DETERMINANTS OF BANK LIQUIDITY IN SYRIA: A COMPARATIVE STUDY BETWEEN ISLAMIC AND CONVENTIONAL BANKS

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Abstract: Most of the studies have excluded Syrian banks from their samples due to the violent conflict in the country, which will affect their results. The main objective of this research is to evaluate liquidity risk through a comparative analysis between Islamic and conventional banks of Syria. We employed paired sampled t-test and regression with OLS estimation. Secondary data were collected spanning 2011-2017, for the entire private banking sector in Syria. This study investigates the significance of size of the bank and several financial ratios on the banks' liquidity. Our finding manifested that an insignificant difference exists between Islamic and conventional banks in terms of liquidity. Furthermore, Islamic banks liquidity risk management predictors were significant and nonperforming finance ratio (NPF) and bank size at 10% level. Whereas in its counterparts all the variables selected in our model were significant predictors at 5%. Our results show different factors in different significant level affect liquidity risk in each bank. This study provides an alluded picture about Syrian private banking sectors, particularly liquidity risk management. Which might help the authorities to set future prospects.

Keywords: *Syria; conventional banks; Islamic Banks; liquidity ratio*

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Introduction

The banking sector is considered to be an essential source of financing for most businesses. Now the most common region of risk with conventional and Islamic banks is liquidity risk. Liquidity risk is the outcome of the difference involving the maturities of the two sides of the balance sheet. This disparity either results in an overabundance of cash that wishes to be invested or result in a lack of cash that wishes to be funded.

Syria is among the countries that have established full-fledged Islamic banks beside the interest-based one (Aljashy, 2015). Bank act as a financial intermediary where it connects parties, which are in excess of money and other parties, which are in need of money. As a business institution, that financial intermediation process must be run efficiently to ensure more profits for shareholders despite the expansion of the economy. The more profit created by a bank would lead to more improvement for banks' performance (Sukmana & Suryaningtyas, 2016). Furthermore, the expansion of the economy would increase demand for banking services as well. Hence, a bank failure will cause a domino effect on the entire banking system; one bank failure in a country can be extended to the whole banking system in a country.

Islamic banks operate the same basic functions as banks working under the conventional system. But, Islamic banking refers to the banking system which works according to Sharia'h, which prohibits charging any extra money for money that is borrowed (*Riba*) (Kamarulzaman & Madun, 2013; Aldeen *et al*., 2019).

Banks take deposits that are callable on-demand or, on average, have less maturity than that of the financing contracts they sell. While transferring maturity provides depositors with valuable liquidity insurance, it simultaneously increases the banks' exposure to liquidity risk (Syed, 2004). Liquidity is the banks' ability to offer fund to whom who ask about it and at the same time facing the obligations as they come due, avoiding any predictable losses (Sukmana & Kholid, 2013). Nowadays, Islamic banks have become an indispensable part of the entire financial system and regarded as a competitor to conventional banks (Nevine, 2017). At the same time, they are considered complementary to conventional banks offer a bunch of services and products that fit with a certain type of customers that do not accept to patronize conventional banks' services (Nevine, 2017). In essence, conventional banks based on debt instruments while their counterparts based on real business transactions (asset-based) which are the core of Islamic banking and both industries deal with the business partners.

Syrian banks suffer from the current conditions that the country has been through since 2011, which affects their profits, work, and results. The banking sector in Syria has been through fluctuated history, extending from the Ottoman occupation and until now, mechanisms of management and other aspects have been changing drastically (Horani & Hassani, 2011). This long period witnessed the transition from the dominance of foreign banks to the banking business in the pre-independence period to the stage of the presence of private national and Arab banks in the post-independence phase (Horani & Hassani, 2011). After a long period of absence of the private banking from the Syrian banking system, and after the conviction of the inability of public banks to meet the financial and financial needs of the state, institutions, and citizens. Legislative Decree has been declared in 2001 allowing private banks to function in Syria, followed by another declare allowing the Islamic banks to start up in 2005 (central bank of Syria official website). Islamic banking and finance institutions might help in integrating the Syrian financial market with mainstream Islamic finance and banking systems, which are swiftly expanding across the Middle East region (Khan & Bhatti, 2008). Aldeen, *et al.,* (2019) stated that conventional banks in Syria enjoying a higher reputation comparing to its counterparts, however, Syria is a Muslim majority country.

Effective risk management in a bank is crucial to support bank growth and the sustainable profitability rate of banks, be they Islamic or conventional. Giving the current challenging political and economic environment in Syria. Trying to strive against the crisis consequences (Aljashy, 2015). Banks must keep a particular amount of capital as liquid resources to confirm that they can meet their obligations (Tiwari, 2009).

Liquidity: refer to the ability of a bank to meet obligations and finance the increase in assets, without being forced to liquidate assets at unfair prices or turning to costly sources of funds. The liquidity ratio should not be less than 30%, calculated by dividing the ready and ready-made funds by deposits and other liabilities. (Central bank of Syria, 2019). The liquidity ratio is calculated daily for both conventional and Islamic banks and should be reported monthly to Central Bank of Syria to make sure that the entire bank system commits to liquidity requirements. In case a bank violates the liquidity ratio, it must send the forms daily until it is confirmed The Bank's commitment to the prescribed minimum limits. Moreover, a bank will be penalized to pay 1/3650 out of the total violated amount, with a minimum amount of 100,000 S.P (Central bank of Syria, 2019).

After two decades at the establishment of conventional and Islamic private banks, noted that it is high time that liquidity risk management for both types of banks should be evaluated, and examined as a new experience in the country. Furthermore, stay aware of the factors that have an impact on banks' liquidity in Syria. This study stresses giving a real picture of risk management for the private banking sector operating in Syria. taking into account all the classical assumptions. After intensive research in the literature, we found x research addresses the Syrian context.

This paper organized as follows: the next section will be brief literature on the subject matter, followed by a comparison between conventional and Islamic banks' risk management, then the policies and strategies related to liquidity risk management in both banking systems. Then, the methods used in this research and data analysis. The conclusion presented in the last section.

Literature Review
There are numerous studies that direct to liquidity determinants for both conventional and Islamic banks. This literature focuses on theoretical and empirical studies, starting with studies concerning the differences between Islamic and conventional banks ending with banks' liquidity determinants.

Comparison of the liquidity in both Islamic and conventional banks
There are various methods to face liquidity risk patronized by both Islamic and conventional banks. For instance, holding reserves in terms of assets (placement with the central bank, placement with other banks, cash), issued securities to suppress the liquidity risk. Other instruments to overcome liquidity risk on the liability side by employing the inter-bank supporting liquidity from the central bank as lender of the last resort which in position to offer liquidity to the banks to avoid any domino effects on the entire banking system (Sukmana & Suryaningtyas 2016). Conventional and Islamic banks have different ways to overcome liquidity risk, mainly resulted from the essential difference between two types of banks' contracts in which the Islamic liquidity instruments based on capital, whereas in the conventional banks based on debt (Hassan *et al.*, 2013). In Islamic banks, liquidity risk is more

important compared to operational and return rate risk for bank sustainability (Khan & Ahmed, 2001).

Amr El Tiby (2010) and Sulaiman (2013) stated that Islamic banks' liquidity risks resulted from many factors: first, the lake of Sharia'h-compliant instruments of the interbank money market. Moreover, the prohibition of interest rate in Sharia'h. In addition to the undeveloped Sharia'h secondary market contributed to the problem. Secondly, the limitation of the Islamic financial instruments listed on the Islamic secondary market is limited and not sufficient; Furthermore, Sharia'h has set several preconditions such as involving real assets. Hence, the need authorities to develop Islamic securities (assets-based) arise (RifkiIsmal, 2008). Third, the instruments used conventional banks' liquidity management. For instance, the secondary market and interbank market have been enjoying the long experience, but the problem is that's those instruments based on *Riba*, which is inflexibly prohibited in Sharia'h. Conventional banks have access to considerable short-term debt from overnight up to one year. However, efficient and advanced interbank market. Due to the lack of availability of Sharia'h compliant products, Islamic banks cannot enjoy the same funds that are used by conventional banks. The absence of the Islamic financial instruments market differentiates the problem, particularly for assets liability management.

Iqbal (2012) attempted to compare the liquidity risk between conventional and Islamic banks in Pakistan, using several financial ratios spanning 2007-2010. The main findings of this study that there is a negative and significant relationship between liquidity and Non-performing loan ratio (NPL), whereas a significant positive relationship between liquidity risk and return on assets (ROA), return on equity (ROE), capital adequacy ratio (CAR). The additional study addresses the case of Pakistan by (Akhtar *et al.*, 2011); they aimed to compare the liquidity risk management between Islamic and conventional banks as well, over the period 2006-2009. They found there is a positive but insignificant relationship between networking capital to net assets and the size of the bank with liquidity risk in both Islamic and conventional banks alike. Whereas Capital adequacy ratio in conventional banks and return on assets in Islamic banks is found to be positive and significant. Moreover, conventional banks performing better in terms of liquidity risk management than Islamic banks.

In the case of MENA region, Ghenimi & Omri (2015) attempted to examine the factors affect the liquidity risk for both Islamic and conventional banks in MENA region over the period 2006-2013. It is found that inflation rate, capital adequacy, interest margin and return on equity have a positive impact on liquidity risk in Islamic banks, whereas in conventional banks GDP growth, return on assets and non- performing loan has 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. An additional study in MENA region Al-Gazzar (2014) used various financial ratios to evaluate the performance of conventional and Islamic banks with macroeconomics determinants (inflation and GDP) on a sample of 45 banks including 10 Islamic. He found Islamic banks performing better in terms of capital adequacy, assets quality, management quality, and profitability while its counterparts were performing better in terms of liquidity due to the lack of liquidity sources.

Moin (2008) attempted to compare the performance of the number one Islamic bank in Pakistan with five conventional ones over the period 2003-2007, using 12 financial ratios. Major

findings were conventional banks were significantly better in terms of profitability. Whereas there is not any significant difference in terms of liquidity. The revealed that conventional banks' risk tendency was higher than the Islamic ones, which attributes the high profitability of conventional banks. Ismal (2010) discussed risk management in terms of liquidity for both conventional and Islamic in the case of Indonesia. Their results show that Islamic banks reduce the liquidity risk from both internal and external sources. That is attributed to the Sharia'h values and principles followed by Islamic banks. Tariq *et al*., (2012) attempted to evaluate the performance of Islamic and conventional banks in Pakistan for profitability and liquidity of banks compared using the liquidity loan/asset ratio, loan/deposits, and borrowing ratio and liquid assets/deposits ratio. They found the conventional ones are more dominant in liquidity management. Wasiuzzaman and Gunasegavan (2013) compared both Islamic and conventional banks'performance for using financial ratios for the period 2005-2009. They found higher capital adequacy, assets quality, liquidity, operational efficiency significantly in Islamic banks and higher ROA in their counterparts.

Mahdi & Abbes, (2018) and Al-Gazzar (2014) found that conventional banks are better than Islamic banks in terms of liquidity in the MENA region, they attributed this result to the difficulties that Islamic banks face to liquid assets. Another study done by Sobhy & Megeid (2017) analyzed liquidity effectiveness for both conventional and Islamic banks in Egypt; they found that conventional banks were better in liquidity. Moreover, Egyptian Central Bank regulations on capital and liquidity requirements for Islamic banks affects its performance negatively. Whereas, Moin (2008) and Adewole & Patrick (2019) could not find any significant difference between Islamic and conventional banks in liquidity regards. Sukmana & Febriyati (2016) found that Islamic banks have a higher liquidity ratio than conventional banks; they attributed these findings to the reserve requirement imposed by the central banks of Indonesia. Besides, they considered reserves requirements as a tax because the bank might be able to attract more deposits but cannot work successfully as a bridge between parties.

Internal determinants of a bank liquidity

Considerable literature debated the relationship between bank size and liquidity risk, size of a bank, based on the "too big to fail" hypothesis, size of a bank might influence liquidity negatively, big banks considered themselves too big to fail, so they hold less liquid assets. One the other hand, some banks rely on the financial assistance offered by the central bank or other sources, based on their consideration that the government will protect them, as big bank fail will affect the entire financial system (Lucchetta, 2007).

Assets quality is mainly the quality of bank loans; it is relatedto the first internal determinant that may affect the liquidity of banks. (El-Chaarani, 2019). Increasing the Level of assets quality ratio will decrease the depositor's confidence, subsequently, enlarge the level of withdrawals and influence the liquidity problem negatively (Bloem & Gorter, 2001). Roman and Sargu, (2015) detected a significant positive association between asset quality and bank liquidity in the Czech Republic, Romania Lithuania, and Czech Republic. They also reported that the supervisory bodies of certain countries have obliged banks to increase their liquidity ratios throughout a financial crisis.

Capital adequacy ratio indicates the equity level in the banking sector. A good indicator to evaluate bank stability and its liquidity is the capitalization level (Menicucci & Paolucci, 2016). While, Chagwiza, 2014 and Moussa, (2015) illustrated that there is a significant negative

relationship between liquidity and capital adequacy because high CAR might impede liquidity creation by making the capital structure of banks fragile.

An additional subjective indicator is assets performance represented by ROA; it is generally used to measure an overall entity performance over a specific time (Greenwood and Jovanovic, 1990). High asset performance has a negative impact on a bank's liquidity ratio; more finance will lead to less liquidity (Deléchat *et al*., 2012).

Loan to deposit ratio, this ratio will reflect the amount of given finance to total deposits. A higher LDR/FDR will have a positive impact on bank liquidity due to the given finance Sukmana & Febriyati, 2016).

Table.2 Research hypothesis

Independent variables	literature	Related results
LR difference	Sukmana & Febriyati (2016); Mahdi & Abbes, (2018) & Al-Gazzar (2014)	*There is a significant difference between Islamic and conventional banks liquidity*
Size of the bank	Vodová (2013): Cucinelli (2013); Hackethal et al. (2010); Bunda & Desquilbet (2008)	*A high size of a bank has a negative impact on a bank's liquidity.*
Non-performing loans/finance	Bloem & Gorter (2001);Growe *et al*., (2014);Roman and Sargu (2015)	*A high non-performing loans ratio has a negative impact on a bank liquidity.*
Capital adequacy	Menicucci & Paolucci (2016); El Khoury (2015); Repullo, (2004)	*A high capital adequacy ratio has a positive impact on a bank liquidity.*
Loan/finance to deposits	Sukmana & Febriyati, 2016); Sukmana & Suryaningtyas, (2016); Khediri *et al*, (2015)	*A high given finance has a negative impact on a bank liquidity.*
Return on assets	Deléchat *et al*., (2012); Moussa, (2015);Melese & Laximikantham, (2015); Vodavá, (2011)	*A high assets performance has a negative impact on a bank liquidity.*

H1: there is a significant difference between Islamic and conventional banks liquidity
H2: A high size of a bank has a negative impact on a bank's liquidity.
H3: A high non-performing loans ratio has a negative impact on a bank liquidity.
H4: A high capital adequacy ratio has a positive impact on a bank liquidity.
H5: A high given finance has a negative impact on a bank liquidity.
H6: A high assets performance has a negative impact on a bank liquidity.

The reviewed literature above recommends that liquidity risk does not depend upon every variable for instance, capital adequacy ratio, return on assets. The in-hand paper focuses on liquidity determinants of Islamic and conventional banks in Syria. To the best of our knowledge, this study is a pioneering attempt in the Syrian context particularly during conflict spanning 2011-2017. Furthermore, some studies focused on the middle eastern country has excluded Syria from their sample due to the violent conflict and its impact on the banking sector (El-Chaarani, 2019). Moreover, Ghenimi & Omri, (2015) and Mahdi, & Abbes (2018) excluded Syria from their studies. Hence, this paper will have a significant contribution to Islamic banking literature.

Research Methodology
This study looks at the particular financial ratios of both islamic and conventional banks to evaluate and examine both types of bank liquidity risk management. We have used Return On Assets ROA to measure the banks' Profitability; Capital Adequacy Ratio CAR; Loan to deposit ratio LDR and Financing to deposit Ratio FDR; Non-Performing Loans NPL and Non-Performing Finance NPF and Quick ratio (marketable securities, account receivable and (cash and cash equivalent)/current liabilities). Those ratios considered sufficient to examine and evaluate banks' liquidity management (Rahman, & Banna, 2015); (Sukmana & Suryaningtyas, 2016), (Akhtar *et al*., 2011) and (El-Chaarani, 2019). in this study total assets used to represent banks' sizes, data run as the logarithm to SPSS to avoid this tremendous number gap. ROA ratios, to overcome the shortcoming, the denominator needs to be representative of all of the moments during the year; it is common to use the average of two balance sheet amounts in the denominator.

Annual data were the subject of this study, spanning from 2011 to 2017, which is considered advisable to not include data before 2011 because Syrian banks freshly established in the country (see Table.1). The used samples of this research cover the entire private banking sector in Syria, which is, comprises of 11 conventional and 3 Islamic, considering taking the entire banking system into account will help us to anticipate accurate outputs to the max. The secondary source of data is collected for the official websites of each bank, the Syrian Commission on Financial Markets and Securities, Damascus security exchange and Central Bank of Syria.

Different statistics used to achieve the purpose of this study, the statistical analysis has been divided into four dimensions paired sampled t-test, descriptive statistics, correlation, and multiple regression. We employed SPSS to run our data.

Regression model
In this study liquidity risk is considered as a dependent variable, the rest of the variables are considered as independent ones (see Figure.1). Multiple regression analysis is applied in this research to examine the effect of the independent variables on the dependent one considering the classical assumptions. Determining independent variables, which influence liquidity risk in both Islamic and conventional banks alike.

The following is the regression formula:

Yit = α + β1log (Total Assets) it + β2(NPF / NPL)it + β3(CAR)it + β4(FDR or LDR)it + β₅(ROA)it+ εit

i: Banks' classification (Islamic or conventional banks).

t: Time reference.

The above-mentioned formula has been applied separately for Islamic and convention banks. To examine the predictors of each bank.

Table.3 variables and their proxies

Symbol	Variables	Proxies
Y1	Liquidity risk	Cash /current liabilities
X1	Size of the bank	Logarithm total assets
X2	Non-performing loans/finance	Non-performing (loans/finance) / total amount of outstanding loans in the bank's portfolio
X3	Capital adequacy	(Tier 1 capital + Tier 2 capital) / risk weighted asset
X4	Loan/finance to deposits	Total loans/finance to deposits
X5	Return on assets	Net income / Total asset

Notes: organized by authors

Results and Discussion

This section discusses the result of the applied tests starting with descriptive analysis t-test followed by the correlation test and lastly regression:

Descriptive statistics and t-test

Taple.4 Paired Sampled Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	LR_ Islamic banks	47.2386	7	23.13103	8.74271
	LR_ conventional banks	31.1800	7	6.74667	2.55000

Table. 5 Paired Sampled Test

				95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Lower	Upper	t	df	p-Value
Pair 1	LR_ Islamic –LR conventional	16.06	26.20	-8.18	40.29	1.62	6	0.156

The results above-mentioned show an insignificant statistic difference between conventional and Islamic banks' liquidity ratio *t*-test recorded p-value at 0.156, in other words, the mean of Islamic banks at 47.2386 % is insignificantly higher than its counterparts' mean at 31.1800 (Table.4).

These results seem to be consistent with Moin (2008) and Adewole & Patrick (2019) findings, our results show that Islamic banks considered the liquidity risk by holding higher liquid assets compared to the conventional ones, might be because having different contracts. Furthermore, Islamic banks' liquidity sources are limited compared to conventional banks, supported, by (Sulaiman, 2013; Mahdi & Abbes, 2018; and Al-Gazzar, 2014), that might have prompted Islamic banks to hold more liquid assets.

Having a lower LR ratio means that conventional banks work successfully as a bridge between parties comparing to the Islamic banks. On the other hand, less liquid assets to face unforeseen liquidity demand. While Islamic banks having higher LR means that Islamic banks giving less finance, subsequently having in-hand liquid assets and having a higher ability to face liquidity demands comparing to the conventional banks in Syria.

During 2011 Islamic banks were better in terms of investing, but during 2012 and 2013, the performance of conventional banks improved further. That indicates an increase in Islamic bank deposits without a relative increase in financing. That can also be seen from the profitability ratios (see table.7) in favor of conventional banks, which indicate more financing given by conventional banks, subsequently, less liquid assets. Moreover, conventional banks enjoy a higher reputation comparing to Islamic banks, which support the higher profitability of conventional banks (Aldeen *et al.*, (2019).

Overall, it seems advisable that Islamic banks might be trying to avoid and domino effects because when Islamic banks lack liquidity has fewer options comparing to the conventional ones (Sukmana & Suryaningtyas, 2016), especially if it is associated with the risk-related crisis. Besides, having higher liquid assets in Islamic banks could be ascribed to the type of banks' contracts, when it is mainly based on debt in conventional banks while it is assets-backed in the Islamic ones (Hassan *et al*., 2013). Overall, all the private banking sector functioning in Syria committed to the ratio obliged by the central bank of Syria and in some cases, this ratio exceeds the requirements, it could be attributed to the investing condition in the country during the study period.

Table.6 Testing hypothesis summary *t*-test

Hypothesis	Expected relationship	Actual relationship	Validation of the research hypothesis
H1	Significant difference	Insignificant difference	Not Validated

Descriptive statistics

Table.7 Descriptive outputs

	Mean Islamic banks	Std. Deviation Islamic banks	Mean conventional	Std. Deviation conventional banks	N
LR	47.2386	23.13103	31.1800	6.74667	7
CAR	35.9829	11.01519	25.2229	5.37137	7
ROA	2.8686	2.46262	3.7986	5.33956	7
NPL/NPF	22.7386	13.35453	34.8300	14.13594	7
Size	10.7643	.39191	11.5643	.13290	7

Table.7, we can see differences among variables mean and standard deviation for both Islamic and conventional banks. We can identify that LR and CAR are higher in Islamic banks while ROA and banks' size were in favor so conventional banks, even though having a higher NPL ration indicate higher non-performing loans/finance which is higher in conventional ones as well. The standard deviation of Islamic banks' in LR, CAR, and Size) whereas ROA and NPL higher in conventional ones.

Classical assumption test:
Person Correlation can test and measure the degree of strength (absolute value) of the relationship between Y and X. based on the correlation matrix allows us to detect the existence of collinearity in multi-variable data. Correlation can also be used to determine the type of relationship or the direction of the figure, whether it is moving from left to right or the other way round. Thus, a relatively high correlation value between the two independent variables indicates the possibility of a Multicollinearity happening.

To be mentioned, after running a person correlation with five selected independent variables, it has been seen wise to exclude NPF/NPL as independent from our model to avoid Multicollinearity in the regression test. That has not been considered by the previous researches, which is crucial to assure that the regression estimation concerning the classical assumptions. However, it has been ignored by previous studies done by (Rahman, & Banna, 2015); (Akhtar *et al.*, 2011). Subsequently, the formula has been adjusted as the following:

$$Y_{it} = \alpha + \beta_1 \log (\text{Total Assets})_{it} + \beta_2 (\text{NPF /NPL})_{it} + \beta_3 (\text{CAR})_{it} + \beta_5 (\text{ROA})_{it} + \varepsilon_{it}$$

Table.8 Pearson Correlation (Islamic banks)

Correlations

		LR_ Islamic	CAR_ Islamic	ROA_ Islamic	NPL_ Islamic	Size_ Islamic
Pearson Correlation	LR_ Islamic	1.000	.300	-.372	-.722**	-.512
	CAR_ Islamic	.300	1.000	.014	-.144	-.855*
	ROA_ Islamic	-.372	.014	1.000	.236	.215
	NPF_ Islamic	-.722	-.144	.236	1.000	.085
	Size_ Islamic	-.512	-.885	.215	.085	1.000

*Correlation *insignificant* at the 0.01 level.
**Correlation *insignificant* at the 0.05 level.

Table.9 Pearson Correlation (conventional banks)

Correlations

		LR_Conv	CAR_Conv	ROA_Conv	NPL_Conv	Size_Conv
Pearson Correlation	LR_ Conv	1.000	.153	-.727**	.155	.093
	CAR_ Conv	.153	1.000	.188	.320	.826*
	ROA_ Conv	-.727	.188	1.000	.374	.180
	NPL_ Conv	.155	.320	.374	1.000	.623
	Size_ Conv	.093	.846	.180	.623	1.000

**Correlation *insignificant* at the 0.01 level.
*Correlation *insignificant* at the 0.05 level.

Table.8 & 9 below state the correlation efficient. This gives a piece of information on the level of the correlation between the selected variables. This was tested with the person correlation coefficient test. Matrixes show that in general the correlation between the explanatory variables is well built that the Multicollinerarity problem is addressed.

Refer to the homoscedasticity assumption The White test results in testing the homoscedasticity assumption in both Islamic and conventional banks models show that statistically, the prob > chi2 produced is greater than the 5% confidence level. The result for both Islamic and conventional banks are 0.2048 and 0.3948 respectively. Hence, the Ho hypothesis (constant variance/homoscedasticity) is not rejected.

To run autocorrelation testing, we used the Breusch-Godfrey LM test with the Hypothesis of Ho there was no serial correlation in the model. The results manifested prob> chi2 value for both Islamic and conventional banks at 0. 302 and 0.345 respectively (greater than the level of confidence) so that Ho is not rejected, thus the assumption of non-Autocorrelation is fulfilled.

Linear Regression statistics:
Multiple regressions were applied for this study. Multiple regression statistics will indicate whether which variable acts as a predictor for liquidity ratio. Considering LR (liquidity ratio) as an independent variable, on the other hand, CAR (capital adequacy), ROA (return on assets), NPF/NPL (non-performing loan/ finance) log (total assets) as dependent variables.

Table.10 Coefficients (Islamic banks)

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	1075.911	333.201		3.229	.084*		
	CAR_ Islamic	-2.301	.984	-1.096	-2.337	.144***	.158	6.319
	ROA_ Islamic	1.324	2.127	.141	.622	.597	.678	1.475
	NPF_ Islamic	-1.370	.347	-.791	-3.945	.059*	.865	1.156
	Size_Islamic	-85.331	28.016	-1.446	-3.046	.093*	.154	6.479

*significant at the 0.1 level.
***significant at the 0.15 level.

Table. 11 Coefficients (conventional banks)

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
2	(Constant)	744.909	76.553		9.731	.010**		
	CAR_Conv	1.422	.142	1.132	9.982	.010**	.196	5.110
	ROA_Conv	-1.368	.072	-1.083	-19.096	.003*	.782	1.278
	NPL_Conv	.480	.039	1.006	12.265	.007*	.374	2.674
	Size_Conv	-65.816	6.972	-1.296	-9.440	.011**	.133	7.495

* Significant at the 0.01 level.
**Significant at the 0.05 level.

The regression associated with conventional banks revealed 99.5% R_Square which means 99.5% of changes in liquidity ratio can be explained by the regression model. On the other hand, R-square for Islamic banks at 93%.

The result of CAR in conventional banks concludes an extension of equity level will make the banks capable to act as lend due to the availability of cash regardless of the size of the deposits moreover, capital will lead banks to increase the liquidity level and absorb liquidity risk. Which

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confirm the studies of (Menicucci & Paolucci (2016); Repullo, (2004); El Khoury (2015). On the other hand, it has a negative significant impact on the Islamic banks, which confirm Chagwiza, 2014; Moussa, (2015) results, since high capitalization level will discourage liquidity creation by making the structure of the capital fragile.

NPL/NPF in both types of banks has a significant impact on bank liquidity. The negative impact on the liquidity in Islamic banks by reducing the level of confidence among the depositors (El-Chaarani, 2019). Positive impact in conventional banks could be attributed to the fact that banks will be more reluctant to finance particularly in the current crisis the country passing through. Less finance will lead to less nonperforming loans subsequently a high liquidity ratio.

It appears that the banks' size has a significant negative impact on both types of banks. Crucial on the liquidity level in both types of banks, this finding could be attributed to the support given from the central bank during the current crisis. They might consider that the central bank of Syria will keep supporting the banking sector and preventing any failure, because the Syrian economy on the edge (Aldeen *et al*., 2019), Hence, any financial failure will have undesirable consequences on the entire economy.

It seems that liquidity risk management independent from assets performance in Islamic banks. However, it has a significant impact on conventional banks because holding over holding liquid assets will create an opportunity cost for a banking line with many previous studies (Deléchat et al., 2012; Melese & Laximikantham, 2015; Vodavá, 2011b; Moussa, 2015).

Table.12 Testing hypothesis summary (Islamic banks)

Hypothesis	variable	Expected relationship	Actual relationship	Validation of the research hypothesis
H2	Size	Negative and significant	Negative and significant	Validated
H3	NPF	Negative and significant	Negative and significant	Validated
H4	CAR	Positive and significant	Negative and significant	Not validated
H5	FDR	Negative and significant	Not considered due to the Multicollinearity	____
H6	ROA	Negative and significant	Positive and insignificant	Not validated

Table.13 Testing hypothesis summary (conventional banks)

Hypothesis	variable	Expected relationship	Actual relationship	Validation of the research hypothesis
H2	Size	Negative and significant	Negative and significant	Validated
H3	NPL	Negative and significant	Positive and significant	Not validated
H4	CAR	Positive and significant	Positive and significant	Not validated
H5	LDR	Negative and significant	Not considered due to the Multicollinearity	____
H6	ROA	Negative and significant	Negative and significant	Not validated

Conclusion

Management of liquidity risk is essential for Islamic and conventional banks. However, tremendous consideration has been paid to this topic in each country. However, there is a shortage of studies address the Syrian context. Through examine liquidity risk management through a critical comparative examination between Islamic bank's risk management in the case of Syria. This study shed some light on dimension have not been studied beforehand and helps bankers and government by understanding various factors impact liquidity risk.

Annual data spanning 2011-2017 were the subject of this research. We employed paired sampled *t*-test and multiple regression to meet our purpose. *t*-test results show that there is a significant difference between Islamic and conventional banks in terms of liquidity ratio. Multiple regression manifested CAR, NPF, and bank size has a significant negative impact on Islamic banks' liquidity. Whereas in its counterparts ROA and bank size have a significant negative affects bank's liquidity, CAR and NPL have a positive significant impact on conventional banks' liquidity. Refer to the loan/finance to deposits ratio (FDR/LDR), it appears advisable to exclude these variables from our regression model due to the significant correlation with other independent variables. To fulfill leaner regression classical assumptions.

Both Islamic and conventional banks accommodated the central bank's liquidity requirements but it is insignificantly higher in Islamic banks because conventional banks enjoy a higher reputation in Syria. Moreover, it is confirmed by regression results, ROA has a significant negative impact on the liquidity ratio.

The process for managing liquidity risk can be simplified by using the proper guidelines and it is not necessary for banks to develop a risk system procedure by themselves or with others, which lowers related costs. The results obtained from this study are significant in that no other studies on this specific topic exist in literature and the analysis demonstrates bank position in Syria in terms of liquidity management. It is every bank's worst nightmare not having enough liquid assets on hand to meet daily obligations. Fortunately, this nightmare does not have to happen to a bank if the right steps are implemented to reinforce liquidity risk management planning and practices.

Islamic banks should improve their integration in the market to assure a proper profitability ratio. Holding a considerable amount of liquid assets seems advisable, but when it is too high, that will create an opportunity cost for a bank. Subsequently, accelerating economic growth in a country suffering from a violent political crisis for a decade. Moreover, the central bank of Syria should consider a different liquidity requirement for Islamic banks, due to the fact they have different working mechanisms subsequently different liquidity requirements.

This study aimed to cover the impact of external variables but due to the non-availability of the data in this regard, for instance, the World Bank database or IMF websites; it could be attributed to the country's circumstances during the study period.
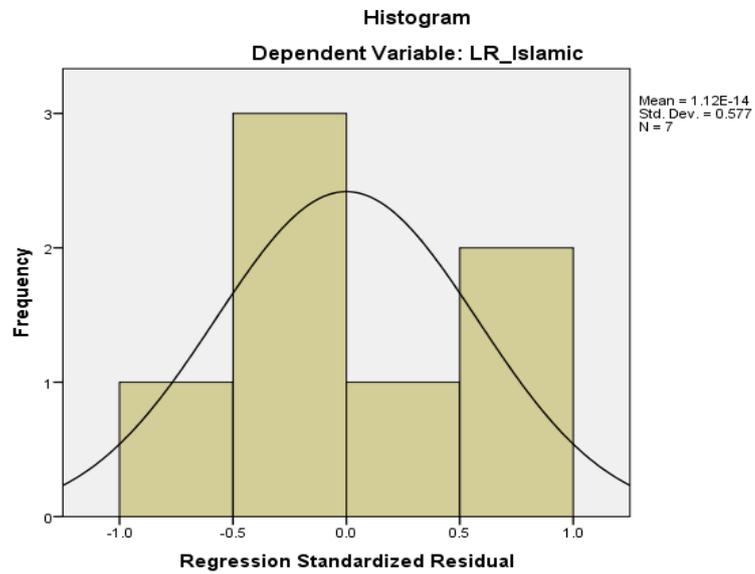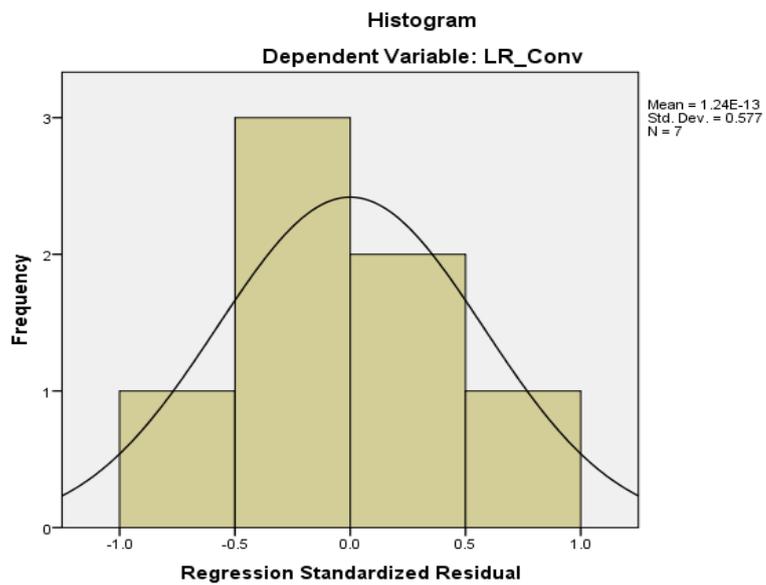
Appendices

Fiqure.2 *Histogram Islamic:*

Histogram
Dependent Variable: LR_Islamic

Mean = 1.12E-14
Std. Dev. = 0.577
N = 7

Figure.3 *Histogram conventional:*

Histogram
Dependent Variable: LR_Conv

Mean = 1.24E-13
Std. Dev. = 0.577
N = 7

References

Abbas, F., Iqbal, S., & Aziz, B. (2019). "The impact of bank capital, bank liquidity and credit risk on profitability in postcrisis period: A comparative study of US and Asia". Cogent Economics & Finance, 7(1), 1605683.

Al-Gazzar, M. M. (2014). "The Financial Performance of Islamic vs. Conventional Banks: An Empirical Study on The GCC & MENA Region. Faculty of Business", *Economics and Political Science Bachelor's Dissertation/Senior Year Project*, British University in Egypt.

Akhtar, M. F., Ali, K., & Sadaqat, S. (2011). "Liquidity risk management: a comparative study between conventional and Islamic banks of Pakistan". *Interdisciplinary journal of research in business*, 1(1), 35-44.

Aldeen,N. K., Ali Shah, S. A., & Herianingrum, S. (2019). "Patronage of Islamic and Coventional Banks: The Case of Syria". *AL-uqud: Journal of Islamic Economics*. 3(2), 98-113.

Aldeen, K.N, Ali Shah, S.A.,& Herianingrum, S., (2019). "Syrian economy during the crisis". presented at *international conference on sustainable cities*. Surabaya- Indonesia, 2019, IOP Publishing.

Aljashy .M.M, (2015). "usethe financial analysis to the evaluate the performance of Islamic and conventional banks". *unpublished Master thesis, Faculty of Economy, Damascus niversity. (Arabic reference)*

Al-Gazzar, M. M. (2014). "The Financial Performance of Islamic vs. Conventional Banks: An Empirical Study on The GCC & MENA Region". *Faculty of Business, Economics and Political Science Bachelor's Dissertation/Senior Year Project, British University in Egypt*.

Bloem, M.A., Gorter, N.C. (2001). "Treatment of Non-Performing Loans in Macroeconomic Statistics". International Monetary Fund, Report No. (WP/01/209).

Bonfim, D., & Kim, M. (2011). "Liquidity risk in banking: Is there herding?". International Economic Journal, 22(3), 361-386.

Bunda, I., Desquilbet, J. (2008) "The bank liquidity smile across exchange rate regimes". *International Economic Journal*, 22(3), 361-386.

Central bank of Syria (2019. Legislations and Regulations", available at http://www.cb.gov.sy/en/legislations-laws/all (accessed 21 January 2019).

Cucinelli, D. (2013). "The determinants of bank liquidity risk within the context of euro are". *Interdisciplinary Journal of Research in Business*, 10(2), 51-64.

Deléchat, C., Henao, C., Muthoora, P., & Vtyurina, S. (2012). "The Determinants of Banks' Liquidity Buffers in Central America". *America: IMF Working Paper*, No. WP/12/301, International Monetary Fund, December 2012.

El Khoury, R. (2015). "Liquidity in Lebanese commercial banks and its determinants". *Academy of Accounting and Financial Studies Journal*, 19(3), 57-74.

El-Chaarani, H. (2019). Determinants of bank liquidity in the Middle East region. *International Review of Management and Marketing*, 9(2), 64.

Ghenimi, A; Omri, M.A.B. (2015). "Liquidity Risk Management: A Comparative Study between Islamic and Conventional Banks". *Journal of Business Management and Economics*. Vol. 3: 25-30.

Greenwood, J., & Jovanovic, B. (1990). "Financial development, growth, and the distribution of income". *Journal of Political Economy*, 98(5), 1076-1107.

Growe, G., De Bruine, M., Lee, J.Y., & Maldonado, J.F.T. (2014) "The profitability and performance measurement of U.S. regional banks using the predictive focus of the fundamental analysis research". *Advances in Management Accounting*, 24, 189-237.

Hackethal, A., Rauch, C., Steffen, S., & Tyrell, M. (2010). "Determinants of bank liquidity creation". *Social Science Research Network*.

Hassan, H. M. U., Razzaque, S., & Tahir, M. S. (2013). "Comparison of financial instruments in Islamic versus conventional banking system and liquidity management". *African Journal of Business Management*, 7(18), 1695-1700.

Horani, A., & Hassani, A. A. (2011). "*AL- Nuqud wa AL-Masaref*", Damascus Univesity, Damascus-Syria: *Damascus Universit Publications. (Arabic reference)*

lsmal, R., (2010), "Assessment of liquidity management in Islamic Banking Industry", *International Journal of Islamic and Middle Eastern Finance and Management*, 3(2), 147-167.

Iqbal A. (2012). "Liquidity Risk Management: A Comparative Study Between Conventional and Islamic Banks of Pakistan". *Global Journal of Management and Business Research*. Vol 12 (5): 301-310.

Kajola, S. O., Sanyaolu, W. A., Alao, A., & Ojunrongbe, O. J. (2019). Liquidity and Profitability Dynamics: Evidence from the Nigerian Banking Sector.

Khediri, K.B., Charfeddine, L., & Youssef, S.B. (2015). "Islamic versus conventional banks in the GCC countries: A comparative study using classification techniques". *Research in International Business and Finance* 33: 75-98.

Khan, T & H. Ahmed. (2001). "Risk Management: An Analysis of Issues in Islamic Financial Industry". Occasional paper No.5. Jeddah: *Islamic Research and Training Institute (IRTI), Islamic Development Bank.*

Lucchetta, M. (2007), What do data say about monetary policy, bank liquidity and bank risk taking? Economic Notes by Banca Monte dei Paschi di Siena SpA, 36(2), 189-203.

Mansoor Khan, M., & Ishaq Bhatti, M. (2008). "Islamic banking and finance: on its way to globalization". *Managerial finance*, *34*(10), 708-725.

Mahdi, I. B. S., & Abbes, M. B. (2018). "Relationship between capital, risk and liquidity: a comparative study between Islamic and conventional banks in MENA region". *Research in International Business and Finance*, 45, 588-596.

Melese, N., & Laximikantham, P. (2015). "Determinants of banks liquidity: Empirical evidence on Ethiopian commercial banks". *Journal of Economics and Sustainable Development*, 6(15), 36-47.

Menicucci, E., & Paolucci, G. (2016), The determinants of bank profitability: Empirical evidence from European banking sector. *Journal of Financial Reporting and Accounting*, 14(1), 86-115.

Moin, M.S. (2008). "Performance of Islamic banking and conventional banking in Pakistan: a comparative study". *Master thesis, University of Skovde, Sweden*

Moussa, M.B. (2015). "The determinants of bank liquidity: Case of Tunisia". *International Journal of Economics and Financial Issues,* 5(1), 249-259.

Megeid N.S.A., (2017). "Liquidity risk management: conventional versus Islamic banking system in Egypt", , 8(1), 100-128.

Ojo, M. (2010). "Risk management by the Basel Committee: Evaluating progress made from the 1988 Basel Accord to recent developments". *Journal of Financial Regulation and Compliance*, 18, 305-315.

Rahman, M. L., & Banna, S. H. (2015). "Liquidity Risk Management: A Comparative Study between Conventional and Islamic Banks in Bangladesh". *Journal of Business and Technology (Dhaka)*, 10(2), 18-35.

Repullo, R. (2004). "Capital requirements, market power, and risk taking in banking". *Journal of Financial Intermediation*, 13(2), 156-182.

RifkiIsmal (2008). *Shariah* Issues in Liquidity Risk Management: A Survey, *Review of Islamic Economics* , 12 (2), 45-66.

Roman, A., & Sargu, A.C. (2015). "The impact of bank-specific factors on the commercial banks liquidity: Empirical evidence from CEE countries". *Procedia Economics and Finance*, 20, 571-579.

Rosly, S. A., & Zaini, M. A. (2008). "Risk-return analysis of Islamic banks' investment deposits and shareholders' fund'. *Managerial Finance*, 695-707.

Sukmana, R., & Suryaningtyas, S. (2016). "Determinants of Liquidity Risk in Indonesian Islamic and Conventional Banks". *Al-Iqtishad: Jurnal Ilmu Ekonomi Syariah*, 8(2), 187-200.

Mohamad, A. A. S., Mohamad, M. T., & Samsudin, M. L. (2013). "How Islamic banks of Malaysia managing liquidity? An emphasis on confronting economic cycles". *International Journal of Business and Social Science*, 4(7).

Sukmana, R. & Kholid, M. (2013). "An assessment of liquidity policies with respect to Islamic and conventional banks: a case study of Indonesia", *Qualitative Research in Financial Markets*, 5 (2), 126-138.

Sawada, M. (2010). "Liquidity risk and bank portfolio management in a financial system without deposit insurance: Empirical evidence from prewar Japan". *International Review of Economics and Finance*, 392–406.

Sukmana, R., & Febriyati, N. A. (2016). "Islamic banks vs conventional banks in Indonesia: an analysis on financial performances". *Jurnal Pengurusan* (*UKM Journal of Management*), 47,81-90.

Syed, S.A. (2004), "Islamic modes of finance and associated liquidity risks", *Conference on Monetary Sector in Iran: Structure, Performance and Challenging Issues*.

Tariq, M., Tahir, A., Momeneen, W. & Hanif, M. (2012), "Comparative performance study of conventional and Islamic banking in Pakistan", *International Research Journal of Finance and Economics*, No. 83, pp. 62-72.

Tiwari, A. (2009), "Liquidity risk management: getting there, anniversary convention", 137-146.

Vodová, P. (2011). "Liquidity of Czech commercial banks and its determinants". *International Journal of Mathematical Models and Methods in Applied Science*, 5(6), 1060-1067.

Vodová, P. (2013). "Determinants of commercial banks liquidity in Hungary. *Financial Internet Quarterly*, 9(3), 180-188.

Wasiuzzaman, S. & Gunasegavan, U.N. (2013), "Comparative study of the performance of Islamic and conventional banks: The case of Malaysia", *Humanomics*, Vol. 29 No. 1, pp. 43- 60.

Sulaiman, A.A. et.al. (2013). How Islamic banks of Malaysia managing liquidity? An emphasis on confronting Economic Cycles. International Journal of Business and Social Science, 4 (7): 501-510.