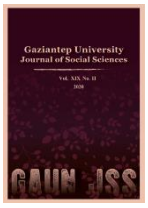

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Araştırma Makalesi ● Research Article

The Liquidity Factors of The Conventional and Islamic Banks[1]

Mevduat ve Katılım Bankalarının Likidite Faktörleri

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ÖZ

Bu çalışma mevduat bankalarının ve katılım bankalarının likidite faktörlerinin kıyaslanmasını ve analiz edilmesini gerçekleştirmektedir. Bankaların likidite faktörlerini ortaya koyabilek için bazı ekonomi-spesifik ve banka-spesifik değişkenler kullanılmıştır. Sonuçlar, araştırma dönemi içerisinde ortalama likiditenin her iki banka türü için de düşmüş olmasına rağmen, mevduat bankalarının katılım bankalarından daha likit olduğunu göstermiştir. Panel Havuzlanmış En Küçük Kareler regresyon analizi sonuçları bankaların likiditesinin çeşitli faktörlerden etkilendiğini ve bu faktörlerin mevduat ve katılım bankalarında farklılık gösterdiğini belirtmektedir. Katılım bankaları için riskli sektör kredileri, riskli sektör finansmanı, toplam varlıklar/ ödenmiş sermaye, temettü ödemesi/ ödenmiş sermaye, risk ağırlıklandırılmış varlıklar/ toplam varlıklar ve gayri safi yurtiçi hasıla reel büyüme oranı değişkenleri % 90 anlamlılık derecesinde anlamlıdır. Gayri safi yurtiçi hasıla reel büyüme oranı tek ekonomi-spesifik değişkendir. Katılım bankaları için riskli sektör finansmanı, en az temettü ödemesi/ ödenmiş sermaye ise en etkili faktör olarak belirlenmiştir. Diğer yandan, riskli sektör finansmanı ve temettü ödemesi/ ödenmiş sermaye banka likiditesi ise ters yönlü bir ilişki göstermektedir. Mevduat bankalarında şüpheli alacakların alacaklar içerisindeki payı, geniş para arzı, tüketici fiyat endeksi, varlık getirisi ve toplam borçlar/ toplam özsermaye % 95 anlamlılık düzeyinde anlamlı bulunmuşlardır. Ancak, tüm bu değişkenler mevduat bankaları likiditesi ile ters yönlü bir ilişkiye sahiptirler.

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ABSTRACT

This study attempts to compare and analyze liquidity factors of the conventional and Islamic banks. Some economy-specific and bank-specific variables were used to reveal banks' liquidity factors. The results demostrated even though the average liquidity had decreased both in the conventional and Islamic banks during the analysis period, the conventional banks had been more liquid than the Islamic banks. The Panel Pooled Ordinary Least Square regression analysis results indicated there are variety of factors impact the banks' liquidity and the factors show differences in the conventional and Islamic banks. Risky sector finance, total assets to share capital, earning assets to share capital, risk weighted assets to total assets, and growth rate of real gross domestic product were the significant variables at 90% significance levels in Islamic bank model. Growth rate of real gross domestic product is the only economy-specific, risky sector finance is the least and earning assets to share capital is the most effective factor for the Islamic banks. However, the bank liquidity had an inverse relation with risky sector finance and earning assets to share capital. Financing loss provisions to total finance, broad money supply, consumer price index, return on assets, and total finace to total equity are the significiant variables at 95% significiance level for the conventional banks. All of those variables had inverse relations with the liquidity, as well.

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Introduction

The financial system serves funds to financial markets via financial intuitions and the banks are the most common financial institutions in that system. The banks' main function is fund transferring which makes the banks fragile to the liquidity risk (Castagna and Fede, 2013). The bank liquidity shows the banks' ability to fulfil all commitments. That ability relies on the balance of the asset and liabilities in a bank. If assets are less than the liabilities, the bank will have a liquidity risk (IMF, 2010).

The liquidity risk may harm banks' sustainability and financial performance in a short-term and it causes prestige loss, high liquidity costs, and default risks (Watanabe and Watanabe, 2008; Dahir et al., 2018, Çanakçı and Tunalı, 2018). Therefore, the BASEL recommends to banks to constantly monitor the liquidity levels and have a liquidity management system.

The liquidity risk can be either systematic or unsystematic. The systematic risk impacts the whole financial markets. It is related to market conditions or economic issues. The systematic risk is hard to eliminate but it may be minimized with an effective management. Inadequate market depth, inefficient markets, market disruption, currency risks, volatile interest rates are some examples of the systematic risks (Iqbal, 2012).

The unsystematic liquidity risk comes about because of the bank-specific factors. It does not affect the whole markets. However, the liquidity risk into banking system is mostly unsystematic risk (Adrian and Shin, 2008). The unbalanced financial structure of banks causes unsystematic liquidity risk. Two factors which amount and maturity are important for the structure balance (Iqbal, 2012). The banks should have enough assets to be able to make necessary payments to the customers. If the assets are not enough to do that, the bank can use external fund sources. The bank will have liquidity risk highly possible, provided that the bank cannot find outsourcing funds too (Çelik and Akarım, 2012).

While the banks commit some interest and principal payments to borrowers, they generally collect short- term funds and may even small amount funds, however some assets need a long- time period to turn the cash. (Zengin and Yüksel, 2016). If the bank has that kind of financial structure, fulfilling all commitments on the time with its own assets will not be possible. Therefore, banks should have some external fund sources for the liquidity. Banks ability to generate liquidity either from their assets or from outsources changes with some factors.

As a basic function, all banks intermediate between the borrower and lender customers for fund transferring. However, their commitments, products, services and rules show variety in the banking systems. Therefore, expecting the dissimilar liquidity levels and liquidity factors should be acceptable. Many previous studies have searched the liquidity factors and benchmarked the factors on basis of the different bank types. The most common benchmarking is between the conventional ad Islamic banks (see, for example, Doğan, 2013; Akhtar et al., 2011; Işıl and Özkan, 2015; Waemustafa and Sukri, 2016). The reason of examining those two banking systems is obviously due to their different financing systems. The conventional banks collect and borrow funds to their customers and the banks commit interest returns to the borrower customers and charge some costs to the lender customers at certain rates. The conventional bank customers do know how much their returns and costs.

On the other hand, neither any predetermined return nor repayments of the principal deposit amount are guaranteed in the Islamic banking system (Arab and Elmelki, 2008: pp.81). The borrower customers of the Islamic banks make investment to a company or a project and those customers can have some returns only if the company/ project will have profit. The risk

of having no return will be shared with the bank and customers. In case of no investment return will severely affect to allure of the Islamic banks. The other important factor is interest rate of an investment. Though, the Islamic banks use participation ratio instead of interest rate, they should offer same or similar return rates to the customers. Otherwise, the customers will prefer to invest the conventional banks to have higher returns and as a result the banks' asset liquidity will decrease (Arab and Elmelki, 2008).

Besides the customers' effects on the liquidity innovation, financial system of the Islamic banks is important for the liquidity. Banks finance not only short-term investments but also long-term investments. The term of deposits is generally short in the Islamic banking system and it is harmful for the liquidity management. The Islamic banks use short-term deposits in long-term financing. In that case, banks should undertake additional costs and commitments. Further, the banks have to wait until the end of the production process to take payments in some financing credits. Because of short-term deposit structure, debt-based contracts and leasing agreements, uncertain earnings/ losses makes the Islamic banks more fragile to the liquidity risk in compare of the conventional banks (Çanakcı and Tunalı, 2018; Jedidia, 2020).

This study aims to reveal the liquidity factors of the banks and shows if the factors vary depending on the bank-types. The outputs of the study will be so beneficial for banks, financial systems, and academicians especially in liquidity managemet.

Valla et al. (2006), Bonner et al. (2015), Özcan and Belke (2017), Uzun and Berberoğlu (2018) deduced that the bank liquidity change with different economy-specific and bank-specific factors. In this study, different liquidity factors for the conventional and Islamic banks are expected, as well. Moreover, the bank-specific factors should be key factors for the liquidity level of the banks. The economy-specific factors are market-wide factors and they ought to impact the all financial institutions at the same level. On the contrary, bank-specific factors are related with the banks own structures and they are not necessarily should be same.

The rest of the study is organized as follows. In the literature review section, the existing studies are discussed. The research aims and problems, liquidity measure, and sample and data are defined in the methodology section. The results section explains and represents the outputs of the analysis. The last section of the article is conclusion and discussion.

Literature Review

The bank liquidity has been discussed in three dimensions in the previous studies. The first dimension is about the liquidity level. Doğan (2013) found the conventional banks are more liquid than Islamic banks and less possibly experience the liquidity risk between 2005 and 2011. Segalla (2015) investigated to balance sheet positions' effects on the banks' liquidity levels on parent banks of Austria. The results proved that core deposit funding and total credit is important for the small banks' liquidity. The small banks' reactions to the liquidity risk rely on those two factors. The cross-sectional differences of the large banks are not totally related with liquidity, while the liquidity can be explained by various ex-ante determinants. Similiarly, Correa et al. (2015) observed that the US banks' foreign affiliates impact the liquidity risk. The foreign affiliates help to banks to absorb the liquidity shocks and to increase lending account of the domestic and international customers. The core deposit funding shares and the outstanding credit commitments are determinators of the liquidity risk level. Jiang et al. (2019) examined the competition and liquidity level relation. They found regulatory-induced competition has bad effects on liquidity creation ability. Moreover, that bad effect is more strong on low- risk tolerance banks.

The second kind of studies are about the liquidity management. Berger and Bouwman (2009) analyzed how a bank liquidity could be improved in the USA from 1993 to 2003. They deduced those results; i) banks generate roughly half of their liquidity from off-balance sheets instead of the balance sheets, ii) value of a bank is important at the liquidity. However, the bank size does not change the liquidity level, iii) capital and liquidity relation is positive in the big banks but it is negative in the small banks and it is not significiant in the medium banks, iv) the big banks create 81% of the whole banking sector liquidity and v) the members of multi-bank-holding, retail banks, and recently merged banks are so important to create liquidity in the banking industry. Loutskina (2011) concluded that securization is beneficial for the liquidity. The banks can convert illiquid loans to liquid securities by securitizationing. The securitization reduces the sensitivity of credit banks to the external fundings and credit supply of banks becomes more liquid. Drehman and Nikolau (2013) revealed that the liquidity risk is low and stable especially around the important events dates. Also, the market and bank liquidity has a negative non-linear relation.

The third kinds of studies are regarding the liquidity factors of the banks. The factors are generally grouped as bank-specific and economy-specific.Valla et al. (2006) measured banks liquidity by using an asset-based measure. The results showed the balance sheet liquidity, liquidity expansion, and contraction restructure if the bank liquidity rise in overall. Additionally, positive output shocks cause positive effects on the liquidity. Akhtar et al. (2011) demostrated the capital adequacy ratio (CAR) impacts liquidity levels of conventional banks positively and significiantly. The liquidity of Islamic banks are affected from return on assets (ROA). Moreover, the size, net working capital, and net assets have positive relation with the liquidity but the relation is not signifciant.

Işıl and Özkan (2015) concluded that the liquidity level is related with the previous year's financing gap to total assets and the total credits the total assets ratios. If those two ratios are high in the previous period, the liquidity risk will be high as well in the current time period in the Islamic banks. While, the liquidity does not have any connection with bank-specific (liquid assets, CAR, ROA and bank size) and macroeconomic factors (GDP growth rate and inflation rates). Bonner et al. (2015) investigated the effects of bank-specific factors and institutional policies on the bank liquidity. They deduced that without any liquidity regulation bank's liquidity is relied both on the bank and country-specific factors.The liquidity regulations cause less lending volume during the critical times and disclosures of the banks are so important for the liquidity because they motivate to hold liquid assets. Özcan and Belke (2017) demostrated the bank liquidity has an inverse relation with the return on equity (ROE), deposit growth, capital amount of the bank, loan loss provisions and inflation rates and has a positive relation with bank size and economic growth. Additionally, they showed global financial crisis do not affect the liquidity. Ersoy and Aydın (2018) concluded the liquidity does not have any connection with economic growth, unemployment rate and global crises, while it has a non-linear relation with the bank size. Dahir et al. (2018) revealed that the banks' risk appetite raise if the liquidity is low. The banks take more risks to compensate the lack of the funding liquidity. That high risk-appetite causes high default risk by nearly 1.44 in normal times and 1.514 in the financial crisis. Waemustafa and Sukri (2016) exhibited Islamic banks are more liquid than conventional banks and different variables affect the liquidity levels. The money supply (M_3) is the only economy- specific variable which has positive and significiant relation with the liquidity in the Islamic banks. However, yield curve and consumer price index (CPI) has positive and output gap of GDP has negative effect on the liquidity of the conventional banks. Çelik and Akarım (2012) concluded that risky liquid assets and ROE have an inverse relation with the liquidity, whereas external financing and ROA have a positive relation with the

liquidity. Ayaydın and Karaaslan (2014) showed the liquidity risk and profitability has an inverse relation. The liquidity risk increases if the profitability is low. Moreover, the global financial crises and ownerships of foreig investors and domestic investors are important for the bank liquidity. Uzun and Berberoğlu (2018) studied online banking system and the liquidity relation. The transaction volume of the online banking increases the bank liquidity. However, active user numbers are not important for the banks' liquidity. Breitenclechner et al. (2021) found the uncertain GDP level decreases the bank liquidity, especially in the low-liquid banks. Sahyouni et al. (2021) deduced the balance sheet liquidity is related with CAR, management productivity and earning creation, whereas the off-balance sheet liquidity is just related with the asset qualities of the banks on the Middle East& North Africa (MENA) countries.

Methodology

In this section, detailed information was given about the study's aims, the sample, data and the models.

Research Aims and Problems

This study aims to answer these questions;

i. Does the conventional and Islamic banks have same liquidity levels?
ii. Which factors impact the banks' liquidity levels? Are the bank-specific factors more important than the economy- specific factors?
iii. Does the same factors impact the conventional and Islamic banks' liquidity levels?

In this study, different liquidity levels are expected. Due to the banks legislations, the Islamic banks look more fragile to the liquidity risk relative to the conventional banks. Moreover, the bank-specific factors may decide to the banks' liquidity levels because the effects of the economy-specific factors ought to be same on the all banks.

Liquidity Models

There has been a large body of research regarding the liquidity factors of the banking system. According to previous studies, some economy and bank-specific factors impact the bank liquidity. Waemustafa and Sukri (2016) created two regression models to reveal the important factors for the bank liquidity by using various bank-specific and economy-specific factors. Those models are composed of nineteen factors. The conventional bank model seen in eq. (1).

$$L_{CB} = \alpha + \alpha_1 RSF + \alpha_2 FLP + \alpha_3 DTAR + \alpha_4 LEV + \alpha_5 REGCAP + \alpha_6 SIZE + \alpha_7 DER + \alpha_8 FINANCE + \alpha_9 RWA + \alpha_{10} EM + \alpha_{11} MGT + \alpha_{12} CR + \alpha_{13} DEPTA + \alpha_{14} ROA + \alpha_{15} YC + \alpha_{16} CPI + \alpha_{17} GDPGrowth + \alpha_{18} OutputGap + \alpha_{19} M_3 + \varepsilon_{it} \quad \text{eq. (1)}$$

The five factor of the eq. (1) are economy- specific factors where CPI is consumer price index and it indicates the inflation rate, GDPGrowth is real GDP growth rate, OutputGap is difference of the actual and potential GDP, M_3 is the money supply. L_{CB} is the liquidity level of the conventional banks. The other thirteen factors are the bank-specific factors. RSF is risky sector financing, FLP is ratio of financing loss provisions to total finance, DTAR is total assets to total liabilities, LEV is leverage tier 2 to tier 1, REGCAP is tier 1 to total assets, SIZE is the logarithm of the total assets, DER is ratio of the liabilities to equity, FINANCE is total finance to total equity, RWA is risk weighted assests, EM is the ratio of total assets to share capital, MGT is earning assets to share capital, CR is non-performing finance to total loans, DEPTA is

deposit to total assets, ROA is return on assets, YC is yield curve. The table 1 represents the factor definations.

Table 1: Liquidity Factor Definitions

Factor Category	Factor	Definition
Bank-Specific Factors	RSF	Risky sector finance
	FLP	Financing loss provisions/ Total finance
	DTAR	Total liabilities/ Total assets
	LEV	Tier 2/ Tier 1
	REGCAP	Tier 1/ Total assets
	SIZE	Natural logarithm of total assets
	DER	Total liabilities/ Total equity
	FINANCE	Total finance/ Total equity
	RWA	Risk weighted assets/ Total assets
	EM	Total assets/ Share capital
	MGT	Earning assets/ Share capital
	CR	Non-performing finance/ Total loan
	ISCON	Islamic financing/ Finance
	DEPTA	Deposit/ Total assets
	ROA	Net profit after tax/ Total assets
	L_{IB}	Average liquidity ratio of the Islamic banks
	L_{CB}	Average liquidity ratio of the conventional banks
Economy-Specific Factors	IR	Short-term three months Islamic interbank rate
	YC	Ten- year government bond yield curve+ 3 month treasury bills yield curve
	CPI	Inflation rate (percentage change in the consumer price index)
	GDPGrowth	Growth rate of real GDP
	Outputgap	$GDP_{potential} - (GDP_{actual}\ GDP_{potential})$
	M_3	M_2 + financial assets

The liquidity model is defined in eq. (2) for the Islamic banks. It is an adoptation of the conventional bank liquidity model for the Islamic banks. Like as in the conventional bank model, the Islamic bank model covers five economy-specific and fourteen bank-specific factors.

$$L_{IB} = \alpha + \alpha_1 RSF + \alpha_2 FLP + \alpha_3 DTAR + \alpha_4 LEV + \alpha_5 REGCAP + \alpha_6 SIZE + \alpha_7 DER + \alpha_8 FINANCE + \alpha_9 RWA + \alpha_{10} EM + \alpha_{11} MGT + \alpha_{12} CR + \alpha_{13} ISCON + \alpha_{14} ROA + \alpha_{15} IR + \alpha_{16} CPI + \alpha_{17} GDPGrowth + \alpha_{18} OutputGap + \alpha_{19} M_3 + \varepsilon_{it} \quad \text{eq. (2)}$$

The economy- specific factors are common factors. The some bank- specific factors are different where ISCON is Islamic financing to finance, IR is short-term interbank rate for the Islamic banks. The other factors are same with conventional bank factors. To recall, RSF is risky sector financing, FLP is ratio of financing loss provisions to total finance, DTAR is total assets to total liabilities, LEV is leverage tier 2 to tier 1, REGCAP is tier 1 to total assets, SIZE is the logarithm of the total assets, DER is ratio of the liabilities to equity, FINANCE is total finance to total equity, RWA is risk weighted assets to total assets, EM is the ratio of total assets to share capital, MGT is earning assets to share capital, CR is non-performing finance to total loan, ROA is return on assets. L_{IB} is the liquidity level of the conventional banks.

Sample and Data

The sample composes of seven privately-owned conventional and six Islamic banks which had operated in the Turkey from the years of 2010 to 2020. The table 2 shows the banks in the sample. The Turkish Ziraat Bank, Halkbank and Vakıfbank have operated during the analysis period both as conventional and Islamic banks, therefore they does not take part in the sample.

Table 2: The Sample

Bank Name	Bank Type
Yapı Kredi	Conventional Bank
Akbank	Conventional Bank
İşbank	Conventional Bank
Şekerbank	Conventional Bank
Anadolu Bank	Conventional Bank
Turkish Bank	Conventional Bank
TEB	Conventional Bank
Kuveyt Turk	Islamic Bank
Albaraka Turk	Islamic Bank
Türkiye Finans	Islamic Bank

The data set covers annual data from 2010 to 2020. The Islamic banks and conventional banks have 660 (33x20) and 1100 (55x20) observations, respectively. The all bank-specific data were gathered from the annual unconsoliated reports of the banks. Different databases were used for the IR, YC, CPI, GDP, potentional GDP, and M_2. Three-month TRLIBOR was used for the IR which is published by The Banks Association of Turkey (TBB). The YC is total of ten-year government bond and three-month treasury bills rates. The ten-year government bond and three-month treasury bills rates date was served by www.investing.com. The World Bank publishes *Global Economic Prospects.* That is an annual report and it forecasts the countries' GDP levels. The forecasted GDP_s were used as the potential GDP in this study. Also, GDP growth rates were served by www.knomea.com. CPI and M_2 data were gathered from the Turksat and Turkish Central Bank (TCMB) databases, respectively.

Results

The table 3 shows the descriptive statistics of the each banks. According to the table, EM is one of the high mean values both in the conventional and Islamic banks. EM is 35.84 for the conventional banks and 22.67 for the Islamic banks. Those indicates that the banks prefer to invest to the assets because they are high relative to the share capitals. However, the means of ROAs of the Islamic and conventional banks are 0.01. The assets generate 1% return. The standard deviation of ROA is zero for the Islamic banks and 0.01 for the conventional banks. It can be said that the ROA is almost stable during the analysis period. RSF is bigger in the conventional banks but it cannot be said that the conventional banks' credits are more riskier unless have risky sector finance to total finance ratios both for the banks. L_{CB} (it is 32.10) is relatively so high than L_{IB} (it is 0.30) and the conventional banks seem more liquid than the Islamic banks though the high standard deviation of the conventional banks.

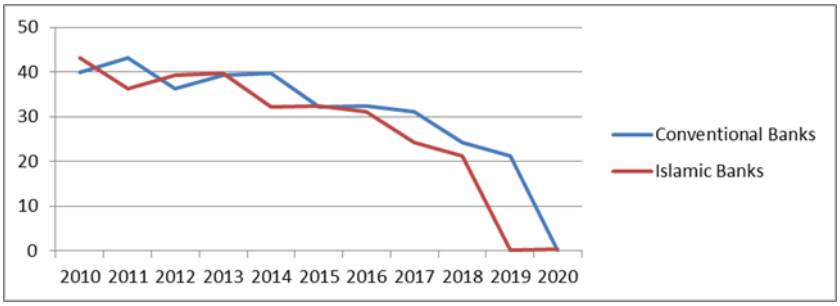
Table 3: Descriptive Statistics

Islamic Banks						
	Obs.	**Mean**	**Median**	**Std. Dev.**	**Min.**	**Max.**
L_{IB}		0.30	0.30	0.06	0.15	0.39
FLP		0.02	0.02	0.03	-0.05	0.07
DTAR		0.91	0.91	0.02	0.87	0.95
LEV		0.27	0.29	0.16	0.04	0.56
REGCAP		0.09	0.08	0.02	0.06	0.18
SIZE		7.49	7.53	0.31	6.92	8.18
DER		10.86	10.25	2.59	6.60	18.05
FINANCE		0.86	0.66	1.19	0.49	7.46
RWA		0.35	0.01	0.49	0.00	1.84
EM		22.67	17.39	11.99	10.68	57.10
MGT	33	0.02	0.00	0.03	0.00	0.08
CR		0.25	0.14	0.33	0.06	1.92
ISCON		0.96	0.99	0.16	0.10	1.00
ROA		0.01	0.01	0.00	0.00	0.02
IR		11.67	10.39	4.40	6.91	20.59
CPI		0.10	0.09	0.04	0.06	0.20
GDP Growth		0.05	0.05	0.03	0.01	0.11
Output gap		0.040	0.04	0.00	0.03	0.05
M3		1,450,744,206	1,191,912,952	832,033,775	587,298,436	3,385,904,944
RSF		33,055,866	30,070,477	27,667,385	3,730,208	131,376,424
Conventional Banks						
	Obs.	**Mean**	**Median**	**Std. Dev.**	**Min.**	**Max.**
L_{CB}		32.10	31.75	16.55	0.11	77.85
FLP		0.04	0.03	0.05	0.01	0.44
DTAR		0.88	0.88	0.03	0.82	1.00
LEV		0.18	0.16	0.14	0.00	0.53
REGCAP		0.12	0.11	0.02	0.07	0.17
SIZE		7.63	7.86	0.83	5.95	8.77
DER		7.71	7.60	1.79	4.42	14.23
FINANCE	77	0.63	0.65	0.10	0.04	0.78
RWA		0.83	0.84	0.11	0.53	1.14
EM		35.84	28.30	25.84	6.05	131.98
MGT		0.00	0.00	0.00	0.00	0.01
CR		0.36	0.14	0.71	0.00	3.94
DEPTA		1.20	0.98	1.66	0.83	15.52
ROA		0.01	0.01	0.01	-0.02	0.03
YC		20.88	18.19	6.05	14.79	32.92

CPI	0.10	0.09	0.04	0.06	0.20
GDP Growth	0.05	0.05	0.03	0.01	0.11
Output gap	0.04	0.04	0.00	0.03	0.05
M3	1,471,878,320	1,194,720,245	830,859,555	587,348,177	3,485,537,315
RSF	137,631,877	52,188,939	168,655,765	94,719	661,687,790

Notes: RSF is risky sector finance, FLP is financing loss provisions/ total finance, DTAR is total liabilities/ total assets, LEV is Tier 2/ Tier 1, REGCAP is Tier 1/ total assets, SIZE is natural logarithm of total assets, DER is total liabilities/ total equity, FINANCE is total finance/ total equity, RWA is risk weighted assets/ total assets, EM is total assets/ share capital, MGT is earning assets/ share capital, CR is non-performing finance/ total loan, ISCON is Islamic financing/ finance, DEPTA is deposit/ total assets, ROA is net profit after tax/ total assets, IR is three-month Islamic interbank rate, YC is ten- year government bond yield curve+ three- month treasury bills yield curve, CPI is inflation rate (percentage change in the consumer price index), GDPGrowth is growth rate of real GDP, Outputgap is $GDP_{potential} - (GDP_{actual}GDP_{potential})$, M_3 is money supply, L_{IB} is Islamic bank average liquidity, L_{CB} is conventional bank average liquidity.

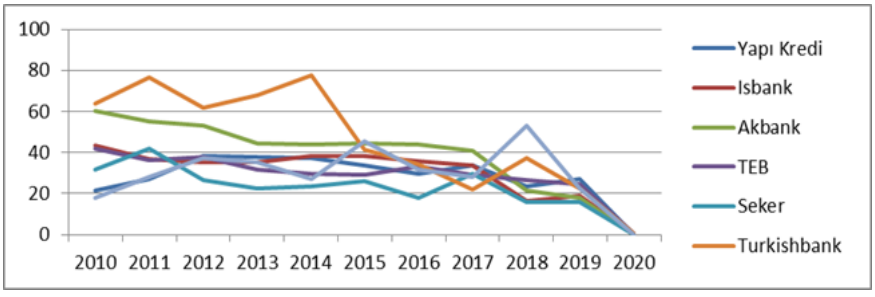
The graph 1 shows the average liquidity levels of the conventional and Islamic banks had gradually decreased and showed similiar movements over the years. However, the Islamic banks had almost illiquid since the middle of the 2018.



Graph 1: Average Liquidity Level of The Islamic and Conventional Banks

Source: This graph was generated by the author

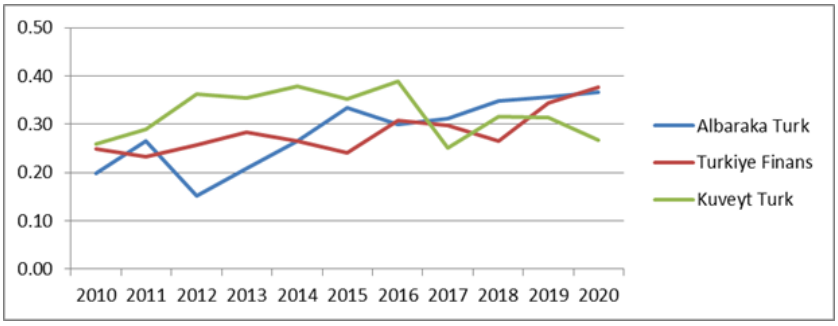
The graph 2 illisturates the average liquidity levels of each conventional banks. The all conventional banks show similiarities except the Turkishbank and Şekerbank. The Turkishbank had been more liquid than the other conventional banks during to 2010 and 2015. The bank had three-peaks times which the first was on the 2011, the second was on the 2014, and the last one was on the 2018. Also, The Şekerbank had one-peak time on the 2018.



Graph 2: The Liquidity Level of The Conventional Banks

Source: This graph was generated by the author

The graph 3 shows the average liquidity levels of each Islamic banks. In spite of the conventional banks move together, it is hard to say that for the Islamic banks.



Graph 3: The Liquidity Level of The Islamic Banks

Source: This graph was generated by the author

The liquidity levels of the Albaraka Turk, Türkiye Finans, and Kuveyt Turk look volatile and the liquidity levels are under the conventional banks' liquidity levels. Additionally, liquidity of the Islamic banks move independently from the each other.

Panel Pooled Ordinary Least Square (POLS) Test

The Panel Pooled Ordinary Least Square (POLS) regression analysis was applied for the econometric analysis. POLS is a good method to have significiant estimators. The panel series should not have multicollinearity, heteroskedasticity, and autocorrelation problems (Akay et al., 2018; Tatoğlu, 2018a).

The multicollinearity is the linear relation of two or more independent variables. It would harm the analysis to estimates the parameters and to get acurate results (Alin, 2010; Daoud, 2017). The multicollinearity can cause the high correlations between the variables. Therefore, the high correlated variables which has equal or higher correlation than 0.8 should be examined with the variance inflation factor (VIF) test for the multicollinearity. If a variable has five or bigger VIF degree, the variable causes multicollinearity problem.

Table 4 shows the correlations of the variables for the Islamic banks. The high correlations were observed between RSF-SIZE, RSF-M_3, DER-DTAR, DER-SIZE, M_3-SIZE, and M_3-DER. Those results imly a possible multicollinearity problem between the variables.

Table 4: Correlation Table for The Islamic Banks

	RSF	FLP	DTAR	LEV	REGCAP	SIZE	DER	FIN	RWA	EM
RSF	1.0									
FLP	0.2	1.0								
DTAR	0.6	0.0	1.0							
LEV	0.4	-0.1	0.8	1.0						
REGCAP	-0.4	0.2	-0.6	-0.5	1.0					
SIZE	*0.8	0.1	0.8	0.7	-0.5	1.0				
DER	0.7	0.1	*1.0	0.7	-0.5	*0.8	1.0			
Finance	-0.2	-0.1	-0.2	-0.3	0.1	-0.4	-0.2	1.0		
RWA	-0.1	0.1	-0.7	-0.5	0.5	-0.3	-0.6	-0.1	1.0	
EM	0.4	-0.4	0.7	0.6	-0.3	0.5	0.7	-0.1	-0.4	1.0
MGT	-0.2	-0.3	0.3	0.1	0.0	-0.3	0.2	0.3	-0.5	0.5
CR	0.0	-0.1	-0.4	-0.2	0.3	-0.2	-0.2	0.2	0.4	0.0
ISCON	0.2	0.2	0.1	0.2	-0.1	0.3	0.1	-1.0	0.1	0.1
ROA	-0.5	0.3	-0.7	-0.7	0.4	-0.7	-0.7	0.3	0.4	-0.8
IR	0.4	-0.2	0.4	0.6	-0.2	0.6	0.4	-0.2	-0.2	0.5
CPI	-0.5	0.0	-0.6	-0.6	0.3	-0.7	-0.5	0.2	0.2	-0.5
GDPGrowth	-0.7	0.1	-0.6	-0.6	0.5	-0.8	-0.6	0.2	0.3	-0.5

OutputGAP	0.2	0.0	0.3	0.1	-0.4	0.2	0.2	-0.3	-0.2	0.0
M_3	*0.8	0.0	0.7	0.6	-0.5	*0.9	*0.8	-0.2	-0.3	0.7
	MG	**CR**	**ISCO**	**RO**	**IR**	**CPI**	**GDP**	**OUTPU**	**M_3**	
MGT	1.0									
CR	0.0	1.0								
ISCON	-0.3	-0.1	1.0							
ROA	-0.2	0.2	-0.2	1.0						
IR	0.0	0.1	0.1	-0.6	1.0					
CPI	0.1	0.1	-0.2	0.7	-0.6	1.0				
GDPGrowth	0.0	0.0	-0.2	0.7	-0.7	0.4	1.0			
OutputGAP	0.0	-0.4	0.3	-0.2	-0.1	0.1	-0.2	1.0		
M_3	-0.1	0.0	0.2	-0.7	0.6	-0.6	-0.8	0.0	1.0	

Notes: * denotes high correlation at 95% significiance level. RSF is risky sector finance, FLP is financing loss provisions/ total finance, DTAR is total liabilities/ total assets, LEV is Tier 2/ Tier 1, REGCAP is Tier 1/ total assets, SIZE is natural logarithm of total assets, DER is total liabilities/ total equity, FINANCE is total finance/ total equity, RWA is risk weighted assets/ total assets, EM is total assets/ share capital, MGT is earning assets/ share capital, CR is non-performing finance/ total loan, ISCON is Islamic financing/ finance, ROA is net profit after tax/ total assets, IR is three-month Islamic interbank rate, CPI is inflation rate (percentage change in the consumer price index), GDPGrowth is growth rate of real GDP, Outputgap is $GDP_{potential} - (GDP_{t} - GDP_{t-1})$, M_3 is money supply.

Table 5 represents the VIF test results for the Islamic banks. In the Panel A of the table 5 shows the average VIF degree is 36.96 and twelve out of nineteen factors have high VIF degrees. The seven factors (ISCON, Outputgap, ROA, DER, DTAR, SIZE, and M_3) were removed from the model to eliminate the multicollinearity.

Table 5: VIF Test Results for Islamic Bank Factors

Panel A				
Prob> F= 0.0012		R-squared= 0.894		Adj R-squared= 0.739
Variable	**VIF**	**Variable**	**VIF**	
ISCON	*161.69	MGT		*8.18
FINANCE	*161.29	IR		*5.90
DER	*92.59	CPI		*5.89
DTAR	*87.90	RWA		4.92
SIZE	*64.80	GDPGROWTH		4.90
RSF	*48.93	LEV		4.70
EM	*16.49	FLP		4.00
M_3	*11.80	REGCAP		3.76
ROA	*10.65	CR		2.03
OUTPUTGAP	1.87			
Mean VIF 36.96				
Panel B				
Prob> F= 0.0001		R-squared= 0.798		Adj R-squared= 0.677
Variable	**VIF**	**Variable**	**VIF**	
EM	5.78	RWA		2.72
RSF	5.77	FLP		2.54
MGT	4.89	REGCAP		2.44
LEV	3.45	FINANCE		1.50
IR	3.26	CR		1.48
GDPGROWTH	3.24	CPI		2.99
Mean VIF 3.34				

Notes: *shows multicollinearity at 95% significance level. RSF is risky sector finance, FLP is financing loss provisions/ total finance, DTAR is total liabilities/ total assets, LEV is Tier 2/ Tier 1, REGCAP is Tier 1/ total assets, SIZE is natural logarithm of total assets, DER is total liabilities/ total equity, FINANCE is total finance/ total equity, RWA is risk weighted assets/ total assets, EM is total assets/ share capital, MGT is earning assets/ share capital, CR is non-performing finance/ total loan, ISCON is Islamic financing/ finance, ROA is net profit after tax/ total assets, IR is three- month Islamic interbank rate, CPI is inflation rate (percentage change in the consumer price index), GDPGrowth is growth rate of real GDP, Outputgap is $GDP_{potential} - (GDP_{actual}GDP_{potential})$, M_3 is money supply.

The Panel B of the table 5 shows the VIF degrees after the factors were removed. The average VIF degree dropped from 36.96 to 3.34. Though, VIF degrees of EM and RSF are ruffly 5.77, they were kept in the model because removing them from the model would harm to the model's power (the R^2 dropped from 0.798 to 0.563). After the multicollinearity factors were eliminated, the model became as seen in eq. (3) for the Islamic banks.

$$L_{IB} = \alpha + \alpha_1 RSF + \alpha_2 FLP + \alpha_3 LEV + \alpha_4 REGCAP + \alpha_5 FINANCE + \alpha_6 RWA + \alpha_7 EM + \alpha_8 MGT + \alpha_9 CR + \alpha_{10} IR + \alpha_{11} CPI + \alpha_{12} GDP + \varepsilon_{it} \quad \text{eq. (3)}$$

Table 6: Correlation Table for Conventional Banks

	RSF	FLP	DTAR	LEV	REGCAP	SIZE	DER	FINANCE	RWA	EM
RSF	1.0									
FLP	0.0	1.0								
DTAR	0.1	0.0	1.0							
LEV	0.2	-0.1	0.7	1.0						
REGCAP	-0.1	0.1	-0.9	-0.8	1.0					
SIZE	*0.8	-0.1	0.4	0.5	-0.4	1.0				
DER	0.1	0.0	*0.9	0.7	-0.8	0.3	1.0			
FINANCE	0.0	-0.6	0.4	0.3	-0.4	0.2	0.4	1.0		
RWA	0.1	-0.3	-0.1	0.2	0.1	0.3	-0.2	0.5	1.0	
EM	*0.9	0.0	0.2	0.3	-0.2	*0.8	0.2	0.0	0.0	1.0
MGT	-0.1	0.0	-0.3	-0.2	0.3	-0.2	-0.3	-0.3	-0.1	-0.2
CR	0.0	0.1	0.5	0.3	-0.4	0.2	0.5	0.0	-0.2	0.0
DEPTA	-0.1	*0.9	-0.2	-0.2	0.2	-0.3	-0.2	-0.7	-0.3	-0.1
ROA	0.2	-0.2	-0.3	-0.1	0.3	0.4	-0.4	0.0	0.5	0.2
YC	0.3	0.2	0.1	0.1	0.0	0.2	0.3	0.2	-0.2	0.3
CPI	-0.3	-0.1	-0.3	-0.1	0.2	-0.2	-0.4	-0.3	0.1	-0.4
GDPGrowth	-0.3	-0.1	-0.2	-0.2	0.0	-0.2	-0.3	-0.2	0.0	-0.4
OutputGAP	0.1	-0.2	0.0	0.1	0.0	0.0	0.0	0.2	0.2	0.0
M_3	0.4	0.2	0.3	0.2	-0.1	0.2	0.4	0.2	-0.3	0.5
	MGT	**CR**	**DEPT**	**ROA**	**YC**	**CPI**	**GDP**	**Output**	**M_3**	
MGT	1.0									
CR	0.1	1.0								
DEPTA	0.2	0.0	1.0							
ROA	0.2	-0.2	-0.2	1.0						
YC	-0.3	0.1	-0.1	-0.2	1.0					
CPI	0.3	0.0	0.1	0.3	-0.6	1.0				
GDPGrowth	0.4	-0.1	0.1	0.2	-0.6	0.4	1.0			
OutputGAP	-0.1	-0.1	-0.2	-0.2	-0.2	0.1	-0.2	1.0		
M_3	-0.4	0.2	-0.1	-0.3	0.7	-0.6	-0.8	0.0	1.0	

Notes: * denotes high correlation with %95 significiance level. RSF is risky sector finance, FLP is financing loss provisions/ total finance, DTAR is total liabilities/ total assets, LEV is Tier 2/ Tier 1, REGCAP is Tier 1/ total assets, SIZE is natural logarithm of total assets, DER is total liabilities/ total equity, FINANCE is total finance/ total equity, RWA is risk weighted assets/ total assets, EM is total assets/ share capital, MGT is earning assets/ share capital, CR is non- performing finance/ total loan, DEPTA is deposit/ total assets, ROA is net profit after tax/ total assets, YC is ten-year goverment bond yield curve+ three-month treasury bills yield curve, CPI is inflation rate (percentage change in the consumer price index), GDPGrowth is growth rate of real GDP, Outputgap is $GDP_{potential}$– ($GDP_{actual}GDP_{potential}$), M_3 is money supply, L_{CB} is conventional bank average liquidity.

The table 6 is the correlation table of the conventional banks. High correlations (≥ 0.8) were observed between RSF-SIZE, EM-RSF, DEPTA-FLP, DER-DTAR, and SIZE-EM variables. The VIF test results of the conventional banks are shown at the table 7.

The Panel A of the table 7 shows the VIF test results of the all factors. The average VIF is 8.22 and nine out of nineteen factors (DEPTA, FLP, DER, SIZE, DTAR, RSF, EM, REGCAP, and FINANCE) have high VIF degrees. To eliminate the multicollinearity, EM, SIZE, DER, DEPTA, and REGCAP was removed from the conventional bank model.

Table 7: VIF Test Results for Conventional Bank Factors

Panel A			
Prob > F =0.000		**R-squared =0.711**	**Adj R-squared = 0.628**
Variable	**VIF**	**Variable**	**VIF**
DEPTA	*21.25	ROA	4.19
FLP	*19.40	YC	4.10
DER	*15.68	LEV	3.54
SIZE	*11.98	CPI	3.52
DTAR	*11.66	RWA	3.23
RSF	*10.74	GDPGR OWTH	2.28
EM	*9.95	CR	1.85
REGCAP	*8.39	OUTPUTGAP	1.26
FINANCE	*6.65		
Mean VIF 8.22			
Panel B			
Prob > F =0.000		**R-squared =0.779**	**Adj R-squared = 0.729**
Variable	**VIF**	**Variable**	**VIF**
M_3	4.66	FLP	2.70
FINANCE	4.65	ROA	2.29
RWA	3.23	LEV	2.23
CPI	3.18	RSF	1.79
YC	3.13	CR	1.48
DTAR	3.11	OUTPUTGAP	1.29
GDPGROWTH	3.08	MGT	1.12
Mean VIF 2.71			

Notes: *shows multicollinearity at 95% significance level. RSF is risky sector finance, FLP is financing loss provisions/ total finance, DTAR is total liabilities/ total assets, LEV is Tier 2/ Tier 1, REGCAP is Tier 1/ total assets, SIZE is natural logarithm of total assets, DER is total liabilities/ total equity, FINANCE is total finance/ total equity, RWA is risk weighted assets/ total assets, EM is total assets/ share capital, MGT is earning assets/ share capital, CR is non- performing finance/ total loan, DEPTA is deposit/ total assets, ROA is net profit after tax/ total assets, YC is ten-year goverment bond yield curve+ three- month treasury bills yield curve, CPI is inflation rate (percentage change in the consumer price index), GDPGrowth is growth rate of real GDP, Outputgap is $GDP_{potential}$– ($GDP_{actual}GDP_{potential}$), M_3 is money supply, L_{CB} is conventional bank average

The Panel B of the table 7 shows the VIF degrees after the factor elimination. The average VIF and VIF degrees of the factors dropped under 5. Also, R^2 increased from 0.711 to 0.779. The model for the conventional model is seen at the eq. (4) after the elimination.

$$L_{CB} = \alpha + \alpha_1 RSF + \alpha_2 FLP + \alpha_3 DTAR + \alpha_4 LEV + \alpha_5 FINANCE + \alpha_6 RWA + \alpha_7 MGT + \alpha_8 CR + \alpha_9 ROA + \alpha_{10} YieldCurve + \alpha_{11} CPI + \alpha_{12} GDPGrowth + \alpha_{13} OutputGap + \alpha_{14} M_3 + \varepsilon_{it}$$ eq. (4)

The models should be free from the heteroskedasticity and autocorrelation for POLS regression analysis. The heteroskedasticity is a problem because it faults the efficiency of linear models and causes wrong parameter estimation (White, 1980). The White (1980) homoskesdasticity test was used to examine for the heteroskedasticity. Though, that test does not give information how the correct the heteroskedasticity, it is a useful test to determine the all kinds of heteroskedasticity (Pedace, 2013). The null hypothesis of the White (1980) test accepts the existence of homoskesdasticity (Tatoğlu, 2018a).

The table 8 shows heteroskedasticity and autocorrelation test results. According to the table 8, χ^2 of the conventional banks is 77 and p-value is 0.45. The χ^2 of the Islamic banks is 33 and p-value is 0.42. The H_0 cannot be rejected (p-values> 0.005).The Islamic and conventional bank series are homoskesdastic.

Table 8: Heteroskedasticity, Autocorrelation and Cross-Section Dependence Test Results

	Conventional Banks				Islamic Banks			
	Com.AR co-eff.	**χ^2**	**df**	**p**	**Com.AR co-eff.**	**χ^2**	**df**	**p**
Wooldridge Autocorrelation Test	-	-	6	0.00	-	-	2	0.07
Wald Autocorrelation Test	0.28			0.00	0.106			0.00
Heteroskedasticity-White Test		77	76	0.45		33	32	0.42
Pesaran-CD Cross-Section Dependence Test				0.99				0.06

The autocorrelated series are not accepted in the POLS models because the autocorrelation decreases the efficiency in the linear panel- data models like homoskesdasticity. The autocorrelation was examined with the Wooldrige (2002) autocorrelation test. The Wooldridge (2002) autocorrelation test-power is high even in unbalanced, balanced, homoskesdasticity, heteroskedastistic, small- size, and big- size series (Drukker, 2003). Therefore, it can be applied almost in all conditions to get acurate results. That test uses F-statistic and its null hypothesis is "no first- order autocorrelation" (Tatoğlu, 2018a).

The Wooldridge (2002) test results are represented at the table 8. Whereas no autocorrelation for the Islamic banks (p-value < 0.05), an autocorrelation was found for the conventional banks (p-value > 0.05). Also, a robust test necessary to examine the power of the model in case of autocorrelation. The Wald autocorrelation can show the power of the model (Tatoğlu, 2018a: 218). Therefore, the autocorrelation was examined with the Wald autocorrelation test, as well. The Wald test results are in the table 8. The test statistic is 0.005 ≥ 0.000 and one autocorrelation (common autocorrelation coeeficient) was estimated. AR coefficient (0.28) is same for all independent variables (N) can meaningfull to define the model, and also the Wald test is significant. Additionally, cross-section dependence was tested with Pesaran- CD test. The test results are 0.99 for conventional and 0.06 Islamic banks (which are > 0.05). According to those results, there is no cross-section dependence between variables both for the conventional and Islamic banks.

After the multicollinearity factors were eliminated from the banks' liquidity models, the different factors are on the models. The Islamic bank liquidity model is composed of twelve factors which are EM, RSF, MGT, LEV, IR, GDPGrowth, RWA, FLP, REGCAP, FINANCE, CR, and CPI. The Islamic bank liquidity model is represented at the eq. (3).

$$L_{IB} = \alpha + \alpha_1 RSF + \alpha_2 FLP + \alpha_3 LEV + \alpha_4 REGCAP + \alpha_5 FINANCE + \alpha_6 RWA + \alpha_7 EM + \alpha_8 MGT + \alpha_9 CR + \alpha_{10} IR + \alpha_{11} CPI + \alpha_{12} GDP + \varepsilon_{it} \quad \text{eq. (3)}$$

The conventional bank liquidity model is composed of fourteen factors which are RSF, FLP, DTAR, LEV, FINANCE, RWA, MGT, CR, ROA, YC, CPI, GDPGrowth, Outputgap, and M_3. The eq. (4) is the conventional bank liquidity model.

$$L_{CB} = \alpha + \alpha_1 RSF + \alpha_2 FLP + \alpha_3 DTAR + \alpha_4 LEV + \alpha_5 FINANCE + \alpha_6 RWA + \alpha_7 MGT + \alpha_8 CR + \alpha_9 ROA + \alpha_{10} YieldCurve + \alpha_{11} CPI + \alpha_{12} GDP + \alpha_{13} OutputGap + \alpha_{14} M_3 + \varepsilon_{it}$$

eq. (4)

The POLS regression analysis was applied to eq. (3) and eq. (4). The results are represented in the table 9.

Table 9: Pooled Ordinary Least Square (POLS) Regression Analaysis Results

ISLAMIC BANKS					
Factor	**Coefficient**	**p>t**	**Factor**	**Coefficient**	**p>t**
EM	0.005	***0.001	RWA	-0.075	***0.001
RSF	-0.000000002	***0.001	FLP	0.347	0.354
MGT	-2.296	***0.000	REGCAP	-0.029	0.942
LEV	0.024	0.724	FINANCE	0.002	0.716
IR	-0.002	0.314	CR	0.005	0.831
GDPGROWTH	-0.638	*0.083	CPI	-0.415	0.104
CONVENTIONAL BANKS					
Factor	**Coefficient**	**P>t**	**Factor**	**Coefficient**	**P>t**
M_3	-0.000000017	***0.000	CR	-1.54	0.37
OUTPUTGAP	58.49	0.748	MGT	-1292.98	0.164
GDPGROWTH	-87.88	0.139	RWA	3.56	0.831
CPI	-102.29	**0.021	FINANCE	-101.63	***0.000
YC	0.24	0.414	LEV	-6.53	0.526
ROA	-346.27	**0.047	DTAR	-33.33	0.609
RSF	0.000	0.864	FLP	-107.17	***0.001
					0.001***

Notes: *,**,*** denotes 90%, 95% and 99% significance level, respectively. RSF is risky sector finance, FLP is financing loss provisions/ total finance, DTAR is total liabilities/ total assets, LEV is Tier 2/ Tier 1, REGCAP is Tier 1/ total assets, FINANCE is total finance/ total equity, RWA is risk weighted assets/ total assets, EM is total assets/ share capital, MGT is earning assets/ share capital, CR is non-performing finance/ total loan, ROA is net profit after tax/ total assets, IR is three-month Islamic interbank rate, YC is ten-year government bond yield curve+ three- month treasury bills yield curve, CPI is inflation rate (percentage change in the consumer price index), GDPGrowth is growth rate of real GDP, Outputgap is $GDP_{potential} - (GDP_{actual} GDP_{potential})$, M_3 is money supply.

In the Islamic bank liquidity model EM, RSF, MGT and RWA are significiant at 99% significance level and GDPGrowth at 90% significance level. LEV, FLP, REGCAP, FINANCE, IR, CR, and CPI are not significant for the Islamic bank liquidity.

The eq. (5a) defines the Islamic bank liquidity model at 90% significance level. Also, eq. (5b) shows the coefficients of the significiant factors at 90% significance level.

$$L_{IB} = \alpha + \alpha_1 RSF + \alpha_2 EM + \alpha_3 MGT + \alpha_4 RWA + \alpha_5 GDPGROWTH + \varepsilon_{it} \quad \text{eq. (5a)}$$

$$L_{IB} = \alpha - 0.000000002 RSF + 0.05 EM - 2.296 MGT - 0.075 RWA + -0.638\ GDPGROWTH \varepsilon_{it}$$

eq. (5b)

GDPGrowth is the only economy-specific and EM is the only positive-related variables in the model. The value weight of RSF is relatively low on the banks' liquidity levels. The one

point increase in EM causes 0.05 increase of the liquidity. On the other hand, increasing in RSF, MGT, RWA, and GDPGrowth can be reason of the illiquidity in the Islamic banks. Especially, MGT is important for the liquidity with its 2.296 point negative effect.

Whereas GDPGrowth is only economy-specific factor and M_3 was eliminated because of multicollinearity for the Islamic banks' liquidity in this study, Waemustafa and Sukri (2016) found the only macro-specific factor for the Islamic banks' liquidity is M_3. Also, Gökhan and Özkan (2015) could not find a relation between the GDPGrowth and the liquidity of the Islamic banks.

According to the POLS regression analysis M_3, FINANCE and FLP are significant at 99% significance level and CPI and ROA are significant at 95% significance level for the conventional bank liquidity. However, OutputGAP, GDPGrowth, YC, RSF, CR, MGT, RWA, LEV, and DTAR is not significiant. The conventional bank liquidity model is defined in eq.(6a) and eq. (6b) shows the coefficients of the significiant factors at 95% significance level.

$$L_{CB} = \alpha + \alpha_1 FLP + \alpha_2 M3 + \alpha_3 CPI + \alpha_4 ROA + \alpha_5 FINANCE + \varepsilon_{it} \quad \text{eq. (6a)}$$

$$L_{CB} = \alpha - 107.17FLP - 0.00000001740M3 - 102.29\,CPI - 346.27ROA - 101.63\,FINANCE + \varepsilon_{it} \quad \text{eq. (6b)}$$

All of the significiant variables have negative effects on the conventional bank liquidity. M_3 and CPI is the important economy-specific factors for the conventional banks. However, M_3 is relativelty small with -0.000000017 value, one point decreases on the CPI causes a rise in the liquidity as much as 102.29.

FLP, ROA, and FINANCE impact is more powerful than the economy- specific factors in the conventional bank liquidity. Especially, ROA seems the very important factor for the liquidity. This result supports the Çelik and Akarım (2012) results. While, Işıl and Özkan (2015) mentioned the ROA and the liquidity does not have a relation.

Conclusion and Discussion

In this study, the conventional and Islamic banks were compared on basis of the liquidity levels and liquidity factors in the Turkish banking system.

According to the liquidity ratios, the conventional banks had been more liquid than the Islamic banks, though the liquidity level had been more volatile in the conventional banks. Apart from the conventional and Islamic banks' liquidity trends look like similiar, the average liquidity shows decreasing trend between the years of 2010 and 2020 in the Turkish banking system. The variables which are ISCON, Outputgap, ROA, DER, DTAR, SIZE and M_3 were eliminated from the Islamic banks' model and DEPTA, FLP, DER, SIZE, DTAR, RSF, EM, REGCAP, and FINANCE were eliminated from the conventional banks' model due to multicollinearity of the variables. The POLS regression analysis results indicate the different variables impact the banks liquidity levels.

The bank-specific factors looks more important than the economy-specific factors for the Islamic banks. GDPGrowth is the only significant economy-specific factor at 90% significance level and it is -0.0638 in the Islamic bank liquidity model. RSF, EM, MGT, and RWA are significant factors at 99% significance levels. RSF is -0.000000002, EM is 0.005, MGT is -2.296, and RWA is -0.075. According to those results, EM is the only factor which have positive relation with the liquidity. The total assets ratio into share capital is important to increase the bank liquidity. If the total assets increase relatively to the share capital, banks will be more liquid. On the other any rise in the RSF, MGT, GDPGrowth, and RWA damage to the

bank liquidity because of their inverse relation with the liquidity. The Islamic banks should pay attention to RSF, MGT, RWA, and GDPGrowth factors if they desire to increase the liquidity. The Islamic banks can decrease earning assets, risk weighted assets and risky sector finance or increase share capital and total assets to have more liquid financial structures. GDPGrowth is an economy-specific factor and the banks cannot manage it but the banks can adjust their liquidity management on basis of the real GDP growth of the country. In this way, the Islamic banks can diminished the bad effects of GDP growth on the bank liquidity.

Even though GDPGrowth is an significant liquidity factor for the Islamic banks, it does not have any relation with the liquidity of the conventional banks. ROA and CPI is significant at 95% significance level and M_3, FINANCE, and FLP is significiant at 99% significance level for the conventional banks. M_3 is -0.000000017, FINANCE is -101.63, FLP is -107.17, CPI is -102.29, and ROA is -346.27. The all those factors have inverse relations with the liquidity. Like as GDPGrowth, CPI and M_3 is economy- specific factors. The conventional banks can use inflation rates and money supply of the economy as a parameter to understand how their liquidity level may change. Especially, CPI is very important because of its high value. The conventional banks' liquidity level may be severely affected from high inflation rates. The conventional banks should either decrease total finance, financing loss provisions, and net profit after tax or grow total equity to raise the liquidity level. Those results also support a well-known hypothesis which says the high liquidity is harmful for the profit.

This study demonstrates the Islamic banks and conventional banks have different liquidity factors as expected. Some economy-specific and bank-specific factors are important both for the conventional and Islamic banks. It was assumed that the economy-specific factors relation should be same for the banks because those factors are systematic factors and they impact the whole markets. However, the economy-specific factors are also various for the banks. The conventional and Islamic banks should focus on different factors in the liquidity management. Each bank can manage their own liquidity level by adjusting those factors. It is important because the pinpoint adjusments can not only increase the liquidity level also spur the banks performance. Additionally, investors can use the factors to forecast the banks' potentional liquidity level and to decide to make investments.

The researches can use the outputs of this study for the future studies and. The significant factors in this study are diverse from the previous studies. Those factors can be re-tested by expanding the sample and analysis period will show different results. Also, the reason for why the economy- specific factors has different effects on the banks though those factors are sistematic and should impact the all institutions in same way.

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