Liquidity Risk Management: A Comparative Study between Islamic and Conventional Banks

Ghenimi A[1]* and Omri MAB[2]

[1]*Faculty of Economic Sciences and Management of Tunis, Campus Universitaire, El Manar BP 248, El Manar II, 2092, Tunis, Tunisia*
[2]*College of Business Administration, Northem Border University, Kingdom of Saudi Arabia*

Abstract

This paper examines the factors that affect the liquidity risk for Islamic and conventional banks in Gulf countries, using the panel data for 11 IBs and 33 CBs between 2006 and 2013. Our results show that return on equity, Net Interest Margin, Capital Adequacy Ratio and inflation rate have a positive impact on liquidity risk for Islamic banks, while returns on assets, Non-Performing Loan, size and GDP growth have a negative impact. On the other hand, in conventional banks, size, Return on Equity, Net Interest Margin, Capital Adequacy Ratio, GDP growth and inflation rate have a positive impact, whereas the Return on Assets, Non-Performing Loan have a negative impact on liquidity risk. This study tries to see how Islamic and conventional banks manage their liquidity in response to changes on the basis of several factors.

Keywords: Liquidity risk; Islamic bank; Conventional bank

Introduction

The bank is considered to be an important source of financing for most businesses. Liquidity risk is the most familiar risk with Islamic and conventional banks. The recent financial crisis has shown that liquidity risk for Islamic and conventional financial institutions has become more important and has been noticed in most of the current banking literature. In the financial system, bank's liquidity can be categorized into two types: funding liquidity risk and market liquidity risk. Most of the bank's failures, whether they are Islamic or conventional banks, are due to the difficulties in managing the liquidity needs [1]. Managing liquidity is an important of banks, can ensure the stability of the banking sector. For this reason, liquidity management is considered to be very important for both banks. Hence, unlike in the conventional banks, liquidity management in the Islamic banks is peculiar and evens more challenging because most of the instruments used in liquidity management are based on the interest. With the present work, we would like to contribute to this debate, and provide a framework to think about this topic.

To our knowledge, the only articles that analyzed the management of liquidity risk for Islamic banks (IBs) and conventional banks (CBs) are of AnjumIqbal and Anam et al. [2]. These authors conclude that size, return on equity, capital adequacy and return on assets, in Islamic and conventional banks, have a positive impact on liquidity risk.

This paper attempts to analyze the management of liquidity risk for IBs and CBs. Furthermore, it adds to the growing literature studying the determinants of liquidity risk. Several studies have examined the management of liquidity risk but no research has studied the management of liquidity risk in Gulf countries using the panel data. Our paper contributes to the literature by providing an economic justification for the use of panel data estimation in the management of liquidity risk research, discussing the conditions under which it improves inference beyond OLS and traditional fixed-effect estimates. Our matched data comprise determinants of liquidity risk of 11 IBs and 33 CBs covered during the period 2006 to 2013 which enables us to assess the effect of explanatory variables on liquidity risk of IBs and CBs.

Our empirical analysis here reveals three key findings. When we apply OLS or traditional fixed-effects to the model, we find that there is a statistically significant relationship between liquidity risk and explanatory variables: First, when we apply the OLS model, we find that the Size, ROE, NIM, CAR, GDP growth and inflation rate have a positive influence on liquidity risk of the conventional banks. On the other hand, ROA and NPL have a negative influence. In Islamic banks, ROA, NPL and GDP have a negative influence on liquidity risk, whereas, size, ROE, NIM, CAR and inflation rate have a positive influence. Second, when we apply the fixed-effects, we find that size, ROE, NIM, CAR, GDP and inflation rate have a positive influence on liquidity risk of the conventional banks. On the other hand, ROA and NPL have a negative influence. In Islamic banks, ROA and NPL have a negative influence on liquidity risk, whereas, size, ROE, NIM, CAR, GDP, inflation rate and CAR have a positive influence. Finally, when we apply the random-effects, we find that size, ROE, NIM, CAR, GDP and inflation rate have a positive influence on liquidity risk of the conventional banks. On the other hand, ROA and NPL have a negative influence. In Islamic banks, ROA, NPL and GDP growth have a negative influence on liquidity risk, whereas, size, ROE, NIM, CAR and inflation rate have a positive influence.

The structure of this paper is as follows, section 2 presents the literature review of management of liquidity risk in IBs and CBs. The variables, the data and the econometric methodology are presented in section 3. Section 4 presents and discusses the empirical results. Finally, our concluding remarks are summed up in the last section.

Literature Review

There are a limited range of studies that empirically validate the liquidity risk management for Islamic and conventional banks.

Table 1 shows Literature review of the relationship between liquidity risk and their factors.

Research Methodology

Data and descriptive statistics

The data of the study includes 11 Islamic banks and 33 conventional banks over the period 2006-2013 which indicate liquidity risk (liquid asset to total asset), capital adequacy ratio (capital to asset), non-performing loan ratio (impaired loans to gross loans), return on assets (net income to total assets), return on equity (net income to equity), size of the bank (logarithm of total assets), net interest margin (interest income to earning assets), inflation rate (consumer price index), and GDP (real growth GDP) for 5 Gulf countries, namely Bahrain, Kuwait, Qatar, Saudi Arabia, and UAE. The data are obtained from the Bureau Van Dijik Electronic banking database (Bankscope) and the macroeconomic and country specific variables are obtained from the World Bank Development Indicators.

We applied the descriptive statistics of liquidity risk and each factor including the size of the bank, NPLs, ROE, ROA, CAR, NIM, GDP, inflation rate for Islamic and conventional banks for the MENA region. These statistics are calculated and reported in Table 2. The Jarque-Bera normality test of the variables in conventional and Islamic banks of the study strongly rejects the null hypothesis of normality distribution at 1% significance level. However the results of the Jarque-Bera test indicate that the variables do not follow a normal distribution.

We also noted that liquidity risk, NIM, NPL, CAR, inflation rate, and GDP for conventional banks whereas, size, ROA, NIM, liquidity risk, NPL, CAR, inflation rate and GDP for Islamic banks have a positive skewness, which indicates that the right tail of the distribution is longer. However, the other series have a negative skewness, which means that the return distribution is highly skewed to the left. The kurtosis is higher than 3 for both types of banks during the period except, for the inflation rate of Islamic banks. However, this indicates that the distribution and fat tails are sharper than a normal distribution. They are leptokurtic.

Table 3 presents the correlation matrix for the variables used in the regressions. The results of the correlation matrix for the variables of classic banks indicate that the NPL, GDP and inflation rate have significant correlation with this liquidity risk. These variables show a positive relationship with liquidity risk, with the exception of the GDP shows a negative relationship. However, the relation of the other variables with liquidity risk is insignificant, whereas the ROE and CAR showed a positive relationship. Similarly, the results of the correlation matrix for the variables of Islamic banks; in all case, with the exception of ROA, NPL and CAR, have a significant correlation with liquidity variables. However, these variables showed a negative relationship with liquidity risk while the relation with the other variables to liquidity risk is insignificant and showed a negative relationship.

Methodology

In this paper, the analysis of the relationship between liquidity risk and their factors is performed in the following many. We employ panel data framework for our analysis due basically to its advantage of allowing for more data points. The basic panel data model is of the form:

$$y_{it} = \alpha + \beta x_{it} + \xi_{it} \qquad (1)$$

Where α is a constant, x_{it} is a K-dimensional vector of explanatory variables and ξ_{it} is the error term. Estimation of the basic model could be done via several methodologies: The first step is will the use of the correlation between the dependent and the independent ones. Thus, one could employ the ordinary least squares (OLS) estimation, the random effect (RE), the fixed-effects (FE) to estimate the relation between liquidity risk and the independent variables.

Empirical results

The effect of the various factors on the liquidity risk Islamic and conventional banks

The study has employed the OLS simple panel as well as fixed effect (FE) and random effect (RE) models. The result of the OLS, FE and RE has been provided below in Table 4.

The Table 4 reports the regression results, fixed and random effect for the all variables, such as the size of the bank, NPL ratio, ROA, ROE, NIM, CAR, GDP and inflation rate on the liquidity risk.

In the regression analysis, the R square value for conventional and Islamic banks is 0.1272 and 0.15, respectively which shows that 12.72% and 15% of the variability in the liquidity is explained by the independent variables.

First, when we apply the OLS model, we find that Size of the bank has a positive and significant relationship between the liquidity risk for Islamic and conventional banks at 10% level. This suggests that a 1% increase in the size increases liquidity by around 0.0191% and 0.0184%, respectively. This result is compatible with the finding of Iqbal Anjum [2]. The NPL ratio has a negative and significant impact with the liquidity risk for Islamic and conventional banks at 10% and 1% level, respectively. This indicates that a 1% increase in NPL decreases the liquidity by around 0.001% and 0.0017%, respectively. This is equivalent with the findings of Iqbal Anjum [2], Akhtar et al. [3]. ROE and CAR have a positive and significant impact with the liquidity risk for Islamic and conventional banks at 1% and 10% level, respectively. This indicates that a 1% increases in ROE and CAR increases the liquidity by around 0.0052% 0.0002% for Islamic banks, respectively and 0.0044% and 0.0007% for conventional banks, respectively. This result is consistent with the finding of Akhtar et al. [3], Anam et al. and Iqbal Anjum [2].

Indeed, ROA has a negative and significant impact on liquidity risk for Islamic and conventional banks at 1% and 5% level, respectively. This implies that a 1% increase in ROA decreases liquidity by around 0.0372% and 0.0019%, respectively. This result is consistent with the finding of Al-Khouri [4]. Regarding NIM has a positive and significant impact with the liquidity risk for Islamic and but not for conventional banks. This implies that a 1% increase in NIM increases the liquidity by around 0.0121% and 0.0051%, respectively. This is compatible with the finding of Muharam and Kurnia [5]. The inflation rate coefficient has a positive and significant impact with the liquidity risk at 1% level for Islamic and conventional banks. This indicates that a 1% increase in inflation rate increases the liquidity by around 0.3271% and 0.3164%, respectively. This is equivalent to the finding of Sulaiman et al. [6]. Finally, GDP growth has a positive and significant direction to the liquidity at 10% level for conventional banks and negative impact for Islamic banks. This implies that a 1% increases in GDP growth increases the liquidity by around 0.0013% for conventional banks and decreases by around 0.0014% for Islamic banks. This is consistent with the finding of Sulaiman et al. [6].

Concerning the fixed effect, size of the bank has a positive and significant impact with the liquidity risk for Islamic and conventional

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Authors	Sample	Methodology	Variables	Results
Akhtar, Ali and Sadaqat [3]	6 Isl banks 6 Conv banks 2006-2009	Correlations, regression	Liquidity risk, size of the bank, net working capital, Return on equity, Return on assets, Capital Adequacy Ratio.	The positive relationship of size of the bank and net working capital to net assets with liquidity risk in both models. Capital Adequacy Ratio in conventional banks And Return On Assets in Islamic banks are found to have a positive relationship with liquidity risk
Ahmed, Akhtar and Usman [7]	6 Isl banks 2006-2009	Correlations, regression	Credit risk, Liquidity risk, operational risk, size of the bank, Capital Adequacy Ratio, Non-Performing Loan Ratio, debt to equity ratio, asset management.	Size of Islamic bank has a positive relationship with credit and liquidity risk, whereas its relation with operational risk has a negative. Asset management has a positive relationship with liquidity and operational risk. Debt equity ratio and NPL ratio have a negative relationship with liquidity and operational risk. Capital adequacy ratio has a negative relationship with credit and operational risk, whereas it's found to be positive with liquidity risk.
Anam, Hasan, Huda, Azad Uddin and Hossain	6 Conv banks 4 Isl banks 2006-2010	Regression	Liquidity risk, size, Net Working Capital (NWC), Return On Equity (ROE), Return On Assets (ROA), Capital Adequacy Ratio (CAR).	CAR and the ROA have a positive influence on liquidity risk, with both models; the size of the bank has a positive relation with liquidity risk of Islamic banks, but also negative direction to liquidity risk for conventional banks. The ROE has negative influence to liquidity risk in both the model. Net working capital has a negative relation with liquidity risk in Islamic banks, but a positive relation with the net working Capital is observed in conventional banks.
Anjum Iqbal [2]	5 Conv banks 5 Isl banks 2007-2010	Correlation matrix, regression	liquidity risk, size of the bank, Non-Performing Loan Ratio, Return on equity, Capital adequacy ratio, Return on assets.	The relation between CAR, ROA, ROE and size of the bank and liquidity risk in both models is positive, but significantly negative with NPLs.
Asim Abdullah Abdul Qayyum Khan [8]	10 Comm banks 2001-2010	Augmented Dickey Fuller test, Johansson's Co integration test, Regression	Liquidity risk, size of bank, debt to equity ratio, investment to asset ratio, return on equity, Liquid asset.	The relationship of the bank size with liquidity risk is negative in domestic banks and negative in foreign banks. The relationship of debt to equity ratio with liquidity risk is negatives both in domestic and foreign banks. The relationship of liquidity assets with liquidity risk is negative in domestic banks and positive in foreign banks. Based on the findings of the study, it is recommended to Establish more branches of domestic banks and enhance debt To equity ratio in order to liquidity risk.
Ahmed Azam Sulaiman Mohammad Taquiddin Mohamad Muhamad Lukman Samsudin [6]	17 Isl banks 1994-2009	Correlation, Dynamic panel	Financing, bank profit (ROA), total bank assets, Capital And Reserves (CAR), real money supply, IB, Growth of gross domestic Product, Liquidity risk.	The total asset (size) is negatively related to liquidity. ROA are positively correlated with liquidity. Inflation and past inflation variables (CP) play an important role in the provision of liquidity by the Islamic banking. GPD is significant and directly proportional. CAR is negatively related to liquidity in both models.
Muharam and Kurnia [5]	4 Isl banks 43 Conv banks 2007-2011	Multiple regression analysis	Liquidity risk, Capital Adequacy Ratio, Return On Assets, Return On Equity, Net Interest Margin, Liquidity gaps, RLA (Risky Liquid Assets to total Assets).	Capital Adequacy Ratio measure is validated as a negative influence over the liquidity in both the models. ROA has a positive direction in both the types of banks. ROE has negative influence to liquidity risk on conventional banks; ROE has a positive impact on dependent variable in Islamic banks. Liquidity gaps have insignificant effect whereas liquidity gaps have positive effect to liquidity risk in conventional banks. NIM to liquidity risk makes some differences between conventional and Islamic banks.
Muhammad Ramzan Muhammad Imran Zafar [9]	5 Isl banks 2007-2011	Fixed effect, regression	Liquidity risk, asset size, Net Working Capital, Return On Equity, Return On Assets, Capital Adequacy Ratio.	The analysis revealed statistically positive relationship of asset base or size of the bank and with liquidity risk in the estimated hypothetical model, whereas the rest of the independent variables depicts statistically insignificant relationship with liquidity risk.

Notes: CAR: indicates capital adequacy ratio, NPLs: indicates non-performing loan ratio, ROA: indicates return on assets, ROE: indicates return on equity, NIM: indicates net interest margin, GDP: indicates real GDP.

Table 1: Literature review of the relationship between liquidity risk and their factors

banks at 10% level. This suggests that a 1% increase in size increases liquidity by around 0.0095% and 1.061%, respectively. This is consistent with the finding of Anam and al. [7] and Iqbal Anjum [2]. The NPL has a negative and significant impact with the liquidity risk for Islamic and conventional banks at 10% level, respectively. This indicates that a 1% increase in NPL reduce the liquidity by around 0.0014% and 0.0001%, respectively. This is consistent with the findings of IqbalAnjum; Akhtaret al. [2,3]. ROE and CAR have a positive and significant impact with the liquidity risk for Islamic and conventional banks at 10% level. This indicates that a 1% increase in ROE increases the liquidity by around 0.001%and 0.0012%, respectively and a 1% increase in CAR increases the liquidity by 0.0013% and 0.0018%, respectively. This is consistent with the finding of Akhtar et al. and Iqbal Anjum [2,3]. ROA coefficient has a negative and significant impact with the liquidity risk for Islamic and conventional banks at 5% and 1% level, respectively. This implies that a 1% increase in ROA decreases liquidity by around 0.0124% and 0.0047%, respectively. This result is consistent with the finding of AL-Khouri [4]. Regarding NIM has a positive and significant impact with the liquidity risk for Islamic and but not for conventional banks. This indicates that a 1% increase in NIM increases the liquidity by around 0.0174% and 0.0001%, respectively. This is compatible with the finding of Muharam and Kurnia [5].

	N	Mean	Std	Skewness	Kurtosis	J B
Panel 1: Conventional banks						
Size	424	3.976533	1.031228	-0.5775322	10.87033	96.04*** (0.0000)
Roa	424	1.372264	2.455271	-1.86335	44.51689	278.42*** (0.0000)
ROE	424	10.50709	26.94325	-8.393713	145.6219	670.79*** (0.0000)
NIM	424	0.0438828	0.2132804	20.28	415.3605	1016.21*** (0.0000)
Liquidity risk	424	0.091127	0.078403	4.741625	44.82582	461.22*** (0.0000)
Npl	424	4.960643	9.509993	4.687255	37.79356	449.65*** (0.0000)
Car	424	11.03752	13.14128	1.731394	5.532042	140.99*** (0.0000)
Inflation rate	424	2.095501	0.069802	1.271552	5.692422	105.98*** (0.0000)
Gdp	424	5.374434	4.952391	0 .6484542	7.340741	74.61*** (0.0000)
Panel 2: Islamic banks						
Size	216	3.820509	1.310187	0.2944557	4.741071	14.75*** (0.0006)
Roa	216	1.014018	2.639956	1.046923	13.84499	82.44*** (0.0000)
ROE	216	6.611428	16.65903	-1.001391	21.34807	97.33*** (0.0000)
NIM	216	0.035978	0.015588	0.5889366	5.335181	27.49*** (0.0000)
Liquidity risk	216	0.127085	0.115612	2.141388	11.63326	122.53*** (0.0000)
Npl	216	6.588951	15.11481	3.337382	14.51301	175.07*** (0.0000)
Car	216	11.50939	18.2797	2.49042	9.489576	128.45*** (0.0000)
Inflation rate	216	2.101635	0.079583	1.994185	2.370698	53.60*** (0.0000)
Gdp	216	4.947269	4.873896	0.3911271	7.344728	33.72*** (0.0000)

Notes: Std.dev indicate standard deviation, Skewness measures the asymmetry series' distribution around the mean, Kurtosis measures the flatness of series' distribution. For a normal distribution, the value of the skewness coefficient is zero and that of kurtosis is 3. ***Significant at 1%.

Table 2: Summary statistics for Islamic and conventional banks.

	Liquidity risk	Size	Roa	ROE	NIM	Npl	Car	Inflation rate	Gdp
Liquidity risk	1								
Size	-0.0373	1							
Roa	-0.0035	0.0375	1						
ROE	0.0153	0.0406	0.9462**	1					
NIM	-0.0073	-0.0472	-0.0014	-0.0012	1				
Npl	0.1761**	-0.0601	0.0868	-0.0045	-0.0236	-0.072	1		
Car	0.0477	0.0273	0.7000**	0.5111**	-0.0263	0.0515	0.5354**	1	
Inflation rate	0.2937**	-0.1478**	-0.1241**	-0.0902	-0.0542	-0.1619	0.0624	-0.0245	1
Gdp	-0.1284**	0.0101	0.0088	0.01	0.0318	0.0183	-0.1950**	-0.1210**	-0.0729

**Significant at 5 %

Table 3: Panel A: Conventional Banks Correlation Statistics of liquidity risk and independent Variables for Islamic and conventional banks.

	Liquidity risk	Size	Roa	ROE	NIM	Npl	Car	Inflation rate	Gdp
Liquidity risk	1								
Size	-0.0234	1							
Roa	-0.1584**	0.1014	1						
ROE	-0.0214	0.2024**	0.9166**	1					
NIM	-0.0526	0.1400**	0.1838**	0.1551*	1				
Npl	-0.2284**	-0.057	0.0667	-0.1038	0.0674	-0.0313	1		
Car	-0.2025**	0.0104	0.4876**	0.3441**	0.0906	0.0776	0.6780**	1	
Inflation rate	-0.0285	0.0654	-0.1263	-0.0762	0.084	0.0363	-0.0954	-0.1006	1
Gdp	-0.0795	-0.0591	0.1531**	0.1023	0.0904	-0.031	-0.0837	-0.0236	-0.1213

**Significant at 5 %, *Significant at 10

Table 3: Panel B: Islamic Banks Correlation Statistics of liquidity risk and independent Variables for Islamic and conventional banks.

Inflation rate is to be positively related to the liquidity risk at 5% and 1% level for Islamic and conventional banks. This implies that a 1% increase in inflation rate increases the liquidity by around 0.1399% and 0.4601%, respectively. This is consistent with the finding of Sulaiman et al. [6]. Finally, GDP growth has a positive and significant direction to the liquidity risk for Islamic and conventional banks, except of Islamic banks. This implies that a 1% increase in GDP growth increases the liquidity by around 0.0005% and 0.0017%, respectively. This is

consistent with the finding of Sulaiman et al. [6].

Similarity, in the random effect, size of the bank has a positive and significant relationship with the liquidity risk for Islamic and conventional banks at 10%. This suggests that a 1% increase in size increases the liquidity by around 0.0032% and 0.0075%, respectively. This is consistent with the finding of Iqbal Anjum [2] and Anam et al.

NPL coefficient has a negative and significant impact with the

Variables effect	OLS	Fixed effect	Random effect
Panel A: conventional banks			
Size	0.0184* (1.82)	1.061* (1.83)	0.0075* (1.90)
ROA	-0.0019** (-2.02)	-0.0047*** (-3.56)	-0.0021** (-2.06)
ROE	0.0044*** (3.58)	0.0012* (1.83)	0.0085* (1.87)
NIM	0.0051 (0.30)	0.0001 (0.01)	0.0033 (0.21)
NPL	- 0.0017 *** (-3.09)	-0.0001* (-1.89)	-0.0009** (-2.16)
CAR	0.0007* (1.96)	0.0018* (1.87)	0.0002* (1.91)
GDP	0.0013* (1.83)	0.0017* (1.80)	0.0004* (1.86)
Inflation rate	0.3164 *** (5.85)	0.4601*** (5.43)	0.3769*** (6.50)
cons	-0.5892 (-5.03)	-0.7391*** (-4.96)	-0.7008*** (-5.45)
Hausman test		0.0066***	
R-square Rho	0.1272	0.5097	
Panel B: Islamic banks			
Size	0.0191 (1.86)*	0.0095* (1.94)	0.0032* (1.99)
ROA	-0.0372*** (-4.26)	-0.0124** (-2.06)	-0.0163*** (-2.67)
ROE	0.0052 *** (3.81)	0.001* (1.86)	0.0018* (1.84)
NIM	0.0121* (1.84)	0.0174** (2.09)	0.0234*** (3.24)
Npl	-0.001* (-1.89)	-0.0014* (-1.80)	-0.0017*** (-2.69)
CAR	0.0002* (1.83)	0.0013* (1.91)	0.0005* (1.88)
GDP	-0.0014 (-0.86)	0.0005 (0.34)	-0.0002 (-0.16)
Inflation rate	0.3271*** (3.31)	0.1399** (2.04)	0.058* (1.88)
cons	0.4466 (2.20)	0.1439 (0.62)	0.2769 (1.32)
Hausman test		0.000***	
R-square Rho	0.15	.5084	

***Significant at 1 %, **Significant at 5 %, and *Significant at 10

Table 4: The effect of various factors on the liquidity risk by Islamic and conventional banks.

liquidity risk for Islamic and conventional banks at 1% and 5%, respectively. This indicates that a 1% increase in NPL decreases the liquidity by around 0.0017% and 0.0009%, respectively. This is consistent with the findings of Iqbal Anjum [2]; Akhtar et al. [3]. ROE and CAR have a positive and significant impact with the liquidity risk for Islamic and conventional banks at 10% level. This indicates that a 1% increase in ROE increases the liquidity by around 0.0018% and 0.0085%, respectively. A 1% increase in CAR increases the liquidity by around 0.0005% and 0.0002%, respectively. This is consistent with the finding of Akhtar et al. and Iqbal Anjum [2,3].

Additionally, ROA has a negative and significant impact with the liquidity for Islamic and conventional banks at 1% and 5% level, respectively. This implies that a 1% increase in ROA decreases the liquidity by around 0.0163% and 0.0021%, respectively. This is consistent with the finding of Al-Khouri [4]. NIM has a positive and significant impact with to liquidity risk for Islamic and conventional banks, except of conventional banks. This indicates that a 1% increase in NIM increases the liquidity by around 0.023% and 0.0033%, respectively. This is compatible with the finding of Muharam and Kurnia [5].

Inflation rate coefficient is found to be positively related to the liquidity risk at 10% and 1% level for Islamic and conventional banks. This implies that a 1% increase in inflation rate increases the liquidity by around 0.058% and 0.3769%, respectively. This is consistent with the finding of Sulaiman et al. [6]. Finally, GDP growth has a positive and significant direction to the liquidity risk for conventional banks, except for Islamic banks has a negative and no significant impact on liquidity risk. This implies that a 1% increase in GDP growth increases by around 0.0004% for conventional banks and decreases the liquidity by around 0.0002% for Islamic banks. This is consistent with the finding of Sulaiman et al. [6].

We notice from Homogeneity test, the presence of a significant individual effect. This result confirms the heterogeneity of our sample. Indeed, Fisher's statistics and chi-square are significant at 1%. Indeed, our study focuses on two categories largely distinctive, namely the IB and the CB. In fact, the IB has their own funding principles (prohibition of Riba, gharar and Maysir and condemnation of illicit financing sector and the payment obligation of "zakat"). These principles diversify these banks compared to their conventional counterparts. Moreover, the divergence of the IB to the CB is also approved by their financing products. In addition, this heterogeneities explained by the diversity of the countries in our sample. Our investigation includes countries characterized by a difference in their economic environment. It distinguishes the oil countries, such as Arabic Saudi, Kuwait, UAE, Qatar and Bahrain[8]. However, this method of financing is developed and rolled out in several non-oil countries such as turkey. This may be an argument for those who believe that Islamic finance can only grow in the oil countries (rich countries). The heterogeneity of our sample can also provide more information and improve our results. The presence of individual effects leads us to test whether this effect is fixed or random. For this purpose, we will use the Hausman test[9].

The Hausman test is to determine whether the coefficients for the two estimates (fixed and random) are statistically different. In this case, the fixed effects model is better for our case because the probability of this test (Prob> chi2 = 0.000) is below the threshold of 5%.

Conclusion

Management of liquidity risk is important for Islamic and conventional banks. However, little attention has been paid to this topic. This study examines the liquidity risk management for Islamic and conventional banks of Gulf countries covered the period 2006-2013 using a panel data framework. The sample included 11 Islamic

banks and 33 conventional banks. our results show a strong positive impact of size, ROE, NIM, CAR, GDP growth, and inflation rate with the liquidity risk for conventional banks, while size, ROE, NIM, CAR and inflation rate in Islamic banks. Therefore, Islamic banks are more sensitive by factors than their conventional counterparts. This is justified by prohibit the payment or receipt of interest (riba) and encourage risk sharing.

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