LIQUIDITY ANALYSIS

COMPARATIVE STUDY BETWEEN PARTICIPATION AND CONVENTIONAL BANKS IN TURKEY

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Over the recent past year, participation banks, also known as interest-free banks, continued to grow into a positive direction compared to traditional banks. This growth indicates that the financial system tends towards the Islamic Finance System.

There are similarities and differences between traditional banks and Participation banks. One of the differences between the two systems is liquidity, which makes its management of great importance in both systems. Liquidity refers to the ability of an institution to meet demands for funds. Liquidity management means ensuring that the institution maintains sufficient cash and liquid assets:

(1) to satisfy client demand for loans and savings withdrawals,

(2) to pay the institution's expenses..Participation banks face several problems regarding liquidity management today, because Participation banks operate according to Islamic law. Hence, the liquidity of these banks can be higher than traditional banks. One possible reason for this fact is that the participation banks do not borrow with interest from the central banks or any party when they need money. In addition, the financial instruments that Participation banks can use are perhaps less flexible than that of traditional banks because the financial instruments should not be against Islamic law. With the help of financial engineering, participation banks can find new financial instruments. However, these should not be like traditional instruments.

The course of this study will be as follows: The liquidity management will be covered briefly, and then a comparison will be made between Traditional banks and Participation banks in Turkey will be made. This comparison covers the years 2009-2018. First, the data obtained from the balance sheets and income statements of participation and traditional banks were used in this comparison. These data from the budget and income statement are necessary to use in calculating the ratios used to measure the liquidity of banks.

1. Liquidity Definition

There are many definitions for liquidity, however some will be mentioned.

Liquidity refers to the bank's ability to meet reimbursable deposits, outstanding debts without delay, and to meet loan demands on time (عبد الحميد، 1991).

Liquidity refers to assets that are quickly convertible into cash without loss of value in order to be able to pay due debts without delay (الهواري ، 1981).

According to Öcal and Çolak, there are two meanings for liquidity, its narrow meaning and broad meaning. While its narrow meaning is defined as the ability of the bank to pay its debts fully and timely when due, its broad meaning is a concept used in order to follow a balanced financing policy that harmonizes the maturities with the liabilities by arranging the assets of the bank in a more fluid, shorter-term and easily convertible ways (Çolak & Öcal, 1999).

The Basel Banking Supervisory Committee (BCBS) defines liquidity as the bank's fulfillment of liabilities and closing positions when due (Nikolaou, 2009)

The International Monetary Fund (IMF) defines liquidity as the ability of solvent institutions (institutions that have the power to pay off debt) to agree on payment in time (Nikolaou, 2009).

Overall, in all definitions, liquidity means that the bank fulfills its obligations without delay and financial difficulties.

2. Liquidity Functions

Liquidity has more than one role or functions. Liquidity can meet unstable deposits and unpredictable demand for demand deposits. The dimensions of this type are determined by experience. (Unforeseen deposit requests = demand deposits - deposits considered unstable in demand deposits). This means that enough liquidity must be available to meet this type of demands. In addition, liquidity meets the possibility of withdrawing time deposits and savings deposits. Such deposits can be withdrawn without signs or indicators that give management the opportunity to provide enough liquidity to meet withdrawal requests. Finally, liquidity meets the deposit owners' withdrawal requests in exceptional cases. The amount of cash allocated to meet their needs depends on the extent to which the bank can raise other resources to carry out these withdrawals (السويلم، 1998)

3. Factors affecting bank liquidity

The most important factors affecting banking liquidity are:

A. **Deposit and Withdrawals**: While the money withdrawn from the deposit deposited at the bank to complete daily transactions decreases liquidity, the deposit increases the liquidity of the bank.

B. **Transactions of Exchange Between Banks**: In the Central bank, which regulates the barter transactions between banks, by exchanging the current account of a bank with the current accounts of other banks in the country, the result of the

bank's current account will increase or decrease, so the liquidity of the bank will increase or decrease as a result.

C. **Policies of the Central Bank**: Bank reserve requirements are directly related to the growth of money supply in the monetary and banking system. Generally, the increase in required reserve rate increases the rate of change in the money supply. As a requirement of monetary policies, banks reserve a certain part of their savings as reserves at a rate determined by the central bank. The reserve rate is also redetermined according to changes in a country's economy. As is well known, due to the mandatory reserve, banks can lend part of the deposits they got. In some periods of the economy, banks may have more reserves than the amount required by the central bank. A bank's total reserve consists of mandatory reserves and the sum of those that exceed this rate. If the bank's actual reserves or mandatory reserves are less than the required level of reserves, this bank will borrow the money it needs from other banks with excess reserves (Korkmaz & Ceylan, 2017).

D. **Capital**: The amount of the bank's capital plays a major role in its liquidity. This means that more capital is more liquidity and vice versa.

In addition to these factors, there are many factors. Generally, these factors can directly or indirectly affect bank liquidity. For example, bank liquidity is indirectly affected by expenses and waste of costs. However, when money is withdrawn from investments or investments are made, bank liquidity is directly affected. Liquidity is also affected by other risks that the bank may be exposed to, such as operational and market risks.

4. Liquidity Risk and Liquidity Risk Management

4-1- The Concept of Liquidity Risk

Liquidity risk is one of the most severe risks encountered in the banking sector. Liquidity risk is increased if customers withdraw their money in their accounts in full or in part and the bank is unable to obtain funds from international financial markets or interbank markets (Mandacı, 2003). In other words, liquidity risk arises if the bank fails to balance the fund inflow and outflow (Erdem, 2014). To counter the lack of liquidity, the bank may not be able to provide the funds it needs by converting its assets into cash at reasonable prices and increasing its liabilities in a short time (Alicanoğlu,, 2018). Liquidity risk may arise from the risk of banks not fulfilling their mediation function and not meeting their obligations on time or at a reasonable cost from the following transactions:

- Lending the deposits collected from different places at local or external to clients in different places (local or external) and in need of funds.

- Interest-based different and often small amounts of deposits are collected in a pool and lending larger amounts.
- Offer long-term loans or purchase long-term securities with deposits collected on various conditions.
- Using deposits collected internally or externally and with different conditions to purchase fixed assets or invest in buying shares of other companies (Ayhan, 2006).

While banks can sell short-term liquid by raising money from depositors to fund customers who request long-term loans, implementing this strategy may convert the short-term liquid money collected into long-term liquid loans and increase the risk. The reason for the risk is that depositors will want to withdraw their money when it is due or when they need cash in an emergency, but the bank will be exposed to risk because it will not have enough liquidity to meet this demand (Yüksel, Yüksel, & Yüksel, 2004). The problem that arises here is that the banks do not balance the inflows and outflows of cash in an appropriate composition. Consequently, maturity irregularity and mismatch between banks' assets and liabilities items are the main reason for liquidity risk (Bolak, 2004).

4-2- The Concept of Liquidity Management

Liquidity Management is used as a general term that includes both cash management and cash flow estimation in all activities aimed at ensuring adequate liquidity. Cash management (CM) is a daily business function that aims to ensure that enough liquid assets are available to solve daily liquidity needs. Estimating cash flow or cash flow management is a key element of the company's financial management, as it plans to meet future cash needs to avoid a liquidity crisis. Having resources to fund enough liquidity or an increase in bank assets and to meet its liabilities on time is one of the main objectives of liquidity management in banks. In order not to face a lack of liquidity in the bank, high liquidity is used by trying to reduce conditions that negatively affect liquidity. However, liquidity management has a role as financial institutions with high liquidity will negatively affect profit margins. From this point of view, the main objectives of liquidity management are:

- ➢ Optimizing the cost of the bank's resources and the return on its investments,
- ➢ Prevention of the bank from falling into default.

5. Financial Analysis of the Financial Statements of Some Banks in Turkey

Financial analysis is the process of evaluating banks and other financial institutions to determine their performance and suitability. Typically, financial analysis is used to analyze whether a bank is profitable enough to guarantee a stable, solvent, liquid or efficient investment. A financial analyst analyzes a bank by focusing on the income statement, balance sheet, and cash flow statements. This section provides liquidity

assessment analysis on the financial statements of conventional banks and participating banks operating in Turkey from 2009 to 2018 for comparative purposes. The banks included in the analysis are:

Traditional Banks

- Ziraat Bankası
- Garanti BBVA
- Yapı ve Kredi Bankası
- Akbank
- İş Bankası

Participation Banks

- Albaraka Türk
- Kuveyt Türk
- Türkiye Finans
- Vakıf Katılım
- Ziraat Katılım.

6. Liquidity Analysis

Liquidity ratios are used in the analysis of the current situation of the enterprise. The analysis helps to determine the payment possibilities of overdue debt by showing the monetary status of the businesses. This analysis also shows the ability of enterprises to close their debts in the short term (Tuna, 2017). In addition to this, it also shows the assets of banks operating with foreign capital and their own capital by making liquidity analysis. Since banks cannot convert all assets to money quickly, each bank must determine its liquidity level by considering the maturity of its debt and commitments according to its own structure. Therefore, by analysing liquidity, a bank can evaluate its liquidity according to its debts and banking sector. In this context, the maturity mismatch arising from the use of foreign resources in a bank balance sheet should also be considered. It should be noted not only the maturity mismatch that arises but also the mismatches between cash inflows and outflows.

Although there are not many criteria to reach the result by using the information disclosed to the public in order to make liquidity analysis, ratios comparing “liquid values” and some debts can be used in this regard. The most effective criteria used by the official supervisory bodies to analyse liquidity are "terms comparison".

When the ratio criterion is required, liquid values are generally divided into short-term debts and it is requested that this ratio does not fall below a predetermined target percentage. There is a very frequent relationship between the components of liquidity and the capital of a bank. Provided that other conditions remain constant, banks may increase their liquidity by increasing their own cash and deposited cash and cash equivalents that can be cashed immediately with a small risk of loss.

If the bank has payments to be made to depositors and the entire loan is not used, it is imperative to have liquid value to meet customers' demands. Liquid values are divided into two:

1. First Degree Liquid Values: Cash, Free Deposits at the Central Bank, Receivables from Banks and Other Financial Institutions and Interbank.
2. Second Degree Liquid Values: Securities Portfolio, Subsidiaries and Affiliated Securities with sales opportunities in the market.

Deposit reserve provisions are considered as second-degree liquid values in some analyses. If the Central Bank implements a tight monetary policy, the deposit increases the reserve requirement and does not return this money to the bank. However, in order to implement monetary policy, it has lost its importance to adjust the liquidity by playing with the reserve requirements. The Central Bank now provides liquidity through open market transactions.

While conducting a liquidity analysis, it is also necessary to look at the maturity distribution of the liabilities of the bank. For example, the types of deposits that form an important part of the Bank's liabilities should be considered by type. Commercial deposits and bank deposits are highly flexible deposits. Savings deposits are stable deposits. It is also necessary to look at the distribution of deposits according to the size of the accounts. For example, if a couple of customers have a large amount of money, this is a risk. Also, attention should be paid to the growth rate of deposits.

On the asset side of the balance sheet, the outstanding debt agreement needs to be checked to see if customers have unused credit limits. If a contraction is expected in the economy or there will be no debt demand during the recession periods, the bank does not need to be too liquid. Banks need more liquidity during the recovery period of the economy.

While conducting a liquidity analysis, it should be checked whether the money market is developing in the country. Because, by issuing certificates, money can be obtained from the money market. Therefore, there is no need to be a lot of cash in economies where financial markets are deep. While analyzing, the attitude of the central bank in the relevant country should also be considered. Banks are not required to retain excess liquidity if the Central Bank follows policies to support the banking system when necessary. Particularly for participation banks, if the Central Bank does not provide a suitable environment, participation banks cannot compete in the banking sector and live with liquidity problems.

In the literature, some sources state that liquidity and capital adequacy are the same sources. However, a high level of liquidity does not imply that a bank's ability to repay debts is high. High liquidity may not always be of great importance for a bank capable of repaying its debts financially. High liquidity negatively affects the bank's

profitability performance, and low profitability performance adversely affects the provision of enough reserves for possible losses. As a result of the liquidity analysis, the bank, which has high liquidity, causes lower gains as a necessity to be in favor of the depositors and generally in other institutions by following a cautious policy follow-up in lending (Gökmen, 2007). In contrast, low liquidity causes the bank to face payment difficulties in withdrawing deposits and meeting overdue debt payments. On the one hand, a bank trying to balance between liquidity and profitability ratios is an indicator of its competitive power against other banks by calculating liquidity and profitability ratios and comparing it with other banks.

7. Liquidity Ratios

In Turkey, by taking 5 conventional banks and 5 participating banks, a liquidity analysis was performed, and the comparison was done through the average. In terms of liquidity, by calculating the number of ratios that help to determine the level of liquidity among some traditional banks and participation banks in Turkey, a comparison will be made from 2009 until 2018. The rates of selected traditional banks and participation banks will be calculated separately. A comparison will be made between traditional banks and participation banks by calculating the average of the calculated rates.

7-1- Cash and Central Bank / Deposit

This rate is a ratio obtained by dividing the cash values and the central bank account by the total of deposits. This ratio shows how much is a bank's total deposits are cash and money available at the Central Bank (Gökmen, 2007). The rates calculated for traditional banks and participation banks are as follows:

Table 1a: cash and Central Bank /Deposit from of traditional banks

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Ziraat Bankası	9.31%	8.16%	12.62 %	17.41 %	18.77 %	19.67%	19.59 %	17.56 %	16.62%	12.23%
Garanti BBVA	10.93 %	10.34 %	9.77%	18.42 %	21.16 %	20.84%	17.85 %	14.75 %	18.45%	18.97%
Yapı ve Kredi Bankası	9.73%	11.20 %	15.33 %	16.28 %	21.76 %	21.85%	21.27 %	20.99 %	24.79%	27.41%
Akbank	8.49%	9.08%	18.06 %	19.35 %	17.31 %	18.03%	18.33 %	22.04 %	19.13%	15.98%
İş Bankası	12.14 %	9.66%	13.97 %	15.14 %	19.03 %	18.42%	20.58 %	18.28 %	17.64%	16.36%

Table 1b: cash and Central Bank /Deposit of participation banks

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Albaraka Türk	11.29 %	10.19 %	13.07 %	14.10 %	18.22 %	18.80%	24.11 %	21.59 %	22.75%	20.68%

Kuveyt Türk	16.18 %	16.97 %	28.63 %	31.26 %	25.33 %	29.73%	26.91 %	26.03 %	22.41%	19.33%
Türkiye Finans	6.58%	17.08 %	20.17 %	24.66 %	25.34 %	26.98%	24.23 %	26.91 %	27.62%	32.01%
Vakıf Katılım	-	-	-	-	-	-	-	18.15 %	21.71%	27.24%
Ziraat Katılım	-	-	-	-	-	-	13.30 %	21.31 %	16.40%	13.25%

It is stated that this rate is higher in participation banks in most years. According to the management's assessment, the percentage of cash held by banks varies from year to year. As with the crises, when depositors lose their trust in banks, the withdrawal of deposit is more. As for the stagnation years, it is expected that the money will remain in banks and withdrawals will be less. On the contrary, it is expected that the withdrawal of deposits will be great in periods of economic recovery. In this context, countries with financial markets are of great advantage for the banking sector. Because when banks invest their money in risk-free financial instruments, there is no need to hold excess cash in hand. More than that, banks can get the cash they want by selling these instruments in the financial markets with no damage or little loss, maybe even with making a profit. However, in countries that do not have an Islamic financial market, participation banks may experience a problem. For an easier comparison between traditional banks and Islamic banks, the average of the ratio calculated by dividing the cash values and the Central Bank account by the sum of the deposits is taken.

Table 1c: Average of Cash and Central Bank / Deposit of Traditional Banks

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
10.12%	9.69%	13.95%	17.32%	19.61%	19.76%	19.53%	18.72 %	19.32%	18.19 %

Graph 1a: Average of Cash and Central Bank / Deposit of Traditional Banks

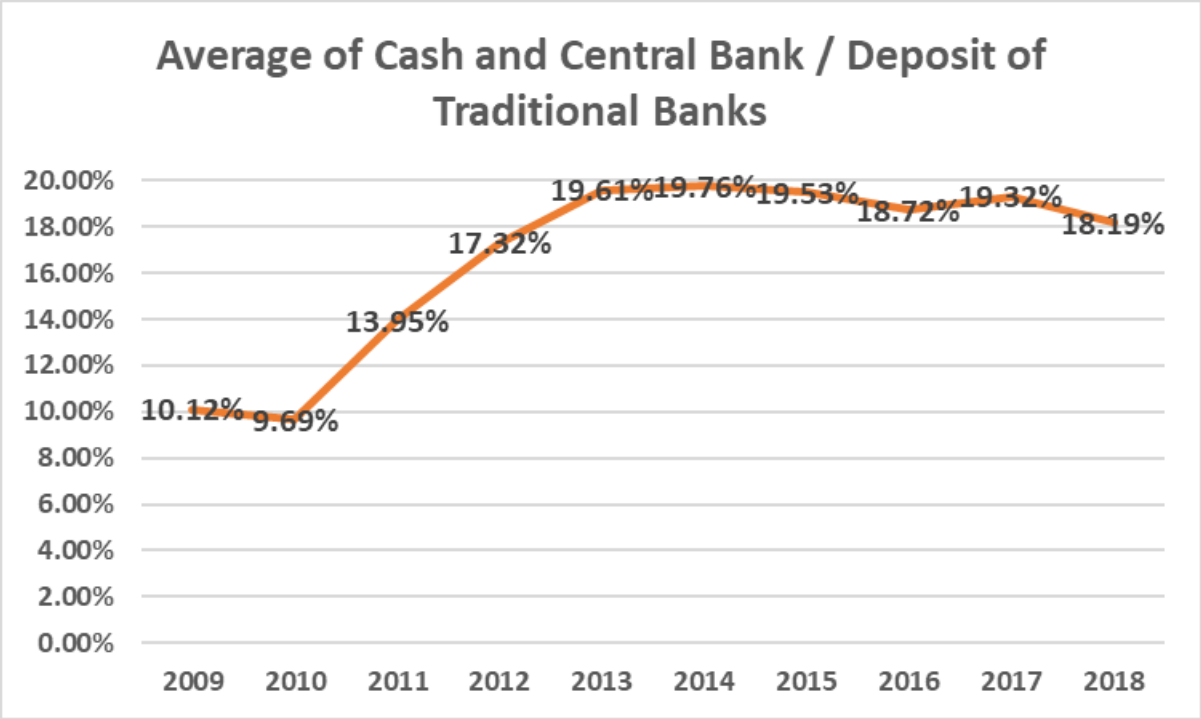
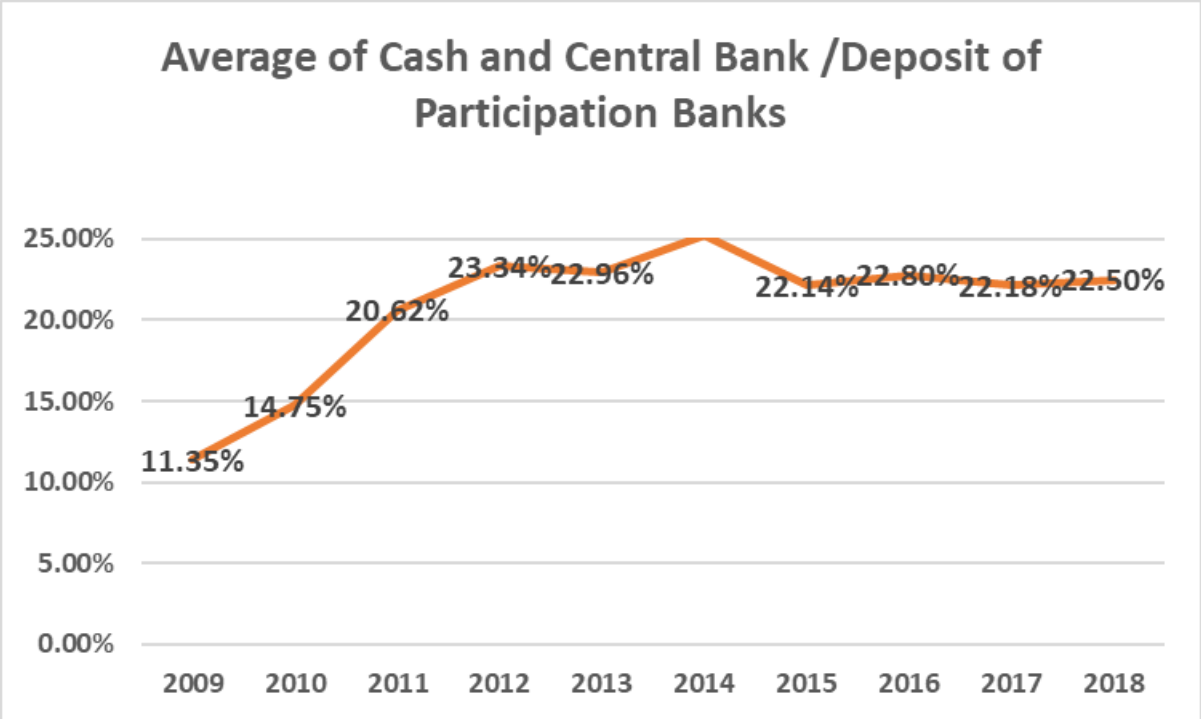


Table 1d: Average of Cash and Central Bank /Deposit of Participation Banks

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
11.35%	14.75%	20.62%	23.34%	22.96%	25.17 %	22.14%	22.80%	22.18%	22.50%

Graph 1b: Average of Cash and Central Bank / Deposit of Participation Banks



When looking at the rates that are calculated by dividing the cash values and the Central Bank account by the total of deposits, the average of the traditional bank's

calculated rates did not exceed 10.50% in 2009 and 2010. Since 2011, this rate started to increase. However, this rate was below 20% in traditional banks. Meanwhile, in the participation bank, the average of these rates in 2009-2010 was 11.31%, 14.75%. These rates started to increase in participation banks as of 2011. Also, the average of rates in the participation banks is higher than the average of rates in the traditional banks. This result is the desired result in terms of liquidity risk, but as it is known, unused funds affect the profitability rates negatively.

If we calculate the cash values and the Central Bank account separately, it will be as follows:

The table 1-1a shows the ratio calculated by dividing the Central Bank account to total deposits in traditional banks from 2009 to 2018.

Table 1-1a: Central Bank / Deposit of Traditional Banks

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Ziraat Bankası	8.26%	7.13 %	11.45 %	16.20 %	17.52 %	18.51%	18.29%	16.37 %	15.27%	11.16 %
Garanti BBVA	9.51%	9.01 %	8.50%	16.99 %	19.63 %	18.87%	16.21%	12.94 %	16.73%	16.42 %
Yapı ve Kredi Bankası	8.17%	9.89 %	13.73 %	14.05 %	19.73 %	19.74%	19.74%	19.27 %	23.31%	25.05 %
Akbank	7.42%	7.87 %	16.71 %	17.70 %	15.85 %	16.69%	17.28%	20.88 %	17.88%	14.03 %
İş Bankası	10.91%	8.24 %	12.72 %	13.47 %	17.20 %	16.51%	18.73%	16.17 %	15.99%	14.37 %

The table 1-1b shows the rate calculated by dividing the Central Bank account to the total of deposit in participation banks from 2009 to 2018.

Table 1-1b: Central Bank / Deposit of Participation Banks

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Albaraka Türk	9.28%	8.41%	10.12 %	12.21 %	17.15 %	17.63 %	20.00%	18.72%	17.78%	14.30%
Kuveyt Türk	7.46%	8.45%	12.85 %	15.89 %	18.46 %	20.07 %	19.05%	18.61%	16.87%	14.15%
Türkiye Finans	5.91%	16.37%	15.37 %	23.65 %	24.31 %	25.79 %	22.19%	21.32%	21.76%	24.38%
Vakıf Katılım	-	-	-	-	-	-	-	16.26%	20.39%	21.05%
Ziraat Katılım	-	-	-	-	-	-	12.61%	20.74%	15.99%	12.90%

The table 2-1a shows the ratio calculated by dividing the cash to total deposits in traditional banks from 2009 to 2018.

Table 2-1a: Cash / Deposit of Traditional Banks

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Ziraat Bankası	1.05%	1.03%	1.18 %	1.21%	1.25 %	1.16%	1.30%	1.19%	1.35%	1.07%
Garanti BBVA	1.42%	1.32%	1.27 %	1.43%	1.52 %	1.97%	1.64%	1.81%	1.72%	2.55%
Yapı ve Kredi Bankası	1.56%	1.30%	1.60 %	2.23%	2.03 %	2.11%	1.54%	1.72%	1.47%	2.36%
Akbank	1.07%	1.21%	1.35 %	1.65%	1.46 %	1.34%	1.06%	1.16%	1.25%	1.95%
İş Bankası	1.23%	1.42%	1.25 %	1.67%	1.83 %	1.91%	1.85%	2.11%	1.65%	1.99%

The table 2-1b shows the rate calculated by dividing the cash to the total of deposit in participation banks from 2009 to 2018.

Table 2-1b: Cash / Deposit of Participation Banks

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Albaraka Türk	2.02%	1.78%	2.95%	1.89%	1.07%	1.17%	4.10%	2.87%	4.96%	6.38%
Kuveyt Türk	8.73%	8.52%	15.79 %	15.37 %	6.87%	9.67%	7.86%	7.41%	5.54%	5.18%
Türkiye Finans	0.67%	0.71%	4.79%	1.01%	1.02%	1.19%	2.04%	5.59%	5.86%	7.63%
Vakıf Katılım	-	-	-	-	-	-	-	1.89%	1.31%	6.19%
Ziraat Katılım	-	-	-	-	-	-	0.69%	0.58%	0.41%	0.35%

The table 1-1c shows the average ratios calculated by dividing the Central Bank account to the total of deposits in the selected traditional banks from 2009 to 2018.

Table 1-1c: Average of Central Bank / Deposit of Traditional Banks

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
8.86%	8.43%	12.62%	15.68%	17.99%	18.06%	18.05%	17.13 %	17.84%	16.21%

The table 1-1d shows the average ratios calculated by dividing the Central Bank account to the total of deposits in the selected participation banks from 2009 to 2018.

Table 1-1d: Average of Central Bank / Deposit of Participation Banks

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
1.27%	1.26%	1.33%	1.64%	1.62%	1.70%	1.48%	1.60%	1.49%	1.99%

The table 2-1c shows the average ratios calculated by dividing the cash to the total of deposits in the selected traditional banks from 2009 to 2018.

Table 2-1c: Average of Cash / Deposit of Traditional Banks

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
7.55%	11.08%	12.78%	17.25%	19.97%	21.16%	18.46%	19.13%	18.56%	17.35%

The table 2-1d shows the average ratios calculated by dividing the Central Bank account to the total of deposits in the selected participation banks from 2009 to 2018.

Table 2-1d: Average of Cash / Deposit of Traditional Banks

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
3.80%	3.67%	7.84%	6.09%	2.99%	4.01%	3.67%	3.67%	3.62%	5.15%

It is noted that the ratio of funds in the central bank to deposits in participation banks is greater than the ratio of conventional banks. In addition, traditional banks receive interest against their required reserves, while interest rates are prohibited for participation banks. Interest rate positively affects the profitability rate of traditional banks. As for the ratio of cash values to the total deposits, the selected participation banks hold more cash than the traditional banks selected. Banks with cash abundance can manage liquidity risk more effectively. At the same time, banks operating in countries with effective financial markets can effectively manage liquidity risk in addition to higher profit rates. Because it can convert financial instruments into cash without suffering significant losses.

7-2-Current Ratio

The current ratio is a liquidity ratio that measures an enterprise's ability to pay short-term obligations or those due within one year. It tells investors and analysts how an enterprise can maximize the current assets on its balance sheet to satisfy its current debt and other payables. The current ratio is found by dividing the short-term assets in the assets part of the bank's balance sheet by the short-term debts in the liabilities section.

Table 2a: Current ratio of Traditional Banks

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Ziraat Bankası	49.45 %	46.05%	37.50 %	59.03 %	57.39 %	54.54 %	57.29%	58.64 %	55.69 %	58.51 %
Garanti BBVA	56.42 %	51.16%	50.23 %	60.21 %	66.41 %	65.47 %	65.89%	62.89 %	66.77 %	70.73 %
Yapı ve Kredi Bankası	63.80 %	57.77%	57.37 %	68.79 %	70.55 %	66.12 %	64.54%	64.15 %	68.08 %	65.16 %
Akbank	64.83 %	53.20%	56.57 %	64.29 %	68.30 %	64.08 %	61.96%	67.70 %	63.52 %	70.17 %
İş Bankası	62.07 %	56.05%	57.83 %	62.85 %	64.57 %	61.86 %	60.02%	62.48 %	60.43 %	64.35 %

Table 2b: Current ratio of Participation Banks

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Albaraka Türk	78.36%	73.10 %	82.76%	78.37 %	82.33%	75.19 %	81.63 %	65.50%	56.94 %	65.51 %

Kuveyt Türk	89.70%	89.72 %	97.54%	93.17 %	101.52%	90.49 %	85.60 %	91.68%	85.05 %	84.26 %
Türkiye Finans	87.81%	82.16 %	89.25%	89.34 %	90.19%	88.97 %	89.08 %	84.79%	85.72 %	80.68 %
Vakıf Katılım	-	-	-	-	-	-	-	101.49 %	76.08 %	76.70 %
Ziraat Katılım	-	-	-	-	-	-	92.85 %	59.84%	58.67 %	61.24 %

The current ratio measures the ability of a bank to pay its debts and to provide funds to those who wish to obtain loans. Looking at the current ratio analysis in traditional banks and participation banks, the current ratio calculated in most participation banks is higher.

If we take the current ratio average for the selected banks, it will be as follows:

Table 2c: Average Current Ratio of Traditional Banks

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
59.31%	52.85%	51.90%	63.04%	65.44%	62.41%	61.94%	63.17%	62.90%	65.79%

Table 2d: Average Current Ratio of Participation Banks

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
85.29%	81.66%	89.85%	86.96%	91.35%	84.88%	87.29%	80.66%	72.49%	73.68%

According to the comparison, the average of the current ratios of participation banks is higher than the average of the current ratios of traditional banks. Thus, participation banks may be less exposed to liquidity risk. However, where the developed financial market exists, banks take advantage of these markets and provide the desired liquidity in a short time, even if it does not cover short-term assets to their short-term debts. In this way, neither profitability ratio is negatively affected nor is it exposed to liquidity risk.

7-3- The ratio of Liquid Assets to Total Assets

This ratio important because it is related to both asset quality and liquidity of banks. This ratio is not preferred to be too high as it is too low. If it is too high, it means that profitability is negatively affected because credit is not provided, and investments are not made. This ratio is as follows in traditional banks and participation banks:

Table 3a: Ratio of Liquid Assets to Total Assets in Traditional Banks

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Ziraat Bankası	32.72 %	36.30 %	33.52%	37.37 %	36.72 %	35.09 %	31.60%	28.90%	26.02%	26.73 %
Garanti BBVA	16.23 %	39.65 %	36.18%	38.03 %	28.39 %	25.37 %	23.37%	21.07%	22.48%	32.24 %

Yapı ve Kredi Bankası	14.33 %	16.20 %	19.60%	26.38 %	26.50 %	25.78 %	24.11%	21.81%	24.83%	32.97 %
Akbank	39.01 %	45.18 %	41.58%	39.67 %	31.23 %	31.82 %	33.01%	31.45%	29.78%	38.48 %
İş Bankası	38.57 %	33.23 %	28.62%	25.71 %	26.18 %	27.98 %	27.43%	26.50%	24.90%	29.23 %

Table 3b: Ratio of Liquid Assets to Total Assets in Participation Banks

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Albaraka Türk	19.59 %	17.74%	23.41%	20.25 %	22.69 %	23.62 %	28.62%	26.20 %	26.53%	33.36 %
Kuveyt Türk	20.40 %	22.87%	25.29%	32.62 %	31.77 %	33.83 %	32.27%	34.57 %	30.08%	31.73 %
Türkiye Finans	14.54 %	22.46%	20.92%	22.68 %	24.87 %	23.08 %	20.55%	24.67 %	25.06%	28.99 %
Vakıf Katılım	-	-	-	-	-	-	-	34.28 %	25.84%	33.90 %
Ziraat Katılım	-	-	-	-	-	-	18.81%	26.20 %	17.05%	18.47 %

Cash and Central Bank accounts, financial assets whose fair value difference is reflected in profit/loss, funds in banks, receivables from money markets and financial assets ready for sale are defined as liquid assets. Liquid values created from these accounts can be easily sold in financial markets. With financial instruments that can be quickly converted into cash, the bank does not need to hold a large amount of cash. In general, traditional banks invest more in these instruments than participation banks, since there are no Sharia restrictions on traditional banks. The average of the ratio of cash values to total assets is for traditional banks and participation banks, below:

Table 3c: Average Ratio of Liquid Assets to Total Assets in Traditional Banks

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
28.17%	34.11%	31.90%	33.43%	29.80%	29.21%	27.90%	25.94%	25.60%	31.93%

Graph 2a: Average ratio of Liquid Assets to Total Assets in Traditional Banks

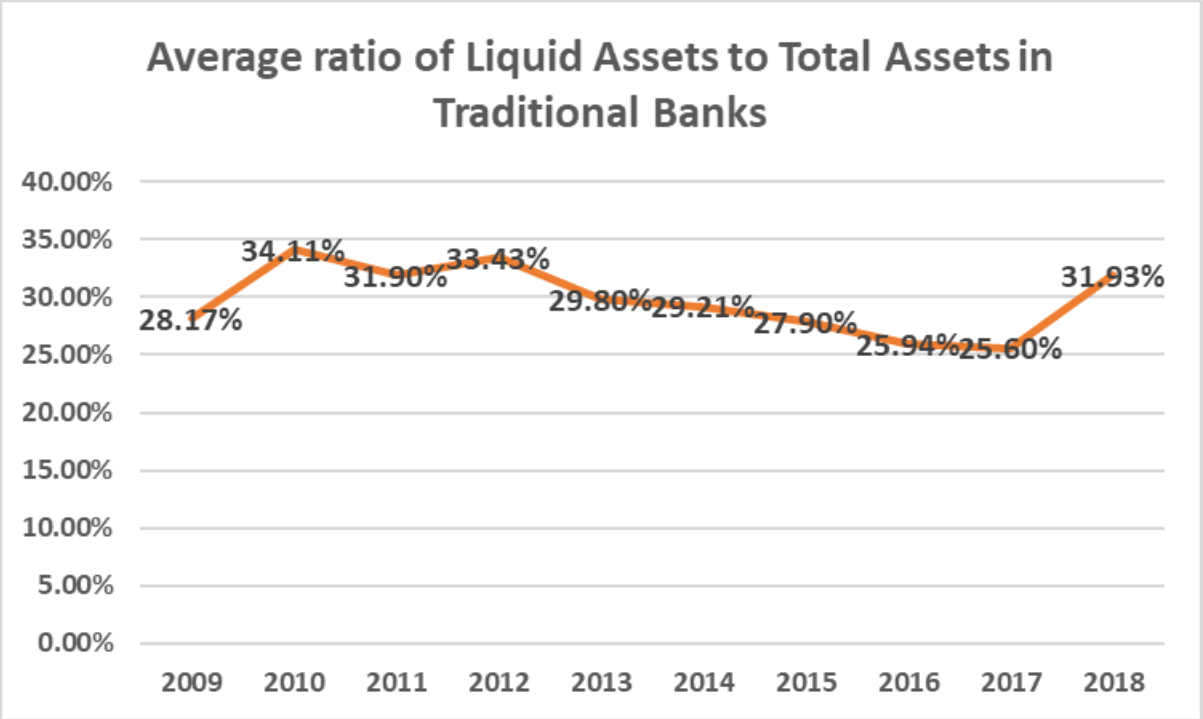
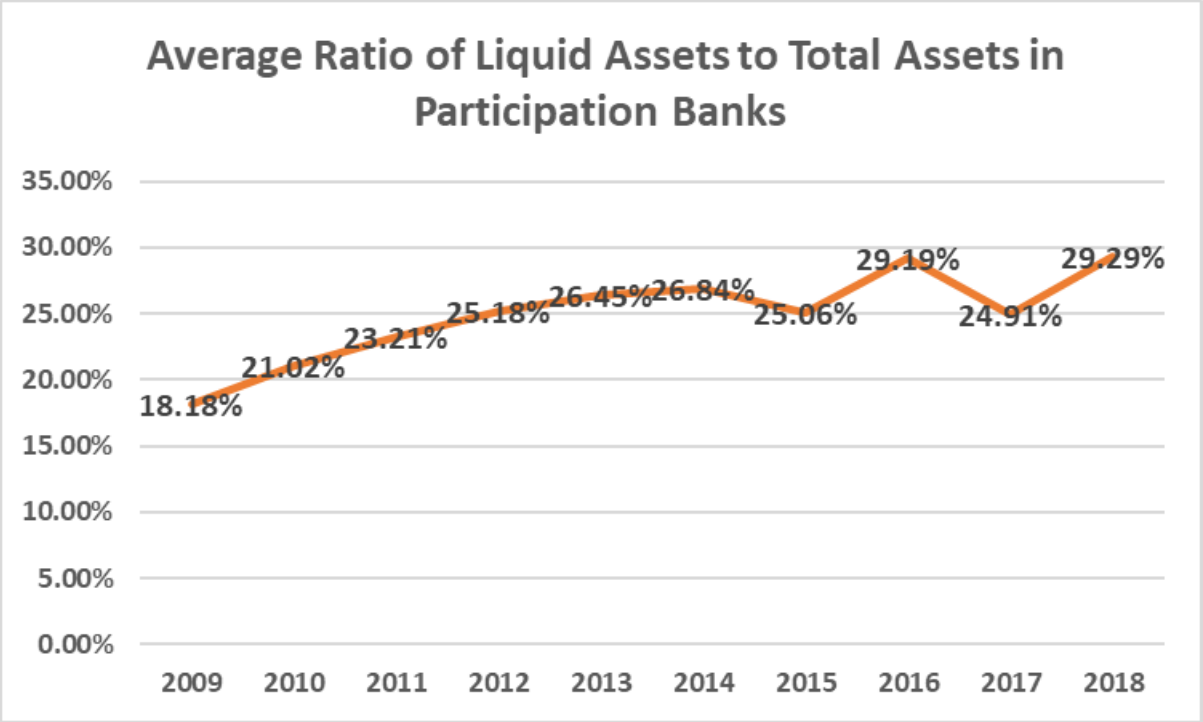


Table 3d: Average Ratio of Liquid Assets to Total Assets in Participation Banks

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
18.18%	21.02%	23.21%	25.18%	26.45%	26.84%	25.06%	29.19%	24.91%	29.29%

Graph 2b: Average Ratio of Liquid Assets to Total Assets in Participation Banks



When looking at the rates, the rates in traditional banks in most years are more than the rates calculated for participation banks. Profitability ratio is positively affected by investing in risk-free financial instruments. Since banks can use the funds available to

them, at the same time, their liquidity is not reduced. This rate started to increase in participation banks after 2009. Moreover, not all financial instruments are suitable for participation banks. Most financial instruments are also based on interest rate transactions. For this reason, if Islamic financial markets are not established, participation banks' investments in financial instruments will remain low. If only cash and Central Bank account is included in total assets, it will be as follows:

Table 1-3a: Ratio of Cash and Central Bank Accounts to Total Assets of Traditional Banks

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Ziraat Bankası	7.37%	6.79%	8.88%	12.72 %	12.82 %	12.18%	12.06 %	10.95%	10.19%	7.54%
Garanti BBVA	6.51%	6.06%	5.63%	10.06 %	11.44 %	11.45%	9.89%	8.37%	10.27%	17.47%
Yapı ve Kredi Bankası	6.16%	6.96%	9.01%	9.07%	12.61 %	12.68%	12.25 %	12.81%	14.09%	15.95%
Akbank	4.97%	5.39%	10.39 %	10.69 %	9.92%	9.95%	10.85 %	12.92%	11.19%	9.19%
İş Bankası	7.74%	6.47%	8.50%	9.09%	10.94 %	10.35%	11.48 %	10.41%	9.92%	9.64%

Table 1-3b: Ratio of Cash and Central Bank Accounts to Total Assets of Participation Banks

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Albaraka Türk	9.62%	8.34%	10.05 %	10.55%	13.26 %	13.58 %	16.59 %	15.22%	15.89%	14.02%
Kuveyt Türk	12.56 %	12.88 %	19.06 %	21.09%	16.66 %	19.36 %	18.00 %	17.13%	15.64%	14.06%
Türkiye Finans	5.21%	13.42 %	14.18 %	16.00%	15.27 %	15.40 %	13.93 %	14.61%	15.60%	18.27%
Vakıf Katılım	-	-	-	-	-	-	-	11.77%	16.58%	19.74%
Ziraat Katılım	-	-	-	-	-	-	7.67%	15.09%	11.45%	9.05%

In general, this ratio of cash and Central Bank account to total assets in participation banks is more than the ratio calculated in traditional banks. The average of the ratio calculated for the selected banks will be:

Table 1-3d: Average Ratio of Cash and Central Bank Accounts to Total Assets of Traditional Banks

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
6.55%	6.33%	8.48%	10.33%	11.55%	11.32%	11.31%	11.09%	11.13%	11.96%

Table 1-3d: Average Ratio of Cash and Central Bank Accounts to Total Assets of Participation Banks

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
9.13%	11.55%	14.43%	15.88%	15.06%	16.11%	14.05%	14.76%	15.03%	15.03%

Compared to traditional banks, the percentage of cash and Central Bank accounts, which are assets on the balance sheets of participation banks, is higher implying that participation banks are more prepared than traditional banks for deposit withdrawals, but in terms of profitability, participation banks will have less profit due to funds that are not used.

7-4- Ratio of Liquid Assets to Total Liabilities

This ratio measures the extent to which the liquid assets meet the total debts of the bank. The higher the percentage, the better. Because it is easy to cash these financial instruments.

Table 4a: Liquid Assets to Total Debts in Traditional Banks

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Ziraat Bankası	35.69%	39.85 %	36.51%	41.77 %	40.29 %	39.66 %	35.28 %	32.37 %	29.18 %	29.93 %
Garanti BBVA	18.57%	45.72 %	41.11%	43.86 %	32.07 %	28.78 %	26.61 %	24.08 %	25.76 %	37.05 %
Yapı ve Kredi Bankası	16.44%	18.44 %	21.98%	30.60 %	29.99 %	28.82 %	26.93 %	24.32 %	27.62 %	37.13 %
Akbank	45.84%	53.48 %	47.87%	46.16 %	35.33 %	36.25 %	37.25 %	35.46 %	34.15 %	44.42 %
İş Bankası	43.79%	38.16 %	32.18%	29.54 %	29.48 %	31.91 %	31.03 %	29.95 %	28.26 %	33.20 %

Table 4b: Liquid Assets to Total Debts in Participation Banks

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Albaraka Türk	22.03 %	19.74%	25.90 %	22.47 %	24.86 %	25.55 %	30.82 %	28.15 %	28.48%	36.15 %
Kuveyt Türk	23.10 %	26.26%	27.99 %	35.81 %	34.87 %	37.13 %	35.11 %	37.61 %	32.70%	34.23 %
Türkiye Finans	16.84 %	25.86%	23.76 %	25.79 %	27.65 %	25.48 %	22.51 %	27.24 %	27.96%	31.92 %
Vakıf Katılım	-	-	-	-	-	-	-	42.18 %	28.20%	36.56 %
Ziraat Katılım	-	-	-	-	-	-	27.07 %	28.99 %	18.90%	20.52 %

Since risk-free financial instruments are used more in traditional banks, their rates are often higher than participation banks. We can also notice this from the average ratios.

Table 4c: Average Liquid Assets to Total Debts in Traditional Banks

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
32.07%	39.13%	35.93%	38.39%	33.43%	33.09%	31.42%	29.24%	28.99%	36.35%

Table 4d: Average Liquid Assets to Total Debts in Participation Banks

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
20.66%	23.95%	25.88%	28.02%	29.12%	29.39%	28.88%	32.83%	27.25%	31.88%

Obviously, the average ratios of liquid values to total debts is higher in traditional banks than in participation banks. Traditional banks can manage their liquidity through financial instruments, most of which are prohibited in participation banks. The use of financial instruments has a positive effect on profitability rates, which will be calculated later.

When it is desired to calculate only the ratio of cash and Central Bank account to total debts, it results as follows:

Table 1-4a: Cash and Central Bank Accounts to Total Debts in Traditional Banks

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Ziraat Bankası	8.04%	7.45%	9.68%	14.22 %	14.06 %	13.76%	13.47%	12.26 %	11.43 %	8.44%
Garanti BBVA	7.45%	6.99%	6.40%	11.60 %	12.92 %	13.00%	11.26%	9.57%	11.77 %	20.08%
Yapı ve Kredi Bankası	7.06%	7.93%	10.10 %	10.52 %	14.27 %	14.17%	13.68%	14.28 %	15.68 %	17.96%
Akbank	5.84%	6.38%	11.96 %	12.44 %	11.22 %	11.33%	12.24%	14.57 %	12.83 %	10.61%
İş Bankası	8.78%	7.43%	9.56%	10.45 %	12.32 %	11.80%	12.99%	11.76 %	11.26 %	10.95%

Table 1-4b: Cash and Central Bank Accounts to Total Debts in Participation Banks

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Albaraka Türk	10.82%	9.28%	11.12 %	11.71%	14.52%	14.69%	17.86 %	16.35 %	17.06%	15.19 %
Kuveyt Türk	14.22%	14.79%	21.10 %	23.15%	18.28%	21.25%	19.58 %	18.63 %	17.00%	15.17 %
Türkiye Finans	6.03%	15.45%	16.10 %	18.19%	16.97%	17.00%	15.25 %	16.13 %	17.40%	20.12 %
Vakıf Katılım	-	-	-	-	-	-	-	14.48 %	18.09%	21.29 %
Ziraat Katılım	-	-	-	-	-	-	11.04 %	16.70 %	12.70%	10.05 %

From the calculated rates, it is obvious that the coverage of the cash and Central Bank accounts for debts is more than the traditional banks in participation banks. The comparison can be made by averaging the calculated rates.

Table 1-4c: Average Cash and Central Bank Accounts to Total Debts in Traditional Banks

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
7.43%	7.23%	9.54%	11.84%	12.96%	12.81%	12.73%	12.49%	12.59%	13.61%

Table 1-4d: Average Cash and Central Bank Accounts to Total Debts in Participation Banks

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
10.36%	13.17%	16.10%	17.68%	16.59%	17.64%	15.94%	16.46%	16.45%	16.36%

The tables show that this rate is higher in participation banks than traditional banks. As previously determined, participation banks hold more cash than traditional banks, while traditional banks invest more in financial instruments than participation banks.

8. Financial Structure Ratios

Financial structure refers to the mix of debt and equity used by a bank to finance its activities. This composition directly affects the risk and value of the associated bank. The bank's financial managers have the responsibility to decide the best mix of debt and equity to optimize the financial structure. In general, the financial structure of a bank can also be called the capital structure (Young, 2019). Financial structure ratios show the resource structure of a bank and its long-term debt solvency. In other words, it is a measure of long-term solvency. It sets out the demands of creditors and shareholders against the assets of the bank. This ultimately affects the bank's liquidity.

8-1- Debt Rate

The debt ratio is a financial rate that measures the leverage ratio of a bank. The debt ratio is expressed as the ratio of total debt to total assets, in decimal or percentage. It can be interpreted as the ratio of a bank's financed assets. A ratio larger than 50% indicates that a significant portion of the debt is financed by assets. In other words, the bank has more debt than assets. The high rate also indicates that if interest rates suddenly rise, a bank may put itself at risk of default for its loans and deposits. The higher the debt ratio, the more financial leverage the bank uses, which means greater financial risk. At the same time, financial leverage is an important tool used by banks to grow, and many banks find sustainable uses for debt.

Table 5a: the debt ratio in traditional banks from 2009 to 2018

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Ziraat Bankası	91.69 %	91.10%	91.80 %	89.46 %	91.15 %	88.47%	89.58%	89.27 %	89.18%	89.31 %
Garanti BBVA	87.37 %	86.71%	88.01 %	86.70 %	88.53 %	88.12%	87.82%	87.49 %	87.29%	87.01 %

Yapı ve Kredi Bankası	87.19 %	87.83%	89.18 %	86.20 %	88.37 %	89.44%	89.52%	89.67 %	89.89%	88.79 %
Akbank	85.11 %	84.48%	86.86 %	85.94 %	88.39 %	87.78%	88.63%	88.69 %	87.21%	86.63 %
İş Bankası	88.08 %	87.09%	88.91 %	87.05 %	88.80 %	87.67%	88.38%	88.46 %	88.11%	88.06 %

Table 5b: the debt ratio in participation banks from 2009 to 2018

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Albaraka Türk	88.92 %	89.86 %	90.40 %	90.12 %	91.30 %	92.23 %	92.88%	93.06%	93.15%	92.28%
Kuveyt Türk	88.31 %	87.08 %	90.35 %	91.09 %	91.11 %	91.11 %	91.91%	91.93%	91.96%	92.67%
Türkiye Finans	86.28 %	86.85 %	88.07 %	87.94 %	89.96 %	90.58 %	91.30%	90.56%	89.61%	90.81%
Vakıf Katılım	-	-	-	-	-	-	-	81.28%	91.61%	92.71%
Ziraat Katılım	-	-	-	-	-	-	69.48%	90.39%	90.22%	90.00%

It is noteworthy that the calculated ratio between traditional and participation banks is close to each other but are higher in participation banks for most years. To facilitate comparison, the average of the rates calculated in both traditional and participation banks will be as follows:

Table 5c: the average of debt ratio in traditional banks from 2009 to 2018

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
87.89%	87.44%	88.95%	87.07%	89.05%	88.30%	88.79%	88.72%	88.34%	87.96%

Table 5c: the average of the debt ratio in participation banks from 2009 to 2018

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
87.84%	87.93%	89.61%	89.72%	90.79%	91.31%	86.39%	89.45%	91.31%	91.69%

According to the calculated rates, participation banks use larger leverage than traditional banks with a small margin.

8-2- Equity Ratio

Equity ratio shows how much of bank assets are funded by equity. The lower the rate, the more debt a bank uses to finance its assets. The rate expressed as a percentage is found by dividing total equity by the total assets of the bank.

Table 6a: The equity ratio in traditional banks from 2009 to 2018

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Ziraat Bankası	8.31%	8.90%	8.20%	10.54 %	8.85%	11.53%	10.42 %	10.73%	10.82%	10.69 %
Garanti BBVA	12.63 %	13.29 %	11.99 %	13.30 %	11.47 %	11.88%	12.18 %	12.51%	12.71%	12.99 %

Yapı ve Kredi Bankası	12.81 %	12.17 %	10.82 %	13.80 %	11.63 %	10.56%	10.48 %	10.33%	10.11%	11.21 %
Akbank	14.89 %	15.52 %	13.14 %	14.06 %	11.61 %	12.22%	11.37 %	11.31%	12.79%	13.37 %
İş Bankası	11.92 %	12.91 %	11.09 %	12.95 %	11.20 %	12.33%	11.62 %	11.54%	11.89%	11.94 %

Table 6b: The equity ratio of participation banks from 2009 to 2018

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Albaraka Türk	11.08 %	10.14 %	9.60%	9.88%	8.70%	7.77%	7.12%	6.94%	6.85%	7.72%
Kuveyt Türk	11.69 %	12.92 %	9.65%	8.91%	8.89%	8.89%	8.09%	8.07%	8.04%	7.33%
Türkiye Finans	13.72 %	13.15 %	11.93 %	12.06%	10.04 %	9.42%	8.70%	9.44%	10.39%	9.19%
Vakıf Katılım	-	-	-	-	-	-	-	18.72%	8.39%	7.29%
Ziraat Katılım	-	-	-	-	-	-	30.52 %	9.61%	9.78%	10.00 %

From the calculated rates, it is noted that traditional banks financed their assets with more equity for most years. The low equity ratio puts the bank at a higher risk of liquidity. The comparison can be facilitated by calculating the average of the rates as follows:

Table 6c: average of the equity ratio in traditional banks from 2009 to 2018

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
12.11%	12.56%	11.05%	12.93%	10.95%	11.70%	11.21%	11.28%	11.66%	12.04%

Table 6d: average of equity ratio in participation banks from 2009 to 2018

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
12.16%	12.07%	10.39%	10.28%	9.21%	8.69%	13.61%	10.55%	8.69%	8.31%

Although the difference is not large, the rates in traditional banks are higher than the rates in participation banks in most years. The higher this rate, the more sufficient guarantee for depositors. A low equity ratio does not necessarily have to be bad. This means that if the business is profitable, the return on investment is quite high because investors do not have to invest excessively compared to the yield generated.

8-3- The ratio of Short-Term Liabilities to Liabilities Total

This ratio calculated by dividing short-term debts by total liabilities indicating how much of the assets are financed by short-term debts. It is preferred that the ratio of short-term debt to total debt is not significant. This means that there will be no cash outflows in the short term. If the total debt was largely composed of short-term debt, the bank may be obliged to finance long-term loans from short-term debt. In

addition, long-term loan financing from short-term debt exposes banks to significant liquidity risk.

Table 7a: The ratio of short-term debts to total liabilities in traditional banks from 2009 to 2018

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Ziraat Bankası	87.89 %	88.04 %	87.79 %	83.93%	86.07%	82.04 %	82.99%	82.35 %	81.42%	82.98%
Garanti BBVA	76.02 %	75.74 %	75.54 %	75.04%	73.87%	73.07 %	73.57%	74.14 %	72.42%	74.71%
Yapı ve Kredi Bankası	76.77 %	77.21 %	79.05 %	72.21%	74.11%	76.29 %	77.12%	77.42 %	76.23%	78.60%
Akbank	79.88 %	78.17 %	79.02 %	76.24%	77.61%	76.80 %	74.60%	72.35 %	72.54%	70.30%
İş Bankası	79.52 %	81.03 %	82.46 %	79.09%	78.72%	75.39 %	75.61%	74.39 %	73.24%	73.64%

Table 7b: The ratio of short-term debts to total liabilities in participation banks from 2009 to 2018

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Albaraka Türk	86.75%	87.28 %	84.73 %	84.75 %	82.61%	83.96 %	77.44 %	81.92 %	82.00 %	88.21 %
Kuveyt Türk	80.28%	78.39 %	75.62 %	80.72 %	80.34%	79.00 %	83.89 %	77.38 %	79.72 %	83.67 %
Türkiye Finans	84.86%	85.57 %	84.10 %	79.66 %	76.41%	75.01 %	70.30 %	70.58 %	74.80 %	85.92 %
Vakıf Katılım	-	-	-	-	-	-	-	70.49 %	88.28 %	89.10 %
Ziraat Katılım	-	-	-	-	-	-	67.21 %	86.68 %	86.87 %	86.66 %

Most years, the ratio of short-term debt to liability total is higher in participation banks. This rate is not desired to be high. The high rate may mean that cash outflow will be high in the short term. By calculating the average of the ratio, the results will be as follows:

Table 7c: the average of the ratio of short-term debts to total liabilities in traditional banks from 2009 to 2018

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
80.02%	80.04%	80.77%	77.30%	78.08%	76.72%	76.78%	76.13%	75.17%	76.05%

Table 7b: the average of the ratio of short-term debts to total liabilities in participation banks from 2009 to 2018

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018

83.96%	83.74%	81.48%	81.71%	79.78%	79.32%	74.71%	77.41%	82.33%	86.71%

Compared to the average of calculated rates, the average ratio of short-term debts to total liabilities in participation banks is higher. When short-term debts are high, the bank is exposed to liquidity risk more. Liquidity risk reaches a higher level, especially when long-term loans are funded from short-term debts. For example, Maturity of short-term deposits before maturing of long-term loans that were financed with short term deposits. Therefore, there should be consistency between the maturity of short-term debts and the maturity of long-term loans. To manage liquidity risks, banks try to set some restrictions on withdrawing short-term deposits. For example, if the amount to be withdrawn exceeds a certain percentage of the amount deposited, the customer must specify the amount that he or she wants to withdraw before one -business day.

8-4- Long Term Liabilities to Liabilities Total Ratio

This ratio reveals how much of the total asset are financed with long-term foreign sources.

Table 8a: the ratio of long-term debts to total liabilities in traditional banks from 2009 to 2018

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Ziraat Bankası	3.79%	3.05%	4.00%	5.53%	5.08%	6.43%	6.60%	6.92%	7.76%	6.33%
Garanti BBVA	11.35 %	10.97 %	12.47 %	11.66 %	14.66 %	15.05 %	14.25 %	13.35 %	14.87%	12.30%
Yapı ve Kredi Bankası	10.42 %	10.62 %	10.13 %	13.99 %	14.26 %	13.15 %	12.40 %	12.25 %	13.67%	10.20%
Akbank	5.23%	6.31%	7.84%	9.70%	10.77 %	10.97 %	14.03 %	16.34 %	14.67%	16.33%
İş Bankası	8.57%	6.06%	6.45%	7.96%	10.08 %	12.28 %	12.77 %	14.07 %	14.86%	14.41%

Table 8b: the ratio of long-term debts to total liabilities in participation banks from 2009 to 2018

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Albaraka Türk	2.17%	2.58%	5.67%	5.37%	8.70%	8.27%	15.44%	11.14 %	11.15%	4.06 %
Kuveyt Türk	8.03%	8.69%	14.73%	10.37 %	10.77%	12.11 %	8.02%	14.55 %	12.24%	9.01 %
Türkiye Finans	1.42%	1.28%	3.97%	8.28%	13.55%	15.58 %	20.99%	19.99 %	14.81%	4.89 %
Vakıf Katılım	-	-	-	-	-	-	-	10.79 %	3.33%	3.62 %

Ziraat Katılım	-	-	-	-	-	-	2.27%	3.72%	3.35%	3.34 %

Looking at the rates, long-term debt in traditional banks was held higher than participation banks in most years. A comparison can be made more easily by calculating the average of the rates.

Table 8c: the average of the ratio of long-term debts to total liabilities in traditional banks from 2009 to 2018

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
7.87%	7.40%	8.18%	9.77%	10.97%	11.58%	12.01%	12.59%	13.17%	11.91%

Table 8d: the average of the ratio of long-term debts to total liabilities in participation banks from 2009 to 2018

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
3.87%	4.18%	8.12%	8.01%	11.01%	11.99%	11.68%	12.04%	8.98%	4.99%

This ratio, which shows how much of the total assets are funded from long-term foreign sources, can also provide information about banks' ability to obtain long-term funds. Higher rate indicates that banks can easily fund their assets from long-term sources, while the excessive rate is an indication that the bank may have difficulty in paying debt installments, especially during recession periods.

9. Profitability Ratios

Banks need to make a profit in order to continue their activities. Profitable banks can strengthen its financial position by adding profit to its shareholders' equity. Profit-making banks can also reserve provision for non-performing loans to keep its financial position strong. Profit is also the guarantee of both domestic and foreign institutions working with the bank and depositors. In addition, it gives an idea that the management uses its assets efficiently to earn money. On the other hand, when banks do not make a profit its ability to pay interest or dividends to depositors will become low (Gökmen, 2007).

9-1- Return on Equity

The return on equity indicates to what extent the capital put into the bank generates profits. The return on equity ratio calculated by dividing net profit to equity.

Table 9a: the return on equity ratio in traditional banks from 2009 to 2018

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Ziraat Bankası	33.91%	27.59 %	15.94 %	15.44%	18.13 %	14.19 %	16.36 %	17.13%	16.89 %	13.87%
Garanti BBVA	22.25%	19.09 %	17.47 %	14.41%	13.31 %	12.31 %	11.00 %	14.27%	15.35 %	14.22%
Yapı ve Kredi Bankası	16.39%	19.97 %	15.88 %	11.35%	18.50 %	9.65%	8.06%	11.23%	12.01 %	11.97%

Akbank	19.21%	16.26 %	13.64 %	13.46%	13.79 %	12.58 %	11.22 %	14.77%	14.94 %	12.99%
İş Bankası	17.58%	17.53 %	14.88 %	14.57%	13.42 %	11.54 %	9.62%	13.07%	12.32 %	13.61%

Table 9b: the return on equity ratio in participation banks from 2009 to 2018

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Albaraka Türk	14.81 %	15.72 %	15.95 %	15.75 %	16.12 %	14.11 %	14.40%	9.55%	9.55%	4.11%
Kuveyt Türk	15.75 %	12.69 %	13.56 %	14.85 %	13.05 %	12.25 %	13.07%	13.85%	14.68%	15.99%
Türkiye Finans	14.36 %	14.62 %	14.35 %	13.34 %	13.05 %	10.60 %	7.78%	8.09%	9.24%	10.29%
Vakıf Katılım	-	-	-	-	-	-	-	2.17%	12.47%	21.31%
Ziraat Katılım	-	-	-	-	-	-	-1.80%	4.01%	11.32%	14.54%

Looking at the rates, traditional banks have a higher return on equity. To facilitate comparison, the average ratios were calculated in both conventional and participation banks.

Table 9c: the average of return on equity in traditional banks from 2009 to 2018

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
21.87%	20.09%	15.56%	13.85%	15.43%	12.05%	11.25%	14.10%	14.30%	13.33%

Table 9d: the average of return on equity in participation banks from 2009 to 2018

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
14.97 %	14.34 %	14.62 %	14.65 %	14.07 %	12.32 %	8.36%	7.53%	11.45%	13.25%

Equity is the balance sheet section that finances bank assets through partners and undistributed profits. Equity profitability shows how much profit the bank partners make in return for the capital they put in, or, how many units of profit are created for each unit of capital. ROE (Return on Equity), which is an important profitability indicator, is also a management performance indicator. High ROE indicates that a bank's equity is used efficiently (Ceylan, tarih yok). From another perspective, ROE is the guarantee of depositors for the continuity of a bank. According to rates, the ratio of return on equity is higher in traditional banks. But the rates calculated in participation banks become closer to the rates calculated in traditional banks. In other words, the efficient use of participation banks 'equities is close to the efficient use of traditional banks' equities.

9-2- Return on Assets Ratio

Return on assets ratio shows how effective bank assets are in making a profit. Return on assets (ROA) gives the manager, investor or analyst an idea of how efficiently a

bank's management uses its assets to make a profit. ROA is displayed as a percentage. Return on assets ratio found by dividing net profit obtained in a certain period to total assets.

Table 10a: the return on assets ratio in traditional banks from 2009 to 2018

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Ziraat Bankası	2.82%	2.46 %	1.31%	1.63 %	1.60%	1.64 %	1.70%	1.84%	1.83%	1.48%
Garanti BBVA	2.81%	2.54 %	2.09%	1.92 %	1.53%	1.46 %	1.34%	1.78%	1.95%	1.85%
Yapı ve Kredi Bankası	2.10%	2.43 %	1.72%	1.57 %	2.15%	1.02 %	0.84%	1.16%	1.21%	1.34%
Akbank	2.86%	2.52 %	1.79%	1.89 %	1.60%	1.54 %	1.28%	1.67%	1.91%	1.74%
İş Bankası	2.10%	2.26 %	1.65%	1.89 %	1.50%	1.42 %	1.12%	1.51%	1.46%	1.63%

Table 10b: the return on assets ratio in in participation banks from 2009 to 2018

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Albaraka Türk	1.64 %	1.59 %	1.53 %	1.56 %	1.40 %	1.10 %	1.02%	0.66%	0.65%	0.32%
Kuveyt Türk	1.84 %	1.64 %	1.31 %	1.32 %	1.16 %	1.09 %	1.06%	1.12%	1.18%	1.17%
Türkiye Finans	1.97 %	1.92 %	1.71 %	1.61 %	1.31 %	1.00 %	0.68%	0.76%	0.96%	0.95%
Vakıf Katılım	-	-	-	-	-	-	-	0.41%	1.05%	1.55%
Ziraat Katılım	-	-	-	-	-	-	-0.55%	0.39%	1.11%	1.45%

The ROA ratio gives investors an idea of how effective the bank is in converting the money invested into profits. A higher ROA rate is better because the bank makes more money with less investment. The rate of return on assets is higher in traditional banks than in participation banks. Average of the return on Assets will be as follows:

Table 10c: The average ratios of the return on assets in traditional banks from 2009 to 2018

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
2.54%	2.44%	1.71%	1.78%	1.68%	1.42%	1.26%	1.59%	1.67%	1.61%

Graph 3a: The average ratios of the return on assets in Traditional Banks

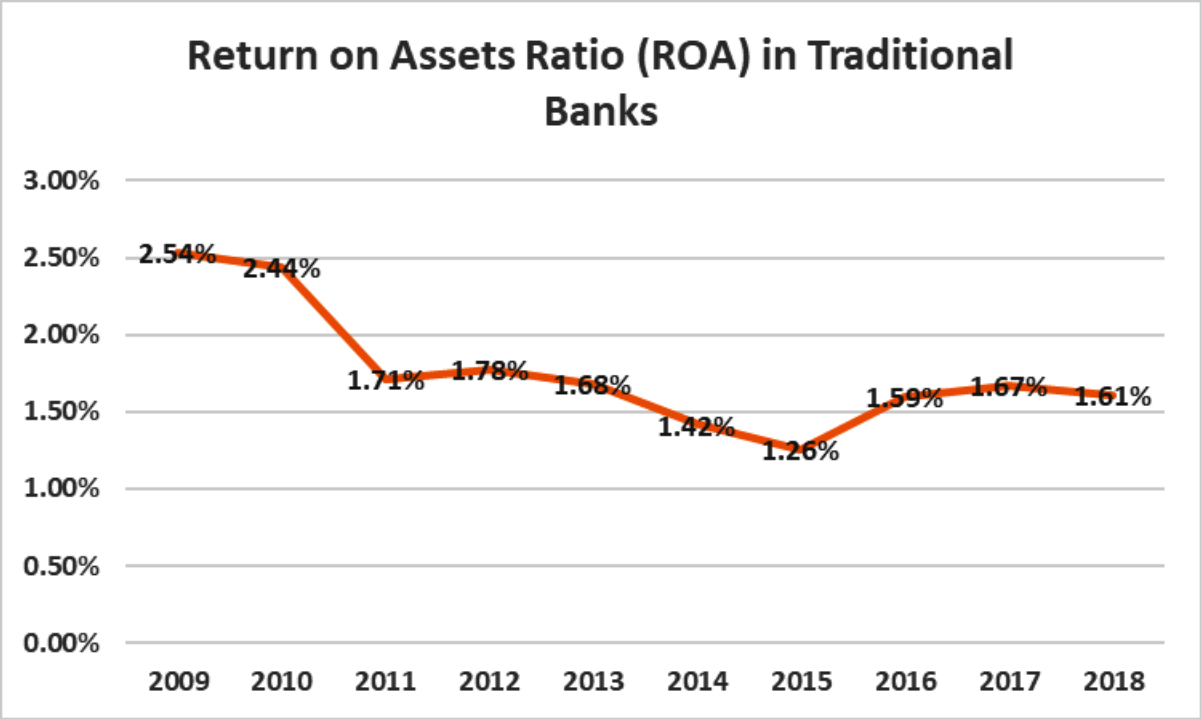
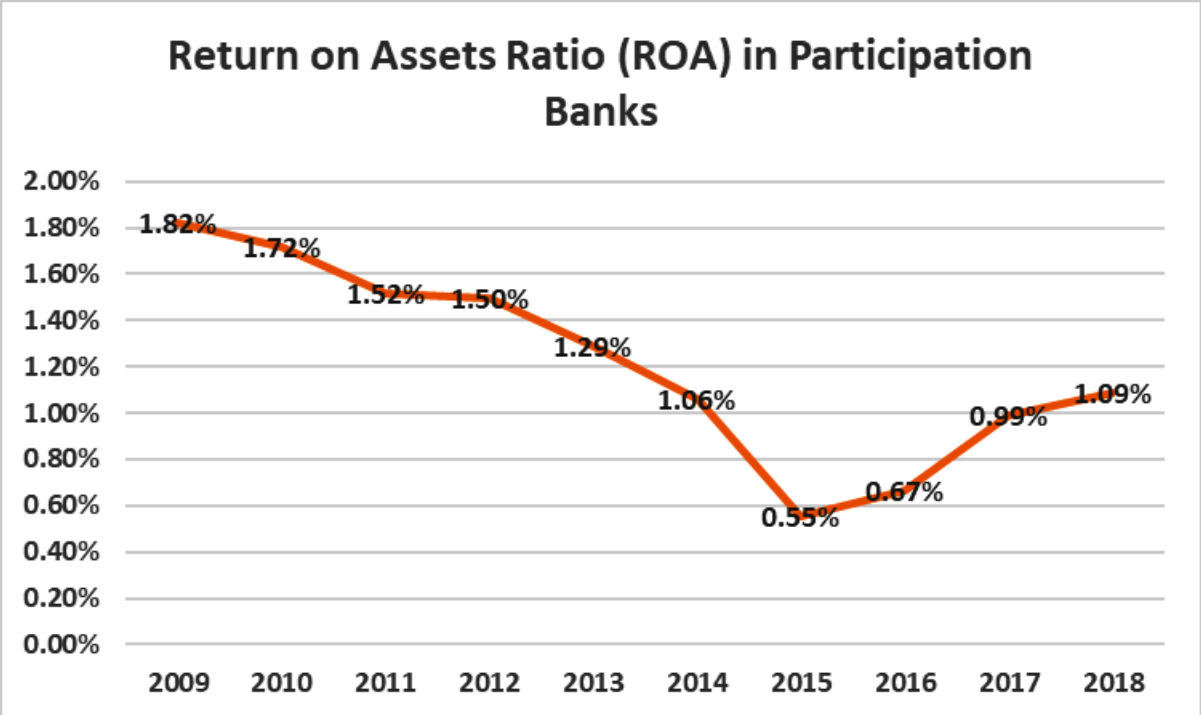


Table 10d: the average ratios of the return on assets in participation banks from 2009 to 2018

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
1.82%	1.72%	1.52%	1.50%	1.29%	1.06%	0.55%	0.67%	0.99%	1.09%

Graph 3b: The average ratios of the return on assets in participation Banks



Taking into consideration the rates, the rate of return on assets has gradually decreased in both traditional banks and participation banks. However, the rate of

traditional banks remained above that of participation banks. It can be said that traditional banks can transform their investments into profit in a better way than participation banks. In other words, traditional banks manage their assets more effectively to generate more net income.

Conclusion

Despite their recent history, participation banks compete with traditional banks. However, banks operating according to the Sharia provisions may face difficulties due to a lack of support from the central banks or lack of an Islamic financial market. According to the analysis, it can be said that although conventional banks hold less money than participation banks, conventional banks can deposit their money into a more risk-free financial instruments than participation banks because they do not comply with the Sharia provisions. Because these financial instruments have a good liquidity ratio as well as making a profit, as well as the possibility of being converted into cash in the financial markets quickly and with minimal loss. Although the leverage ratios in both traditional banks and participation banks are close to each other, traditional banks were able to invest their loans better than participation banks. This is also reflected in the profitability of capital and profitability of assets in conventional banks because these rates are higher in traditional banks than in participation banks. This is due to the ability of traditional banks to invest in financial markets and not maintaining a large non-invested cash rate. However, participation banks are competitors to conventional banks, as they managed to get a significant share in the banking sector in a short time.

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