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Exchange Rate Risk in Participation (Islamic) Banks in Turkey

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Abstract: This study was designed to investigate Islamic hedging tools in participation (Islamic) banks to mitigate exchange rate risk in Turkey during 2017. This study uses a qualitative approach to investigate hedging instruments in participation (Islamic) banks against exchange rate risk. Data were collected using questionnaires from the senior management of 5 Islamic banks which covers all of the Islamic banks in Turkey. The finding of this study suggests that Murabahah agreements represent the most used Islamic contracts. Islamic finance contracts that produce high rank of risk (Mudarabah and Musharakah) are less implemented in participation banks than less risky contracts. This study is the first study which sheds the light on exchange rate risk and Islamic hedging tools in participation banks (Islamic banks) in Turkey.

Key words: Exchange rate risk in Turkey, exchange rate risk in participation banks

INTRODUCTION

Islamic banking not only avoids interest-based transactions, prohibited in the Islamic Shari'ah but also keeps away from immoral practices and participates aggressively in achieving the goals of an Islamic economy (Anonymous, 2010; Khalid and Amjad, 2012). Participation banks have been in Turkey, since, the early 1980's (Stubing, 2017; Hassan *et al*., 2016). The numbers of Islamic banks in Turkey in 2017 are three full-fledged participation banks Islamic banks and two conventional banks with Islamic window and the number of participation banks Islamic banks branches in 2015 was 1080. According to Darren (2017) despite current rules blamed for holding back development of Islamic financing products and services in Turkey, the nation's participation banks are recording good growth. In the first half of 2017, the handful of Islamic banks in Turkey recorded net profit of TRL769 million ($223 million), a rise of 36% from the first half of 2016. Their total assets were up 8% to $42 billion. According to the Banking Regulation and Supervision Agency of Turkey (BDDK), assets of participation banks in Turkey reached 45 billion USD which is 5.5% of the whole banking sector's assets in Turkey (Hassan *et al*., 2016). Turkey suffered its worst economic crisis at the beginning of the 2000's. In 1999 an exchange rate-based stabilization programme was launched to help maintain inflation and resolve the republic's sovereign debt issues. Turkey adopted a floating exchange rate regime after its crisis of February 2001 (Anonymous, 2014). The Central Bank of the Republic of Turkey (CBRT) considers the real exchange rate variability a threat to the stability of financial markets due to high dollarization and the vulnerability of the Turkish economy to current account crises (Berument and Dincer, 2004). According to Kabir Hassan *et al*. (2016) highlight that participation banks are more sensitive to shocks followed by economic turmoil such as an increase in currency rates as Turkey applies the floating exchange system and is open to all kinds of large fund movements due to political stability, interest rates and investment opportunities. An initial objective of the research is to illustrate Islamic mitigation techniques in participation banks against exchange rate risk in Turkey. In spite of growing body of literature that recognizes the importance of risk management in Islamic banks there are no studies explaining what are mechanisms which enable Islamic banks to hedge exchange rate fluctuations risk in Islamic banks in Turkey. Therefore, our motivation in this study is to explain Islamic hedging instruments on participation banks (Islamic banks) against exchange rate risk in Turkey.

This study contributes to establishing a quantitative framework for Islamic bank's hedging tools to manage exchange rate risk in Turkey effectively. This study is the first study which investigates Islamic hedging tools in Turkey.

Our results show that Murabahah agreements consider the most-used Islamic agreements, although, Bai

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Alarbun and Salam were the least used contracts in Islamic banks. Islamic finance contracts that produce high rank of risk (for example, Mudarabah and Musharakah) ranked as less implemented in Islamic banks than less risky agreements. Guarantee contracts and the parallel contracts were the most used derivative contracts in Islamic banks, this paper is organized in five sections. After the introduction of research topic along with the objectives in section 1, Section 2 provides literature review; Section 3 provides hypotheses that are tested in this paper; Section 4 consists of data analysis and interpretation; Finally section 5 presents conclusion and suggested future research areas.

Literature review: Although, nowadays world economies are facing fluctuations in foreign currency exchange rate, up to now, there have been no attempts to examine exchange rate risk management tools for Islamic banks in Turkey. A seminal studies in this area are the work of Islamic bank's risk management the researches by khan and Ahmed (2001), Ariffin *et al*, (2009) which investigate a cross-country analysis have examined samples for the Turkish Islamic banks over a span of 11 years. One of the most influential accounts of risk management comes from (Khan and Ahmed, 2001) explain Islamic banks face additional risks due to the nature of their balance sheet and shari'a compliance. Non-availability of financial instruments to Islamic banks is a major hindrance in their way to manage market risks as compared to the conventional banks. A recent study investigating risk management tools practiced in Islamic banks: evidence in MENA region have been carried out by Mokni *et al.* (2014) which covers 23 Islamic banks located in the MENA region illustrated that Murabahah is significantly riskier than Mudharabah. This however contradicts the initial claim (Mokni *et al*., 2014) stated that Mudharabah is riskier than Murabahah financing. At the meantime, the remaining comparisons between profit-sharing contracts and mark-up based contracts are statistically insignificant. This finding suggest that profit-sharing contracts (Musharakah and Mudharabah) are perceived riskier than mark-up based contracts (Murabahah, Salam, Istisna' and Ijarah). This finding is in contradiction with the results of Khan and Ahmed (2001) who concluded that Profit sharing contracts (Musharakah and Mudharabah) are perceived riskier than mark-up contracts (Murabahah, Salam, Istisna' and Ijarah). On a related topic, Huq *et al*., 2011 discuss the topic of "Risk Management in Banks-A Comparative Study of Some Selected Conventional and Islamic Banks in Bangladesh" which demonstrates whether or not hedging mechanisms used in Islamic banks are advanced more than utilizing strategies in conventional banks. The results according to Huq *et al.* (2011) reveal that conventional banks use advanced methods of risk identification techniques, risk management techniques as well as risk mitigation techniques to a great extent along with traditional techniques. So, these banks give due importance to the advanced techniques of risk management as a whole. But, the Islamic Banks give more emphasis on traditional methods of risk identification, risk management and risk mitigation techniques because of shortage of qualified and experienced bank officials. However, the main weakness of the prior studies is the failure to provide an illustration for Islamic hedging instruments in Turkey. Hassan (2011) examined the extent of risk management practices and techniques by Islamic and conventional banks in term of dealing with different types of risks in the Middle East region. The result of the survey administered on 19 Islamic banks and 24 conventional banks indicate a positive relationship between risk management practices and risk management. Even though Islamic financial institutions do not deal with interest rate, they apply it in the market as a benchmark to price certain types of financing products such as Murabahah and Mudharabah. This is due to the fact that, they cannot re-price Mudharabah and Murabahah contracts. In addition, Islamic banks cannot engage in interest rate swap contracts to hedge this type of risk because an instrument such as derivative contracts is totally prohibited. Al-Janabi (2006), Abul Hassan (2009) observed that Islamic banks are also facing foreign-exchange and equity risks since they may not have adequate tools to manage these risks.

MATERIALS AND METHODS

Research questions: This study aimed to address the following research question: which Islamic contracts are used in Islamic banks to mitigate exchange rate risk in Turkey.

Research hypothesis: The hypothesizes that will be tested are that:

- H_1: participation (Islamic) banks have a preference to Islamic financial agreements (Murabahah, Wakalah, Salam, Istisna'a and Ijarah) and have less preference to profit sharing agreements (Musharakah and Mudarabah)

- H_2: the differences among respondents are significant in regard to the sensitivity of the risk exposing for Islamic mitigation techniques in Islamic finance
- H_3: there are variations between hedging mechanisms in Islamic banks comparing to conventional peers

Questionnaire design: Data for this study were collected by the authors using questionnaires from Islamic banks in Turkey through 2017. The questionnaire contains from approximately 6 questions about sharia compliance. The 5 questionnaires were collected out of 5 which represent all Islamic banks in Turkey with an initial response rate of 100%.

RESULTS AND DISCUSSION

Data analysis and results: The degree of utilizing of various Islamic financial agreements, Table 1 highlights that the degree of utilizing various Islamic finance agreement. Table 1 sums up the findings based on frequency results in which importance of contracts is ranked according to their mean values. The mean values of Islamic finance contracts are shown in Table 1. As expected, the most used contracts are the Murabahah contract. Bai Alarbun and Salam have the low mean values, perhaps due to the association of moderate risk. These findings are supported by the highly significant Chi-square values related to the goodness-of-fit ($p<1\%$).

Ariffin *et al.* (2009) based on the findings above, Salam and Istisna'a contracts are not widely used by Islamic banks. Salam is widely used only in Sudan and Sudanese banks do not use parallel contracts, preferring to take the price risk in expectation of high profits. Istisna'a has started to be used for construction projects in some countries such as Qatar but it is still not widely used.

The degree of risk for various Islamic financial agreement: Table 2. shows profit-sharing contracts of financing like Musharakah and Mudarabah contracts have a high rank of risks degree, whereas, contracts which have a constant income (such as Ijara and Murabahah) are likely to bear least risky. The Chi-square test results indicate that the presence of goodness of fit for the financial contracts is highly significant ($p<1\%$).

Furthermore, Table 2 clarifies the less used Islamic financial contracts by banks are those that are perceived to have a high risk (like Mudarabah and Musharakah), while the less risky contracts are among the most used contracts. In fact, on the risk matrix, Murabahah scored one of the highest means (3.60) which bears a low risk in comparison with the lowest mean on the intensity of use (2.00) which stands to mean high use. According to Khan and Ahmed (2001) and Mokni *et al*, (2014), the Islamic bankers rated profit sharing modes of financing (diminishing Musharakah, Musharakah and Mudharabah) and product-deferred sale (Salam and Istisna') as riskier than Murabahah and Ijarah. According to Azmat *et al.* (2016) and Hassan and Aliyu (2016) Musharakah is less attractive than the debt due to loss averse investors for short evaluation period. However, Mokni *et al.* (2014) indicated that Murabahah is perceived as the riskiest among the selected modes of financing while diminishing Musharakah is considered the least risky among them.

Intensity of use of different risk mitigation techniques: Table 4 shows that guarantee contracts and parallel contracts are the riskiest contracts, however, Islamic

Table 1: The degree of utilizing of various Islamic financial agreements

Variables	Valid	Missing	Mean	Median	Mode	Chi-square
Murabahah	5	0	2.00	1.00	1	0.265
Mudarabah	4	1	2.50	2.00	2	0.238
Wakala	4	1	3.00	3.00	3	0.238
Ijarah	4	1	2.50	2.50	1	0.213
Musharakah	4	1	3.25	3.50	4	0.238
Istisna'a	4	1	3.50	3.50	2	0.213
Salam	4	1	3.75	4.00	4	0.238
Bai Alarbun	4	1	4.25	4.50	5	0.238
Islamic swaps	4	1	3.75	3.50	3	0.238

Scale: 1 = Most used; 2 = Used; 3 = Neutral; 4 UN Used; 5 = Very UN used

Table 2: Risk perception in Islamic finance contracts

Variables	Valid	Missing	Mean	Median	Mode	Chi-square
Murabahah	5	0	3.60	4.00	5	0.241
Mudarabah	5	0	2.80	3.00	4	0.241
Wakala	4	1	3.00	3.00	3	0.238
Ijarah	4	1	4.00	4.00	3	0.261
Musharakah	4	1	2.75	3.00	4	0.238
Istisna'a	4	1	3.00	2.50	2	0.238
Salam	4	1	3.25	3.00	2	0.238
Bai Alarbun	4	1	3.25	3.00	3	0.238
Islamic swaps	4	1	4.25	4.50	5	0.238

Scale: 1 = Very Risky (VR); 2 = Risky (R); 3 = Neutral (N); 4 = UN risky (U); 5 = Very UN Risky (VR)

Table 3: Risk perception in risk mitigation techniques

Varibales	Valid	Missing	Mean	Median	Mode	Chi-square
Islamic currency options	5	0	4.40	5.00	1	0.287
Islamic currency swaps	5	0	3.00	3.00	1	0.265
Guarantees	2	3	2.00	2.00	1	0.223
Islamic currency forward						0.241
Parallel contracts	5	0	2.60	2.00	1	0.199
Collateral arrangements	3	2	2.00	2.00	1	

Scale; 1 = Most Used, 2 = Used, 3 = Neutral, 4 = UN used, 5 = Very UN used

currency options contracts and Islamic currency swaps contracts are the least risky contracts. The Chi-square test results indicate that the presence of goodness of fit for the financial contracts is highly significant (p<1%). Islamic banks, guarantees has found highly used by all the banks. Collateral agreement, loan loss reserves, third party enhancement, parallel contract and on balance sheet netting and over the counter derivatives have been using by the Islamic banks (Ariffin *et al*., 2009). Collateral arrangements and guarantees are the most widely used by Islamic banks. The least used mitigation techniques are urboun, Parallel Salam and Parallel Istisna'a which are some of the Shari'a-compliant risk mitigation methods (Table 3).

Additional risk issues faced by Islamic banks: In question 5 and question 6, respondents are asked for opinions on some cases pertaining to Islamic bank's risk management. It is evident from Table 4 and 5 that the Chi-square values are significant at the 5% level for a l l these statements. Moreover, the majority of respondents (40%) as illustrated by the findings, believe that different mechanisms than utilized tools in conventional banking should be used in managing exchange rate risk of Islamic banks.

Table 6 demonstrates that majority of the respondents (40%) believe that Islamic banks hedging mechanisms are less advanced compared to conventional peers. While 40% of the respondents consider that Islamic financial risk mitigation techniques are similar to conventional banks. However, 20% of respondents confirmed that Islamic banks risk minimizing tools are more advanced than the mechanisms used by conventional banks.

Table 4: Frequency results of responses feedback to statements according question 5

Statements	SA (%)	A (%)	N (%)	DA (%)	SDA (%)
Foreign currency exchange rate risk in Islamic banks should be mitigated by utilizing the same instruments used in conventional banking	20	40	-	-	40
Exchange rate risk minimizing in Islamic banks are harder than mitigating it in conventional banks	20	-	-	40	40
Foreign currency exchange rate risk Islamic bank is naturally riskier than conventional banking	20	20	20	20	40
Islamic banks are a simulation for conventional banks	20	20	-	-	40
Islamic finance offers a moral substitute for banking	40	20	20	-	20
There is a difference between the conventional bank's practical reality and Islamic banking's principles	60	20	-	-	20
Islamic banks are required restructure to be more successful	-	40	20	-	40

Scale: 1 = Strongly Agree (SA); 2 = Agree (A); 3 = Neutral (N); 4 =Disagree (A); 5 = Strongly Disagree (S DA)

Table 5: Frequency results of responses to statements under question 5

Variables	Valid	Missing	Mean	Median	Mood	Chi-square
Foreign currency exchange rate risk in Islamic banks should be mitigated by utilizing the same instruments used in conventional banking	5	0	3.00	2.00	2.00	0.265
Exchange rate risk minimizing in Islamic banks are harder than mitigating it in conventional banks	5	0	3.60	4.00	5.00	0.265
Foreign currency exchange rate risk Islamic bank is naturally riskier than conventional banking						
Islamic banks are a simulation for conventional banks	4	1	3.25	3.50	5.00	0.238
Islamic finance offers a moral substitute for banking	5	0	2.40	2.00	1.00	0.241
There is a difference between the conventional bank's practical reality and Islamic banking's principles	5	0	2.00	1.00	1.00	0.265
Islamic banks are required restructure to be more successful	5	0	3.40	3.00	2.00	0.265

Scale: 1 = Strongly Agree (SA), 2 = Agree (A), 3 = Neutral (N), 4 =Disagree (A), 5 = Strongly Disagree (S DA)

Table 6: Frequency results of responses to question 6

Valid	Frequency	Percentage	Valid percent	Cumulative percent
More advanced	1	20.0	20.0	20.0
Less advanced	2	40.0	40.0	60.0
Similar	2	40.0	40.0	100.0
Total	5	100.0	100.0	

CONCLUSION

Based on the study results and observation it is concluded that, the survey on hedging practices of Turkish Islamic banks to handle exchange risk reveals

the following outcomes Murabahah contracts are the most-used Islamic contracts but Bai Alarbun and Salam were the least used contracts in Islamic banks. Islamic finance contracts that produce high rank of risk (such as Mudarabah and Musharakah) have less utilizing in Islamic banks than less risky agreements. Guarantee contracts and parallel contracts were the most used derivative contracts in Islamic banks, however, Islamic currency options contracts and Islamic currency swap contracts were the least used derivative contracts in Islamic banks. Accordingly the results highlight that the majority of respondents think that Islamic hedging mechanisms are less advanced comparing to conventional peers. While the majority of the respondents consider that risk hedging mechanisms that are used in Islamic banking are similar to conventional banking. However most of the respondents confirm that Islamic bank's risk minimizing tools are more advanced than mechanisms that are used in conventional banks. Islamic bank's exchange rate risk management is harder than managing it in conventional banks. Risk management tools and techniques which are used in conventional banks are not suitable for managing risks of Islamic banks. Future studies could expand the scope of the survey by covering more countries and regions, measure the effect of using Murabaha contract on minimizing exchange rate risk in Islamic.

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