Islamic Finance and Banking in the Great Recession:

A Comparison of Profitability with Conventional Banks

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Abstract

The 2008 Financial Crisis—also known as the Great Recession—has been the worst financial crisis to hit the United States economy since the Great Depression in the 1930s. Shockwaves from the collapse of U.S. markets were transmitted to other countries straining global economic activity. There is reason to believe that the role of financial institutions was important to causing the crisis, as they engaged in subprime lending. Islamic financial institutions provide the same services as conventional financial institutions, but without the charging or paying of interest. They use other modes of finance which allow them to practice banking that is consistent with Islamic Law which prohibits interest. Since Islamic banks do not charge interest, they may have had less of an incentive to engage in risky practices which might have allowed them to perform better through the Great Recession. This paper examines the difference in the profitability of Islamic financial institutions and conventional financial institutions by looking at a panel dataset of both types of banks for the years 2006 to 2010. The results indicate that there is suggestive evidence to support the claim that Islamic Banks performed better than conventional banks in the peak to trough period (2007-2009) of the Great Recession. However, not all the countries in the sample show clear differences in the performance of the two types of banks.

1. Introduction

Financial institutions all over the world were shaken up by the Great Recession that started in 2007 and reached a trough in 2009 before recovery began. The collapse of Wall Street Investment Banking giant, Lehman Brothers, in September of 2008 aggravated the recession and led to consumer/investor uncertainty. There is reason to believe that bank failures and large losses in profits due to either illiquidity or insolvency were a common phenomenon which further contracted economic activity. Due to the central role of the United States in the global economy, other countries also experienced a severe recession.

The financial services industry was at the center of the crisis in countries all over the world, as the profits of financial institutions slumped from 2007 to 2009. It is possible that the large losses banks suffered were related to the risky practices they engaged in prior to and leading up to the crisis. It appears that many banks were willing to engage in risky practices to maximize profits, which provided them an incentive to relax their standards for approving mortgages and other loans to stay competitive in the marketplace. Profits for banks were driven by adjustable rate loans (and mortgages) which meant that interest rates on loans varied with market conditions. Interest has been the key driver for profit for banks and financial institutions alike; however, a relatively new practice of finance—Islamic Finance—engages in the same activities as conventional banks with one key difference. Instead of charging or paying interest, Islamic Banks utilize other modes of finance to make their practice profitable.

Islamic Finance started in the 1970s in the Middle East and North Africa region to primarily provide banking services to the Muslim population. The paying and/or earning of interest (*riba* in Arabic) is prohibited in the religion of Islam, hence, leading to a banking system

that is based on Islamic principles. Interest is prohibited in Islam because it is viewed as a method for the affluent to exploit the economically disadvantaged by burdening them with payments in addition to the principal amount that has been lent out (Saeed 1999). In order to practice banking without charging interest, Islamic banks have adopted Sharia-compliant modes of finance allowing them to be profitable and compliant with Islamic Law. The main modes of finance used by Islamic banks are *Mudaraba*, *Musharaka*, and *Murabaha*.

Mudaraba is similar to venture capital, as it is the practice of lending out money to someone who is believed to be skillful in a particular field in order to realize a profit. There is no freedom to act because the details of how the *mudaraba* funds are to be managed are set in the contract (Saeed 1999). This allows the bank to ensure that it will recover its capital and a return on the capital by determining the outcome. *Musharaka* is a collective business venture contract where the bank lends out to a borrower and shares the profits/losses (Saeed 1999). It does not allow the borrower to have much freedom to act because the details of the contract are outlined; hence, like the *mudaraba*, it allows the bank to get a return on capital without much uncertainty. *Murabaha* is the most widely used mode by Islamic banks with about 75% of all transactions. It is used in loaning money for goods and is based on the time value of money (Saeed 1999). Instead of charging interest, there is a pre-determined fee charged for loaning the funds based on the size of the loan. Whether *Mudaraba* or *Musharaka* would mitigate risk for Islamic banks and potentially make them more profitable is ambiguous. However, *Murabaha* would likely mitigate risk due to the fixed fee regardless of the riskiness of the loan. Since 75% of all transactions in Islamic finance are *Murabaha*, it is reasonable to believe that Islamic banks' risk levels are lower than that of conventional banks.

Research shows that the estimated annual growth rate for Islamic Banks was up to 15% before the Great Recession (Ahmed and Moghul 2003-2004). This growth has slowed down throughout the financial crisis due to more stringent corporate governance and thorough screening processes (Bakar 2010). The growth of Islamic finance around the world is partly attributed to the growing population of Muslims in the West, which has led to the spread of Islamic finance in countries like the United States and the United Kingdom. Although Islamic finance has been growing rapidly, the profits of Islamic banks may have different trends. The purpose of this study is to assess whether Islamic banks fared better than conventional banks throughout the peak to trough years (2007-2009) of the Great Recession. It is reasonable to conjecture that they may have performed better than conventional banks since they do not charge interest. Interest was the main driver for profits for conventional banks and incentivized them to make risky loans with high interest rates. Islamic banks' modes of finance allow them to generate revenue in a way that is divorced from the motivation to seek out risky loans, hence making Islamic banks more risk averse and potentially more profitable.

The hypothesis I am testing in this study is whether Islamic banks were more profitable than conventional banks throughout the peak to trough years of the Great Recession. I test my hypothesis with Ordinary Least Squares (OLS) regression with percentage change in Profit from 2007 to 2009 as the dependent variable. I start with a bivariate regression with an Islamic indicator as the only explanatory variable to show that Islamic banks did better on average than all banks in the sample but the results are not statistically significant. The second regression includes country fixed effects because of the differences in countries due to political/industrial organization, regulation, and religion/culture among other factors. It is an issue that different kinds of people are attracted to Islamic and non-Islamic conventional banks in different

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countries, so I have attempted to control for these differences with country fixed effects. I also include BankSize and Mortgages in the second regression to show how size and whether the bank made mortgage loans may explain the change in profit for banks. The R^2 in the second regression increases noticeably indicating a stronger fit. The third regression adds the (BankSize X Islamic) interaction to the set of explanatory variables from the second regression to show how Islamic banks of different sizes (based on total assets in dollars) performed in comparison to conventional banks of various sizes. The fourth regression includes the interaction (Islamic X Country) for all the countries to show the profitability of Islamic banks in each country compared to conventional banks. The fifth regression is the same as the fourth regression but the standard errors are clustered by country. I further explain clustering in section four of the paper.

The following section covers the literature review. In section three, I discuss the data and methodology that I used for my analysis in more detail. Section four presents the econometric results and interpretations of the regression outputs. Section five is the last section which covers the conclusion and suggests potential ideas for further investigation based on the results I have achieved in my study.

2. Literature Review

In order to understand why Islamic banks' profitability may have been different from that of conventional banks throughout the financial crisis, it is important to understand the difference between conventional finance and Islamic finance. The key difference is that Islamic finance is based upon Islamic principles which prohibits charging/paying interest. Mahmoud El-Gamal, professor of Economics at Rice University and author of *Islamic Finance: Law, Economics, and Practice,* discusses the difference in detail in his book. El-Gamal provides a framework of the

different modes of finance that Islamic banks use to provide services that are consistent with Islamic law and allow the banks to remain profitable. In his book, he shows that Islamic banking offers essentially the same services as conventional banks without charging what is generally known as interest. He covers the economics of the methods used by Islamic banks to generate profits and shows that these methods are controversial and not necessarily consistent with Islamic Law (El-Gamal 2006).

Islamic banks are similar to conventional banks in the sense that they also have a goal of generating profits in addition to catering to the Muslim population. They are different from conventional banks because they use different modes of finance to provide services. Many scholars argue that Islamic banks are more stable than conventional banks because they do not engage in risky practices that were tied to maximizing profits via interest rates on loans/mortgages. Using empirical analysis, Martin Cihak and Heiko Hesse answer the question of whether Islamic banks are more or less stable than conventional banks. Cihak and Hesse present the first cross-country empirical analysis of Islamic banks' impact on financial stability. They find that small Islamic banks tend to be financially stronger than small commercial banks, large commercial banks tend to be financially stronger than large Islamic banks, and small Islamic banks tend to be financially stronger than large Islamic banks (Cihak and Hesse 2008).

The stability of Islamic finance in comparison to conventional finance is an interesting topic to explore, as it is likely a determinant for the sustainability of the Islamic financial system. Rodney Wilson explores the potential for growth of Islamic finance in western countries (i.e. Europe and the United States) in the future in his paper "Islamic Finance in Europe." Wilson believes that Islamic finance is still in its infancy in Europe and the US and has remained in that stage ever since it started in Europe in the 1980s. Turkey is the country where Islamic finance

has the most potential to thrive due to its large Muslim population. Despite being a fast growing economy with a large Muslim population, Islamic banks only account for five percent of deposits in Turkey's financial system (Wilson 2007). Perhaps utilizing Turkey as a hub to spread Islamic finance in the west may be a strategy worth contemplating for the board overlooking the Islamic financial system. There is a lot of focus on spreading Islamic finance in the UK and the US, but this may not be the most strategic way to approach it. Turkey is a Muslim country with western ideals so targeting it first may create the path towards expansion for Islamic finance throughout Europe and the US (Wilson 2007).

3. Data and Methodology

In order to carry out a test for my hypothesis and conduct econometric analysis, I gathered data on 60 banks from 11 countries in different regions of the world. The way I selected the banks for my sample was by looking at two lists of conventional banks and Islamic banks in countries that have both types of banks. From those lists, I randomly selected 30 of each type of bank from 11 different countries. I had to do the process several times to make sure that there is a similar number of banks in the 11 countries in my sample. I dropped five observations which were all from Turkey due to inconsistencies in the data reported for Turkey. The bank size values reported for these observations were large beyond any reasonable values and were biasing the results. The dataset is a panel from 2006 to 2010 which includes the banks' profit before tax, whether the bank is Islamic or not, bank size (measured in total dollar assets), and whether the bank made mortgage loans or not. I obtained this data from Bank Scope, a University of Pennsylvania Wharton School of Business database that contains data for banks all over the world.

I had data for the years 2006 to 2010 but I am interested in assessing the performance of Islamic banks compared to conventional banks through the most critical years of the Great Recession. Therefore, I select the peak to trough years which are 2007 to 2009 ("The Recession of 2007 to 2009"). The recession began in late 2007 and the economic decline continued until June 2009 when unemployment reached a peak of 10%. As unemployment soared, output declined and businesses were less profitable. To evaluate the profitability of banks, I look at the profit before tax for all the banks in the sample for the years 2007 and 2009. To calculate the profit change, I calculated the percentage change in the profit before tax from 2007 to 2009. The dependent variable in all my regressions in section four is Profit which is the percentage change in the profit before tax for the banks in the years 2007 to 2009.

I introduce other explanatory variables to control for omitted variable bias. These variables are country fixed effects, whether a bank made mortgage loans or not (Mortgages), and the size of the bank (BankSize) which is measured in tens of billions of US dollars in 2006 before the onset of the crisis. I extend the regression to include interaction of Islamic X Country and BankSize X Islamic to explore additional interesting differences between Islamic banks and conventional banks. I use standard Ordinary Least Squares (OLS) regression with a single explanatory variable and then with multiple explanatory variables. In the last regression, I clustered standard errors by country which I discuss in more detail in section four.

4. Econometric Results

The average change in profit before tax for the 55 banks in the sample from 2007 to 2009 is a 55.7% decline as shown in the table one. Another continuous variable I will include later in my analysis is the size of the banks measured by total assets in dollars in 2006 before the onset

of the crisis. The table below provides averages for the size of the banks showing that conventional banks in the sample are substantially larger. This may be due to the fact that Islamic finance is a relatively new system and so there is less demand for the products and services Islamic banks offer resulting in smaller banks. An additional metric included in the table below is the proportion of banks that provided mortgage loans. According to this sample, 11.1% of Islamic banks made mortgage loans and 39.3% of conventional banks made mortgage loans. The smaller proportion for Islamic banks could be due to risk aversion, less demand for mortgage loans, or the small size of the banks.

Table 1: Summary Statistics

	All Banks	Islamic Banks	Conventional Banks
N	55	27	28
Average Change in Profit from 2007 to 2009	-0.557	-0.435	-0.674
Average Size (assets in tens of billions dollars)	14.608	0.489	28.222
Proportion that made mortgage loans	0.2555	0.111	0.393

I am interested in understanding the factors that contributed to the change in profit so I start by regressing the change in the profit before tax from 2007 to 2009 (Change in Profit) on an Islamic indicator variable to attain the results in column (1) of the regression table that follows. The first regression is an ordinary least squares (OLS) bivariate regression that is a comparison of means in the form:

$$Y_i = \beta_0 + \beta_1 X_i + \varepsilon_i$$

The independent variable, X, is a dummy indicating whether the bank is Islamic or not and the dependent variable, Y, is the change in the profit before tax from 2007 to 2009 of the banks in the sample.
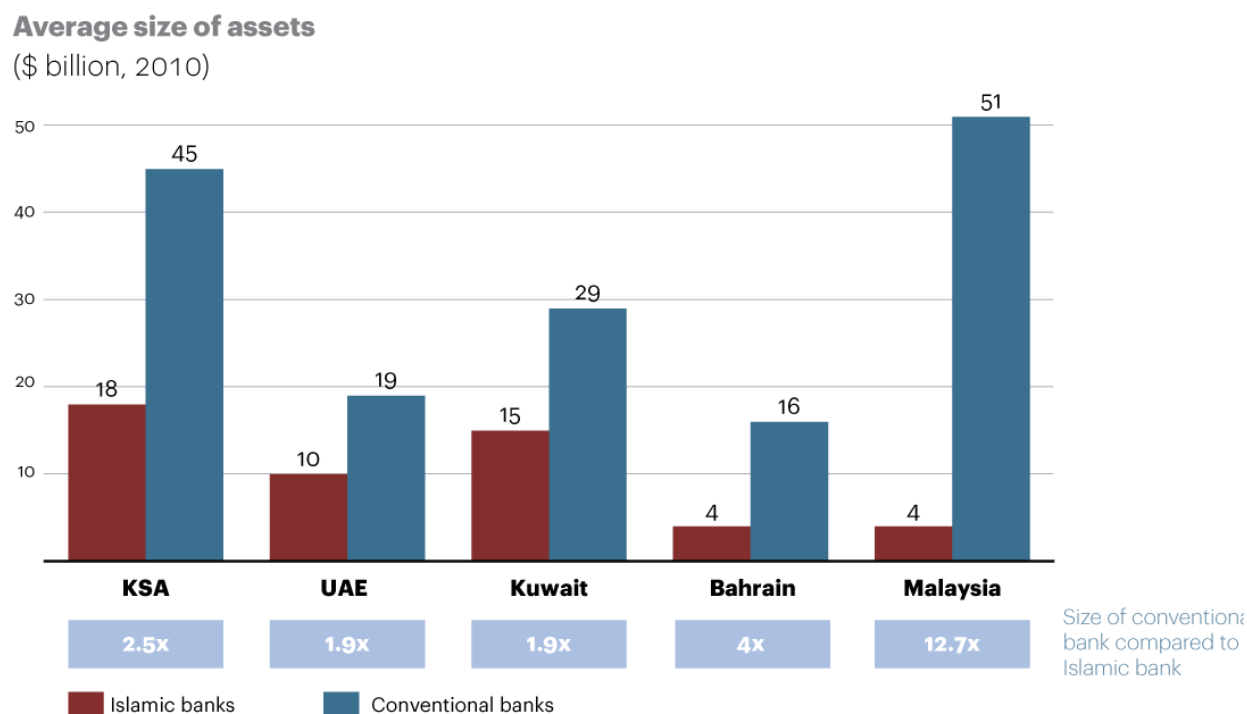
| | (1) | (2) | (3) | (4) | (5) |
VARIABLES	Profit	Profit	Profit	Profit	Profit
Islamic	0.240	0.045	-0.239	-1.388	-1.388**
	(0.399)	(0.312)	(0.329)	(0.740)	(0.356)
Bahrain		-0.054	0.152	-0.233	-0.233*
		(0.423)	(0.437)	(0.574)	(0.081)
Qatar		0.668	0.824	0.220	0.220*
		(0.388)	(0.414)	(0.434)	(0.080)
Kuwait		-0.670	-0.878	-1.716	-1.716***
		(0.886)	(0.914)	(1.782)	(0.081)
Egypt		1.518	1.300*	0.706	0.706***
		(0.767)	(0.516)	(0.763)	(0.080)
Jordan		0.268	0.468	-0.191	-0.191*
		(0.394)	(0.429)	(0.436)	(0.084)
Pakistan		0.607	0.696	-0.142	-0.142
		(0.392)	(0.404)	(0.434)	(0.080)
Malaysia		0.507	0.684	-0.142	-0.142
		(0.404)	(0.448)	(0.547)	(0.138)
UK		0.310	0.533	-0.041	-0.041
		(0.695)	(0.717)	(0.966)	(0.147)
USA		-0.847	-0.607	-1.217	-1.217***
		(0.945)	(0.961)	(0.656)	(0.077)
Islamic X Bahrain				0.796	0.796*
				(0.830)	(0.340)
Islamic X Qatar				1.220	1.220**
				(0.760)	(0.300)
Islamic X Kuwait				1.634	1.634***
				(1.866)	(0.329)
Islamic X Egypt				1.145	1.145**
				(1.026)	(0.343)
Islamic X Jordan				1.329	1.329**
				(0.758)	(0.279)
Islamic X Pakistan				1.699*	1.699***
				(0.693)	(0.285)
Islamic X Malaysia				1.695	1.695***
				(0.838)	(0.298)
Islamic X UK				1.180	1.180*
				(1.145)	(0.388)
Islamic X USA				1.234	1.234**
				(1.967)	(0.350)
BankSize		-0.008	-0.009	-0.009	-0.009***
		(0.009)	(0.009)	(0.010)	(0.002)
BankSize X Islamic			0.528	0.572	0.572
			(0.278)	(0.322)	(0.412)
Mortgages		0.284	0.266	0.236	0.236
		(0.261)	(0.279)	(0.291)	(0.327)
Constant	-0.674*	-0.626	-0.700	-0.141	-0.141
	(0.256)	(0.367)	(0.383)	(0.433)	(0.079)
Observations	55	55	55	55	55
R-squared	0.007	0.310	0.337	0.370	0.370
Adj. R-squared	-0.012	0.113	0.127	-0.063	-0.063
Standard Errors	Robust	Robust	Robust	Robust	Cluster (Country)

Standard errors in parentheses
*** p<0.001, ** p<0.01, * p<0.05

The results from regression (1) show that on average the change in the profit of the banks in the sample before accounting for tax was -67.4% with a t-stat of 2.64 implying statistical significance at the 5% level. The coefficient on Islamic is 0.24 which indicates that on average in the sample, Islamic banks' profit change was 24 percentage points higher than that of conventional banks. However, the t-statistic is 0.60 meaning there is not sufficient evidence to make the inference for the entire population (all banks) that Islamic banks' change in profit before tax from 2007 to 2009 was higher than that of conventional banks.

This regression does not tell the full story, as it does not control for omitted variables which may be biasing the coefficient on the Islamic indicator. Therefore, including additional explanatory variables which co-vary with the dependent variable may produce a more unbiased coefficient on Islamic. It seems reasonable to conjecture that the size of banks played a role in determining the profitability of banks. BankSize is an additional explanatory variable introduced in the next regression and it is based upon the value of the total assets of the banks in tens of billions of US dollars. A study by the consulting firm A.T. Kearney shows that Islamic banks in various countries are smaller on average when compared to conventional banks, which may have contributed to explaining the change in profit during the Great Recession. The following graph for the size differences illustrates the smaller size of Islamic banks in five countries. According to the graph, the largest difference in the size of Islamic and conventional banks appears to be in Malaysia. This may be the result of the fact that Islamic finance started in Malaysia several years after it started in the four oil-producing countries that are shown in the graph.

Graph 1: Average Size of Bank (measured in billions of dollars of assets) for five countries.

Average size of assets
($ billion, 2010)

	KSA	UAE	Kuwait	Bahrain	Malaysia
Size of conventional bank compared to Islamic bank	2.5x	1.9x	1.9x	4x	12.7x

Islamic banks — Conventional banks

Note: Islamic assets of conventional banks are included within the size of "conventional banks" as they are simply another product offering by the conventional bank.

Sources: Country central bank websites; A.T. Kearney analysis

In addition to the size of a bank, whether a bank made mortgage loans or not may be correlated with a bank's status as Islamic or conventional, and thus may explain the change in profit. Mortgages is an indicator variable I introduce in the second regression. It is important to realize that different countries had different circumstances throughout the financial crisis which were unique to each country. Many of these changes are due to differences in political organization, industrial regulation, religion/culture, and/or consumer preferences among others. Excluding country effects from the model may also—like BankSize and Mortgages—bias the coefficients in the analysis. To control for such differences, I extend the regression model to include country fixed effects. Including these new independent variables leads to the regression in column (2).

To avoid perfect multi-collinearity, UAE's country fixed effect is omitted and it is used as the baseline for comparison with the other nine countries. Six of the nine country fixed effects have positive coefficients which indicates that banks in those countries performed better—had a more positive change in the profit before tax from 2007 to 2009—than the UAE. The three countries with the negative coefficients are Bahrain, Kuwait, and USA. However, the coefficients on the country fixed effects for these countries are not statistically significant so there is not enough evidence to support the claim that they performed worse than the UAE.

The coefficient on BankSize is negative and for Mortgages it is positive. -0.008 for BankSize means that for every one unit (ten billion dollars) of increase in the total assets of the bank, the bank's profits declined an additional 0.8 percentage points on average holding other variables constant. This indicates that bigger banks did worse on average than smaller banks which is not a surprising result because they tended to be more heavily involved in risky lending leading up to the financial crisis. The coefficient on Mortgages is 0.284 indicating that banks that made mortgage loans saw an increase in their profits by 28.4 percentage points on average compared to banks that did not make mortgage loans holding everything else constant. This is a surprising result, as there were many mortgage defaults which should have had a negative impact on the profit change. The coefficient on Islamic remains positive but is still statistically insignificant. It is important to note that it decreased substantially from 0.24 to 0.045 after including the new explanatory variables. This means that the average Islamic effect for all countries is an additional 4.5 percentage points of profit on average; however, this result is not significant and may be due to chance. Furthermore, the effect of being an Islamic bank might vary with countries so I will include an Islamic X Country interaction in the next regression to explore this possibility. The R^2 went up from 0.007 to 0.31 after including the new explanatory

variables which indicates that the BankSize, Mortgages, and the country fixed effects are important to explaining the variation in the profit change of the banks.

The regression in column (3) introduces an interaction of BankSize X Islamic as the only new explanatory variable. The reason I am including this is to show how larger Islamic banks performed in comparison to smaller Islamic banks or larger conventional banks. The coefficient on the interaction is 0.528 and it is significant at the 10% level. After including this interaction, the coefficient on Islamic becomes -0.239. The interpretation for the coefficient on Islamic by itself is rather meaningless because it indicates that Islamic banks that had BankSize (total assets) of 0 experienced an additional decline in profit of 23.9 percentage points when compared to conventional banks. For each additional unit of BankSize (ten billion dollars), the profit of Islamic banks increased 52.8 percentage points when compared to the rest of the banks in the sample. For example, an Islamic bank with $20 billion dollars in total assets would have experienced an 81.7 [-23.9 + (2*52.8)] percentage point additional increase in profit from 2007 to 2009 on average when compared to conventional banks. The Islamic effect increases as the size of the bank increases indicating that large Islamic banks have the potential to be shielded from economic crises compared to large conventional banks and smaller Islamic banks.

Testing the joint hypothesis that BankSize, BankSize X Islamic, and Mortgages = 0 yields an F-stat of 1.70 with three degrees of freedom and a p-value of 0.18. Therefore, we cannot reject the hypothesis at a reasonable level of significance and so we cannot assert that these three variables are different from zero. Carrying out the same test for the country fixed effects produces an F-stat of 2.42 with nine degrees of freedom and a p-value of 0.026. For country fixed effects, we have sufficient evidence to reject the null hypothesis to claim that the coefficients on the country fixed effects are jointly different from zero. This is an expected result

because countries are bound to have differences which add explanatory power to the change in profit. It is important to note that the coefficient on Islamic is now a negative value. It drops from 0.045 in column (2) to -0.239 in column (3). This happens because UAE is the country that is dropped and used as a baseline for comparison with the other countries. The negative coefficient indicates that Islamic banks in the sample for UAE saw a decline in profit before tax that was 23.9 percentage points greater than that of conventional banks in the UAE on average holding other variables constant. The R^2 for this regression increases from 0.31 from the last one to 0.337 indicating a stronger fit.

Regression (4) adds the interaction (Islamic X Country) for all the countries. It shows how Islamic banks fared in each country compared to the baseline which is the UAE. The coefficients for all the countries are positive indicating that Islamic banks performed better than conventional banks by a larger margin in all the countries relative to the UAE. However, the interaction for Pakistan is the only one that has statistical significance at the 5% level. The coefficient on Islamic is even more negative as it decreases from -0.239 to -1.388. However, it is still statistically insignificant like the rest of the explanatory variables in the regression other than the interaction Islamic X Pakistan as mentioned before. The R^2 increases to 0.37 in this regression. The coefficients on BankSize, BankSize X Islamic, and Mortgages remain largely unchanged throughout all the regressions.

The regression in column (5) is the same as the one in column (4) with a different method of calculating standard errors. In this regression I use clustered standard errors for countries instead of robust standard errors to control for potential lack of independence among banks within countries. Although it may be plausible to assume independence for countries from one another, it is questionable whether banks within each country are independent of one another.

Clustered standard errors control for this and the results are shown in the regression table in column (5). The results from the last regression show statistical significance for all the explanatory variables except for Mortgages and the BankSize X Islamic interaction. The R^2 stays at 0.37 because the clustering method only changes the standard errors and does not impact the overall fit of the model. Clustering the standard errors within countries can lead to larger or smaller standard errors in comparison to robust standard errors. In regression (5), the standard errors have become smaller which means that the correlation of the profits of banks within countries is more often negative than positive. The coefficients on all the interaction terms are positive so the results show that Islamic banks in every country performed better than the UAE which is the baseline for comparison. The following graph (Graph 2) illustrates the range of change in profit for the ten countries in my sample. It provides insight into the correlation among banks within countries. According to the graph, there seems to be a negative correlation of change in profit among banks within each country which is consistent with the resulting lower standard errors after clustering them by country in regression (5).

Graph 2: Range of Change in Profit in ten countries. The dots represent the minimum and maximum values of the change in profit for banks in each country.
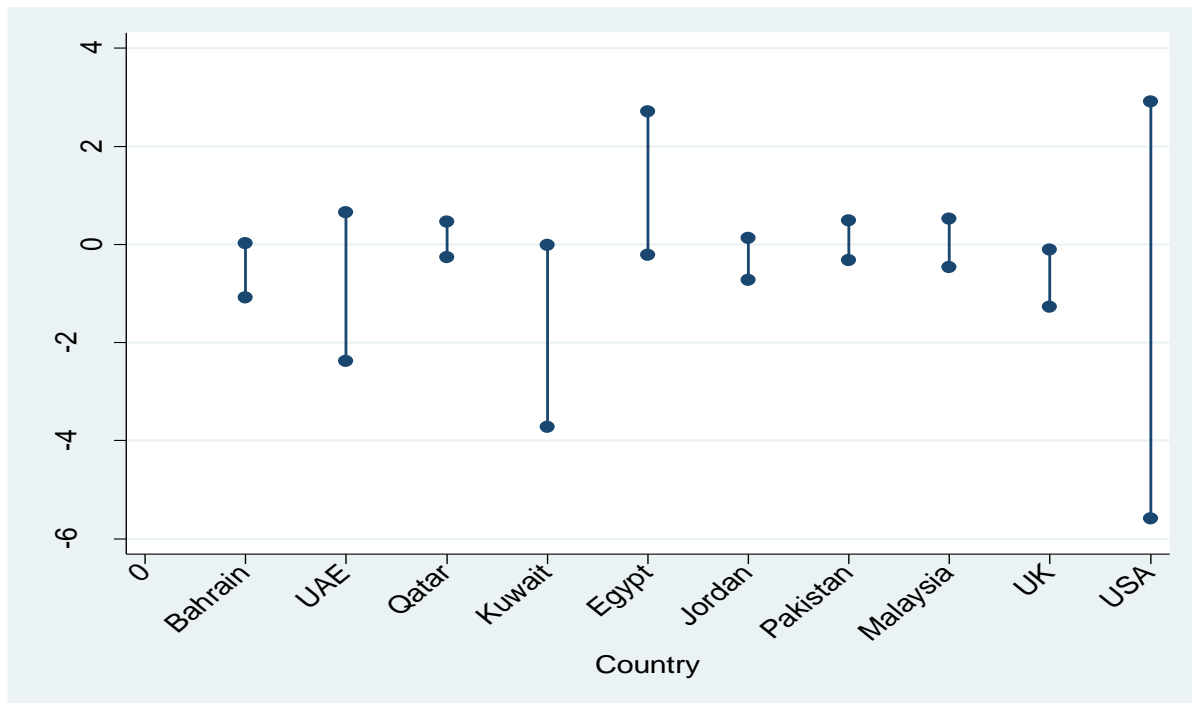
The next graph (Graph 3) shows the average profit change in each country for each type of bank from 2007 to 2009, which provides further insight into the situation of Islamic financial institutions compared to conventional financial institutions. The countries are grouped by region to explore potential trends that may exist within regions.

Graph 3: Average Change in Profit before Tax (2007 to 2009) for Islamic banks (1) and conventional banks (0) in ten countries.
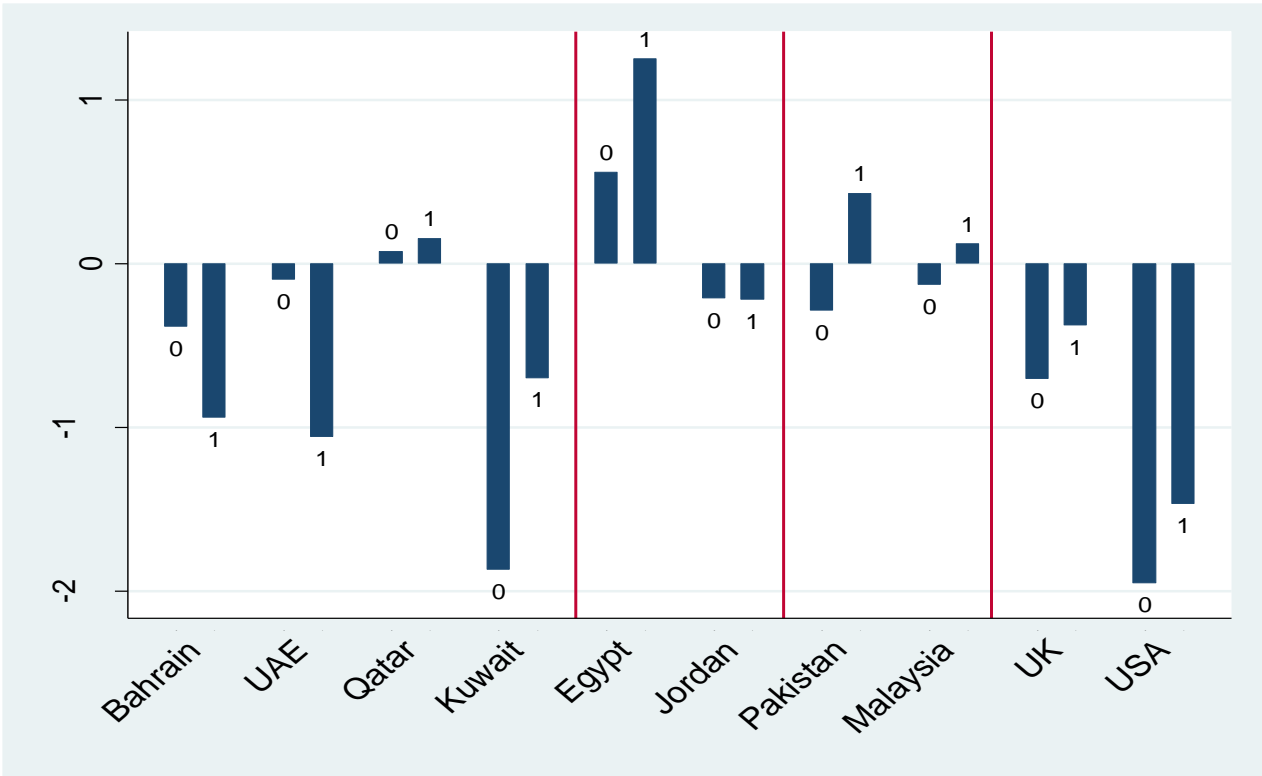
Looking at this graph, countries that are particularly interesting are Bahrain and the UAE, as Islamic banks in those countries performed worse than conventional banks. A possible explanation of this occurrence in Bahrain and the UAE is excessive risky practices by the Islamic Banks to increase profits. From 2001 to the financial crisis, the UAE experienced high domestic investment and the economy was growing rapidly. As a result of the surge in investment and economic growth, financial institutions were very profitable. Islamic banks in the UAE may have wanted to get a share of those profits so they may have relaxed their stringent standards to lend more. Islamic banks are smaller so it is reasonable to believe that they are less shielded from severe economic shocks which led to their poor performance in the peak to trough years of the Great Recession. Larger banks were able to recover quicker due to the availability of credit and the government's help, whereas, Islamic banks that engaged in risky practices were not

influential enough in the financial system to be able to recover as rapidly. This is my hypothesis about the behavior of Islamic banks in the UAE and Bahrain and may be incorrect. The red vertical lines in the graph separate the countries by region to provide insight into trends that may be present in the different regions. The first region includes the oil-rich countries in the Middle East with Bahrain, UAE, Qatar, and Kuwait. Bahrain and the UAE have a similar pattern but Qatar and Kuwait are quite different. Qatar's banks seemed to have been relatively shielded from the economic crisis and Kuwait's conventional banks were hit harder than Islamic banks which is the opposite result of Bahrain and the UAE. The next region is around the Mediterranean and includes Egypt and Jordan. Both have very different patterns, as banks in Egypt remained profitable—the most profitable from all the countries—and banks in Jordan suffered relatively minor losses. South and Southeast Asia includes Pakistan and Malaysia which show similar patterns. Islamic banks were profitable but conventional banks suffered minor losses. The last region is the Western countries which includes the UK and USA. Both show similar patterns with conventional banks doing worse than Islamic banks with USA having a higher decline in profit than the UK for Islamic and conventional banks.

5. Concluding Remarks

Islamic banking has been on the rise throughout the world with annual growth rates of around 15% according to various studies. Although it has been growing at a relatively rapid rate, whether or not it is a sustainable system is another question. In order to be sustainable in the long-run, Islamic banks shall be equipped to deal with economic fluctuations. The Great Recession was a major financial crisis which was particularly challenging for the financial services industry. The question I address in this paper is whether Islamic banks suffered less profit losses as a result of the Great Recession and thus were relatively shielded to the financial

crisis. Using econometric analysis to explore the answer to this question provides insight into the difference in the profitability of Islamic banks compared to conventional banks. The results also allow me to draw implications for the future of Islamic finance.

The results from the first regression show that Islamic banks performed better by 24 percentage points from 2007 to 2009. The same figure in the second regression drops to 4.5 percentage points after including various control variables to reduce omitted variable bias. The third regression introduces the BankSize X Islamic interaction term and makes the coefficient on Islamic -0.239. This coefficient is meaningless because it only holds for Islamic banks that have zero dollars in total assets, which is an unrealistic assumption. The fourth regression includes the Islamic X Country interaction for all the countries to show the performance of Islamic banks in each country relative to the UAE. The coefficient on Islamic is not statistically significant until the fifth regression. All the Islamic X Country interaction terms are positive and statistically significant in the fifth regression indicating that the positive impact of being an Islamic bank in those countries relative to the UAE was larger as there was more of a positive increase in the profit change.

The results show that Islamic banks may be more shielded to economic crises which may be due to the fact that they do not take on as much risk. The results also show that the Islamic effect on a bank is much higher for larger banks. Most Islamic banks are quite small in terms of their total assets compared to conventional banks. It would be interesting to further investigate the question of the size of a bank's effect on its change in profit with a larger sample of banks that includes Islamic and conventional banks. The prominence of larger Islamic banks may have the potential to strengthen a country's financial system and help mitigate a recession's impact on the financial services industry as a whole.

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