

ESSAYS ON BEHAVIORS OF ISLAMIC BANK DEPOSITORS



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İSTANBUL ŞEHİR UNIVERSITY

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This is to certify that we have read this thesis and that in our opinion it is fully adequate, in scope and quality, as a thesis for the degree of Master of Business Administration

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Aslan Demir

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ABSTRACT

ESSAYS ON BEHAVIORS OF ISLAMIC BANK DEPOSITORS

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Turkish Participation Banks, as a viable alternative not only for domestic depositors but also for international depositors, sustain to increase their market share in terms of asset size to 6.33% and deposit to 8.39% at the end of 2019, which shares are respectively 2.26% and 3.04% in January 2005. It is obvious that participation banks differ from the conventional ones with regards to ratio of demand deposit to total deposit. While banking law, products served, banks' strategies and business models could be seen as the reasons for this difference, the customer profiles is one of the major factors. That international customers have a high proportion in banks portfolio makes this difference evident. In this paper, we analyze one of the participation banks' natural person deposits in a descriptive way in first chapter. In second chapter we analyze one set of its international customers to demonstrate the personal and macroeconomic factors affecting their demand deposit to total deposit ratio of international depositors and the tendency of domestic currency holding for international depositors.

Key words: Demand Deposit Ratio, Behaviors of Depositors, Participation Banks

ÖZ

İSLAMİ BANKA MUDİLERİNİN DAVRANIŞLARI ÜZERİNE MAKALELER

Demir, Aslan

Tez Danışmanı : Prof. Dr. Ahmet Faruk Aysan

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Sadece yerli mudiler için değil, uluslararası mudiler için de iyi bir alternatif olan Türk Katılım Bankaları'nın, Ocak 2005'te payları sırasıyla %2,26 ve %3,04 olan aktif büyüklük açısından pazar payı %6,33'e ve mevduat pazar payı %8,39'a yükselmiştir. Katılım Bankaları'nın vadesiz mevduatın toplam mevduata oranı açısından geleneksel bankalardan farklılaştığı açıktır. Bankacılık Kanunu, katılım bankaları tarafından sunulan ürünler, katılım bankalarının stratejileri ve mevcut iş modelleri bu farklılığın nedenleri olarak görülebilirken, mudilerin finansal davranışları en önemli faktörlerden biridir. Uluslararası müşterilerin banka portföyünde yüksek bir paya sahip olması bu farkın daha da artmasına neden olmaktadır. Bu çalışmanın birinci bölümünde, bir katılım bankasının gerçek kişi mevduatlarına dair açıklayıcı bir analiz yapılmaktadır. İkinci bölümde ise, yabancı mudilerin hem vadesiz mevduat tutma eğilimlerini etkileyen hem de yerli para tutma eğilimlerini etkileyen kişisel ve makroekonomik faktörleri analiz ediyoruz.

Anahtar Kelimeler : Vadesiz Mevduat Oranı, Mudi Davranışları, Katılım Bankacılığı

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My greatest debts and gratefulness is to my family, who support and trust in me always. I have to admit my special thanks to my wife for her great patience and encouragements. I am fortunate enough to be together with her in this stressful process.

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Chapter - 1

A Behavioral Patterns on Various Demand Deposit to Total Deposit Ratios of Different Groups in a Participation Bank in 2019

Abstract

This paper examines that how different groups of depositors behave in their preferences between demand and participation accounts in a participation bank in Turkey. It is obvious that highest three demand deposit to total deposit ratio belonged to participation banks at the end of 2019. We put a spotlight on the one of participation banks depositors in terms of citizenship, currency segment, age, and residency. Our findings demonstrate that international depositors had, in general, a higher demand deposit ratio than that of domestic depositors. As the deposit amount increases, the propensity to use participation accounts increase in domestic and international depositors, which decreases demand deposit ratio. Moreover, currency is another critical factor which in our results, it could be seen that age is a critical factor having an impact on customer behaviors.

1.1. Introduction

Participation banks gained momentum to increase their market share in terms of asset size and deposit size. They have increased their geographical coverage by continuing to open branches and investing in ATM's to reach more customers. On the other hand, the international depositors from MENA area make their bank preferences in the favor of participation banks. It is seen that the refugee inflow had a great positive impact on the increase the market share of the participation banks.

One of differentiating characteristics of the participation banks is that their demand deposits to total deposit ratio is high when comparing with the conventional

competitors. Participation banks, in general, implement cost-free policies in their business model. Account fee, transfer fee on transactions, etc. are not charged by participation banks on digital channels to the customers who would like to be free. Many customers keep some of their money in their demand account until the transactions date. When the number of the customers who behave in this way increases, bank's total demand deposit amount give an opportunity for the bank to finance the economy with those cost-free deposits. This business strategy which is implemented mainly by participation banks help them increase their profitability. However, this could increase the operational costs of the bank. This advantageous structure could be negative for the bank but banks make many analyses on them.

Digitalization and channel migration from the physical channels to digital ones are critical for the bank which make sometimes financial operations of the companies and the retail customers. Participation banks have some extra operations in compliance with Islamic banking principles which create burden on customers. With the digital transformation and the channel migrations, participation banks increase their market share a lot in near future.

Volatility of currency increase the frequency of the currency exchanges of the customers on FX market in a short run. When the fluctuations increase, the demand deposit accounts increase with the expectation of making a transaction in a short term. Focusing on those customer groups, participation banks started to provide mobile application services. Those banks could sometimes keep their buying and selling margins smaller to attract people who are far from participation banks.

Store of value is one of the role of money. The people escaping from the war or conflicts in their home country liquidate their wealth with liquid money. When they come to Turkey, they prefer participation banks more to keep their liquid assets as deposit. Some of them purchase assets in Turkey, but some other see participation banks as a safe harbor to keep their wealth safe.

1.2. Literature Review

Although participation banks seem like other conventional banks in Turkey, they differentiate in business models especially for the business side. Participation banks

differ from conventional banks in demand deposit ratio. There might be several reasons but the one of the main reasons is the ongoing habits of merchants for many years in these societies. When it is analyzed the history of modern Muslim countries, the modern banks based on interest has been established in Western societies in the 19th century when there are different financial structure which centered upon "moneychanger" in Muslim countries. There were no need for intermediaries between people who have a fund surplus and the traders who need capital. These moneychangers could have an effective status the Muslim financial system. (Afzal, 1993).

The significant developments in Islamic banking growth could be seen right after oil price increases in 1970s which gave opportunities for Muslim countries which have extensive natural resources. There were some unconformities between Muslim societies and western banks posing the interest oriented products and it resulted that some Muslims attempt to solve the financial system needs of the modern Muslim society which are faithful to Islamic principles. It is an obvious fact that religion is one of the leading factor in depositors' preferences. It is demonstrated that the individual depositors would select Islamic bank more than conventional banks because they prioritize their religious concerns in Kuwaiti example.(Metwally, 1996). Malaysian Muslim investors could be demonstrated as the other groups who are concerning their religious rules when making their financial decisions.(Muhamad, Devi, & Abdul Mu'min, 2006). The religious concern is not the only important criterion, but the new service offerings, confidence in bank managers, friendliness of bank employees, reputations are other factors in selecting bank. (Erol, Cengiz & Kaynak, Erdener & Radi, El-Bdour, 1990).

After 10 years in Turkey, there were attempts to set up financial institutions with the cooperation of established Islamic Banks in Arabic countries. Although Turkey is a Muslim-dominant country, the share of Islamic Banks in Turkish Banking Industry is too small. Many researches have been published about the reason of this weakness. It is demonstrated that because of the long period of secularism, Turkish people separate religion from business activities and prefer their bank depending on the financial advantages, diversity of financial products and quality of services.

On the other hand, a lot of Turkish people see that interest-free financial institutions are not really Shari'a-compliant. However, when it is analyzed, these people do not know how the Islamic Banks operate and they are affected by the negative perceptions of the media and academic literature. (Egresi, Istvan & Belge, Rauf, 2017)

The question why profit shares provided by Islamic Banks and the interest rate given by conventional banks are so similar has an important part in the literature. The examples of Turkey and Malaysia demonstrate that profits provided by interest-free financial institutions converge toward the interest rates offered by conventional banks. The reason of this tandem between interest rates and profit shares is mainly the high proportion of debt-like financings agreements, murabaha, in participation banks' asset side. (Cevik and Charap, 2011). The long term comparison of the Turkish Participation Banks and Conventional Banks Industries which contains data from 2001 to 2017 show that there were a tandem between interest rates and profit shares in USD and EURO in different maturities which are proved in 1,3,6 months. (Ergec, 2018). Despite the Islamic Banks are criticized in similarity of sectors, Islamic Banks prioritize Sharia compliance first rather than the method, products or else to attract depositors to put their moneys in an Islamic Banks. On the other hand, though it is seen as a drawback of the participation banks, the negative divergence of the profit shares from interest rates are resulted in significant withdrawal of savings from Islamic Banks. (Kontota, Hamali, & Abdullah, 2016) Customers' preferences force Islamic banks to be similar to conventional banks. Theoretically, the depositors of the participation banks should share not just in profits but the losses. It is seen that the customers of risk-free institutions behave in a same way with the conventional banks depositors when there is risk of failure for the participation bank. As a rational behavior of conventional bank depositors, Islamic bank depositors are ready to withdraw their money rather than sharing the losses of the Islamic bank. (Aysan et al., 2017).

When considering that Turkey is the second largest and most dynamic Muslim economy in the world, the rank with the share of participation banks in total banking sector does not do justice to the size of its economy. When it is analyzed

the comparison between Malaysia and Turkey for the progress of Islamic Banking, the difference pattern could be easily seen, both countries started almost same time. However, the vision and strategic approach of the Malaysia to Islamic finance differ from Turkey that Malaysia aimed to become a leading country with the investments in institutional developments and the governments' commitment to invest in education and skill improvements in Islamic finance sector, which are supported by the Political Will. (Asutay, 2013).

Structure of Participation Banks in Turkey

1.3.1 Market Share in Asset size

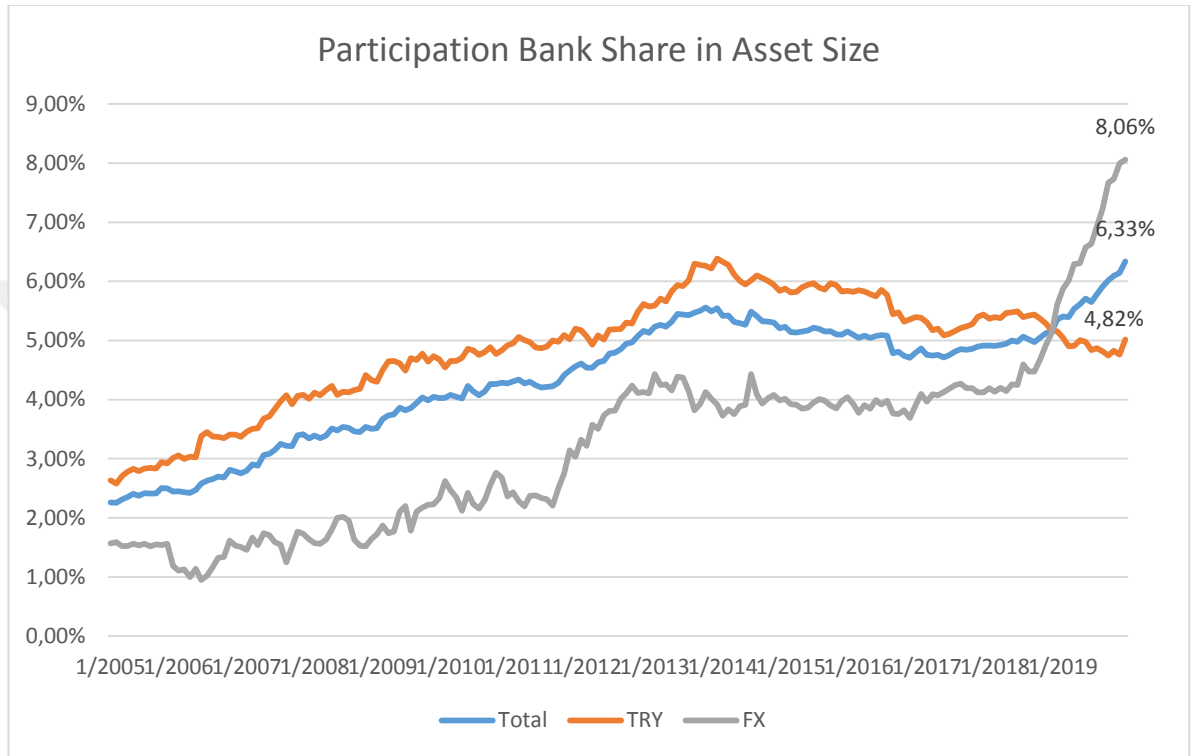
At the end of 2019, the participation bank share in asset size reached to 6.33% with the highest level. Though the public economy authority and the actors in the sector has been targeting to raise the market share in participation bank sector to %15 by 2025, current level is not the desired level when it is considered the next 5 years left. Public authority attempted to support the market by launching 3 participation banks since 2015.

In October 2013, the market share reached to 5.56% with a high growth rate. In 7 years, looking back to the level of October 2006, 2.81%, the market share doubled itself. This trend was not sustained after this date. It declined to the lowest level of 4.71% in October 2016, just after 3 months that the Bank Asia's banking permission had been canceled.

The economy authority launched Ziraat Katilim Participation Bank and Vakif Katilim Participation Bank as public participation banks in 2015 so as to protect the confidence on the participation bank sector and to support the realization of market share target of 2025. In this market, there was another bankruptcy story of Ihlas Finance House in 2001 as it is in 2016 with Bank Asya. It might be expected that confidence on participation bank sector decrease, but decisive stance of public authority helped to protect the confidence. Although the share dropped back to 4.71% again in April 2017, 1.62% increase in market share has been realized in just 32 months.

In 2019, Emlak Katilim was re-launched as Participation Bank. When it comes to the end of 2019, the share of three public participation banks have 26.8% share in Participation Sector. Ziraat Katilim, Vakif Katilim and Emlak Katilim have market shares 12,8%, 10,7% and 3,3% respectively.

Figure 1.1 : Participation bank share in asset size



When it is analyzed the participation bank share in TRY Assets and FX Assets, it is noticed that after FX currency shock in August 2018, participation banks increase FX market share from 4.47% to 8.06% in 16 months while they decreased their TRY market share from 5.37% to 5.01%.

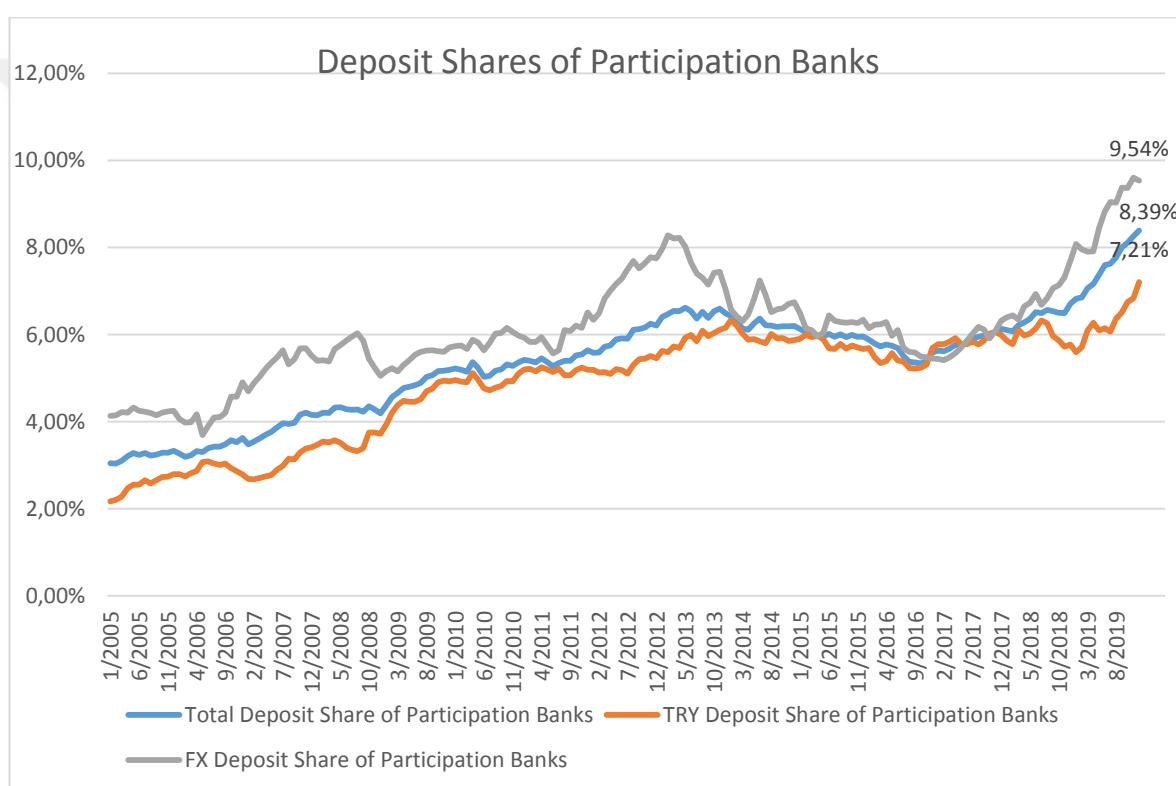
1.3.2. Market Share in Deposit

1.3.2.1. Market Share in Total Deposit

Participation banks have a greater portion of deposit in their liabilities compared to the conventional banks. At the end of 2019, average ratio of total deposits to total liabilities is 76.2% for the participation banks, except Emlak Participation Bank re-launched as sixth participation bank, even Kuveyt Turk Participation Bank has the largest ratio in Turkey with 81.9%.

It is supposed that depositors are more sensitive in putting their deposits into bank account considering their religious concern. Turkish people could tend to put their deposits into the participation bank accounts even yield expectation is less than how much the conventional banks offer. On the other hand, price matters when people need to get credit or financings and they generally prefer to receive loans with low interest rate. Deposit share of participation banks reached to the highest level with 8.39% at the end of 2019, which is the 2.06% more than share in asset size.

Figure 1.2 : Deposit shares of participation banks



Turkish Participation Banks are the safe harbor for the depositors in Middle East Countries. Arab Spring period and instabilities around the Middle East countries caused many people to migrate from their home countries. Turkey is the stable and safe country for those people who bring a part of their wealth to keep safe. The Turkish currency depreciation shock in August 2018 made citizenship opportunities by real estate investment attractive for foreigners. Around 3.5 million refugees who had to escape from Syrian War had an impact on the deposit increase in Turkish Banking Sector. Three participation banks Kuveyt Turk P.B., Albaraka P.B. and

Turkiye Finans P.B. have Arabic shareholders. Those banks offers much more international customer-focused services by putting relation managers who speak Arabic in branches and by creating Arabic language services in call center and etc. Thus, participation banks could be considered an appropriate safe keeping place for international customers. The deposit share of participation banks reached to 8.39% with a fair of contribution of international depositors.

In August 2018, USD/TRY parity surged to 7.2, which parity was at the level of 3.8 TRY at the end of 2017. This currency shock changed the depositor behaviors dramatically. Dollarization in Turkey increased afterwards and Turkish depositors shifted some of their deposits into gold accounts. In this shift, participation banks increased its deposit market share significantly. Kuveyt Turk is a remarkable example in gold banking and 3rd biggest bank in gold deposits, whose rank in asset size in 11th at the end of 2019. Türkiye Finans has also at the 6th place in gold deposits. These banks offer digital trade platforms includes many different products for their customers. Depending on their pricing strategies, they made bid-ask spread smaller when compared with their conventional competitors. Thus, after currency shock period, participation banks increased their market shares in deposits. In graph, it is obvious that FX deposit shares reached to 9.54% welcoming level for participation banks.

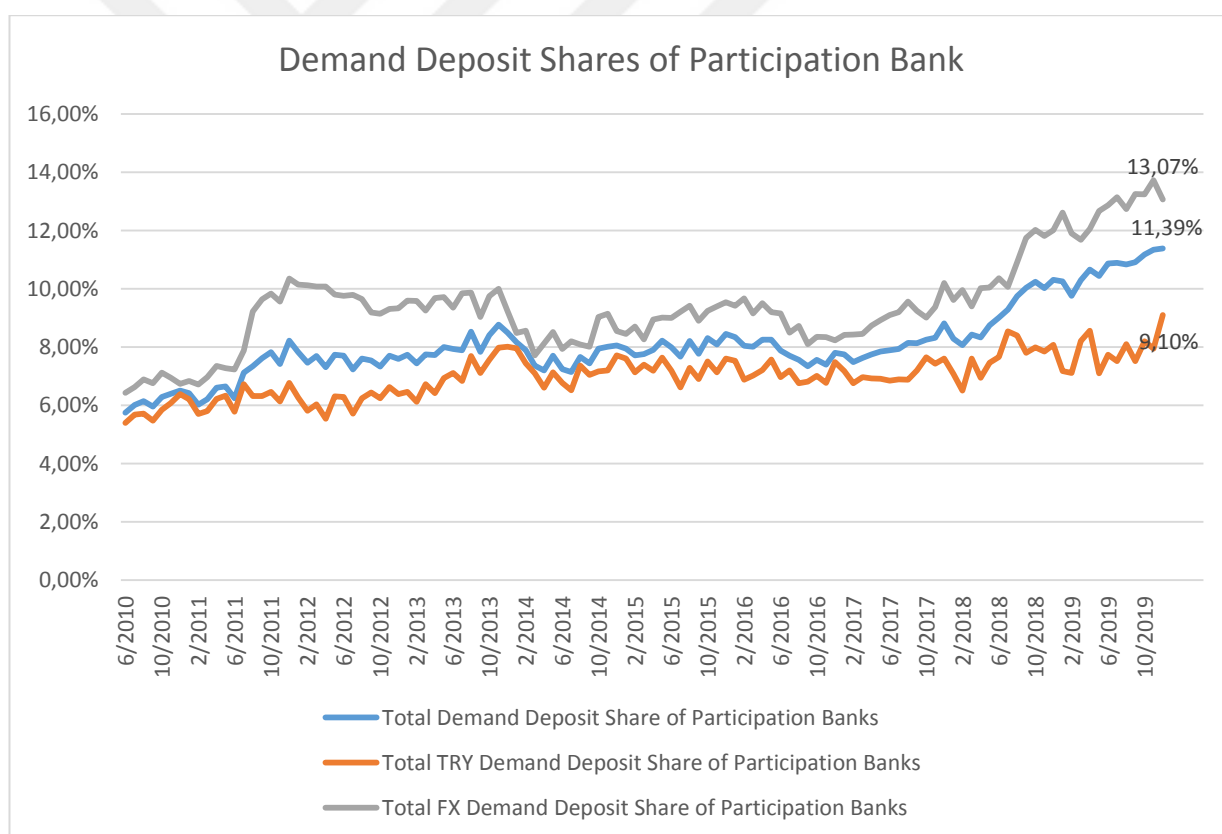
1.3.2.2. Market Share in Demand Deposit

Regarding the asset size share of participation banks in Turkey, 6,33%, demand deposit shares of participation banks with 11.39% demonstrate the difference in business model and customer portfolios of participation banks. There are a couple of reasons lie behind the strength part of the participation banks.

Participation banks' TRY proportion in total deposits is low. At the end of 2019, the average TRY deposits to total deposits ratio of participation banks is 41.5%, this ratio is 49.6% for the first 20 conventional banks in the same date. Inflation and interest rate is high enough in TRY for people who holds TRY. Depositors need to protect their TRY deposits more from inflation than they do for their FX deposits. In 2019, average TRY deposits yield is 18.6% for banking sector while average USD and

EUR deposits yields are 2.9% and 0.99%, respectively. Many depositors might not need to open a time deposit/participation account for their FX deposits. For our experiences, we could list the followings for the reason of the deposit structure. First of all, participation banks have a higher international customer portion in their customer portfolios. Their focus on gold banking could be considered the second reason, a big part of gold is hold in demand deposit accounts. It is known that depositors with high religious concerns prefer to put their deposits into FX demand deposit accounts to prevent depreciation under inflation. These people do not open time deposit or participation accounts, they use banks as a safe place for their money. However, it is difficult to comment on how many people behave in that way.

Figure 1.3 : Demand deposit shares of participation bank

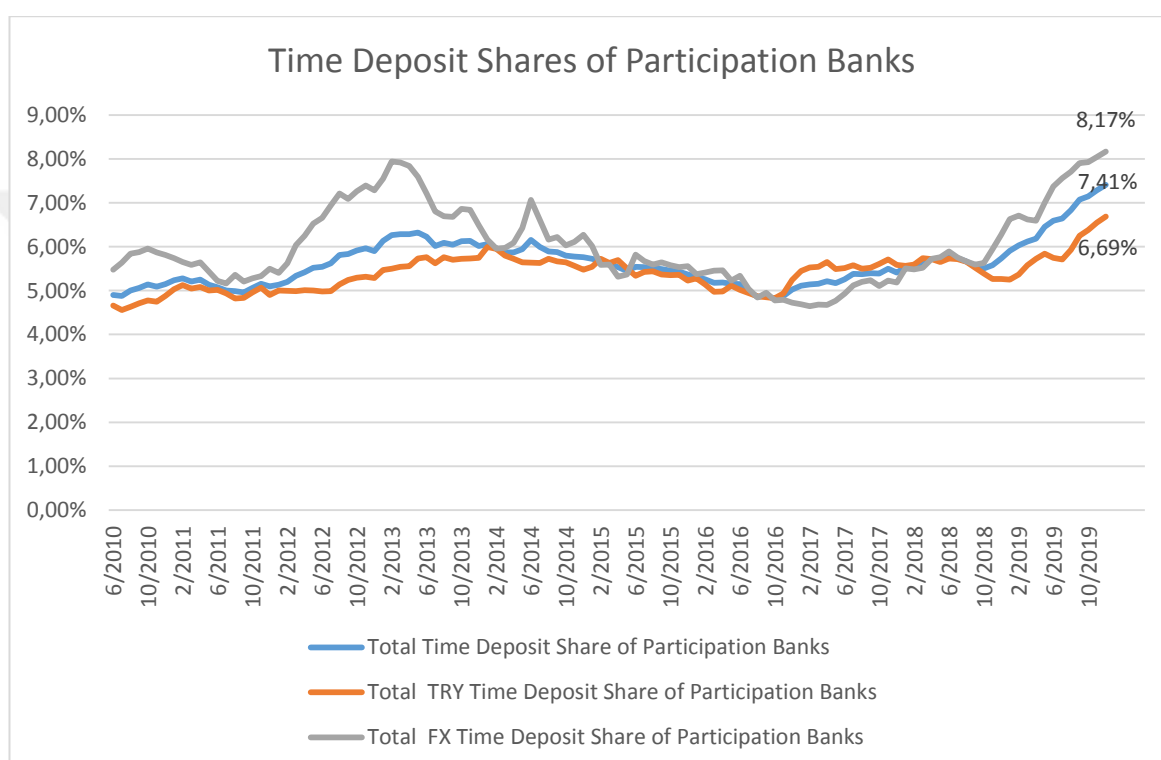


FX Demand deposits share of participation banks is 13.07% which is more than double of asset size share with 6.33%. As it is seen in the graph below, participation banks have always been more in FX demand deposit part from 2010. After currency shock period, the FX demand deposit share level which have fluctuated around 10% in 2018, increased and reach to the highest level 13.73% in November 2019. For the

TRT demand deposits part, the increase is not obvious as it is in FX side. The level has fluctuated between 6% and 8% for many years and reached to 9.10% at the end of 2019.

1.3.2.3. Market Share in Time Deposit

Figure 1.4 : Time deposit shares of participation banks



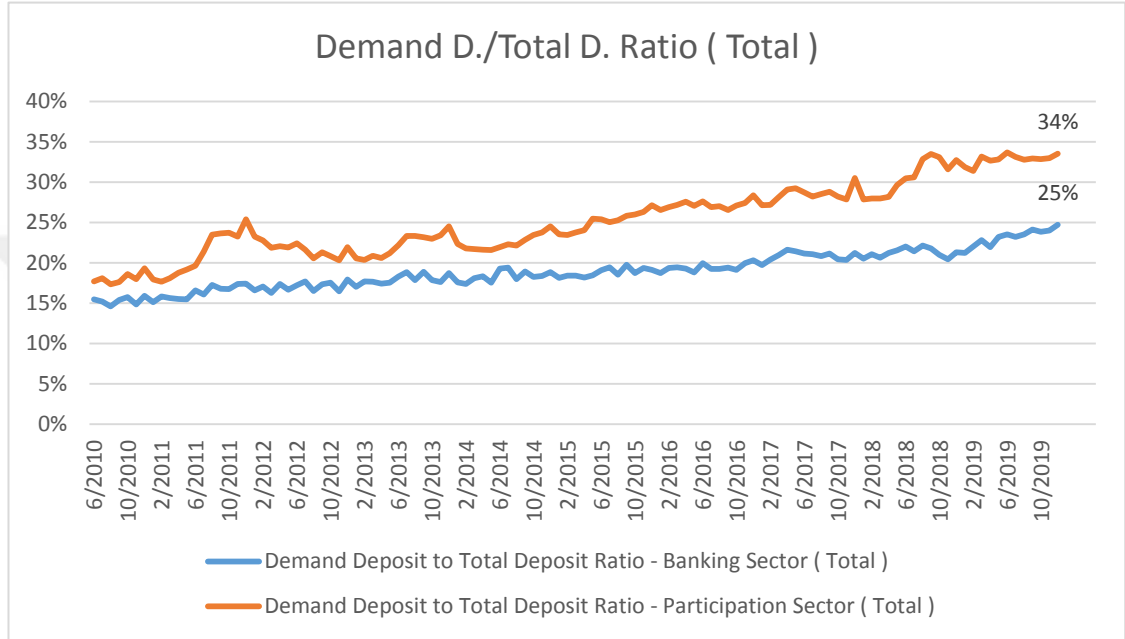
Total, TRY and FX time deposit share of participation banks had been close each other since 2015 to the currency shock period. They fluctuated mostly around 4.5% and 6% before August 2018 and started to increase. The increase in FX side is clear and FX time deposit share reached to 8.17% at the end of 2019.

As a result, the deposit share of participation banks was the 8.33%, the demand deposit and time deposit shares was 11.39% and 7.41%, respectively. It is obvious that demand deposit market share is the one of distinctive strength for participation banks. In next part, we analyze the demand deposits to total deposit ratio in different aspects.

1.3.3. Demand Deposit to Total D. Ratio

1.3.3.1. Demand Deposit to Total D. Ratio Total

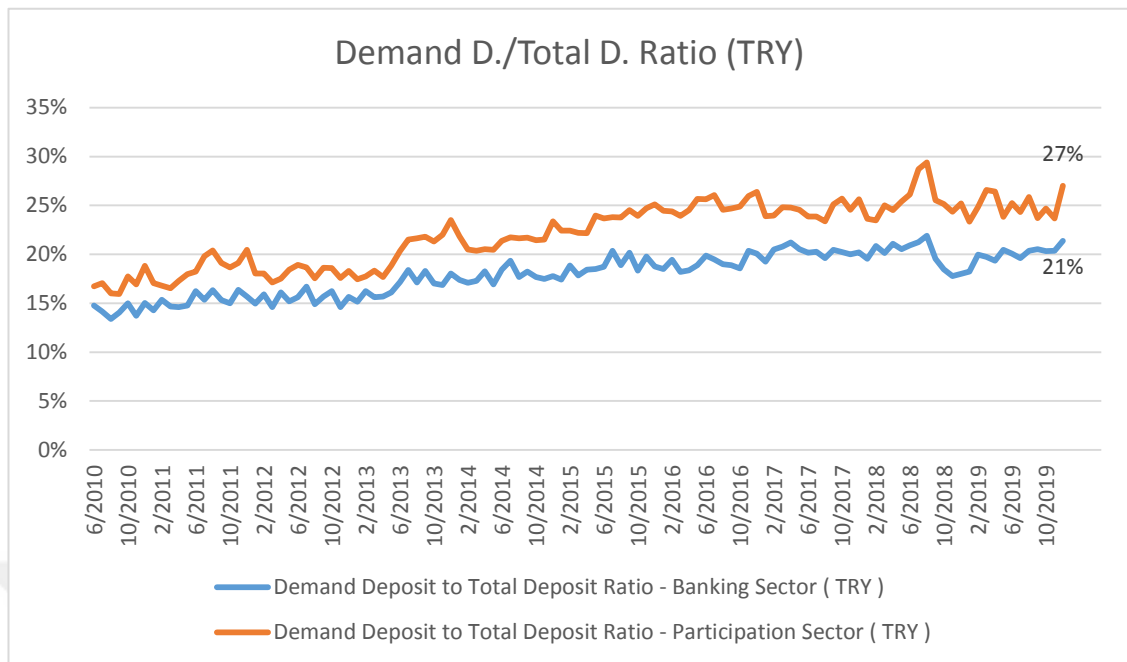
Figure 1.5: Demand deposit analysis



Demand deposit to total deposit ratio reached to 34% in participation banks and 25% in banking sector at the end of 2019. The difference in this ratio between banking sector and participation banks has been small before 2015. The difference increased over years and reached to 9% at the end of 2019.

1.3.3.2. Demand Deposit to Total D. Ratio TRY

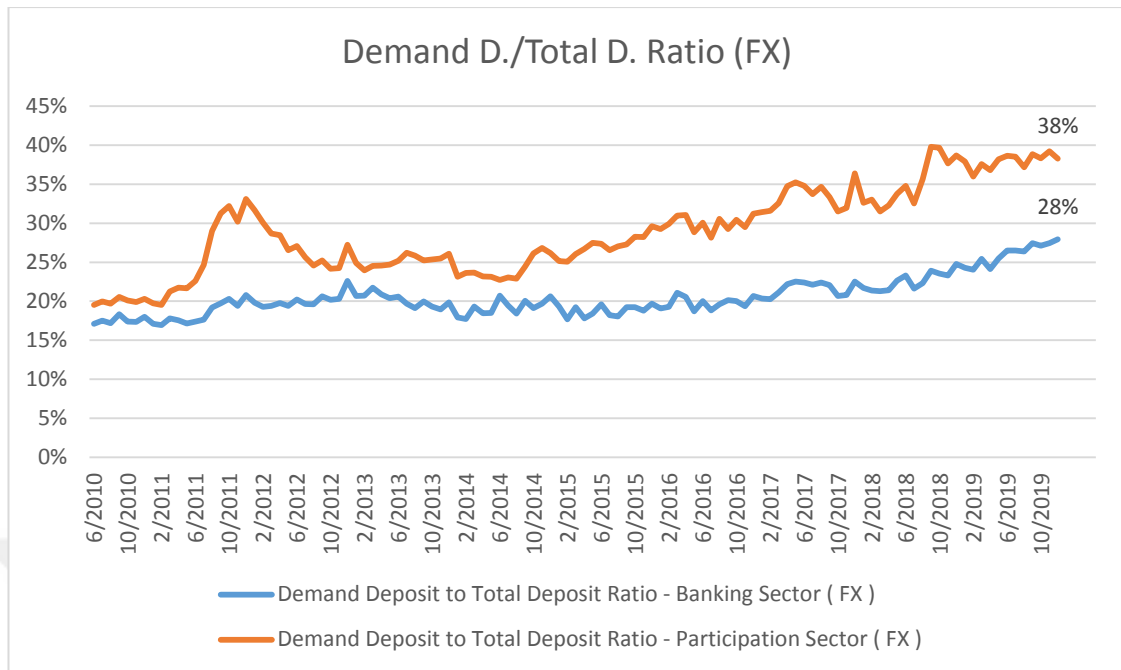
Figure 1.6 : Demand deposit analysis (TRY)



TRY Demand Deposit to Total Deposit Ratio has always been more in participation banks. The ratio for TRY reached to 27% for participation banks and 21% for banking sector at the end of 2019. The ratio in TRY is low and it could be supposed that depositors would prefer to protect their TRY deposits from inflation. It is clear in the graph above that with the demand deposit to total deposit ratio dropped both in banking sector and participation banks with currency shock in 2018. So, financial environment and economic conditions have impacts in depositors' behaviors in the aspects of demand deposits.

1.3.3.3.Demand Deposit to Total D. Ratio FX

Figure 1.7 : Demand deposit analysis (FX)

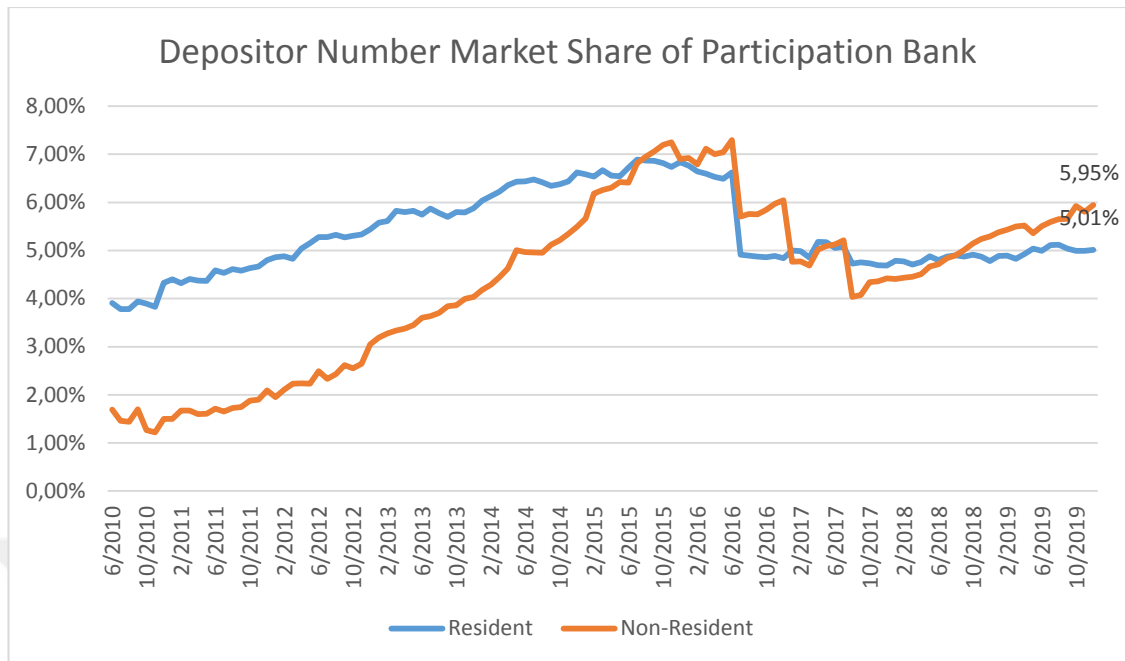


FX Demand Deposit to Total Deposit Ratio has also always been more in participation banks. The ratio for FX reached to 38% for participation banks and 28% for banking sector at the end of 2019. The ratio has an increasing trend and the gap between participation bank and banking sector increased after 2015. The one reason of the gap increase is the refugee preferences. For the next chapter, we analyze to answer this question. The currency shock influenced positively on the ratio for FX in contrast to that of TRY.

1.3.4. Market Share in Depositor Number

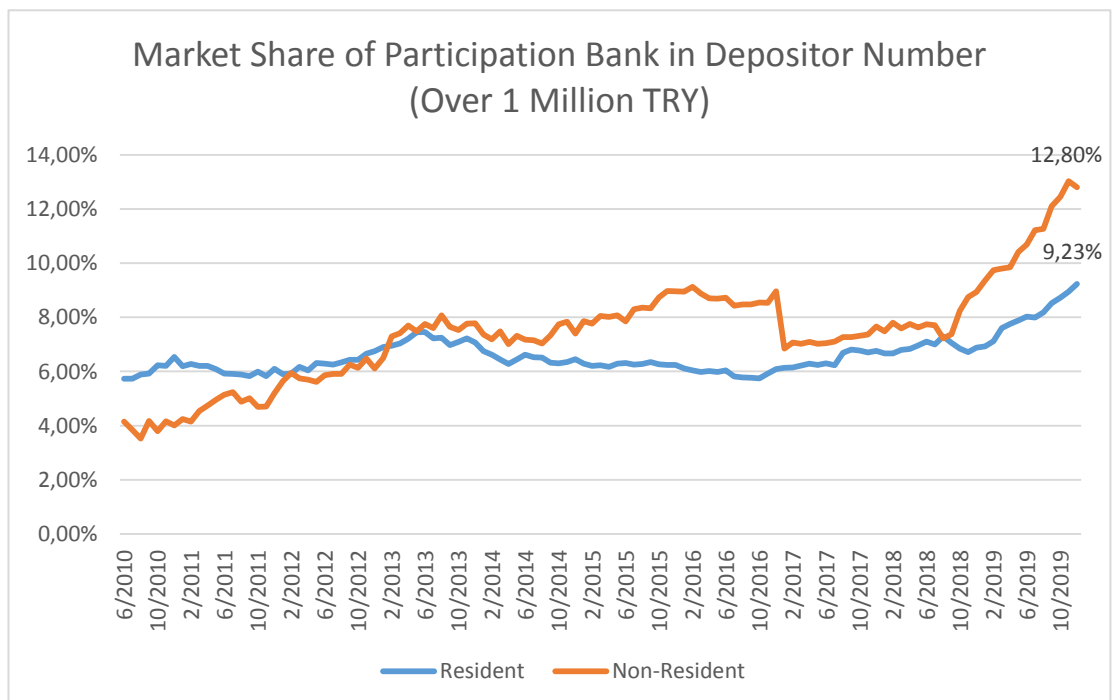
Participation Banks' Depositor Number share reached to 5.01% in residents and 5.95% in non-resident. At the end of 2010, these shares were approximately 4% and 1.5%. The Syria War started at 2011 and refugees raise the participation banks' depositor number market share to 7.30% in June 2016. Bank Asia's banking permission cancelled after the coup attempt in July 2016. A couple of depositors account has been closed for residents and non-residents over periods. After August 2016, the ratio for resident stayed flat and reached to 5.01% but the share of non-residents increased to 5.95% from 4.08%.

Figure 1.8 : Depositor number market share of participation bank



The market share of participation banks in depositor numbers holding over 1 million TRY reached to 12.80% for non-residents and 9.23% for residents at the end of 2019. After currency shock in 2018, participation banks increased the share from 7.8% to 12.8% for non-residents.

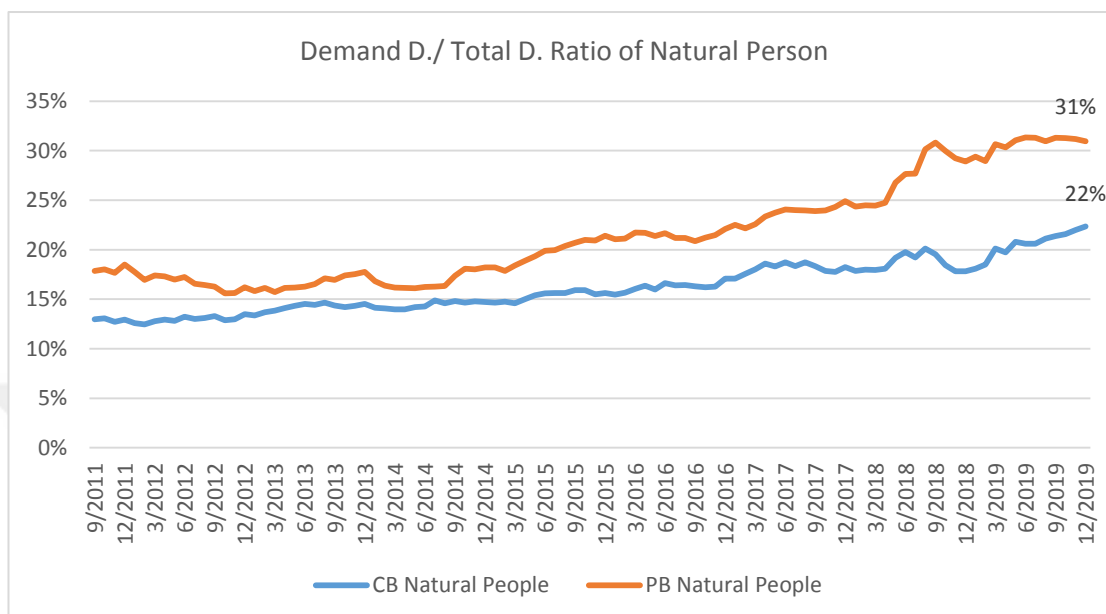
Figure 1.9 : Market share of participation bank in depositor number (over 1 Million TRY)



1.3.5. Demand D./Total D. Ratio Analysis

1.3.5.1. Demand D./Total D. Ratio Analysis for Natural People

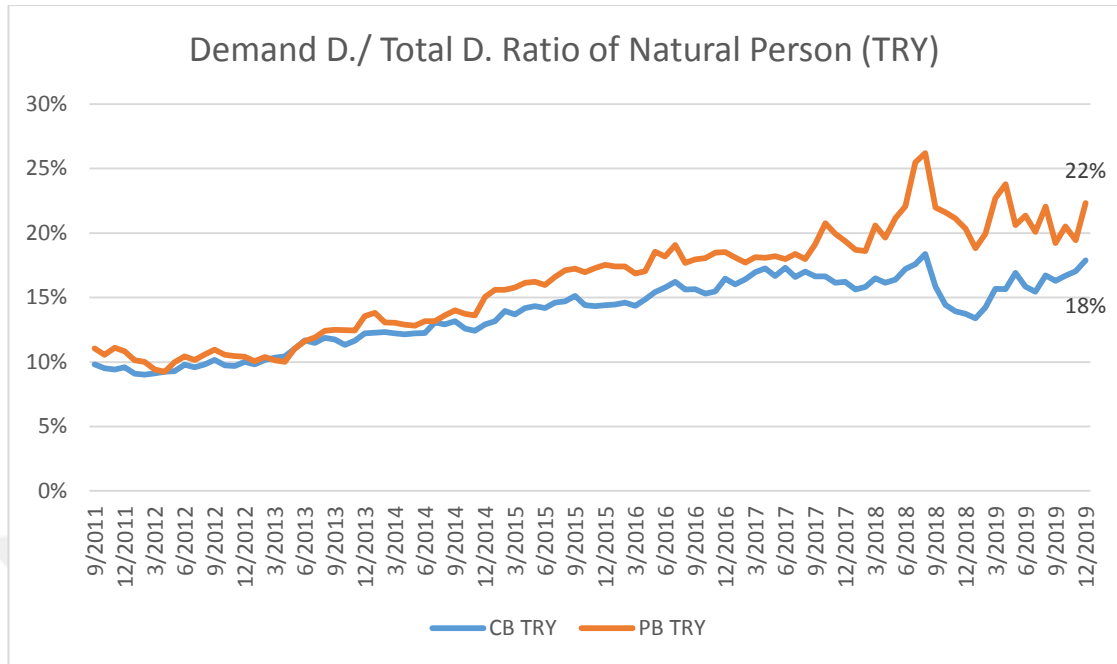
Figure 1.10 : Demand deposit / total deposit ratio of natural person



Demand deposit to total deposit ratio reached to 34% in participation banks and 25% in banking sector at the end of 2019. To interpret the natural people's behavior, we focus on the natural people's ratios of demand deposit to total deposit for conventional banks and participation banks. The ratios, 31% for participation banks and 22% for conventional banks, for natural people are less as it is expected.

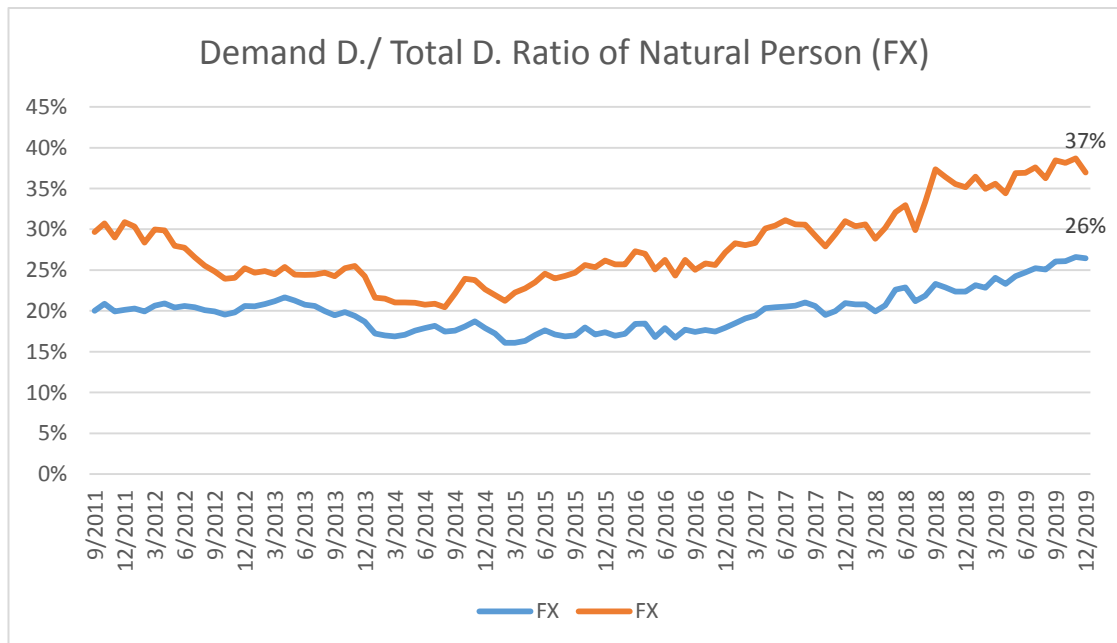
1.3.5.2. Demand D./Total D. Ratio Analysis for Natural People by Currency

Figure 1.11 : Demand deposit / total deposit ratio of natural person (TRY)



We show that TRY Demand Deposit to Total Deposit Ratio has always been more in participation banks. But the ratios is not always more for the natural people. The natural people's behaviors are much more similar. The ratio for TRY reached to 22% for participation banks and 18% for banking sector at the end of 2019.

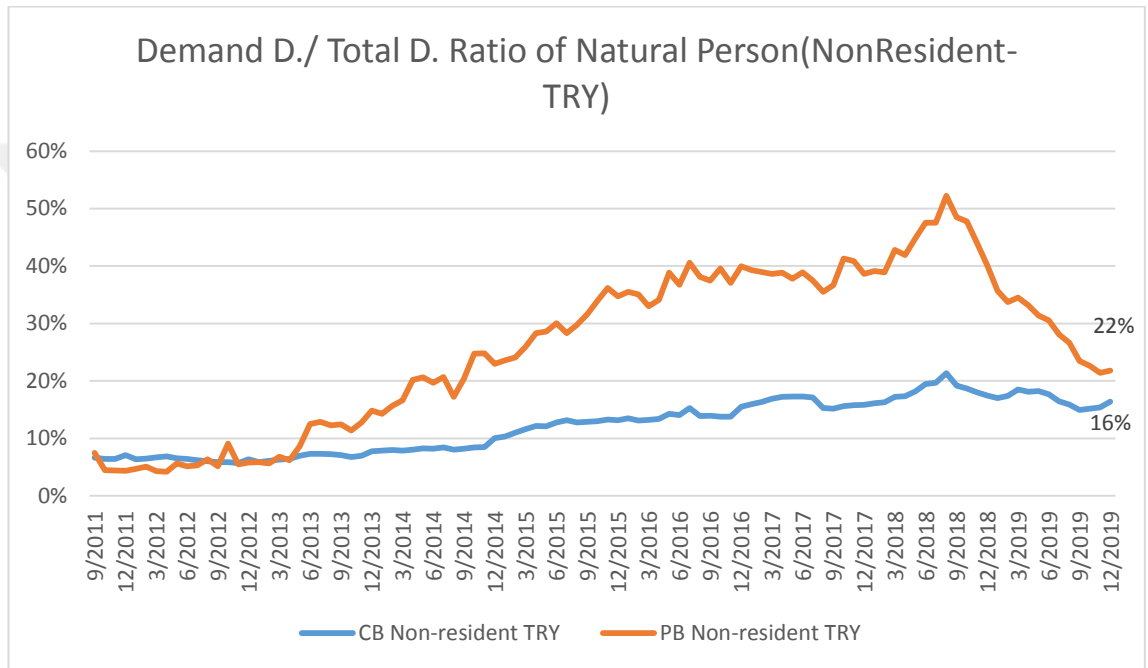
Figure 1.12 : Demand deposit / total deposit ratio of natural person (FX)



FX demand deposit to total deposit ratio of natural people is almost similar with total FX ratio. The difference is just 1% less for participation banks and 2% for conventional banks.

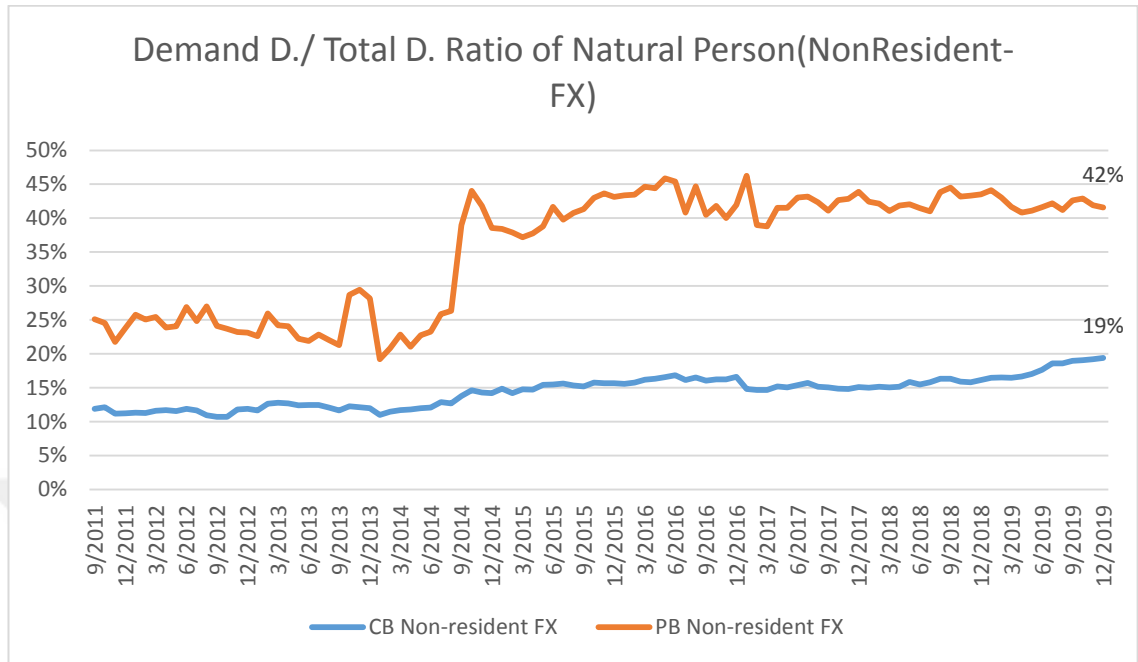
1.3.5.3. Demand D./Total D. Ratio Analysis for Non-resident Natural People by Currency

Figure 1.13 : Demand deposit / total deposit ratio of natural person (NonResident-TRY)



After Syrian War, participation banks increased the non-resident customer numbers especially with refugees coming from Syria. With this increase process, the demand deposit to total deposits ratio had increased to 52% from 7% in August 2018. After currency shock, interest rates or participation rate for TRY increased enormously increased, inflation rates surged and the demand deposit to total deposit decreased a lot to 22% at the end of the 2019. The gap decreased to 6% between participation banks and conventional banks. We can say that those people's behaviors started to look like Turkish People's behaviors because most of international depositors do not need to make actions like shifting to FX or opening a participation account before currency shock.

Figure 1.14 : Demand deposit / total deposit ratio of natural person (NonResident-FX)



FX Demand deposits to total deposit ratios for non-resident natural people are 42% for participation banks and 19% for conventional banks. It is obvious that there are two different periods before 2015 and after 2015. For the first period, the ratio fluctuated around 25%. The second period fluctuated around 43%. This increase could be explained by migration wave from Syria. They put their deposits into participation banks account in order to just keep it safe without expecting any yield.

1.3. Macroeconomic Environment in 2019

In last chapter, we analyze the structure of the participation banks compared with the banking sector in terms of several aspects. There are strengths of participation banks especially, the FX demand deposit market share with 13.07% and the demand deposit to total deposit ratios in FX with 38% and the same ratio for non-residents natural people with 42% at the end of 2019. In this part, we demonstrate the leading economic and financial indicators in Turkish economy in 2019 so that we could make sense the behaviors of the participation banks depositors in 2019 in next chapter.

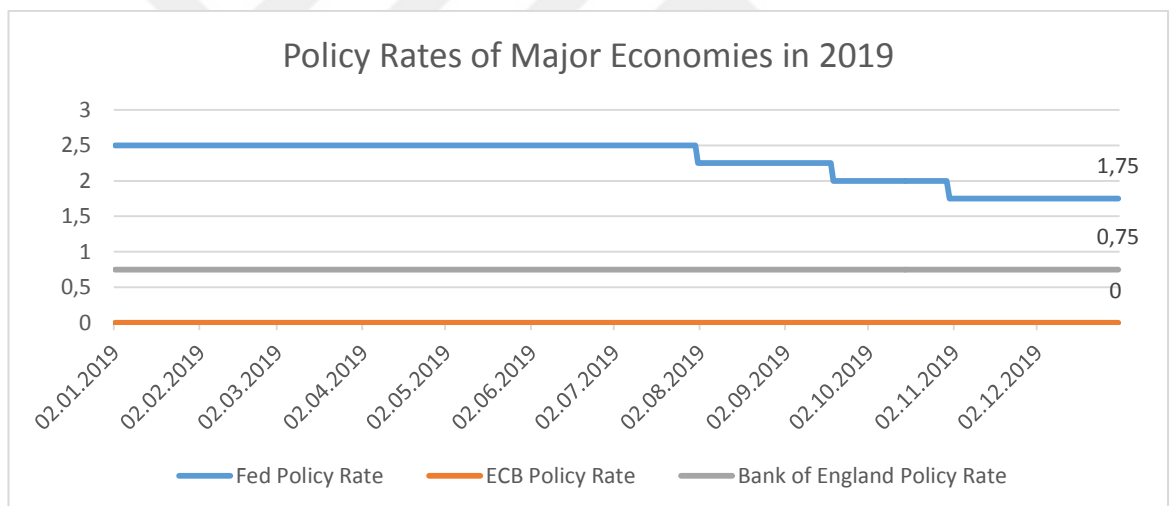
1.4.1 Policy Rates

1.4.1.1 Policy Rates of Leading Economies

In 2008, FED decreased the policy rates to 0.25% to prevent the effects of mortgage crises which spillover all over the world economies. Afterwards, FED started to increase policy rate to normalize the economy, in other words FED has focused to prevent economy from overheating in late 2016. This policy lasted until 2019 August with interest rate increases which have been 9 times with 0.25%. One of the major topic in US Economy was trade wars which started between USA and China in 2018 July and reached its peak point at the end of 2019.

In this environment, FED decided 3 interest rate cuts in 2019 with the expectation of slowdown in global outlook which might influence the employment negatively. FED Policy Rate decreased to 1.75% from 2.25% in the second part of the year.

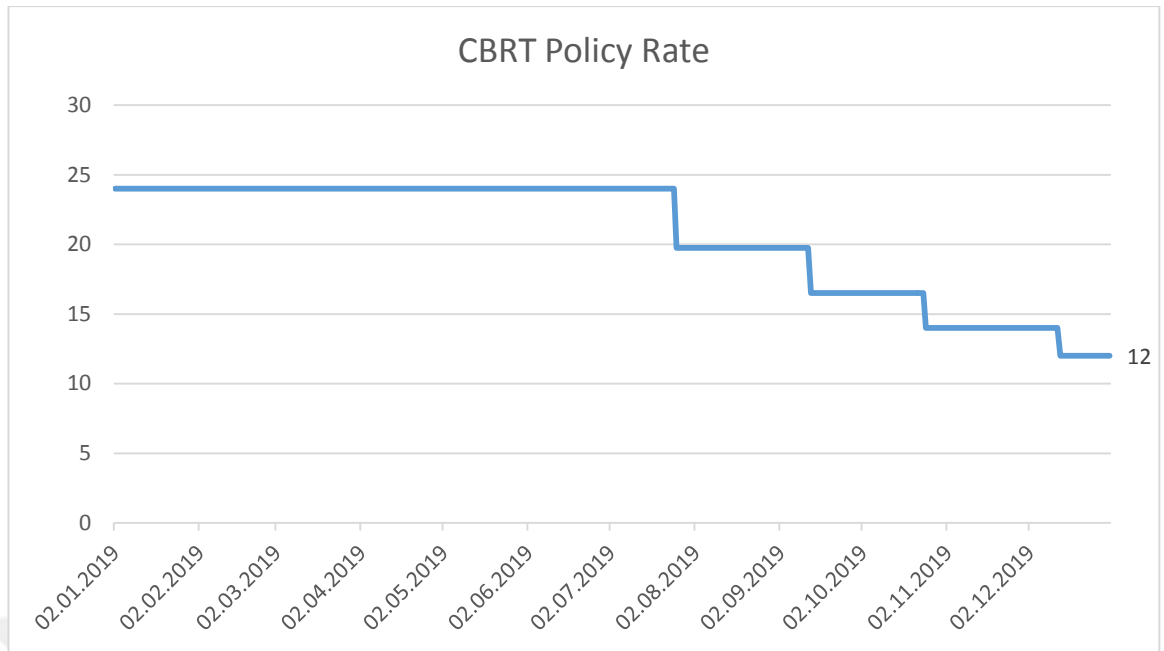
Figure 1.15 : Policy rates of major economies in 2019



European Central Bank, which actually has been targeting to normalize the economies after global crises and European Debt Crises, could not increase the rate in 2019 in lights of slowdown in global outlook and Brexit process. Bank of England has also sustained its expansionary monetary policy in 2019 by not changing the policy rates from 0%.

1.4.1.2 Policy Rates of CBRT

Figure 1.16 : CBRT Policy Rate

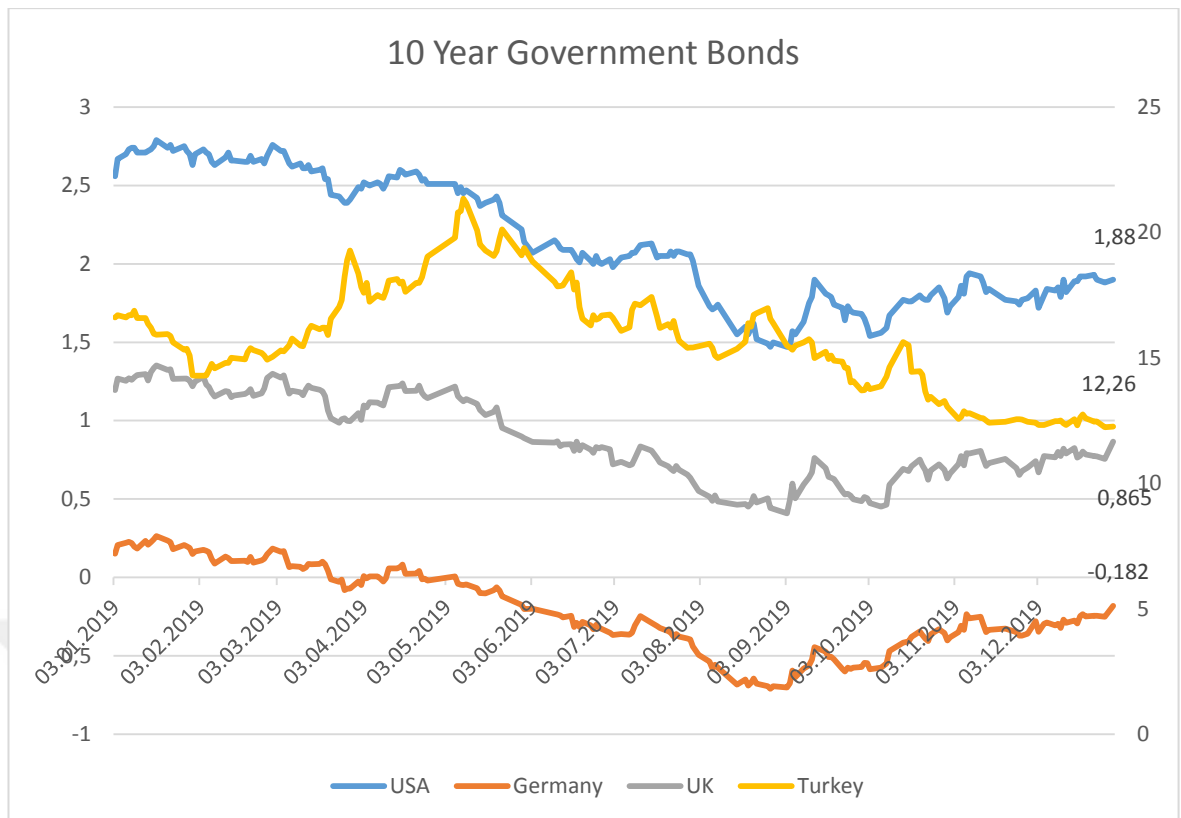


With the currency shock in 2018 August, CBRT has increased policy rates to 24%. Parallel with the positive developments in inflation side and expansionary monetary policies of leading central banks against trade war and expectation of slowdown in global outlook, CBRT has started to cut interest rates in 2019 August from 24%. CBRT has gradually decreased the policy rates to 12% with the last cut in 2019 December. Thus, it could be concluded that in Turkish money markets, there was a decreasing trend in 2019 as it was in global money Markets.

1.4.2 10 Year Government Bonds

In 2019, 10 Year Government Bond Yields in 2019 had a decreasing trend for the selected groups USA, Germany, UK and Turkey. For the first quarter, decreasing trend in selected advanced economies could be seen, this decline accelerated in second and third quarters. Although, there was a little increase in the fourth quarter, the trend of the year had a decreasing trend for those developed countries. The results of the 2018 August currency shock lasted until 2019 May in Turkey and the yields started to decrease and it lasted until the end of the year to the level of 12.3%.

Figure 1.17 : 10 year government bonds

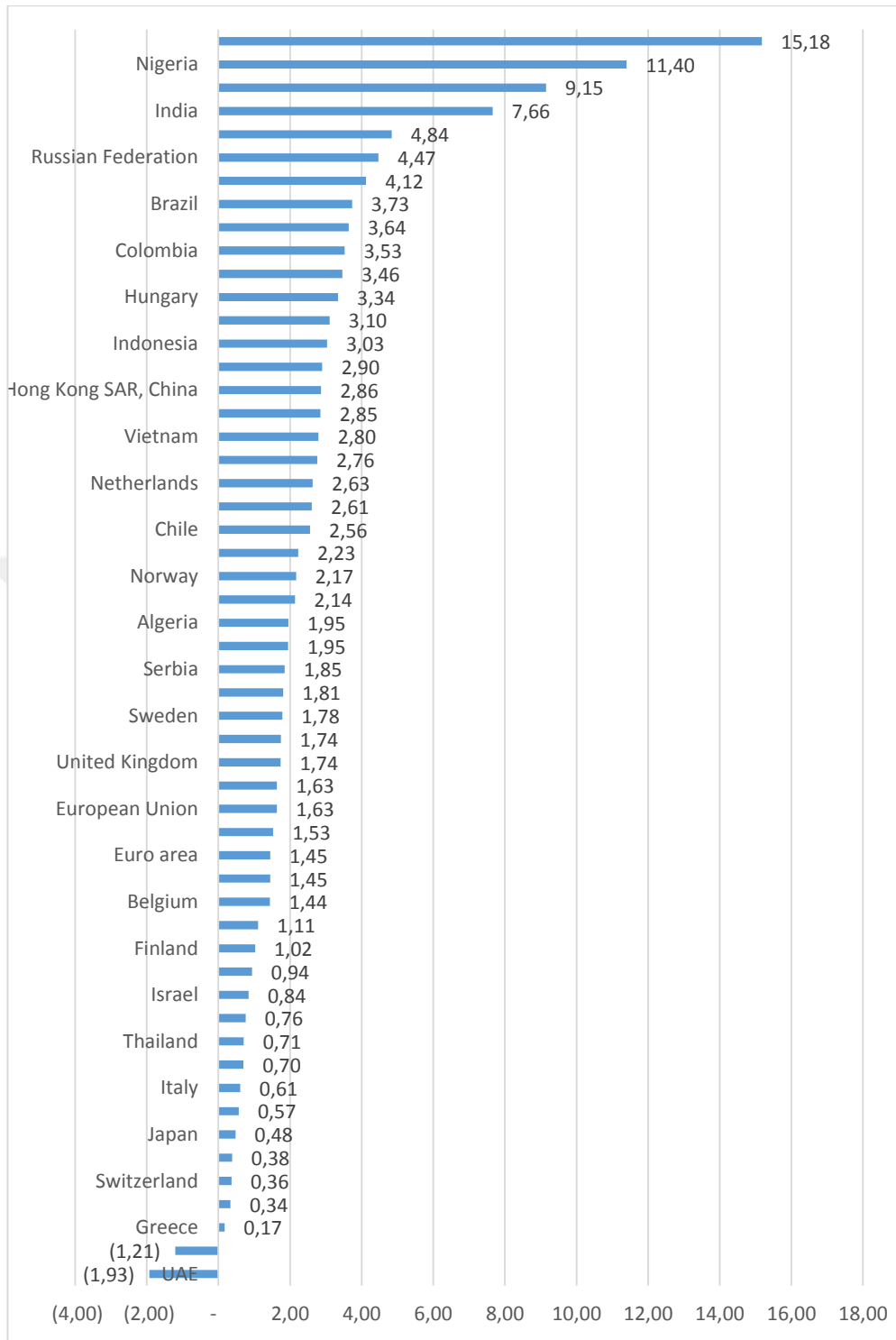


1.4.3 Inflation Rates

1.4.3.1. Inflation Rates in Selected Countries

Yearly inflation rates of a couple of selected countries are demonstrated below in order to understand the economic environments the international depositors consider while making financial decisions in 2019. USA had 1.8% yearly average inflation rate while China 2.9% had as the two biggest economies in the world. The European Union's yearly average inflation rate was 1.63%. The major trade partners in EU, Germany and United Kingdom had 1.64% and 1.74%, respectively. Turkey had the highest yearly average 15.18% inflation rate due to the currency shock in 2018 August which caused cost inflation on a wide product groups. Nigeria, Egypt and India follows Turkey with the rate of 11.4%, 9.15% and 7.66%, respectively. United Arab Emirates had -1.93% yearly inflation rate and Saudi Arabia had -1.21 inflation rates as the Middle East examples with negative inflations in 2019. As the developing country competitors of Turkey, Brazil had 3.73% yearly average while Mexico had 3.63%.

Figure 1.18 : Inflation rates at selected countries

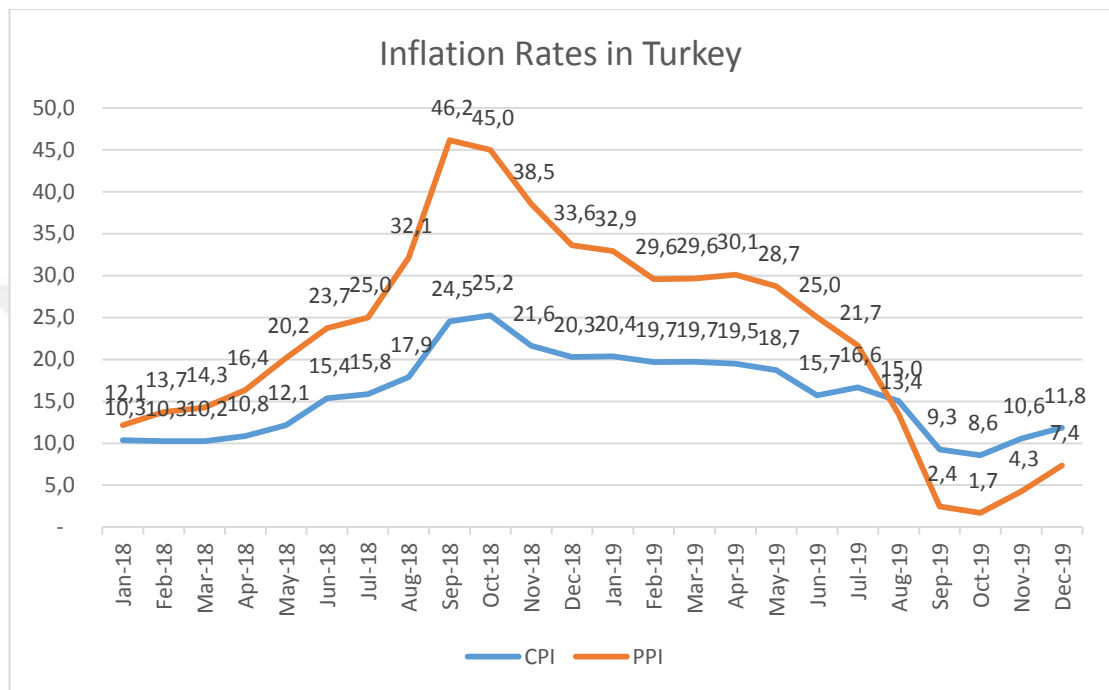


1.4.3.2. Inflation Rates in Turkey

In 2018, the Turkish Lira depreciated seriously in 2018 and its effect on the the imported goods which could not be substituted increased the costs of a wide range of the products and services. The customer price index reached to 25.2% in 2018 November and the production price index reached to 46.2% in 2018 October. Both PPI and CPI has decreased gradually from these highest level. The gap between the

PPI and CPI resulted CPI stay high for a 9 months period and CPI dropped to the level under two digits in 2019 September with the contribution of base effect. Thus, inflation had decreasing pattern in 2019 and the expected inflation for 2020 was between 8% and 15%.

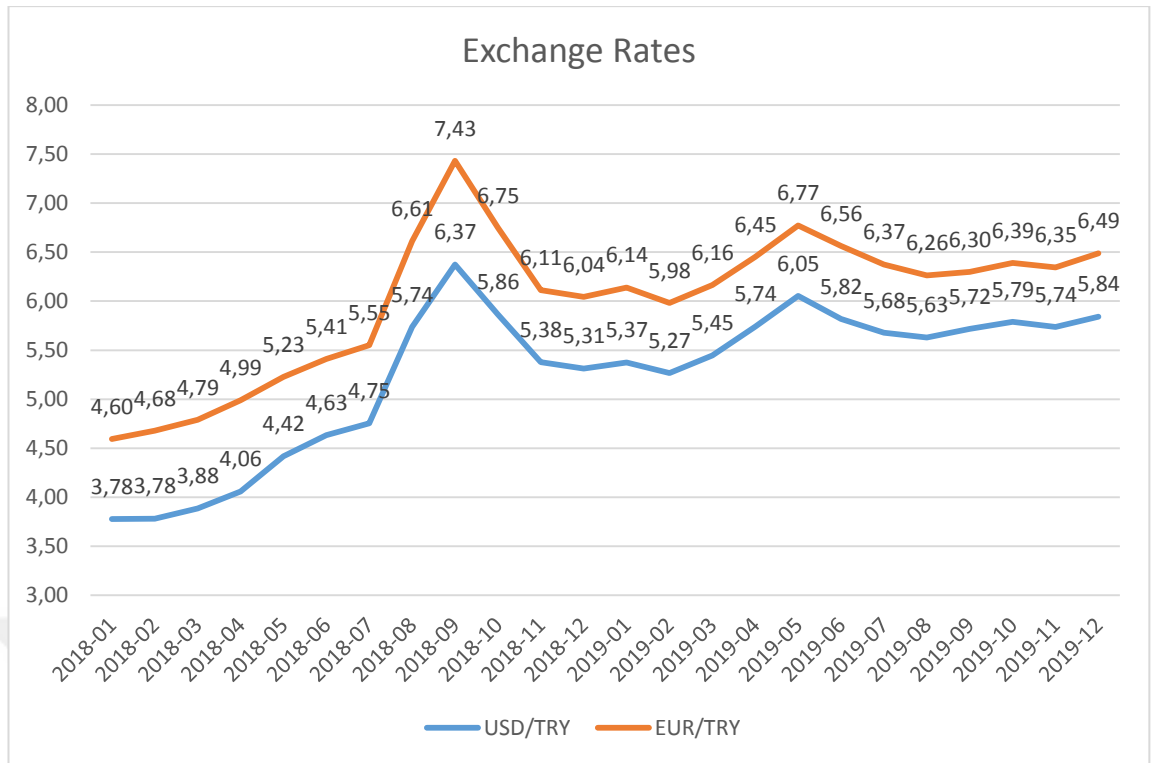
Figure 1.19 : Inflation rates in Turkey



1.4.4. Exchange Rates

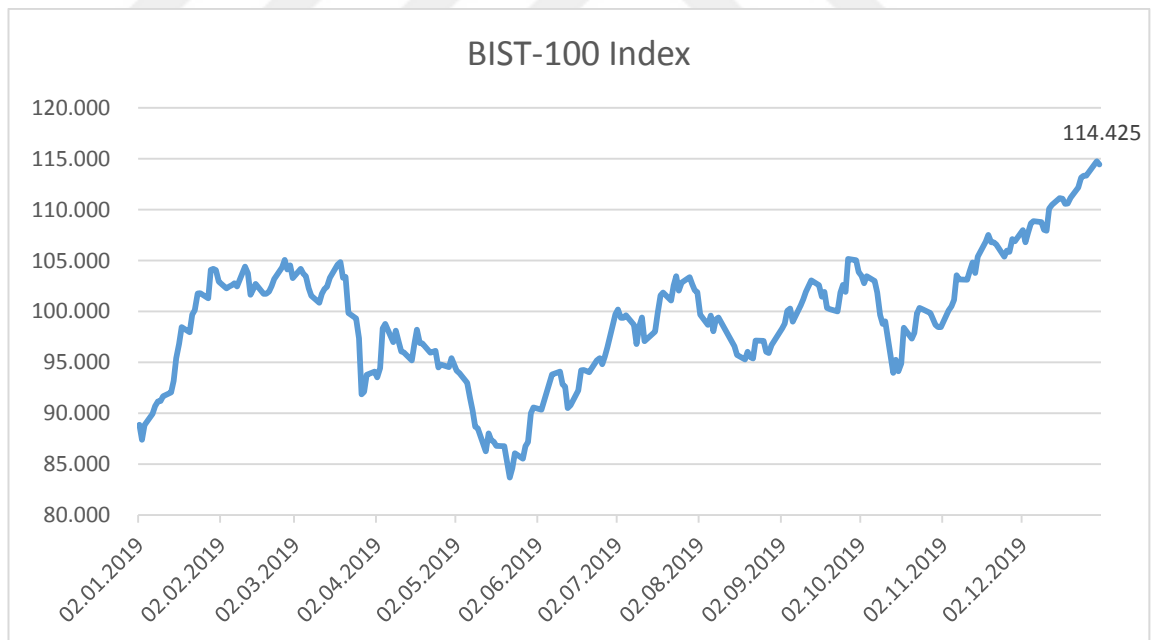
There might be several reasons for the hike of exchange rate, it is a consensus that political conflicts with USA is the major factor. Afterwards, Turkish Lira has gained attraction from all over the world after the policy rate increase made by CBRT. The USD/TRY parity reached to 6.37 in September monthly average from 3.78 and closed the year 2018 with 5.31. We believe that this extremely high volatility have a serious impact on depositor behaviors. In 2019, USD/TRY reached to 6.05 in May and closed the year with 5.84.

Figure 1.20: Exchange rates



1.4.5. Stock Market

Figure 1.21 : BIST-100 Index

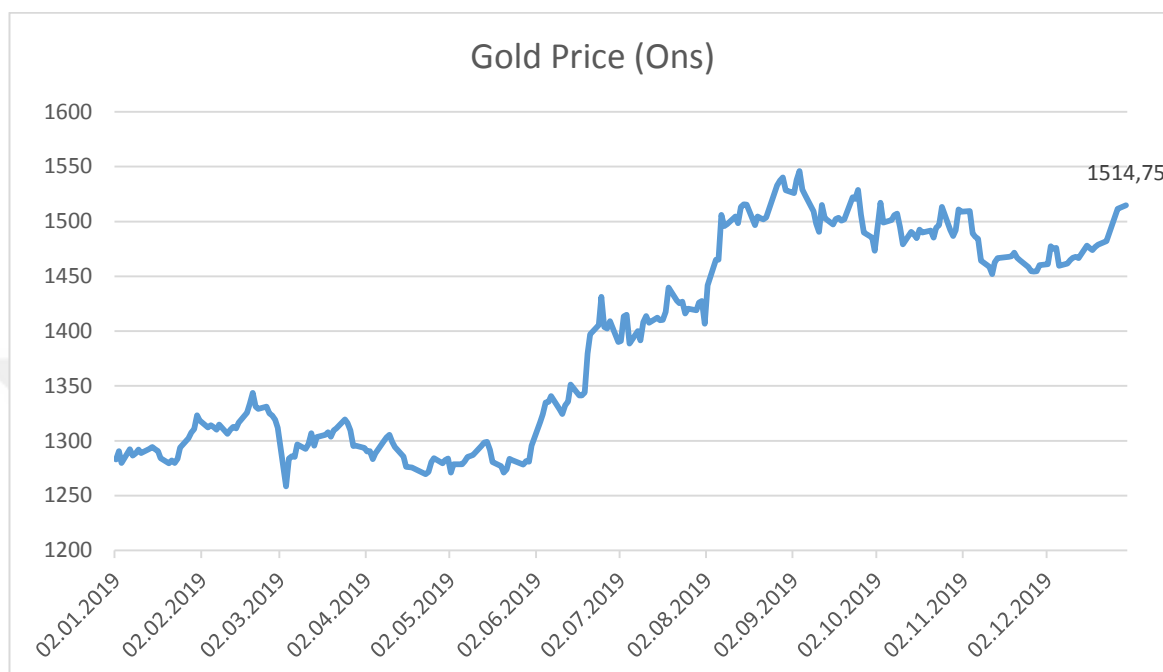


The BIST Stock Exchange started at 88.865 for the year and it fluctuated between 83.600 and 105.000 until the mid-November and the index closed the year with 114.425. As macro indicators had been gotten better, the interest on stock exchange increased towards the end of the year. On the other hand, the decrease in

interest rates increased the demand on capital market products as an alternative financial instruments.

1.4.6. Gold Price

Figure 1.22 : Gold price (Ons)



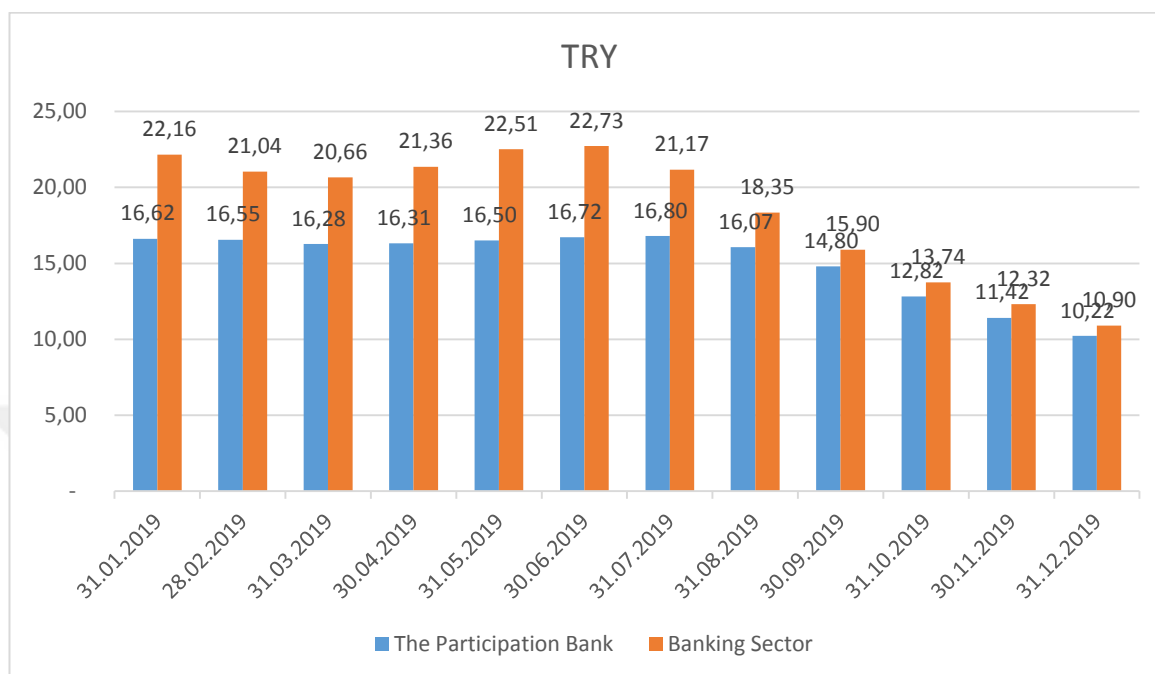
Before 2019 June, gold ons price were flat and fluctuated around \$1300. The developments of tariffs imposed by USA and China and FED's interest rate cut which was the first decrease since 2008 resulted to high increase in gold prices. In 3 months, the gold ons price increased to \$1546 from \$1280. At the end of the year, gold ons price closed the year with \$1514.

1.4.7 Comparison on Yields of Banking Sector and the Participation Bank

2019 is an interesting year to investigate because the developments in 2018 created many ambiguity and predictability decreased because of global and local developments. In this market, the average interest/profit rate given/allocated by conventional banks and one of participation bank. The gap of TRY yields between conventional banks and participation banks is high in six months. Because it might take some time to catch up average market price. When a quick increase in loan/financing prices arise and the decrease realized in the same speed, participation banks could not allocate the profit share as conventional banks can give. In these period, participation banks could lose some of their customers who

are sensitive to price. After six months, the gap shortened with the decrease in policy rate of CBRT and market loan prices.

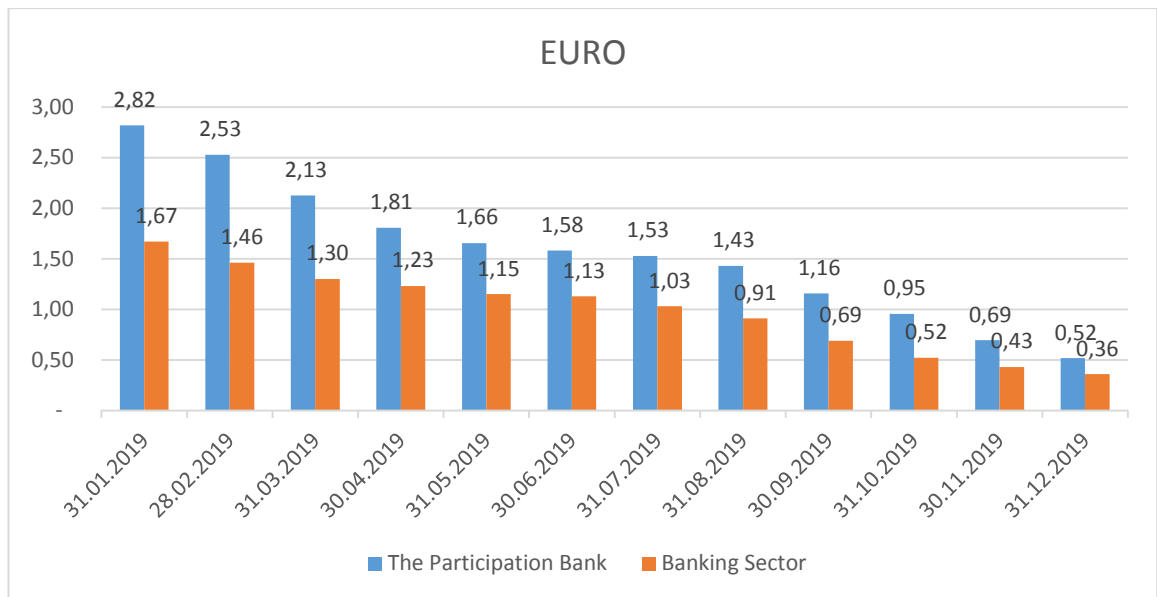
Figure 1.23 : Yields analysis (TRY)



The loan or financings portfolio is another important factor to respond market price as participation banks. If a participation bank has a high portion of long financings with low profit rate, for example %90, the bank could not allocate market price when a quick increase in prices. The profit ratio from stock financings dominates the total financings ratio, so the flow financings could not increase profits to be allocated which unfortunately stay low. This could also be exact opposite. When the rates decreased a lot, participation banks could allocate more than the conventional banks give.

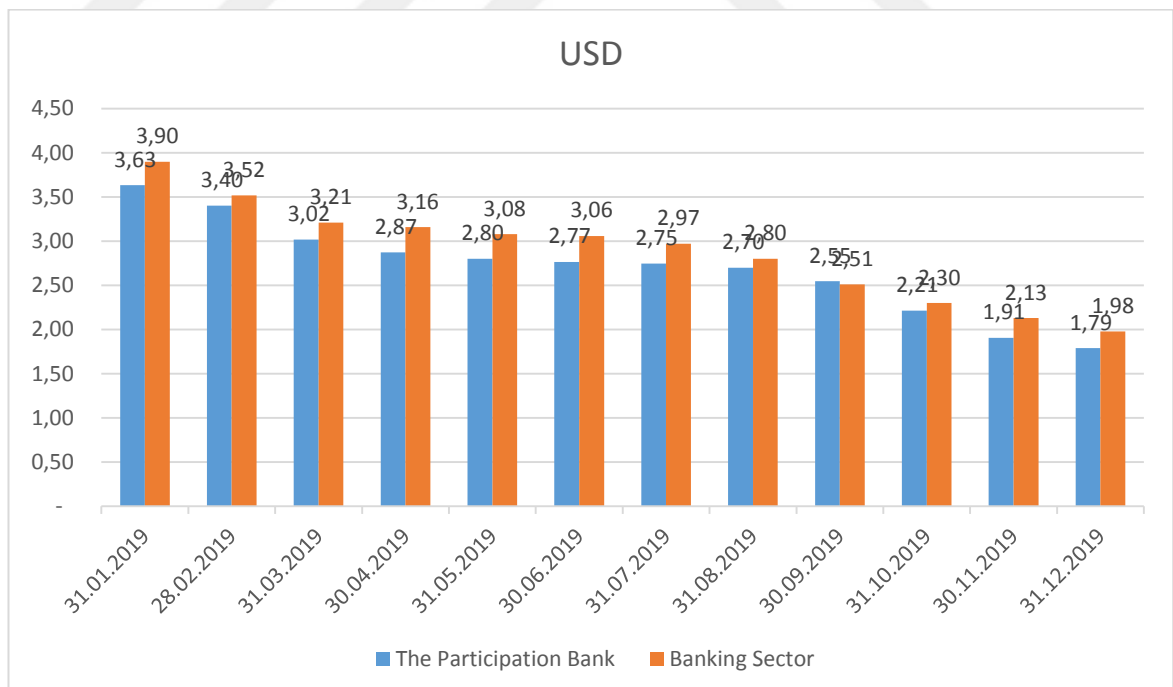
The case of this participation bank is the example of the opposite example. For Euro accounts, the participation bank allocate far more than the average conventional banks give. It could be inferred that the stock financings of the bank gave a profitable yield for todays Euro depositors, even the Euro financing prices decrease in the market. The Euro yields gap between a participation bank and banking sector gradually decreased.

Figure 1.24 : Yields analysis (Euro)



There has been a gradual decreasing pattern in USD and both the participation bank and the banking sector acted in the same way. These participation banks' profit rate allocated was a bit smaller than the banking sector's interest rate throughout the 2019.

Figure 1.25 : Yields analysis (USD)



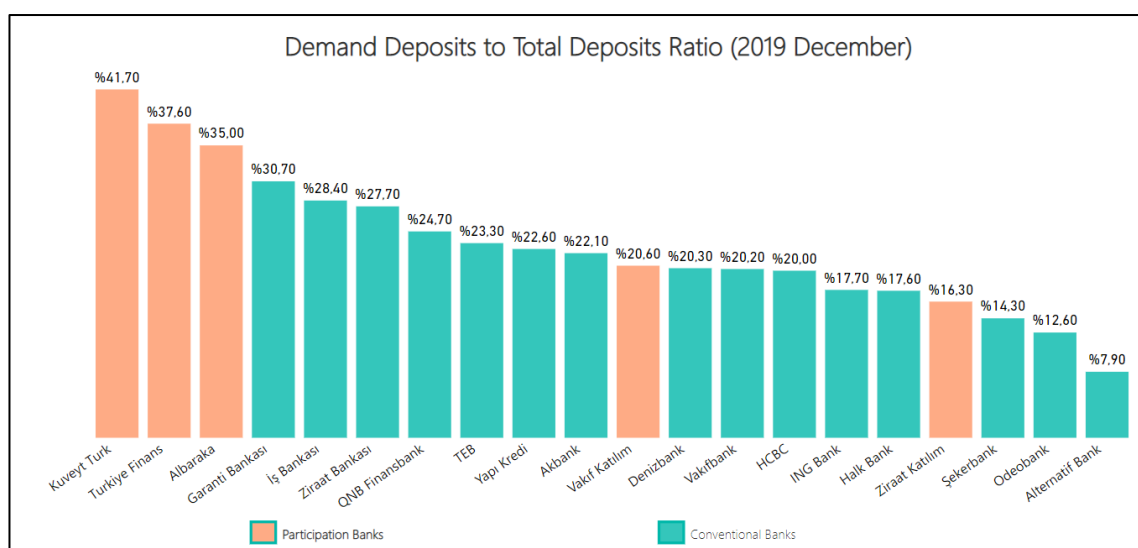
1.5. Demand Deposit to Total Deposit Ratio Analysis in a Participation Bank

1.5.1. Introduction

In Turkish Banking Sector, participation banks has increased their markets shares in asset size, deposit size and loan size day by day as we analyze in previous parts. It is argued that participation banks could serve only a certain customer groups in Turkey. Recent strong increase in deposits market share of participation banks demonstrate that digitalization, innovative product and customer oriented approaches could help to expand the borders. Participation banks' total deposit and demand deposit share reached to 8.39% and 11.39%, respectively.

Kuveyt Turk, Türkiye Finans and Albaraka were the advantageous banks with the highest demand deposits to total deposits ratio in Turkish Banking Sector at the end of 2019. The relatively new participation banks were not at high level but it is inevitable that as they expand their customer base, they would have the same structure. No-cost business model, being good at gold banking, to be primary preference of international Muslim customers in Turkey and FX-weighted liability structure could be shown among the major reasons why participation banks are at the top list in demand deposits to total deposits ratio.

Figure 1.26 : Demand deposits to total deposit ratio (2019 December)



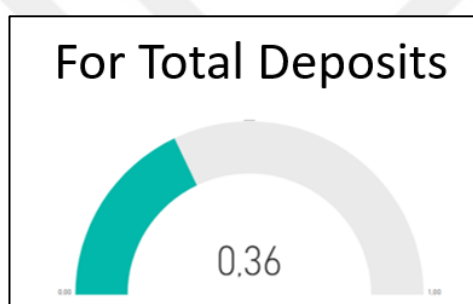
In this part, we analyze one of the participation banks in terms of demand deposits to total deposits ratio. We investigate the behavior of different groups and their tendency to have more demand deposits.

1.5.2. Data Methodology

According to BRSA definition, there are three types of depositor groups, natural persons, official institutions and commercial and other institutions. In this study, we use only the natural persons' data from a participation bank in Turkey and subtracted official institutions and commercial and other institutions which have their own daily transactions which could manipulate the results in our example. We choose yearly average deposits to understand the customers' real behavior instead of taking a snapshot. We attempted to make sense the behaviors and tendencies from our ratio analysis.

1.5.3 Demand D. Ratio of Total Deposits

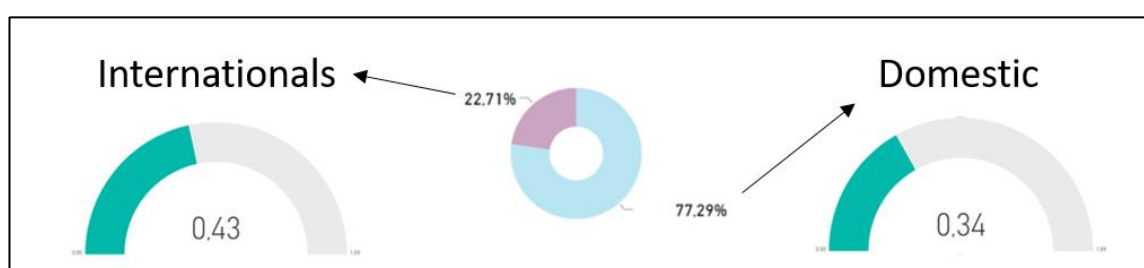
Figure 1.27 : Demand deposit ratio of total deposits



In 2019, the total deposits of natural persons have a 36% demand deposits to total deposits ratio which is the benchmark when analyzing the other groups.

1.5.4 Demand D. Ratio by Citizenship

Figure 1.28 : Demand deposit ratio by citizenship

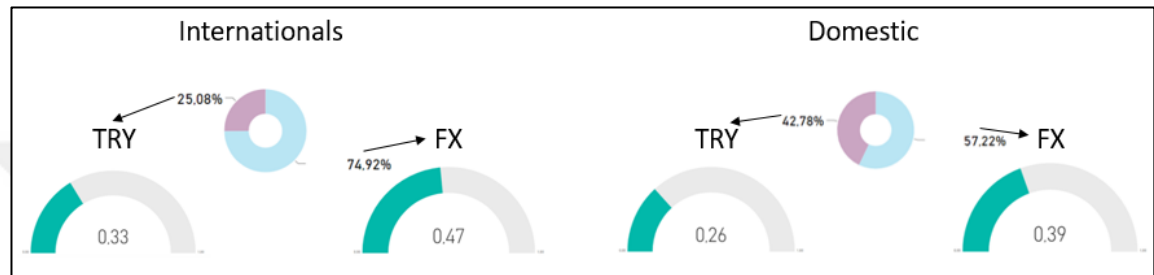


International depositors were the 22.7% of total customers. It is obvious that international customers had a higher ratio with 43% than domestic customers with 34% in our portfolio. It could be said that internationals have a high demand deposit ratio, but it is critical to look at currency breakdown.

1.5.5 Demand D. Ratio by Citizenship and Currency

As it seen table below, international depositors' FX weight was 74.9% while domestic depositors 57.2%. International depositor's FX-weighted trade activities, their temporary accommodation in Turkey, their long term expectation about TRY and their practices in their countries are some of the answer to why internationals have a high FX-weighted deposits characteristics.

Figure 1.29 : Demand deposit ratio by citizenship and currency



Internationals demand deposit ratio is greater than domestic depositors both in TRY and FX accounts. In TRY accounts, internationals had a 7% points greater ratio than domestics with 33%. In FX accounts, international's ratio was 8% greater than domestics with 47%. It is an interesting fact that almost half of FX International deposits were in demand deposit accounts in a yearly term.

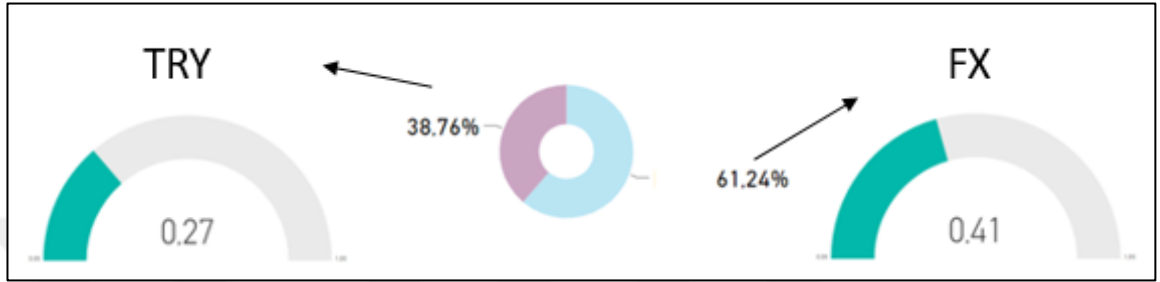
1.5.6 Demand D. Ratio by Currency

High fluctuations in currency in previous year increased the dollarization in the country. The shares of TRY in bank's balance sheet decreased in nominal terms with the depreciation of TRY. It is also supported by depositor's behaviors who shifts from TRY to FX accounts. With another perspective below, 38.8% of total deposits were in TRY accounts while 61.2% of total deposits in FX accounts.

For TRY accounts, demand deposits to total deposits ratio is 27% for yearly terms. Depositors did not want to give up the high yields from TRY participation accounts. On the other hand, in 2019, several depositors shifted their positions to FX from TRY and to TRY from FX many times as the currency rate has fluctuated. As we mentioned above, participation banks do not have any participation account less than 30 days. If a depositor would expect to make a transaction by selling or buying,

he/she does not need to put his/her deposits into participation accounts. So, times when fluctuations increase contribute to increase in demand deposit ratio and it continues for a while until new developments which have a serious impact on depositor's behavior arise. In this period, there were 41% demand deposit ratio in FX accounts which is 14% greater than that of TRY accounts.

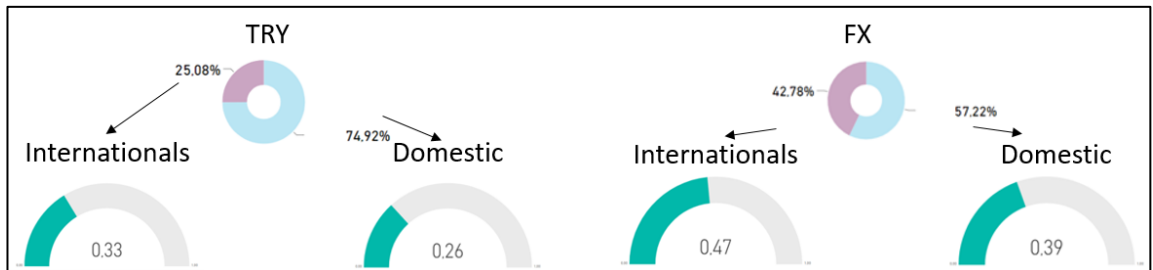
Figure 1.30 : Demand deposit ratio by currency



1.5.7. Demand D. Ratio by Currency and Citizenship

As we analyze in section 1.5.5. , international depositors' demand deposit ratio is greater than domestic depositors' ratio in both local and foreign currencies. International depositors' total TRY deposits constituted 25% of total TRY yearly deposits, shown in the table below. Their total FX deposits share in total FX deposits was 43%.

Figure 1.31 : Demand deposit ratio by currency and citizenship



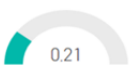
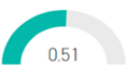
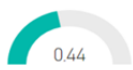
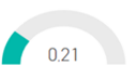
International depositors have a great importance for the selected participation banks, which is assumed to be the same for other participation banks in Turkey. International depositors, whose demand deposits ratio is almost 50%, create an opportunity for participation banks to finance Turkish SMEs and companies with a low FX rate. In May, 2018 Turkish Economy Authority brought some limitations to

get FX and foreign currency indexed loans/ financings as a macro prudential policy, especially for SMEs who don't export their products, in order to protect them from currency risk. These decisions and high volatility in currency rates resulted in shrinkage of the FX loan demand. Banks in Turkey decreased the syndication credit demand and they preferred to decrease their appetite to give FX loans so that they do not have to pay high interests in order to finance Turkish firms to earn in a risky environment. International depositors are the important groups for participation banks with cost efficient structure.

1.5.8.1 Demand D. by Segment

In previous sections, we analyze the big pictures .In this part, we separate our depositors into 6 different categories so that we attempt to understand how the different groups of depositors behave in their deposit preference in a year period. We have 6 categories; ordinary, affluent, small SME, big SME, small commercial and big commercial. We would start to introduce them with their distinguishing characteristics below. All of the groups constitute of natural persons defined by the BRSA. The first two groups, ordinary and affluent groups, have only their own accounts in this participation bank. Affluent groups have a high amount of deposits or financings. The other four groups have also their corporate accounts in bank. They are all separated by their turnover amounts in previous year. Those groups behave in different ways in their business life and we would like to understand how they behave as they become bigger. There is a unique threshold level separating affluent depositors from ordinary ones and there are 3 threshold levels separating them from each other's.

Figure 1.32: Demand deposit by segment in 2019

Segment	Ordinary	Affluent	Small SME	Big SME	Small Commercial	Big Commercial
Share in Total	58,3%	21,6%	9,7%	7,2%	2,9%	0,2%
Demand D. To Total D. Ratio	 0.38	 0.21	 0.51	 0.44	 0.28	 0.21

As it is seen in share in total parts, the depositors with no corporate account had a share of 79,9%,which is sum of ordinary and affluent depositors with 58,3% and

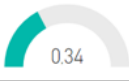
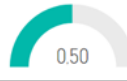
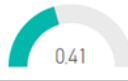
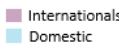
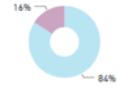
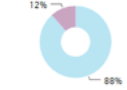
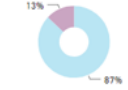
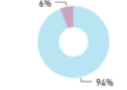
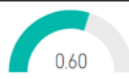
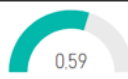
21.6%, respectively. Depositors with their corporate accounts had a share of 20.1% in this group. Small SME had a share of 9,7%, big SME had a share of 7,2%, small commercial had a share of 2,9% and lastly big commercial had a share of 0,2%. It is obvious that this participation bank focus on the small businessmen by getting more customers from base.

For the ratio part, affluent depositors demand deposit ratio is 21%,17% less than ordinary depositors with 38%. It is clear that as the amount of money increases, people prefer participation accounts more. This was similar for the groups with corporate accounts. For the big SMEs, the ratio is 44%. The small commercials have 28% and big commercials have 21%. So, we can say that the amount is an important factor in the behaviour of depositors when they choose demand deposit account or participation account.

1.5.8.2 Total Deposit by Segment and Citizenship

In previous part, we see that there is a negative relation with the amount of deposit and the demand deposits to total deposits ratio in both depositors with corporate accounts and depositors without corporate accounts. In this part, we analyze these segments with citizenship breakdown so as to understand the behaviors of domestic and international depositors.

Figure 1.33 : Total deposit by segment and citizenship in 2019

Segment	Ordinary	Affluent	Small SME	Big SME	Small Commercial	Big Commercial
Share in Total	58,3%	21,6%	9,7%	7,2%	2,9%	0,2%
The Ratio for Domestic	 0.34	 0.14	 0.50	 0.41	 0.28	 0.21
Shares in Citizenship 	 16% Internationals, 84% Domestic	 48% Internationals, 52% Domestic	 12% Internationals, 88% Domestic	 13% Internationals, 87% Domestic	 6% Internationals, 94% Domestic	 1% Internationals, 99% Domestic
The Ratio for Internationals	 0.60	 0.27	 0.63	 0.59	 0.16	 1.00

The banks' international customers shares were respectively 52% for affluent segment, 16% for ordinary segment, 13% for big SME, 12% for small SME, 6% for small commercial and %1 for big commercial. Internationals had higher demand deposit ratio except small commercial. For ordinary segment, it is an important

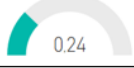
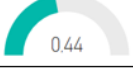
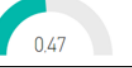
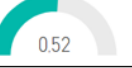
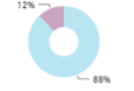
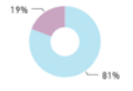
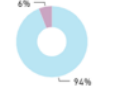
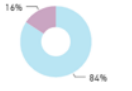
finding that international depositors 60% demand deposit ratio which shows that most of internationals do not care about the yield but they just put their deposits into bank for daily transactions or safekeeping. The ordinary domestic depositors had 34% ratio. In affluent segment, ratio for both domestic and international depositors were low, 14% and 27% respectively. It is clear that domestic depositors care yield a lot. The bank had more international affluent customer' deposits than that of domestic ones. Domestic small SMEs had 50% ratio and domestic big SMEs had 41% ratio, which support the banks profitability. Significantly, international SME groups had 63% for and 59% ratio, respectively showing that international businessmen use bank accounts put their money safe and make their transactions. For the commercial part, small commercial segments' behavior were alike with affluent segment but domestic depositors had a high ratio due to their business activities. Big commercial segments had no adequate international customer numbers to comment on it.

1.5.8.3 Demand D. Ratio by Segment, Citizenship and Currency

After analysis of previous parts, we would like to see the currency breakdown. For ordinary segments of international, demand deposit ratio was 42% in 2019 when the average inflation rate of TRY was 15.8%. It is critical that 69% of ordinary international depositors put their FX deposits into demand deposit accounts. In order to reach these ordinary international customers, bank might need to expand its branch network to the areas where international depositors stay or prefer to be. They need physical money, language assistance and some other special services which create operational costs for the bank.

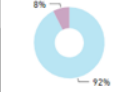
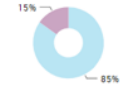
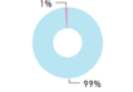
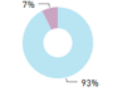
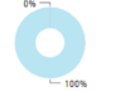
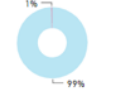
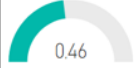
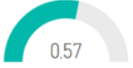
Although demand deposit ratio of affluent segment in general was low, domestic affluent depositors' ratio was 6%, the lowest ratio showing that TRY holder domestic depositors care yield a lot. In other view, the international depositors, whose average TRY demand deposit ratio was 33%, could behave differently when the amount gets bigger. Affluent international deposits ratio was 14% .

Figure 1.34 : Demand deposit by segment, citizenship and currency in 2019

Segment	Ordinary		Affluent		Small SME	
Share in Total	58,3%		21,6%		9,7%	
Currency	TRY	FX	TRY	FX	TRY	FX
Share in Total	27,1%	31,2%	4,8%	16,8%	4,2%	5,5%
The Ratio for Domestic	 0.24	 0.44	 0.06	 0.17	 0.47	 0.52
Shares in Citizenship	 12% Internationals 88% Domestic	 19% Internationals 81% Domestic	 42% Internationals 58% Domestic	 45% Internationals 55% Domestic	 6% Internationals 94% Domestic	 16% Internationals 84% Domestic
The Ratio for Internationals	 0.42	 0.69	 0.14	 0.30	 0.45	 0.68

The small SMEs' demand deposit ratio in TRY was 45% and there is no distinguishing difference between domestic and international depositors. These groups' FX ratios was 68% for international and 52% for domestic depositors. It is an obvious fact that when bank increases its small SME depositor portfolio, it would be a significant comparative advantages.

Figure 1.35 : SMEs' demand deposit ratio in TL

Segment	Big SME		Small Commercial		Big Commercial	
Share in Total	7,2%		2,9%		0,2%	
Currency	TRY	FX	TRY	FX	TRY	FX
Share in Total	6,3%	0,9%	2,8%	0,2%	0,2%	0,0%
The Ratio for Domestic	 0.39	 0.42	 0.30	 0.28	 0.35	 0.20
Shares in Citizenship	 8% Internationals 92% Domestic	 15% Internationals 85% Domestic	 1% Internationals 99% Domestic	 7% Internationals 93% Domestic	 0% Internationals 100% Domestic	 1% Internationals 99% Domestic
The Ratio for Internationals	 0.46	 0.62	 0.57	 0.15	 1.00	 1.00

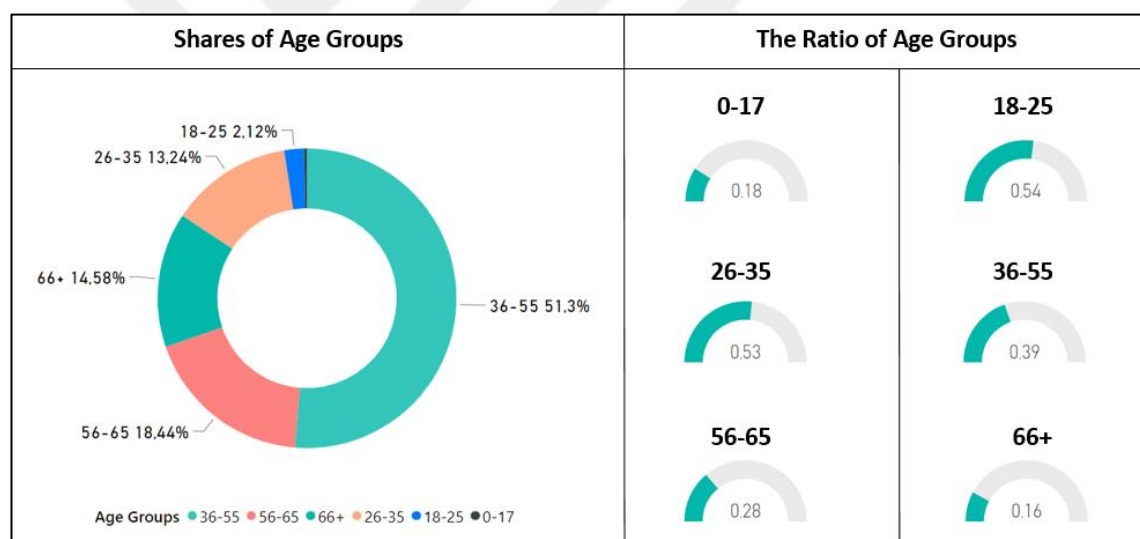
Big SME segment looks like the small SME segment in terms of demand deposit ratio but all of groups ,TRY and FX, were less compared to the small SME because of amount effect. International depositors' demand deposit ratio was 62%.

So,international SMEs with their demand deposit ratio upper than 60% show that their financial service needs in FX could not be associated with profit rate allocated by participation bank.

1.5.9.1 Demand D. Ratio by Age Groups

In this part, we analyze whether demand deposits ratio is related with age groups or not. First of all, we separate age groups into 6 part. 0-17 is the first age group which covers the people dependent their parents in their financial activities .18-25 is the second age group which contains university years, the first years for business life of high school graduated people and others. 26-35 is the other age group which contains people consume a lot and establish their own lives by buying a car and a home so on. 36-55 is the largest age group where the people seem each other. They work and accumulate properties. 56-65 is the fifth age group when people started to retire. 66+ is the last age group most of them are retired and have some savings in their accounts.

Figure 1.36 : Demand deposits ratio by age groups



When it is seen that 36-55 age groups had the largest share in banks' deposit portfolios with 51.3%. Second and third group were the 56-65 age groups with 18.5% and 66+ age groups with 14.6%. As it is anticipated that 26-35 age groups was the fourth one with 13.2%. 18-25 had only 2.1% share and 0-17 had the rest of them.

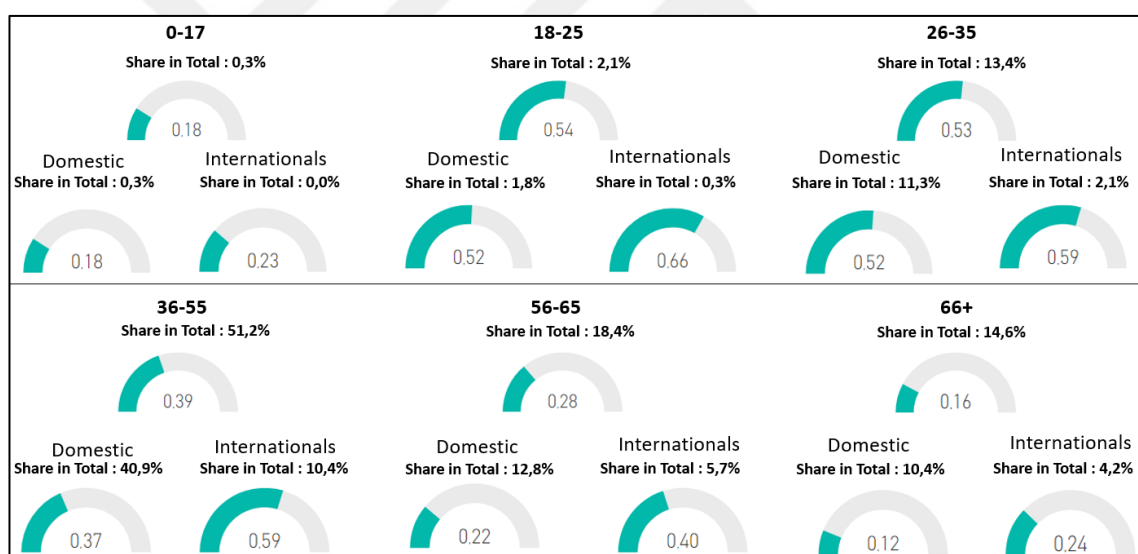
0-17 age group's demand deposit ratio was 18%, it is clear that the parents put some savings and make some savings in those accounts. 18-25 age groups had the highest demand deposit ratio with 54% because their average deposit amount was not too high to get profit share, they use in their daily transactions. For the other

age groups from 26-35 to 66+, as age increases, the demand deposit to total deposit ratio decreased, shown in the table above, 53%, 39%, 28% and 16% for those groups, respectively.

1.5.9.2 Demand D. Ratio by Age Groups and Citizenship

In this section, the age group analysis is enriched by showing citizenship breakdowns. All of age groups represent the same characteristics both for domestic and international depositors. For 0-17 age groups, international depositors' demand deposit ratio with 23% was too small when compared with average international depositor ratio. From 18-25 to 66+, the rate decreases as the age increases. For internationals, ratios were lined up with 66%, 59%, 59%, 40% and 24%. On the other hand, those are 52%, 52%, 37%, 22% and 12% for domestics.

Figure 1.37 : Demand deposit ratio by age groups and citizenship

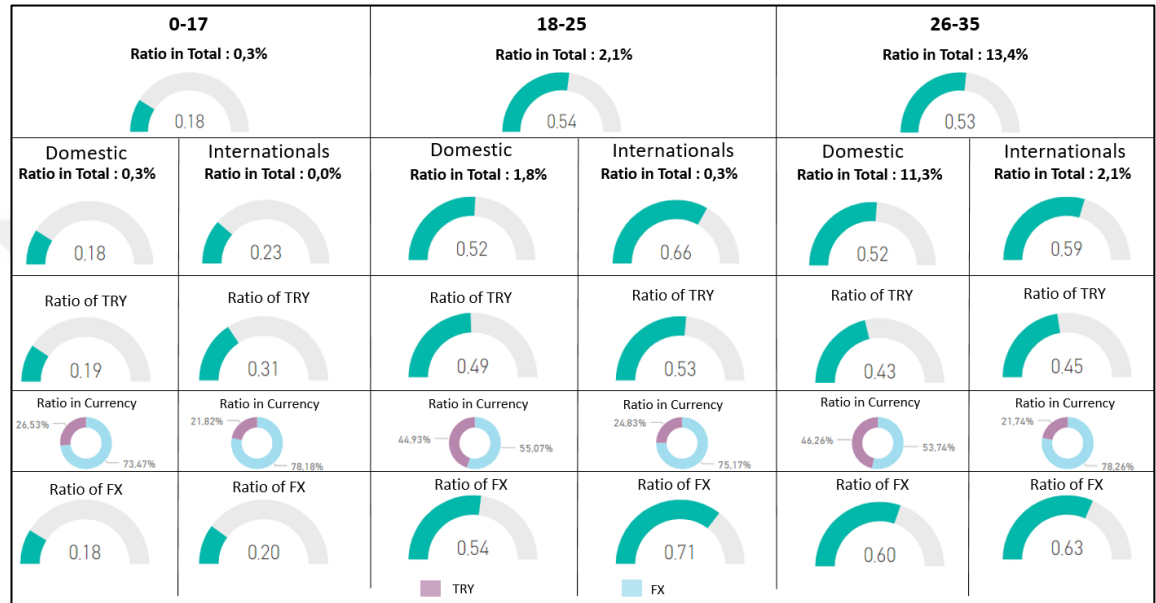


It is clear that ratio of domestic 66+ age groups ,10.4% of banks' total deposit, were 12%, showing that they put their money in participation accounts and do not prefer to shift a lot from participation accounts. Moreover, 36-55 age groups of international customers who constitutes of 10,4% of bank's total deposits had a 59% ratio.

1.5.9.3 Demand D. Ratio by Age Groups, Citizenship and Currency

In this part, age groups are analysed with citizenship and currency breakdowns. For the 0-17 age groups, although the amount is now too much to comment on it, it could be said that international 0-17 age groups put 31% of their money into demand deposit accounts. It could be said that the parents put some amounts for daily transactions for their children. This ratio is high for the 0-17 age groups.

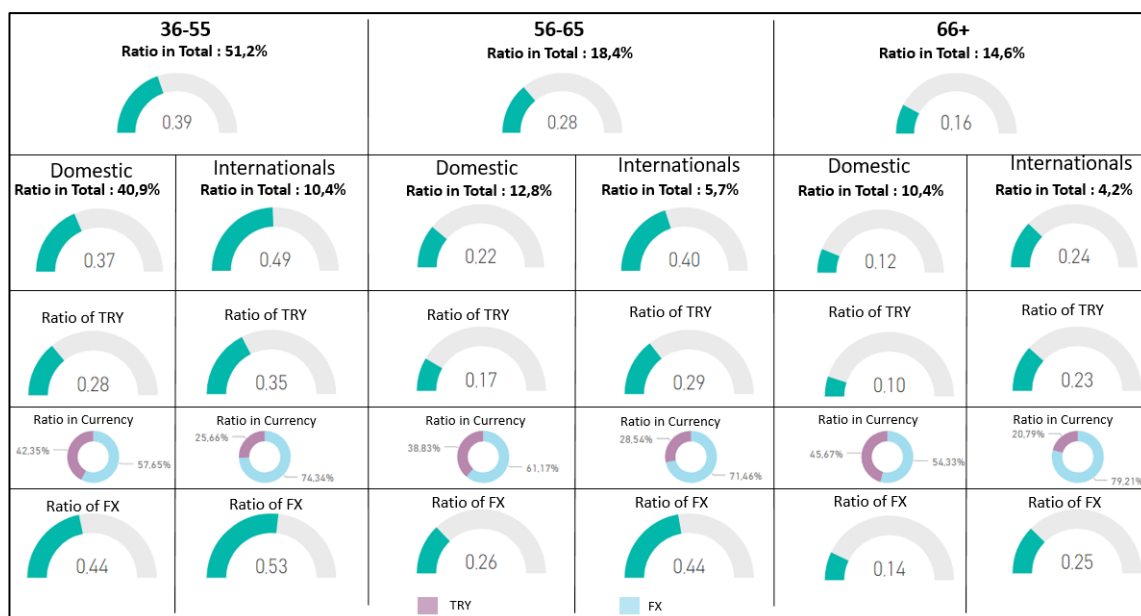
Figure 1.38 : Demand deposit ratio by age groups, citizenship and currency (0-35)



18-25 age groups is the groups with highest ratio with 54%. When we investigate the breakdowns, it is clear that internationals put 71% of total money in their demand deposit account. They do not mind the yield. 18-25 age groups of domestic depositors had a 54% demand deposit. Similar to 18-25 age groups, 26-35 age groups had a high ratio with 60%. As we indicated above, bank is very well in gold banking and these groups from 18 to 35 years, domestic depositors put golds as wedding gifts into demand deposit account. The main reason of these groups' high ratio is gold.

In the table below, it is seen that all of the groups' demand deposit ratio decrease, as the age increases. Even in domestic TRY accounts, demand deposit ratio is only %10 in yearly term. On the other hand, the TRY shares in total deposits for domestic depositors were between 38,8% to 46,3% for the age groups upper than 18 year.

Figure 1.39 : Demand deposit ratio by age groups, citizenship and currency(36-65+)

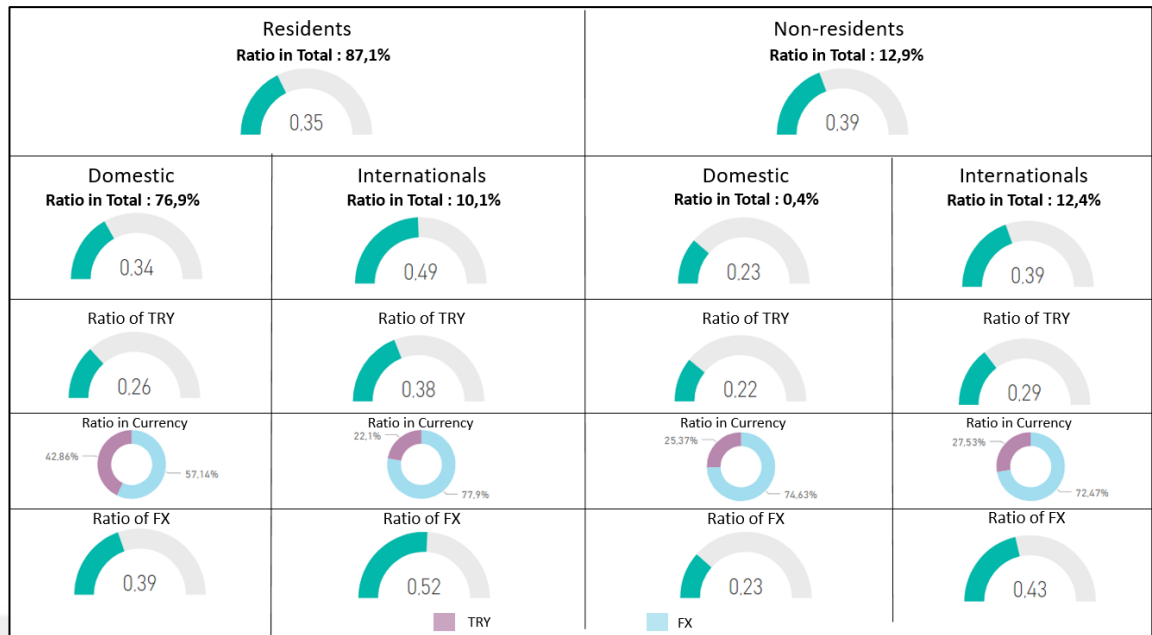


1.5.10 Demand D. Ratio by Residency, Citizenship and Currency

For the last section of the demand deposit ratio analysis, we lastly analyze how residency factors affects depositors' behaviour. Residents' deposits constituted 87% of the total deposits. Its demand deposit ratio was 35% while it was 39% for the non-residents. Clearly, most of for the nonresidents are actually international depositors. The others with 0.4% shares are domestic non-residents, most of them have two citizenships and living in continent Europe, Germany, Austria, France and so on. These groups' demand deposit ratio were low, 23%.

The ratio of non-resident international was 39% in total, 29% in TRY and 43% in FX. As it is expected, the resident international had a higher demand deposit ratio with 49% than non-residents with 39%. They do not need money on demand and put much more their money in participation accounts when they come to Turkey or digitally. Turkish participation banks have a potential to attract for the Middle East international depositors. Most of them are cost-efficient deposits which are the need of Turkish companies with less capital and need financings. With the advancements of the digitalization , participation banks could benefit from them.

Figure 1.40 : Allocation of demand deposits between residents and non-residents



1.6. Customer Preferences on Demand and Participation Accounts

1.6.1 Introduction

In previous parts, we made a ratio analysis of the participation banks in terms of demand deposit to total deposit. We demonstrated how a participation bank's depositors have made their decisions according to citizenship, currency, segment, age and residency.

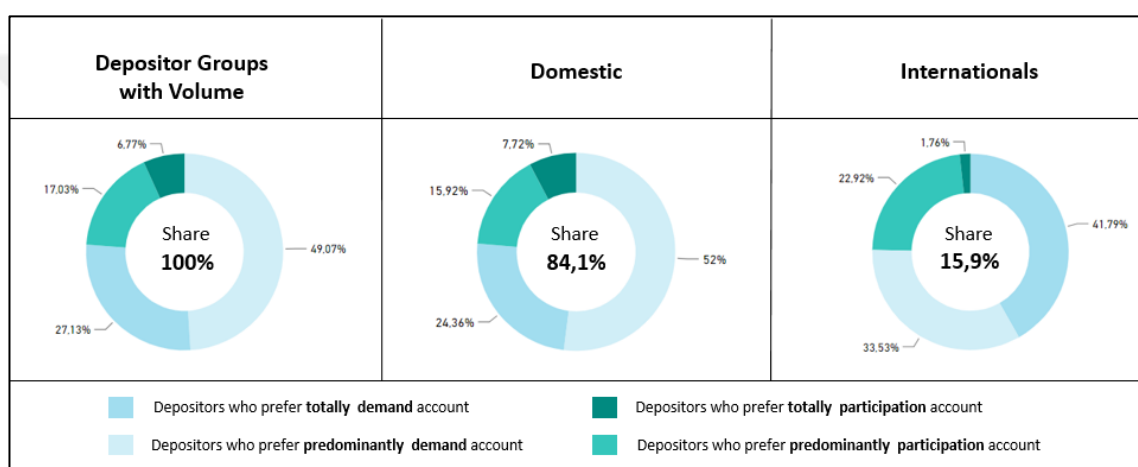
For this whole bank, there are many depositors having a really small and a quite a lot of money in their deposit account. We choose the customers whose total amounts are between TRY 5000 and TRY 1500000 in order to understand the tendencies of depositors in using demand and participation account.

This group constituted almost 70% of the total deposits of the participation bank. International depositors' amounts share was 15.9% of this selected group while other 84.1% belonged to domestic depositors. In terms of number of customers, international depositors' share decreased to 10.0% because the average deposit amount for international customers is greater than the that of domestic customers.

We created for different groups showing the tendencies of the customers' demand or participation account usage. The first groups was the depositors who only prefer

demand deposit accounts. On contrary, the second group consisted of depositors who prefer totally participation accounts. The third and the fourth groups were the depositors having both demand account and participation account. We separate them from each other with the 50% threshold. The depositors having a greater than 50% participation account was accepted as the depositors who prefer predominantly participation account. Reversely, the depositors having a greater than 50% demand deposit account was accepted as the depositors who prefer predominantly demand account.

Figure 1.41 : Allocation of depositor groups with volume

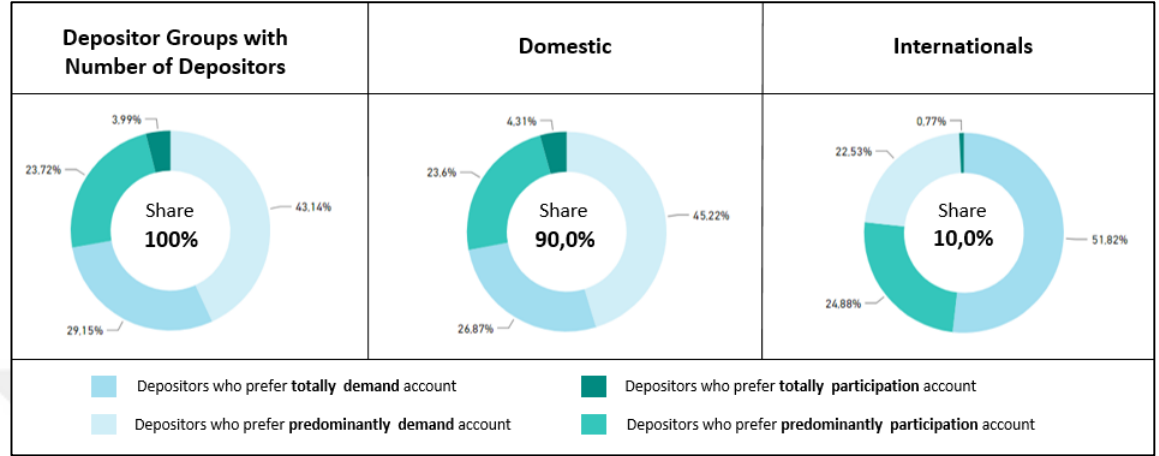


On the table above, for the selected groups having yearly average between TRY 5000 and TRY 1500000, 6.77% of the deposits was preferred to be totally in participation accounts, 17.03% was predominantly in participation account and 27.13% of the deposits was totally in demand accounts. The rest of them kept predominantly in demand account was 49.07%.

When it is analyzed with citizenship breakdown, the ratio of depositors who prefer totally participation account was 7.72% for domestic depositors while the ratio was only 1.76% for internationals. For the depositors who prefer totally demand account, the internationals had a greater ratio with 41.8% than that of domestics with 24.36%. So, it is clear that international depositors' interests for participation account is not high as it is for domestic depositors. Most of international customers use banks to keep their savings safe and to make their daily transactions via bank. In the table below, it could be understood well that more than half, 51.8%, of international

depositors do not prefer to put money into participation account. This ratio is only 26.87% for domestic depositors. Moreover, the ratio of depositors who prefer totally participation account decreased to 0.77% in terms of number of depositors.

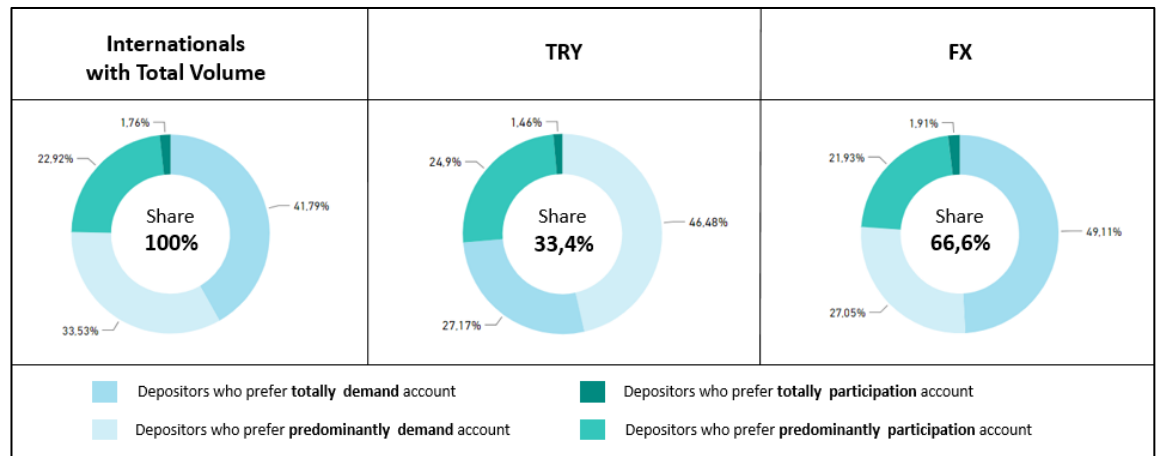
Figure 1.42: Allocation of depositor groups with number of depositors



1.6.2. Customer Preferences on Demand and Participation Accounts for Foreigners

We want to understand the behaviors of international depositor in a detailed way. In this part, we analyze the breakdowns of currency. Internations' total FX deposit volume was 66,6% of total deposits. For FX part, it is clear that 46% of the total money was owned by the international depositors who prefer totally demand deposit account. When it comes to TRY accounts, this ratio decreased to 27.17% due to the reason that there is a high opportunity cost of holding TRY in 2019.

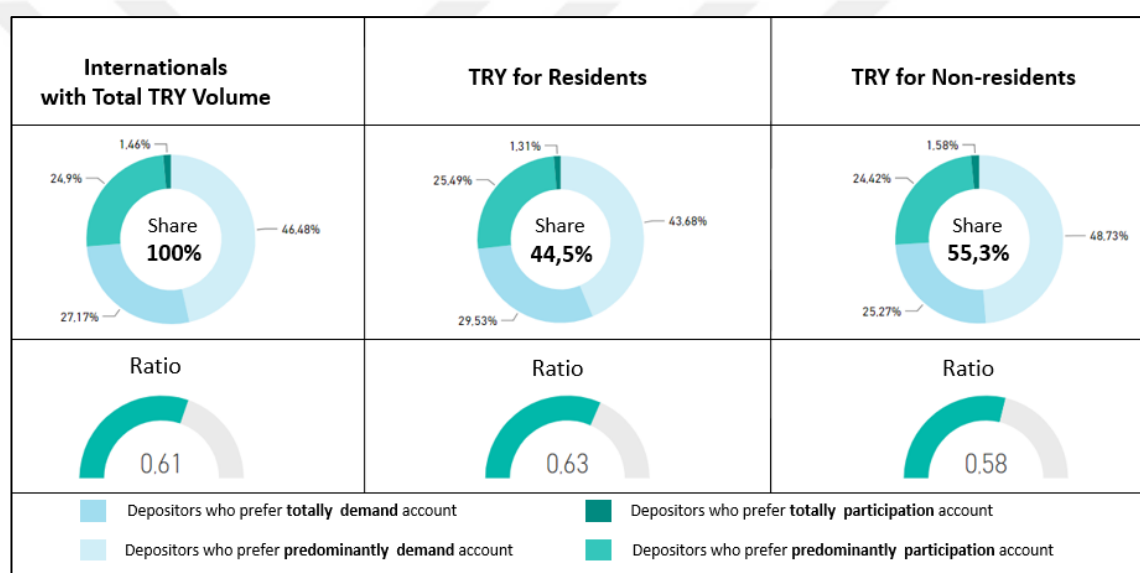
Figure 1.43: Allocation of international depositor groups with volume by currency



1.6.3 Customer Preferences on Demand and Participation Accounts for Foreigners by Residency

In this part, we want to go one step further by adding the residency breakdown. We expect that the volume share of depositors who prefer totally demand deposit account was high. Though the share of residents is high, the difference is small with 4%. Demand deposit to total deposit ratio of TRY for international depositors in this selected groups was 61%. The ratio for residents who constitutes 44.5% of total international's TRY volume was more with 63% than the that of non-residents with 58%. Around 60% demand deposit ratio for TRY deposits is really interesting in 2019 when average inflation rate was 15.8%.

Figure 1.44: Allocation of international depositor groups with volume by residency in TRY

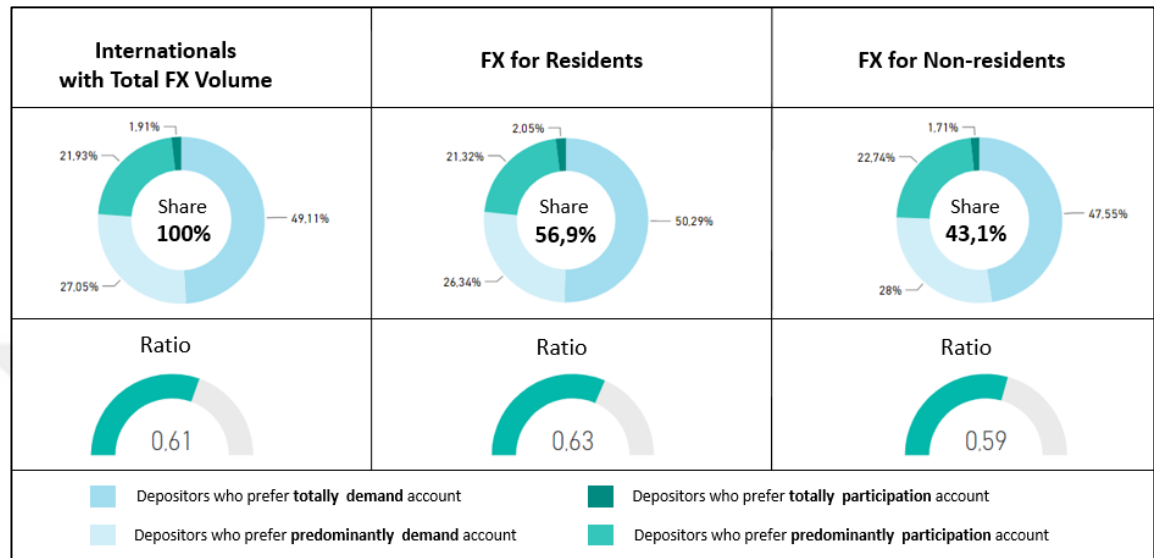


When the FX side, the volume of deposits who prefer totally demand deposit consisted of 49.1% , which is upper than TRY side. The ratio for residents was also greater with 50.29% than the that of non-residents with 47.55%. For international residents' FX volume, demand deposit ratio was the 61% , residents,which consisted of 57%, had 63% demand deposit ratio while non-residents,which consisted of 43%, had 59% demand deposit ratio.

Thus,we analysed and demonstrated the behaviours of international depositors with their deposit amounts between TRY 5000 and TRY 1500000. We show that they are not

Interested so much in yields allocated by participation banks. They use bank as a safe keeping place.

Figure 1.45: Allocation of international depositor groups with volume by residency in FX



1.7. Findings

In this chapter, we demonstrate the financial behaviors of international depositors by comparing them with domestic depositors in a participation bank in Turkey. We would choose to use yearly average data in 2019 in order to understand the behaviors in a certain period of time rather than the instant time.

It is obvious that international customers had a higher ratio with 43% than domestic customers with 34% in our portfolio. In this period, there were 41% demand deposit ratio in FX accounts which is 14% greater than that of TRY accounts. Internationals have a high demand deposit ratio. When it is looked at currency breakdown, it is seen that internationals demand deposit ratio is greater that domestic depositors both in TRY and FX accounts. It is clear that as the amount of money increases, people prefer more to participation accounts. This was also similar for the groups with corporate accounts. We can say that the amount is an important factor in the behaviour of depositors when they choose demand deposit account or participation account. For ordinary segment, it is an important finding that international depositors 60% demand deposit ratio which shows that most of internationals do

not care about the yield but they just put their deposits into bank for daily transactions or safekeeping. The ordinary domestic depositors had 34% ratio. It is clear that domestic depositors care yield a lot. Significantly, international SME groups had 63% for and 59% ratio, respectively showing that international businessmen use bank accounts put their money safe and make their transactions. It is critical that 69% of ordinary international depositors put their FX deposits into demand deposit accounts. In order to reach these ordinary international customers, bank might need to expand its branch network to the areas where international depositors stay or prefer to be.

The small SMEs' demand deposit ratio in TL was 45% and there is no distinguishing difference between domestic and international depositors. These groups' FX ratios was 68% for international and 52% for domestic depositors. It is an obvious fact that when bank increase its small SME depositor portfolio, it would be a significant comparative advantages.

18-25 age groups had the highest demand deposit ratio with 54% because their average deposit amount was not too high to get profit share, they uses in their daily transactions. For the other age groups from 26-35 to 66+, as age increases, the demand deposit to total deposit ratio decreased. All of age groups represent the same charecteristics both for domestic and international depositors. 18-25 age groups is the groups with highest ratio with 54%. When we investigate the breakdowns, it is clear that international put 71% of total money in their demand deposit account. Similar to 18-25 age groups, 26-35 age groups had a high ratio with 60%. As we indicated above, bank is very well in gold banking and these goupes from 18 to 35 years, domestic depositors put golds as wedding gifts into demand deposit account. On the other hand, as it is expected, the resident international had a higher demand deposit ratio with 49% than non-residents with 39%.

For the selected groups having yearly average between TRY 5000 and TRY 1500000, 6.77% of the deposits was preferred to be totally in participation accounts, 17.03% was predominantly in participation account and 27.13% of the deposits was totally in demand accounts. The rest of them kept predominantly in demand account was 49.07%. When it is analyzed with citizenship breakdown, the ratio of depositors who

prefer totally participation account was 7.72% for domestic depositors while the ratio was only 1.76% for internationals. So, it is clear that international depositors' interests for participation account is not high as it is for domestic depositors.

The other finding is that it could be understand well that more than half , 51.8% , of international depositors do not prefer to put money into participation account. For FX part, it is clear that 46% of the total money was owned by the international depositors who prefer totally demand deposit account. When it comes to TRY accounts, this ratio decreased to 27.17% due to the reason that there is a high opportunity cost of holding TRY in 2019. The ratio for residents was also greater with 50.29% than the that of non-residents with 47.55%. Though the share of residents is high, the difference is small with 4%.

1.8. Conclusion

Turkish Participation Banks with deposit market share of 8.39% at the end of 2019, are viable alternative not only for domestic customers but also for international customers. On the other hand, participation banks increased its FX demand deposit shares to the highest level 13.73% in November 2019. In recent two years, their market shares increased in a fluctuated economic environment globally and locally. We want to analyze the factors affecting the behaviors of depositors. Their citizenships, having a corporate account or not, their segments, their currency, their age and their residency have different effects on the deposit preferences in terms of demand deposit to total deposit ratio. Especially, some of international depositor groups do not care yields a lot depending their characteristics. We put a spotlight on those factors and groups in our study.

Chapter - 2

The Determining Factors on the Behaviors of Islamic Bank's International Depositors in Turkey

2.1.1. Participation Banks in Turkey as a safe harbor for MENA Area

Participation banks has gained momentum in recent two years in increasing its asset size share with the great increase in deposit size. At the end of 2019, the participation bank's share in asset size reached to 6.33% with the highest level. In the strategic plan of Participation Bank Association in Turkey, it is stated that participation banks' asset size target is to raise the market share in participation bank sector to %15 by 2025. When it is analyzed the participation bank share in TRY Assets and FX Assets, it is noticed that after FX currency shock in August 2018, participation banks increased FX market share from 4.47% to 8.06% in 16 months while they decreased their TRY market share from 5.37% to 5.01%.

Deposit share of participation banks reached to the highest level with 8.39% at the end of 2019, which is the 2.06% more than share in asset size. Turkey is the stable and safe country for those people who bring a part of their wealth to keep safe. The Turkish currency depreciation shock in August 2018 made citizenship opportunities by real estate investment attractive for foreigners. Around 3.5 million refugees who had to escape from Syrian War had an impact on the deposit increase in Turkish Banking Sector. Three participation banks Kuveyt Turk P.B., Albaraka P.B. and Turkiye Finans P.B. have Arabic shareholders. Those banks offers much more international customer-focused services by putting relation managers who speak Arabic in branches and by creating Arabic language services in call center and etc. Thus, participation banks could be considered an appropriate safe keeping place for international customers. The deposit share of participation banks reached to 8.39% with a fair of contribution of international depositors.

Demand deposit shares of participation banks with 11.39% demonstrate the difference in business model and customer portfolios of participation banks.

Participation banks' TRY proportion in total deposits is low. At the end of 2019, the average TRY deposits to total deposits ratio of participation banks is 41.5%, this ratio is 49.6% for the first 20 conventional banks in the same date.

One of the main motivation of this study is that FX Demand deposits share of participation banks is 13.07% which is more than double of asset size share with 6.33%. Participation banks have always been more in FX demand deposit part from 2010. After currency shock period, the FX demand deposit share level which have fluctuated around 10% in 2018, increased and reach to the highest level 13.73% in November 2019. For the TRT demand deposits part, the increase is not obvious as it is in FX side. The level has fluctuated between 6% and 8% for many years and reached to 9.10% at the end of 2019.

Total, TRY and FX time deposit share of participation banks had been close each other since 2015 to the currency shock period. They fluctuates mostly around 4.5% and 6% before August 2018 and started to increase. The increase in FX side is clear and FX time deposit share reached to 8.17% at the end of 2019.

Demand deposit to total deposit ratio reached to 34% in participation banks and 25% in banking sector at the end of 2019. The difference in this ratio between banking sector and participation banks has been small before 2015. The difference increased over years and reached to 9% at the end of 2019. The ratio for TRY reached to 27% for participation banks and 21% for banking sector at the end of 2019. The ratio in TRY is low and it could be supposed that depositors would prefer to protect their TRY deposits from inflation. FX Demand Deposit to Total Deposit Ratio has also always been more in participation banks. The ratio for FX reached to 38% for participation banks and 28% for banking sector at the end of 2019.

The market share of participation banks in depositor numbers holding over 1 million TRY reached to 12.80% for non-residents and 9.23% for residents at the end of 2019. After currency shock in 2018, participation banks increased the share from 7.8% to 12.8% for non-residents. Participation Banks' Depositor Number share reached to 5.01% in residents and 5.95% in non-resident. At the end of 2010, these shares were approximately 4% and 1.5%. The Syria War started at 2011 and

refugees raise the participation banks' depositor number market share to 7.30% in June 2016.

Demand deposit to total deposit ratio reached to 34% in participation banks and 25% in banking sector at the end of 2019. To interpret the natural people's behavior, we focus on the natural people's ratios of demand deposit to total deposit for conventional banks and participation banks. The ratios, 31% for participation banks and 22% for conventional banks, for natural people are less as it is expected.

The second significant reason to investigate the behaviors of the international depositors is their reaction to the 2018 currency shock with the decrease in demand deposit ratio. After Syrian War, participation banks increased the non-resident customer numbers especially with refugees coming from Syria. With this increase process, the demand deposit to total deposits ratio had increased to 52% from 7% in August 2018. After currency shock, interest rates or participation rate for TRY increased enormously increased, inflation rates surged and the demand deposit to total deposit decreased a lot to 22% at the end of the 2019. The gap decreased to 6% between participation banks and conventional banks. We can say that those people's behaviors started to look like Turkish People's behaviors because most of international depositors do not need to make actions like shifting to FX or opening a participation account before currency shock.

2.1.2. The Economical and Financial Conditions in 2019

After global mortgage crisis, FED decreased its policy rate dramatically and has put it at the level of 0.25% for seven years. Afterwards, FED started to implement contractionary monetary policy and it lasted until 2019 August with interest rate increases which have been 9 times with 0.25%. One of the major topic in US Economy was trade wars which started between USA and China in 2018 July and reached its peak point at the end of 2019. In this environment, FED have decided 3 interest rate cuts in 2019 with the expectation of slowdown in global outlook which might influence the employment negatively. FED Policy Rate decreased to 1.75% from 2.25% in the second part of the year. European Central Bank, which actually has been targeting to normalize the economies after global crises and European

Debt Crises, could not increase the rate in 2019 in lights of slowdown in global outlook and Brexit process.

Parallel with the positive developments in inflation side and expansionary monetary policies of leading central banks against trade war and expectation of slowdown in global outlook, CBRT has started to cut interest rates in 2019 August from 24%. CBRT has gradually decreased the policy rates to 12% with the last cut in 2019 December. Thus, it could be concluded that in Turkish money markets, there was a decreasing trend in 2019 as it was in global money Markets.

In 2019, 10 Year Government Bond Yields in 2019 had a decreasing trend for the selected groups USA, Germany, UK and Turkey. For the first quarter, decreasing trend in selected advanced economies could be seen, this decline accelerated in second and third quarters. Although, there was a little increase in the fourth quarter, the trend of the year had a decreasing trend for those developed countries. The results of the 2018 August currency shock lasted until 2019 May in Turkey and the yields started to decrease and it lasted until the end of the year to the level of 12.3%.

The customer price index reached to 25.2% in 2018 November and the production price index reached to 46.2% in 2018 October. Both PPI and CPI has decreased gradually from these highest level. The gap between the PPI and CPI resulted CPI stay high for a 9 months period and CPI dropped to the level under two digits in 2019 September with the contribution of base effect. Thus, inflation had decreasing pattern in 2019 and the expected inflation for 2020 was between 8% and 15%.

There might be several reasons for the hike of exchange rate, it is a consensus that political conflicts with USA is the major factor. Afterwards, Turkish Lira has gained attraction from all over the world after the policy rate increase made by CBRT. The USD/TRY parity reached to 6.37 in September monthly average from 3.78 and closed the year 2018 with 5.31. We believe that this extremely high volatility have a serious impact on depositor behaviors. In 2019, USD/TRY reached to 6.05 in May and closed the year with 5.84.

Before 2019 June, gold ons price were flat and fluctuated around \$1300. The developments of tariffs imposed by USA and China and FED's interest rate cut which was the first decrease since 2008 resulted to high increase in gold prices. In 3 months, the gold ons price increased to \$1546 from \$1280. At the end of the year, gold ons price closed the year with \$1514.

The BIST Stock Exchange started at 88.865 for the year and it fluctuated between 83.600 and 105.000 until the mid-November and the index closed the year with 114.425. As macro indicators had been gotten better, the interest on stock exchange increased towards the end of the year.

2.1.3 Yield Comparison of the Participation Bank with the Banking Sector

2019 is an interesting year to investigate because the developments in 2018 created many ambiguities and predictability decreased because of global and local developments. In this market, the average interest/profit rate given/allocated by conventional banks and one of participation bank. The gap of TRY yields between conventional banks and participation banks is high in six months. Because it might take some time to catch up average market price. When a quick increase in loan/financing prices arise and the decrease realized in the same speed, participation banks could not allocate the profit share as conventional banks can give. In these period, participation banks could lose some of their customers who are sensitive to price. After six months, the gap shortened with the decrease in policy rate of CBRT and market loan prices.

For Euro accounts, the participation bank allocate far more than the average conventional banks give. It could be inferred that the stock financings of the bank gave a profitable yield for the todays Euro depositors, even the Euro financing prices decrease in the market. The Euro yields gap between a participation bank and banking sector gradually decreased.

There has been a gradual decreasing pattern in USD and both the participation bank and the banking sector acted in a same way. This participation banks' profit rate allocated was a bit smaller than the banking sector's interest rate throughout the 2019.

2.1.4 Motivation

Participation banks has gained momentum for the recent 2 years with the support of great increase in deposits. The participation banks are preferred more from the international customers from MENA area. It is demonstrated some facts. The first one is that demand deposit to total deposit ratio for international customers were high both in TRY and FX accounts. The second fact is that FX weight of participation banks was high compared to banking sector. Lastly, it is stated that FX demand deposits share of participation banks reached to 13.07% which is more than double of asset size share with 6.33%.

With the facts of the previous chapter, it is obvious that international depositors are very significant with their cost efficient structure for the participation banks who collect FX deposits from the many depositors and finance many Turkish companies with low rate thanks to international depositors. Thus, we want to analyze the factors affecting the international customer's financial preference.

2.2. Literature Review

It is clear that there are different reasons for internationals who put their deposits into Turkish banks. Some are permanently living in Turkey, the others are temporarily settler. The migration, economic activities, international duties, tourism activities, seasonal activities could be seen as the main factors. One of basic spatial flow model created by Mortimore show that demographic, financial, innovative and informational flows between origin opportunity structure and destination opportunity structure are the associated with the population mobility. In population motilities, the transfer of capitals, innovations, knowledge, ideas, products and the behaviors might take place. (Mortimore,1982). Turkey, which has its historical roots with the people who live in the lands where Ottoman Empire or earlier states had ruled, accept refugees coming from different countries. The number of people moved to Turkey were not too high before 1980s. However, approximately 350.000 Bulgar Turks coming from Bulgaria in 1989, around 500.000 Kurds from Iraq in 1991, 20.000 Bosnian Muslims from East Europe in 1990s are the outstanding examples. (Icduygu and Kirisci, 2009a). The Arab Spring started in Tunisia and reached Syria in mid-March 2011. The Syrian civil war resulted in overwhelming influx of refugees

from Syria to Turkey. The registered Syrian refugees reached 2.7 million as of September 2016. When considering Iraqi, Afghani and other nationalities, Turkey was the host country with the largest refugee population with 3.1 million total refugees. (İçduygu, 2016: 8). This influx to Turkey contributed the increase in deposits in banking sector of Turkey. Total deposits of Syrians reached around 1.2 billion TL almost 4 times of the amount in 2012 (+/- 400 000 USD) in Turkey's banks at the first quarter of 2016, declared by the Banking Regulation and Supervision Agency. (Sagrioglu 2004). Rich Syrians had converted considerable amounts of their cash to U.S. dollar following the loss in value of the Syrian lira. (Atar, 14.06.2016).

It is clear that dollarization is a common phenomenon for the developing countries. Internationals are also aware the opportunity cost of holding local currency. In the literature, it is well described that dollarization reflects the conditions under which depositors put their money in foreign currency accounts by changing their local currencies with the foreign currencies when they expect changes in relative risks or returns among the various currencies of their local currencies. (Ortiz, G. 1983). There is a theory in the literature home currency preference increases with purchasing power parity risk for the people from stable economies like UK. For the case of UK persons, the home currency acts as a hedge against the risk that the exchange rate will not adhere to its PPP value. This suggests that home currency preference should be more pronounced in countries where PPP risk is relatively large. Home currency preference increases as the home country is expected to appreciate in real terms. This suggests that home currency preference should be more pronounced in the countries where currencies tend to rise in real term. (Beenstock, M. ,1986, p.230-231)

2.3. Data and Methodology

2.3.1. Methodology

In this chapter, we build models including the factors of macroeconomic and personal characteristics which affecting the behaviors of depositors. We use two different dependent variables it needs to be analyzed which are demand deposit to total deposit ratio and TRT weight of the international depositors. These two factors

are so critical because they have impacts on the profitability for the bank and the structure of the banks' balance sheet.

We will have 30 different models including 10 multiple linear regression models and 20 multiple non-linear regression models within 6 different table. We use robust standard errors in order to obtain unbiased standard errors of OLS coefficients under heteroscedasticity.

In the first three tables, macroeconomic and personal factors affecting demand deposit ratio of the international customers are investigated.

For the first 3 tables;

$$DDR = P_0 + \beta_1 P_1 + \beta_2 P_2 + \beta_3 P_3 + \beta_4 P_4 + \beta_5 P_5 + \beta_6 P_6 + \beta_7 P_7 + \beta_8 P_8 + \beta_9 P_9 \dots$$

Letting

DDR = Demand deposit to total deposit ratio of the customer,

β_1 = Affluent Depositors,

β_2 =Depositors having also business account,

β_3 =Depositors graduated minimum from undergrad level,

β_4 =Non-resident depositors,

β_5 = Depositors with 0-17 Ages,

β_6 = Depositors with 18-25 Ages,

β_7 = Depositors with 26-35 Ages,

β_8 = Depositors with 36-55 Ages,

β_9 = Depositors with 56-65 Ages,

β_{10} = Depositors with 66+ Ages.

β_{11} = Total amounts of the depositors.

β_{12} = Depositors from a Syria

β_{13} = Depositors from a country with pegged regime

β_{14} = Inflation rate of depositors home country

β_{15} = Square of Inflation rate of depositors home country

In the first table, we focus on the currency regime of the home countries of the depositor by adding some parameters. Secondly, we attempt to understand the relation between the customers' home country inflation rate and the financial behaviors on the demand deposit account in the second table. Lastly, we use both of them as macroeconomic factors in the third table.

For the second 3 tables;

$TRY_Weigh = P_0 + \beta_1 P_1 + \beta_2 P_2 + \beta_3 P_3 + \beta_4 P_4 + \beta_5 P_5 + \beta_6 P_6 + \beta_7 P_7 + \beta_8 P_8 + \beta_9 P_9$

...

Letting

TRY_Weigh = TRY weight of the customer deposits,

β_1 = Affluent Depositors,

β_2 = Depositors having also business account,

β_3 = Depositors graduated minimum from undergrad level,

β_5 = Depositors with 0-17 Ages,

β_6 = Depositors with 18-25 Ages,

β_7 = Depositors with 26-35 Ages,

β_8 = Depositors with 36-55 Ages,

β_9 = Depositors with 56-65 Ages,

β_{10} = Depositors with 66+ Ages.

B_{11} = Total amounts of the depositors.

B_{12} = Depositors from a Syria

β_{13} = Depositors from a country with pegged regime

β_{14} = Inflation rate of depositors home country

β_{15} = Square of Inflation rate of depositors home country

In the first table, we focus on the currency regime of the home countries of the depositor by adding some parameters. Secondly, we attempt to understand the relation between the customers' home country inflation rate and the financial behaviors on the demand deposit account in the second table. Lastly, we use both of them as macroeconomic factors in the third table.

2.3.2 Data

We cover the international depositors from one of the participation banks in Turkey. We select customers with deposits of TRY 5.000 and TRY 1.500.000 yearly average. It is clear that we have 51.500 customers from 42 countries. The countries are heavily in MENA and Europe area. TRY 5.000 was the level which most of the people think that it is worth of money to put participation account to get profit share. TRY 1.500.000 is an appropriate level for international depositors considering the average deposit amount. On the other hand, the number of people with deposits upper than TRY 1.500.000 were not high, which could have a manipulative effect on our data.

We prefer to use yearly data rather than instant date. People's behavior might change time to time depending the environment they live in. On the other hand, 2019 is the year when many people have negative expectations but positive developments were more often especially in currency side. So, 2019 is an appropriate year to observe the behaviors of international customers in our view.

We want to test the factors in two ways macroeconomic factors and personal factors which affecting the behaviors of depositors. For the macroeconomic side, we attempt to collect the data like interest rates for depositors, policy rates in countries, Islamic finance development index and so on. However, the weight of MENA area in our sample is high where the comparable data is scarce. We don't want to use them and use the inflation data of IMF and the country's currency regimes with the classification of IMF. For the personal factors, we want to put the segment, age, education, residency and the amount volume the depositors have.

We use available yearly inflation data of the countries for the last 20 years from 1999 to 2019 according to International Monetary Fund. We use 20 years average so that we understand the average inflation phenomenon that has been settled in the people's mind for years. Some of countries do not have 20 years data.

Availability of data varies from 12 to 20 years for countries. For the Syria case, there were no data after Syria War started at 2011 so we used the 12 years data for Syria.

The currency regimes of the countries are taken from the IMF Database. There were 6 main currency regimes, floating, free floating, stabilized arrangement, crawl-like arrangement, Conventional peg and other managed arrangement. We do not need to use this classification and by grouping them we want to use the parameter whether there has been pegged regime or not in these countries.

2.4. Empirical Results

In the first table below, we build 5 different models to check how the home countries' currency regimes effect on the behavior as regards to the demand deposit ratio. For the first model, we only test the personal characteristics. In this model, it is clear that affluent depositors have a negative impact on the DDR while depositors having a business account have a positive impact on the DDR as it is expected. Most of affluent depositors are sensitive to the yield, so they do not want to put their money into demand deposit accounts compared with the ordinary customers. Graduating from minimum undergrad level have also a negative impact on DDR which showing that the people educated care yields and they put more of their money to time deposit account than that of less educated. Moreover, when we check the residency dummy, it is clear that non-residents have a negative impact because they do not keep money in their demand deposit account as residents do. Lastly, the all of age groups have positive impact on the DDR when we compare all of the groups with 0-17 Age groups which showing that age groups' coefficients decreases as the age increases. All the results are statistically significant and R^2 of the model is 0.0302.

In second model, we add the Pegged parameter to check the monetary regime influence. It is obvious that depositors from the countries with pegged regime have a more DDR. All the results are statistically significant and the R^2 of the model

increased to 0.0304. In the third model, we also add the `Is_Syria` parameter to check what the effect of the Syrian refugees are. We saw that they have a negative effect on DDR. We can say that they are living here for 5-9 years and they now look like the Turkish people in their financial decisions. All the results are statistically significant and the R^2 of the model increased to 0.0327. In the fourth model, we put `Total_Amount` parameter and subtract the `Is_Syria` parameter and see that `Total_Amount` have the negative effect on DDR. It is clear that the amount parameter raise R^2 of the model a lot to 0.1249. Lastly, we add all of them and we see increase in R^2 of the model to 0.1265.



Table 1. Test on the Behaviours of International Depositors in Turkey according to Currency Regime of Home Country					
	(1)	(2)	(3)	(4)	(5)
	DDR	DDR	DDR	DDR	DDR
Pegged	-	0.0169475 (0.0050688)***	0.0301483 (0.0051942)***	0.015349 (0.0048807)***	0.0267119 (0.00499925)***
Is_Syria	-	-	-0.0405444 (0.0036637)***	-	-0.0348854 (0.0034989)***
Total_Amount	-	-	-	-0.000000579 (1.03e-08)***	-0.000000579 (1.03e-08)***
Affluent	-0.314623 (0.0169748)***	-0.3147312 (0.0160653)***	-0.3151318 (0.0159903)***	0.058759 (0.0181906)***	0.0573336 (.0181906)*
Business	0.0657142 (0.004339)***	0.0650099 (0.004341)***	0.0719267 (0.0043931)***	0.0876053 (0.0041182)***	0.0934913 (.0041697)***
University	-0.0058858 (0.0031193)*	-0.0054002 (0.0031246)	-0.0110237 (0.0031431)	-0.0001917 (0.0029735)*	-0.0050454 (0.002991)
Non-resident	-0.0148796 (0.1031089)***	-0.0143839 (0.0033004)***	-0.0257769 (0.0034203)***	-0.0084504 (0.0031305)***	-0.0182704 (0.0032511)***
0-17_Ages	(omitted)	(omitted)	(omitted)	(omitted)	(omitted)
18-25_Ages	0.474833 (0.1032753)***	0.474833 (0.1041075)***	0.4865768 (0.1049747)***	0.4196618 (0.103182)***	0.4335367 (0.1038141)***
26-35_Ages	0.4690313 (0.1031613)***	0.4650997 (0.1039949)***	0.4862332 (0.1048718)***	0.4222529 (0.1030701)***	0.4405606 (0.1037104)***
36-55_Ages	0.4127838 (0.1031475)***	0.4090334 (0.1039806)***	0.4248126 (0.1048475)***	0.390963 (0.1030484)***	0.4045921 (0.1036794)***
56-65_Ages	0.3734517 (0.1032049)***	0.3695463 (0.1040379)***	0.3820751 (0.1048995)***	0.3677334 (0.1030957)***	0.3785186 (0.1037223)***
66+_Ages	0.3612702 (0.1033321)***	0.357657 (0.1041643)***	0.3708804 (0.1050242)***	0.3642714 (0.103208)***	0.37563 (0.1038328)***
Constant	0.3984243 (0.1031089)***	0.3867614 (0.1040353)***	0.3797637 (0.104896)***	0.458856 (0.1031029)***	0.4526264 (0.1037296)***
# of Observations	51,500	51,500	51,500	51,500	51,500
F Statistics	165.21	149.67	146.47	430.85	403.98
R-Squared	0.0302	0.0304	0.0327	0.1249	0.1265
Root MSE	0.34399	0.34395	0.34355	0.32677	0.32646
Notes: The table reports depositors in a participation bank in Turkey. The depositors' total average deposits throughout 2019 is used. The dependent variable is the ratio of demand deposit to total deposit. We used robust standard errors. The p-values shown in parentheses. *** indicates the 1% significance level, ** for 5% level and * for 10% level, respectively.					

In the second table below, we build also 5 different models to check how the home countries' inflation rate effect on the behavior as regards to the demand deposit ratio. For the first model, we put Inflation_Rate parameters. The inflation have a positive affect at the first look. The other parameters have the same effect as it is in

Table 1. Affluent depositors have a negative impact on the DDR while depositors having a business account have a positive impact on the DDR. Graduating from minimum undergrad level have also a negative impact on DDR, non-residents have a negative impact and lastly, the all of age groups have positive impact on the All the results are statistically significant and R^2 of the model is 0.0303.

The inflation rates of the countries' average is too small, because most of the countries' inflation rates are between 0-3. We decide to add the Square the Inflation Rate (Inf^2) to understand the effect again. In second model, It is obvious that inflation rate have a negative effect on DDR while Inf^2 has a positive effect. All the results are statistically significant and the R^2 of the model increased to 0.0323. In the third model, we also add the Total_Amount parameter to the model. We saw that they have also a negative effect on DDR. All the results are statistically significant and the R^2 of the model increased to 0.1266. In the fourth model, we put Is_Syria parameter and subtract the Total_Amount parameter and see that Is_Syria have the negative effect on DDR. R^2 of the model decreased to 0.0334. Lastly, we add all of them and we see increase in R^2 of the model to 0.1272.

In the third table below, we build also 5 different models to check how macroeconomic factors both the home countries' inflation rate effect and the effect of currency regime of the home country on the behavior as regards to the demand deposit ratio. In the first model, obviously, we see that the inflation rates have a negative effect while the pegged currency regime have a positive effect. The parameters are statistically significant and the R^2 of the model to 0.0306. When we add other factors one by one and wholly, we see the results in the 5.th model of the 3rd table. In this model we also prove this again by increasing the R^2 of the model to 0.1282.

Table 2. Test on the Behaviours of International Depositors in Turkey according to Inflation Rate of Home Country					
	(1)	(2)	(3)	(4)	(5)
	DDR	DDR	DDR	DDR	DDR
Inflation_Rate	0.0012044 (0.0004495)***	-0.0184232 (0.0017063)***	-0.017386 (0.0016454)***	-0.014808 (0.0017346)***	-0.0145921 (0.0016795)***
Inf^2		0.0011287 (0.0001067)***	0.0011035 (0.0001033)***	0.000842 (0.0001102)***	0.0008817 (0.0001072)***
Is_Syria	-		-	-0.0296859 (0.0038503)***	-0.0229596 (0.0036837)***
Total_Amount	-		-0.000000579 (1.03e-08)***		-0.000000578 (1.03e-08)***
Affluent	-0.315193 (0.0160664)***	-0.3181315 (0.0160112)***	0.0555003 (0.0181507)***	-0.3179753 (0.0159712)***	0.0548462 (0.0181327)***
Business	0.0659201 (0.0043402)***	0.0685749 (0.0043573)***	0.0909199 (0.0041344)***	.0734963 (0.0044013)***	0.0946799 (0.0041797)***
University	-0.0057029 (0.0031193)*	-0.0076165 (0.031211)**	-0.0024214 (0.0029709)	-0.0114094 (0.0031448)***	-0.0053657 (0.0029924)
Non-resident	-0.0151541 (0.0032975)***	-0.0181089 (0.0033031)***	-0.0119174 (0.0031333)***	-0.0261557 (0.0034397)***	-0.0181538 (0.0032689)***
0-17_Ages	(omitted)	(omitted)	(omitted)	(omitted)	(omitted)
18-25_Ages	0.4749066 (0.1036896)***	0.4758539 (0.1042826)***	0.424465 (0.1035087)***	0.4897424 (0.1045381)***	0.4353132 (0.1036803)***
26-35_Ages	0.468283 (0.1035745)***	0.469092 (0.104168)***	0.4262864 (0.1033962)***	0.4861304 (0.1044331)***	0.439553 (0.1035762)***
36-55_Ages	0.411788 (0.1035605)***	0.4097917 (0.1041537)***	0.3919619 (0.103375)***	0.4233634 (0.1044081)***	0.4024955 (0.1035448)***
56-65_Ages	0.3712933 (0.1036186)***	0.3657603 (0.1042124)***	0.3648722 (0.1034237)***	0.377206 (0.1044617)***	0.3737263 (0.1035888)***
66+_Ages	0.3587958 (0.1037459)***	0.3525062 (0.1043388)***	0.360256 (0.103537)***	0.3642868 (0.1045871)***	0.3693513 (0.1037009)***
Constant	0.4054133 (0.1035434)***	0.4538895 (0.1042334)***	0.5199753 (0.1034721)***	0.4475076 (0.1044773)***	0.5149024 (0.1036329)***
# of Observations	51,500	51500	51,500	51,500	51,500
F Statistics	149.09	144.39	404,96	136.66	377.16
R-Squared	0.0303	0.0323	0.1266	0.0334	0.1272
Root MSE	0.34397	0.34363	0.32646	0.34343	0.32633
Notes: The table reports depositors in a participation bank in Turkey. The depositors' total average deposits throughout 2019 is used. The dependent variable is the ratio of demand deposit to total deposit. We used robust standard errors. The p-values shown in parentheses. *** indicates the 1% significance level, ** for 5% level and * for 10% level, respectively.					

Table 3. Test on the Behaviours of International Depositors in Turkey according to Currency Regime of Home Country and Inflation Rate of Home Country					
	(1)	(2)	(3)	(4)	(5)
	DDR	DDR	DDR	DDR	DDR
Pegged	0.0181826 (0.005098)***	0.0159735 (.0049101)***	0.040882 (0.0052888)***	0.0285526 (0.0049833)***	0.0362906 (0.0050896)***
Inflation_Rate	-0.0013542 (0.0004521)***	-0.000684 (-0.0004356)	-0.0175914 (0.0017527)***	-0.0198882 (0.0016819)***	-0.0170633 (0.0016967)***
Inf^2	-		0.0009914 (0.0001109)***	0.001252 (0.0001053)***	0.0010143 (0.0001078)***
Is_Syria	-		-0.0362406 (0.0039378)***	-	-0.0287867 (0.0037649)***
Total_Amount	-	-0.000000578 (1.03e-08)***		-0.000000578 (1.03e-08)***	-0.000000577 (0.0000000)***
Affluent	-0.3153687 (0.0160553)***	0.058277 (.0181928)***	-0.3188898 (0.0159291)***	0.0546157 (0.0181336)***	0.0535559 (0.0181067)***
Business	0.06519 (0.0043422)***	0.0876866 (.0041192)***	0.0734417 (0.0044049)***	0.0901096 (0.0041364)***	0.0946042 (0.0041825)***
University	-0.0051593 (0.0031251)*	-0.0000723 (-0.0029738)	-0.0113851 (0.0031415)***	-0.0018226 (0.0029725)	-0.0053519 (0.0029895)*
Non-resident	-0.0146565 (0.0033015)***	-0.0085906 (.0031319)***	-0.0273704 (0.0034356)***	-0.0115286 (0.0031341)***	-0.0192424 (0.0032653)***
0-17_Ages	(omitted)	(omitted)	(omitted)	(omitted)	(omitted)
18-25_Ages	0.4703985 (0.1046364)***	0.4195705 (.1034498)***	0.4828514 (0.1069234)***	0.417541 (0.1048924)***	0.4292659 (0.1054681)***
26-35_Ages	0.4639719 (0.104523)***	0.4217015 (.1033373)***	0.480352 (0.1068212)***	0.4196485 (0.1047814)***	0.4344833 (0.1053652)***
36-55_Ages	0.4076405 (0.1045087)***	0.3902672 (.1033158)***	0.4166584 (0.1067959)***	0.3851968 (0.1047599)***	0.3965703 (0.1053339)***
56-65_Ages	0.3668351 (0.1045667)***	0.3663646 (.1033646)***	0.3686664 (0.1068476)***	0.3571435 (0.1048089)***	0.3661502 (0.1053779)***
66+_Ages	0.3546118 (0.1046932)***	0.3627304 (.1034777)***	0.3562953 (0.1069701)***	0.3528533 (0.1049202)***	0.3622507 (0.1054875)***
Constant	0.3937692 (0.1045749)***	0.4623649 (.1033829)***	0.4290537 (0.1069266)***	0.5080317 (0.1048967)***	0.4984344 (0.1054681)***
# of Observations	51,500	51599	51,500	51500	51,500
F Statistics	136.51	394.91	130.99	375.92	353.75
R-Squared	0.0306	0.1249	0.0346	0.1272	0.1282
Root MSE	0.34393	0.32677	0.34322	0.32634	0.32616
Notes: The table reports depositors in a participation bank in Turkey. The depositors' total average deposits throughout 2019 is used. The dependent variable is the ratio of demand deposit to total deposit. We used robust standard errors. The p-values shown in parentheses. *** indicates the 1% significance level, ** for 5% level and * for 10% level, respectively.					

In the fourth table below, we build 5 different models to check how the home countries' currency regimes effect on the behavior as regards to TRY weight of the deposits. For the first model, we only test the personal characteristics. In this model, it is clear that affluent depositors and depositors having a business account have a negative impact on the TRY weight compared to ordinary depositors. Graduating from minimum undergrad level have also a positive impact on TRY weight which showing that the people educated put more TRY to consume in Turkey in daily transactions more than that of less educated. Lastly, the all of age groups have positive impact on the TRY weight when we compare all of the groups with 0-17 Age groups which showing that age groups' coefficients decreases as the age increases. All the results are statistically significant and R^2 of the model is 0.0306.

In second model, we add the Pegged parameter to check the monetary regime influence. It is obvious that depositors from the countries with pegged regime have a more TRY in their accounts. All the results are statistically significant and the R^2 of the model increased to 0.0372. In the third model, we also add the Total_Amount parameter to the model. We saw that they have also a negative effect on TRY weight. All the results are statistically significant and the R^2 of the model increased to 0.0488. In the fourth model, we put Is_Syria parameter and subtract the Total_Amount parameter and see that Is_Syria have the negative effect on TRY weight. R^2 of the model increased to 0.0893. Lastly, we add all of them and we see decreased in R^2 of the model to 0.0488.

Table 4. Test on the Behaviours of International Depositors in Turkey according to Currency Regime of Home Country					
	(1)	(2)	(3)	(4)	(5)
	TRY_Weight	TRY_Weight	TRY_Weight	TRY_Weight	TRY_Weight
Pegged		0.0897923 (0.0169748)***	0.0890189 (0.0051891)***	0.1603512 (0.0053671)***	0.1591856 (0.0053457)***
Is_Syria				-0.2050765 (0.0035962)***	-0.2038763 (0.0035762)***
Total_Amount			-0.000000225 (0.00000001)***		-0.000000219 (0.0802155)***
Affluent	-0.1248189 (0.0149189)***	-0.1248093 (0.0169748)***	0.0209237 (0.0161541)	-0.1385407 (0.0142737)***	0.0033707 (0.0156899)
Business	-0.0822268 (0.0050533)***	-0.0865213 (0.0169748)***	-0.0782203 (0.0050248)***	-0.039371 (0.0050987)***	-0.0315681 (0.0050505)***
University	0.039364 (0.0034274)***	0.0422802 (0.0169748)***	0.0446029 (0.0034022)***	0.0064205 (0.0033825)*	0.0088909 (0.0033618)***
0-17_Ages	(omitted)	(omitted)	(omitted)	(omitted)	(omitted)
18-25_Ages	0.1008308 (0.0825543)	0.0782328 (0.0169748)	0.0581957 (0.0819893)	0.1643385 (0.0796031)**	0.144334 (0.0805303)*
26-35_Ages	0.107225 (0.0823622)	0.086341 (0.0169748)	0.0696643 (0.081792)	0.1935329 (0.0793922)**	0.1766755 (0.0803204)**
36-55_Ages	0.184039 (0.0823318)**	0.1646036 (0.0169748)**	0.1579908 (0.0817538)*	0.2340422 (0.0793432)***	0.2272001 (0.0802675)***
56-65_Ages	0.2804115 (0.0824149)***	0.2604215 (0.0169748)***	0.2603667 (0.0818342)***	0.3075533 (0.0794129)***	0.3072242 (0.0803334)***
66+_Ages	0.2566946 (0.082599)***	0.2381793 (0.0169748)***	0.2413351 (0.0820094)***	0.290501 (0.0795756)***	0.2932661 (0.0804906)***
Constant	0.2196945 (0.0822722)***	0.1584836 (0.0169748)**	0.1871392 (0.0817082)**	0.1077249 (0.0051891)	0.1359103 (0.0802155)*
# of Observations	51,500	51,500	51,500	51,501	51,502
F Statistics	217.71	225.29	270.26	526.18	270.26
R-Squared	0.0319	0.0372	0.0488	0.0893	0.0488
Root MSE	0.38109	0.38005	0.37775	0.36963	0.37775
Notes: The table reports depositors in a participation bank in Turkey. The depositors' total average deposits throughout 2019 is used. The dependent variable is the TRY weight in total deposits. We used robust standard errors. The p-values shown in parentheses. *** indicates the 1% significance level, ** for 5% level and * for 10% level, respectively.					

In the fifth table below, we build also 5 different models to check how the home countries' inflation rate effect on the behavior as regards to the TRY weight in total deposits. For the first model, we put Inflation Rate parameters. The inflation have a

negative impact on TRY Weight. The other factors are same as it is in the first table. are statistically significant and R^2 of the model is 0.0551.

The inflation rates of the countries' average is too small, because most of the countries' inflation rates are between 0-3. We decide to add the Square the Inflation Rate (Inf^2) to understand the effect again. In third model, It is obvious that inflation rate and Inf^2 have a negative effect on TRY weight. We also add the Total_Amount parameter to the model. Results are statistically significant and the R^2 of the model increased to 0.0703. In the fourth model, we saw that they have also a negative effect on TRY weight. We put Is_Syria parameter and subtract the Total_Amount parameter and see that Is_Syria have the negative effect on DDR. R^2 of the model increased to 0.1104. Lastly, we add all of them and we see increase in R^2 of the model to 0.1208.

In the sixth table below, we build also 5 different models to check how macroeconomic factors both the home countries' inflation rate effect and the effect of currency regime of the home country on the behavior as regards to TRY weight in total deposits. In the first model, obviously, we see that the inflation rates have a negative effect while the pegged currency regime have a positive effect on TRY weight. The parameters are statistically significant and the R^2 of the model to 0.0625. When we add other factors one by one and wholly, we see the results in the 5.th model of the 6th table. In this model we also prove this again by increasing the R^2 of the model to 0.1440.

Table 5. Test on the Behaviours of International Depositors in Turkey according to Inflation Rate of Home Country					
	(1)	(2)	(3)	(4)	(5)
	TRY_Weight	TRY_Weight	TRY_Weight	TRY_Weight	TRY_Weight
Inflation_Rate		-0.0178864 (0.0004695)***	-0.0452751 (0.0018608)***	-0.016731 (0.0019034)***	-0.016663 (0.0018952)***
Inf^2			.0018124 (0.000116)***	-0.0004132 (0.00012)***	-0.0004003 (0.0001196)***
Is_Syria				-0.2124646 (0.0037002)***	-0.2110113 (0.0036816)***
Total_Amount			-2.20e-07 (0.00000001)***		-0.000000213 (0.00000001)***
Affluent	-0.1248189 (0.0149189)***	-0.1339728 (0.0147053)***	0.0028214 (0.0160927)	-0.1495459 (0.0142576)***	-0.0116267 (0.0157395)
Business	-0.0822268 (0.0050533)***	-0.078296 (0.0050792)***	-0.0650019 (0.0050315)***	-0.026023 (0.0050931)***	-0.0185917 (0.0050458)***
University	0.039364 (0.0034274)***	0.0415456 (0.0033922)***	0.0401141 (0.0033666)***	0.0034898 (0.000116)	0.0059205 (0.0033263)*
0-17_Ages	(omitted)	(omitted)	(omitted)	(omitted)	(omitted)
18-25_Ages	0.1008308 (0.0825543)	0.1023744 (0.075843)	0.0846356 (0.0751466)	0.2099574 (0.0755009)***	0.1900928 (0.0772628)**
26-35_Ages	0.107225 (0.0823622)	0.096196 (0.0756392)	0.0812872 (0.0751466)	0.2207591 (0.0752949)***	0.2041258 (0.0770592)***
36-55_Ages	0.184039 (0.0823318)**	0.1685758 (0.0756069)**	0.1581851 (0.0749066)**	0.2527983 (0.0752481)***	0.2459906 (0.0770096)***
56-65_Ages	0.2804115 (0.0824149)***	0.2472701 (0.0757056)***	0.2373764 (0.0750102)***	0.3051503 (0.0753357)***	0.3049085 (0.0770917)***
66+_Ages	0.2566946 (0.082599)***	0.2189752 (0.0759038)***	0.2112142 (0.0752078)***	0.2799608 (0.0755193)***	0.2827967 (0.0772675)***
Constant	0.2196945 (0.0822722)***	0.3225789 (0.0756279)***	0.4253481 (0.0751618)***	0.3319289 (0.0755015)***	0.3575547 (0.0772516)***
# of Observations	51,500	51,500	51,500	51,500	51,500
F Statistics	217.71	352.92	367.47	583.45	608.30
R-Squared	0.0319	0.0551	0.0703	0.1104	0.1208
Root MSE	0.38109	0.37651	0.37346	0.36531	0.37318
Notes: The table reports depositors in a participation bank in Turkey. The depositors' total average deposits throughout 2019 is used. The dependent variable is the TRY weight in total deposits. We used robust standard errors. The p-values shown in parentheses. *** indicates the 1% significance level, ** for 5% level and * for 10% level, respectively.					

Table 6. Test on the Behaviours of International Depositors in Turkey according to Currency Regime of Home Country and Inflation Rate of Home Country					
	(1)	(2)	(3)	(4)	(5)
	TRY_Weight	TRY_Weight	TRY_Weight	TRY_Weight	TRY_Weight
Pegged	0.1071719 (0.0052396)***	0.132762 (0.005427)***	0.1317064 (0.0054007)***	0.1999911 (0.0055435)***	0.1985216 (0.0055146)***
Inflation_Rate	-0.0187824 (0.000473)***	-0.0572739 (0.0020316)***	-0.0569088 (0.0020253)***	-0.0303242 (0.0018843)***	-0.0301575 (0.0018775)***
Inf^2		0.025112 (0.0001285)***	0.0025032 (0.0001282)***	0.0003213 (0.0001166)***	0.0003285 (0.0001162)***
Is_Syria				-0.242463 (0.0037841)***	-0.2408136 (0.0037658)***
Total_Amount			-0.000000218 (0.0052396)***		-0.000000209 (0.8.66e-09)***
Affluent	-0.1344199 (0.0145655)***	-0.1423839 (0.014526)***	-0.0009948 (0.0159191)	-0.1550596 (0.0139654)***	-0.0194194 (0.0154455)
Business	-0.0832249 (0.0050988)***	-0.0770938 (0.0050959)***	-0.0691108 (0.0050474)***	-0.025533 (0.0050876)***	-0.0182302 (0.0050397)***
University	0.0451354 (0.0033875)***	0.0408717 (0.0033758)***	0.0430993 (0.0033539)***	0.0031988 (0.0033061)	0.0055908 (0.003286)*
0-17_Ages	(omitted)	(omitted)	(omitted)	(omitted)	(omitted)
18-25_Ages	0.0754798 (0.0733799)	0.0718886 (0.069448)	0.0525164 (0.0713474)	0.1758536 (0.0715945)**	0.1565737 (0.0723587)**
26-35_Ages	0.0707173 (0.0731682)	0.0665867 (0.0692219)	0.0506397 (0.0711252)	0.1914179 (0.0713714)***	0.1752798 (0.0721356)**
36-55_Ages	0.1446039 (0.073131)**	0.1333751 (0.0691899)*	0.1272608 (0.0710911)*	0.2182187 (0.0713259)***	0.2117796 (0.0720865)***
56-65_Ages	0.2217507 (0.0732338)***	0.2016476 (0.0693098)***	0.202159 (0.0712048)***	0.2612785 (0.0714227)***	0.2613632 (0.0721794)***
66+_Ages	0.1949866 (0.0734303)***	0.1737577 (0.695172)**	0.1774429 (0.0714035)**	0.2389133 (0.0716007)***	0.2420031 (0.0721794)***
Constant	0.2546747 (0.0018952)***	0.3446765 (0.0694198)***	0.3709177 (0.0052396)***	0.2400669 (0.0715334)***	0.2659367 (0.0722906)***
# of Observations	51,500	51,500	51,500	51,500	51,500
F Statistics	357.46	356.21	387.94	640.81	666.27
R-Squared	0.0625	0.0700	0.0809	0.1340	0.1440
Root MSE	0.37502	0.37352	0.37132	0.36045	0.35836
Notes: The table reports depositors in a participation bank in Turkey. The depositors' total average deposits throughout 2019 is used. The dependent variable is the TRY weight in total deposits. We used robust standard errors. The p-values shown in parentheses. *** indicates the 1% significance level, ** for 5% level and * for 10% level, respectively.					

2.5. Conclusion

The behavior of the international depositors in Turkey are critical for the banks who build strategies on them. In this chapter, we analyze the behaviors of the international customers in two ways. We empirically prove that macroeconomic factors affect the behaviors of the international customers. The inflation rate of their home countries and the currency regime of their home countries have an impact on their demand deposit ratio and TRY weight. When inflation rate has a negative and pegged currency regime of the home country has a positive impact both on the demand deposit to total deposit ratio. Affluent depositors have a negative impact on both DDR and TRY weight. While depositors having a business account have a positive impact on the DDR, depositors having a business account have a negative impact on the TRY weight. Graduating from minimum undergrad level have a negative impact on DDR, but educated depositors have a positive impact on TRY weight. In the case of age, we prove that the increase in age decrease the DDR. As the amount of depositors accounts increases, both DDR and TRY weight decrease. Lastly, Syrian people have a negative effect on DDR and TRY weight like the Turkish citizens.

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