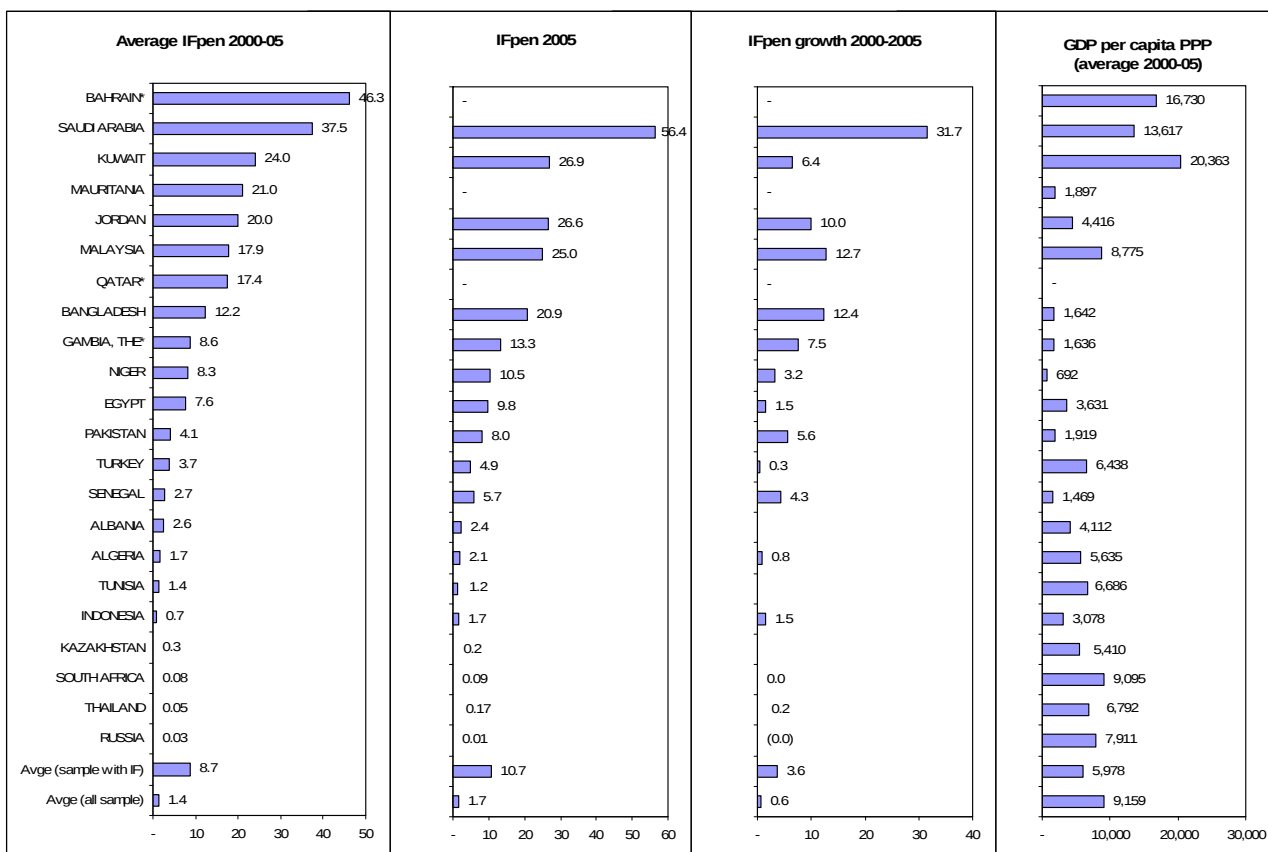


Table 3 - Sample descriptive features

	Sample	Worldbank countries
Number of countries	118	180
Sample country coverage	66%	100%
Number of countries with IF	19	32
% of countries with IF	16%	18%
GDP per capita, USD PPP (average 2000-05)		
Total Islamic assets, USD Billion (2005)	164	197
Part of total Islamic assets (2005)	83%	100%

Table 4 - Correlation matrix of variables used in the regression analyses

	Private credit	IF	Muslim pop	IF nb years	GDP per capita	GDP	GDP per capita growth	Contract enforcement days	Inflation	Creditor rights	Information sharing	Private bureau	Public registry	French legal origin	German legal origin	Nordic legal origin	Socialist legal origin
Private credit	1.00																
IF	0.04 (0.64)	1.00															
Muslim pop	-0.21 (0.01)	0.43 (0.00)	1.00														
IF nb years	0.00 (0.96)	0.69 (0.00)	0.64 (0.00)	1.00													
GDP per capita	0.79 (0.00)	0.02 (0.78)	-0.27 (0.00)	-0.09 (0.25)	1.00												
GDP	0.53 (0.00)	0.04 (0.56)	-0.07 (0.34)	0.12 (0.10)	0.59 (0.00)	1.00											
GDP per capita growth	0.39 (0.00)	-0.10 (0.19)	-0.24 (0.00)	-0.08 (0.33)	0.27 (0.00)	0.17 (0.02)	1.00										
Contract enforcement days	-0.49 (0.00)	0.04 (0.67)	0.10 (0.24)	0.04 (0.64)	-0.45 (0.00)	-0.28 (0.00)	-0.25 (0.00)	1.00									
Inflation	-0.22 (0.01)	-0.04 (0.60)	-0.04 (0.58)	-0.04 (0.59)	-0.19 (0.01)	-0.04 (0.64)	-0.22 (0.00)	0.21 (0.02)	1.00								
Creditor rights	0.28 (0.00)	0.06 (0.49)	-0.11 (0.23)	-0.05 (0.57)	0.20 (0.02)	0.16 (0.07)	0.10 (0.25)	-0.13 (0.13)	0.10 (0.26)	1.00							
Information sharing	0.30 (0.00)	0.07 (0.44)	-0.07 (0.42)	0.07 (0.40)	0.25 (0.00)	0.22 (0.01)	-0.03 (0.70)	-0.05 (0.56)	-0.17 (0.05)	-0.13 (0.15)	1.00						
Private bureau	0.60 (0.00)	-0.14 (0.11)	-0.44 (0.00)	-0.26 (0.00)	0.58 (0.00)	0.52 (0.00)	0.21 (0.02)	-0.25 (0.00)	-0.18 (0.04)	0.13 (0.14)	0.48 (0.00)	1.00					
Public registry	-0.17 (0.07)	0.19 (0.04)	0.20 (0.03)	0.24 (0.01)	-0.21 (0.02)	-0.13 (0.15)	-0.20 (0.02)	0.23 (0.01)	-0.04 (0.62)	-0.22 (0.01)	0.62 (0.00)	-0.14 (0.11)	1.00				
French legal origin	-0.26 (0.00)	0.04 (0.64)	0.09 (0.31)	0.06 (0.52)	-0.25 (0.00)	-0.17 (0.05)	-0.19 (0.03)	0.22 (0.01)	0.03 (0.72)	-0.41 (0.00)	0.29 (0.00)	-0.05 (0.61)	0.48 (0.00)	1.00			
German legal origin	0.16 (0.08)	-0.10 (0.25)	-0.18 (0.04)	-0.17 (0.05)	0.26 (0.00)	0.22 (0.01)	0.23 (0.01)	-0.02 (0.80)	-0.10 (0.26)	0.18 (0.03)	-0.08 (0.35)	0.03 (0.76)	-0.11 (0.19)	-0.38 (0.00)	1.00		
Nordic legal origin	0.21 (0.02)	-0.05 (0.60)	-0.12 (0.19)	-0.08 (0.34)	0.38 (0.00)	0.17 (0.06)	0.08 (0.39)	-0.24 (0.01)	-0.06 (0.51)	-0.01 (0.93)	0.11 (0.19)	0.24 (0.01)	-0.17 (0.05)	-0.17 (0.05)	-0.07 (0.42)	1.00	
Socialist legal origin	-0.19 (0.04)	-0.07 (0.41)	0.12 (0.19)	-0.03 (0.70)	-0.17 (0.05)	-0.18 (0.04)	-0.11 (0.23)	-0.02 (0.80)	0.08 (0.36)	0.10 (0.25)	-0.35 (0.00)	-0.22 (0.01)	-0.18 (0.04)	-0.29 (0.00)	-0.12 (0.17)	-0.05 (0.54)	1.00

Correlation significance level in parentheses

Table 5 - Regression analysis, excluding the variable "contract enforcement days"

<i>Dependent variable: private credit to GDP</i>				
IF	1.166*	1.314*	1.296*	1.799**
	(2.03)	(2.28)	(2.28)	(2.95)
GDP per capita	0.003**	0.003**	0.003**	0.003**
	(8.03)	(8.03)	(7.91)	(6.86)
GDP	2.387	3.043+	2.621	1.940
	(1.40)	(1.80)	(1.56)	(1.13)
GDP per capita growth	2.061	2.210	2.674+	2.568+
	(1.37)	(1.46)	(1.78)	(1.70)
Inflation	-0.091	-0.077	-0.046	-0.041
	(0.97)	(0.82)	(0.49)	(0.44)
Creditor rights	3.444	3.610+	4.169*	3.161
	(1.55)	(1.75)	(2.03)	(1.51)
French legal origin	-5.746			
	(0.99)			
German legal origin	-15.822+			
	(1.96)			
Nordic legal origin	-24.518+			
	(1.72)			
Socialist legal origin	-14.635			
	(1.42)			
Information sharing			10.575*	
			(2.00)	
Private bureau				17.639**
				(2.97)
Public registry				0.760
				(0.16)
Constant	-46.004	-66.446+	-65.152+	-44.901
	(1.19)	(1.74)	(1.73)	(1.16)
Observations	118	118	118	118
R-squared	0.72	0.70	0.71	0.71

Absolute value of t statistics in parentheses

+ significant at 10%; * significant at 5%; ** significant at 1%

Table 6 - Regression analysis, with dummy for full IF countries

<i>Dependent variable: private credit to GDP</i>				
IF	1.066+	1.183*	1.159*	1.625**
	(1.91)	(2.12)	(2.12)	(2.78)
Dummy Ir-Sud	-114.401+	-122.193*	-122.396*	-159.000**
	(1.94)	(2.06)	(2.10)	(2.62)
GDP per capita	0.003**	0.003**	0.002**	0.002**
	(6.93)	(6.72)	(6.57)	(5.72)
GDP	2.912+	3.675*	3.251+	2.566
	(1.73)	(2.21)	(1.97)	(1.53)
GDP per capita growth	1.621	1.693	2.167	2.091
	(1.09)	(1.14)	(1.47)	(1.43)
Contract enforcement days	-8.603*	-9.233*	-9.627*	-10.161**
	(2.23)	(2.41)	(2.56)	(2.67)
Inflation	-0.071	-0.058	-0.024	-0.016
	(0.77)	(0.63)	(0.26)	(0.17)
Creditor rights	3.200	3.230	3.810+	2.882
	(1.47)	(1.60)	(1.90)	(1.43)
French legal origin	-4.313			
	(0.76)			
German legal origin	-13.003			
	(1.62)			
Nordic legal origin	-24.860+			
	(1.78)			
Socialist legal origin	-14.781			
	(1.47)			
Information sharing			11.294*	
			(2.19)	
Private bureau				17.901**
				(3.12)
Public registry				2.818
				(0.59)
Constant	-6.069	-23.760	-20.549	2.110
	(0.14)	(0.57)	(0.50)	(0.05)
Observations	119	119	119	119
R-squared	0.74	0.72	0.73	0.73

Absolute value of t statistics in parentheses

+ significant at 10%; * significant at 5%; ** significant at 1%

Table 7 - Acronyms used in text or tables

Acronym	Meaning
ARDA	Association of Religious Data Archives
CIBAFI	General Council for Islamic Banks and Financial Institutions
GDP	Gross domestic product, measured as the ln of GDP value in current USD dollars, average 2000-2005 (source: WEO, 2007)
GDP per capita	Gross domestic product per inhabitant, measured in USD PPP (Atlas method), average 2000-2005 (source: WDI, 2007)
GDP per capita (growth)	Growth of gross domestic product per inhabitant, measured in USD PPP (Atlas method), average 1980-2005 (source: WDI, 2007)
IF	Islamic commercial banking assets / country's deposit money banks' assets, or "Islamic (commercial) banking penetration"
IFIRST ©2007	Islamic Finance Recording and Sizing Tool ©2007
IFS	International Financial Statistics (IMF database)
IMF	International Monetary Fund
LLSV	La Porta, Lopez-de-Silanes, Shleifer, and Vishny