

A COMPARATIVE STUDY OF THE FINANCIAL STRUCTURES OF BANKS IN TURKEY AND KYRGYZSTAN

Mesut DOĞAN*

Feyyaz YILDIZ**

Abstract

The present study aims to compare the financial structures of the banks operating in the banking sectors of Turkey and Kyrgyzstan in the period between 2007 and 2014. Financial data of the banks of Turkey and Kyrgyzstan were used to create a sample. 10 financial ratios were used in 5 categories in order to compare the structures of the banks. The mentioned categories are related to balance sheet structure, asset quality, capital adequacy, income and expense structure, and profitability. T-test was utilized in empirical analyses. The results of the analysis suggest that Kyrgyz banks have higher capital adequacy compared to the banks in Turkey. Banks in Turkey, on the other hand, had higher levels of non-interest incomes, asset quality, return on assets and return on equity compared to the banks in Kyrgyzstan.

Keywords: Turkey, Kyrgyzstan, Banking System, Financial Structure, Financial Ratios

JEL Classification: G21, L10, L25

TÜRKİYE İLE KIRGIZİSTAN'DA BULUNAN BANKALARIN MALİ YAPILARININ KARŞILAŞTIRILMASI

Özet

Bu çalışmada 2007-2014 yılları arasında Türkiye ve Kırgızistan'da Bankacılık Sektöründe faaliyette bulunan mevduat bankalarının mali yapılarının karşılaştırılması amaçlanmıştır. Türkiye Kırgızistan'da bulunan bankaların finansal verileri kullanılarak bir örneklem oluşturulmuştur. Araştırmada bankaların mali yapılarını karşılaştırmak için 10 finansal oran 5 kategoriye ayrılarak kullanılmıştır. Söz konusu kategoriler; bilanço yapısı, aktifkalitesi, sermaye yeterliliği, gelir gider yapısı ve karlılık ile ilgili oranlardır. Ampirik analizlerde t-testinden yararlanılmıştır. Yapılan analiz sonucunda Kırgızistan'da bulunan bankaların sermaye yeterliliği Türkiye'de bulunan bankalardan daha yüksek olduğu belirlenmiştir. Buna karşın Türkiye'de bulunan bankaların faiz dışı gelirleri, aktifkalitesi, varlık karlılığı ve öz sermaye karlılığı Kırgızistan'da bulunan bankalardan daha yüksek olduğu tespit edilmiştir.

Anahtar Kelimeler: Türkiye, Kırgızistan, Bankacılık Sistemi, Mali Yapı, Finansal Oranlar

JEL Sınıflaması: G21, L10, L25

* Dr., Afyon Kocatepe Üniversitesi, Bayat MYO, İşleme Yönetimi Bölümü, E-mail: mesutdogan@aku.edu.tr

** Doç. Dr., Kırgızistan Türkiye Manas Üniversitesi, İİBF, İşleme Bölümü, E-mail: feyyaz.yildiz@gmail.com

INTRODUCTION

Financial sector has an important role in developments of country's economy. A strong and healthy banking sector is considered to be a prerequisite for sustainable economic growth. (Javaid et al, 2011). Intense competition in banking sector creates a need for the banks to use their resources in an effective way, and effective and productive operation of banking sector is quite important for the economy of countries since, compared to other economic sectors, it is the only sector that determines resource distribution and acts as a financial mediator. This has brought banking sector to a central position in the economic development of the country (Ertuđrul and Karakařođlu, 2009).

Banking sector is one of the leading sectors in the development of economy. All sectors need various banking services in order to develop such as funding, fund transfer, financing etc. Providing many services such as electronic banking, investment consultancy, SME consultancy, financial intermediation and letter of credit procedures etc. with their developed branch networks, advanced banks create many important advantages for the fund management of companies in terms of time and activity with the contribution and dynamism they bring into sectors (Yamaltdinova and Eleren, 2013).

There are very few studies on Kyrgyz banks in line with this subject in the literature. The present study will provide important contributions to the literature by giving information on the financial structures of Kyrgyz banks, comparing them with the banks in Turkey, and putting forth their similar and different aspects. Therefore, this study is considered important.

The present study aims to compare the financial structures of the banks operating in the banking sectors of Turkey and Kyrgyzstan in the period between 2007 and 2014. Financial data of the banks of Turkey and Kyrgyzstan were used to create a sample. 10 financial ratios were used in 5 categories in order to compare the structures of the banks. The mentioned categories are related to balance sheet structure, asset quality, capital adequacy, income and expense structure, and profitability. T-test was utilized in empirical analyses.

Study consists of five sections. The section following the introduction presents information on Turkish and Kyrgyz banks. In the third section, hypotheses are developed by defining the variables and explaining the methodology of the study. Fourth section contains the findings of the study. And a general assessment of the study is put forth in the last section.

I.GENERAL OVERVIEW BANKING SECTOR

As of March 2014, Turkish banking sector consists of 49 banks, 12,033 branches, and 215,289 personnel. Within the first quarter of 2014, an increase of 1,063 in personnel numbers and an increase of 47 in branch numbers have been observed. The sector is operating in 17 countries in total with 843 foreign branches and 10 representatives; the number of countries rises up to 33 when affiliates are included (BDDK, 2014).

According to BDDK, the asset total of banking sector increased by 26.4% in 2013 and went up to 1,732 billion TL. Total assets grew by 18.5%. A rise was observed in funding costs, primarily in interest rates on deposits in Turkish banking sector after the first quarter of 2013. Due to the developments in question, it has been observed that the growth rate of the sector experienced a limited slow down, and while banking sector has grown by 4.2% in the first quarter, by 7% in the second quarter, and by 7.9% in the third quarter, the growth rate was observed to be 5.1% in the last quarter of the year despite the growth rate's impact of increase in exchange rates. Loans, increasing by 141.3 billion USD in total compared to the year end of 2012, reached up to 585 billion USD as of December 2013. The share of loans in total assets, on the other hand, reached to 60.5%, increasing by 2.5 points

compared to year end of 2012. The increase rate of loans in the last quarter was observed to be behind the previous two quarters, and the growth in the last quarter was seen to be predominantly in corporate and commercial loans.

The deposit with the largest share (61.5%) in foreign resources of Turkish banking sector reached up to approximately 444 billion USD as of December 2013. Net profit for the banking sector's period increased by 676 thousand USD (5.1%) compared to year end of 2012 and raised up to 11 million USD at the year end of 2013. The main factor in the increase of the net profit for the period was increased net interest incomes. Decisive factors for the increase in net interest incomes were the decrease in deposit costs, and high level of decline in interest expenses as a result of the relatively low costs of non-deposit resources in general. Additionally, it was observed that net interest margin of the sector had a downward tendency due to rising interests as of the second half of the year, and occurred at the level of 3.7% in December 2013 (BDDK, 2014).

There are 22 commercial banks operating in Kyrgyzstan in total. These consist of 5 private banks, 3 foreign banks, and 14 foreign banks. In other words, there are 4 foreign, 4 Kazakh, 1 Turkish, and 13 Kyrgyz banks within these 22 banks. 3 of 12 Kyrgyz banks belong to the state. In addition, 4 banks are under follow up by the Central Bank. There are 233 branches in total across the country (NBRK, 2015).

According to NBRK, total deposits of Kyrgyz banks have increased by 31%, 32%, and 22% respectively in the period between 2012 and 2014. Loans, on the other hand, have been observed to increase by 29%, 35%, and 46% respectively. Correspondingly, total equity has increased by 11%, 19%, and 4% respectively. Collected deposits, loan allocations and equities of Kyrgyz banks have increased consistently in the last three years. The rates for the deposits turning into loans, on the other hand, have been 75% for 2012 and 2013, and 91% in 2014.

II. DATA, VARIABLES AND METHODOLOGY

The present study aims to compare the financial structures of the commercial banks operating in the banking sectors of Turkey and Kyrgyzstan. T-test was utilized in empirical analyses. Banks were divided in two groups as Kyrgyzstan banks and Turkey banks through t-test and an analysis was conducted in order to see whether there was a difference between the financial structures of these two groups. Financial data of 10 deposit banks in Turkey and 10 deposit banks in Kyrgyzstan belonging to the period between 2007 and 2014 were utilized to create a sample. For the banks in Turkey, there are 17 banks in total which are being traded in Istanbul Stock Exchange. However, other banks were not included to analysis due to their different constitutions. Data used in this study have been obtained from the web site of The Banks Association of Turkey. There are 22 commercial banks operating in Kyrgyzstan in total. However, the data of 4 banks were excluded from the analysis due to their being followed up by the Central Bank and others due to the unavailability of exact data. The financial data of the mentioned banks were obtained from Kyrgyz banks' financial statements which are officially published. Banks which were included to the analysis are presented in Table 1.

Table 1. Banks Used In the Analysis

No	KYRGYZ BANK	TURKISH BANKS
1	OJSC "BAKAI BANK"	Türkiye Vakıflar Bank
2	CJSC "BTA Bank"	Akbank
3	OJSC "DOS-KREDOBANK"	Şekerbank
4	OJSC "FinanceCreditBank KAB"	Türk Ekonomi Bank
5	Kyrgyz Investment and Credit Bank	Türkiye Garanti Bank
6	CJSB JSCB "Tolubay"	Türkiye İş Bank
7	OJSC "Halyk Bank Kyrgyzstan"	Yapı ve Kredi Bank
8	CJSC "Bank of Asia"	Denizbank

9	CJSC “Demir Kyrgyz International Bank”	Finans Bank
10	“UniCredit Bank” OJSC	Türkiye Halk Bank

Financial data of the banks of Turkey and Kyrgyzstan were used to create a sample. 10 financial ratios were used in 5 categories in order to compare the structures of the banks. The mentioned categories are related to balance sheet structure (*DEP/ASS*), asset quality (*LOAN/ASS*, *LOAN/DEP*, *FIX/ASS*), capital adequacy (*EQU/ASS*), income and expense structure (*INC/EXP*, *EXP/ASS*, *NINC/ASS*) and profitability (*ROA*, *ROE*). The mentioned ratios were used by writers such as Chantapong (2003), Samad (2004), Loghod (2010), Ansari and Rehman (2010), Viverita (2011), San, Theng and Heng (2011), Alam, Raza and Akram (2011), Jha and Hui (2012), Matthew and Esther (2012), Siraj and Pillai (2012), Hanif et. al (2012) ve Ryu et. al (2012) in order to compare conventional banks, and domestic and foreign banks, and to measure performances of these banks. Financial structures of Kyrgyz and Turkish banks were compared with the use of these ratios. Information related to these variables is presented in Table 2.

Table 2. Variables Used In Analyses

Variables	Definitions	Codes
Balance Sheet Structure	Deposits /Total Assets	<i>DEP/ASS</i>
Asset Quality	Loans/Total Assets	<i>LOAN/ASS</i>
	Loans/ Deposits	<i>LOAN/DEP</i>
	Fixed Assets /Total Assets	<i>FIX/ASS</i>
Capital Adequacy	Total Equities /Total Assets	<i>EQU/ASS</i>
Income and Expense Structure	Interest Income/Interest Expenses	<i>INC/EXP</i>
	Interest Expenses /Total Assets	<i>EXP/ASS</i>
	Non-Interest Income/ /Total Assets	<i>NINC/ASS</i>
Profitability	Net Profit of the Period/Total Assets	<i>ROA</i>
	Net Profit of the Period/Total Equities	<i>ROE</i>

With the help of the financial ratios related to balance sheet structures, asset quality, capital adequacy, income-expense structures and profitability of the banks as shown in Table 2, below hypotheses were developed.

- H₁: Turkish banks have higher capital adequacy ratios compared to Kyrgyz banks.*
- H₂: Turkish banks have higher deposit ratios compared to Kyrgyz banks.*
- H₃: Turkish banks have higher asset quality compared to Kyrgyz banks.*
- H₄: Turkish banks have higher interest income, interest expenses, non-interest income compared to Kyrgyz banks.*
- H₅: Turkish banks have higher return on equity compared to Kyrgyz banks.*
- H₆: Turkish banks have higher return on assets compared to Kyrgyz banks.*

III. RESULTS OF THE ANALYSIS

The present study aims to compare the financial structures of the commercial banks operating in the banking sectors of Turkey and Kyrgyzstan. Kyrgyzstan banks and Turkish banks were divided into two groups and these groups were analyzed to determine whether there was a difference between the financial structures of these two groups.

Table 3. Balance Sheet Structure

Variables	Kyrgyzstan Banks			Turkey Banks			Mean Difference	T Test
	Observation	Mean	Std. Error	Observation	Mean	Std. Error		
DEP/ASS	80	0,647	0,153	80	0,638	0,059	0,009	0,391

a, b and c denote significance at the 1, 5, and 10 percent level, respectively.

Table 3 presents the t-test results related to the balance sheet structures of the banks operating in Turkey and Kyrgyzstan. When Table 3 is analyzed, it is observed that there is not a significant difference between deposit ratios (*DEP/ASS*) within the assets of Turkish and Kyrgyz banks. In other words, the banks in question are not distinguishable from each other in terms of balance sheet structures, even though they operate in different countries. Therefore, H1 hypothesis is rejected.

Table 4. Asset Quality

Variables	Kyrgyzstan Banks			Turkey Banks			Mean Difference	T Test
	Observation	Mean	Std. Error	Observation	Mean	Std. Error		
LOAN/ASS	80	0,464	0,142	80	0,575	0,071	-0,110	- 4,936 ^a
LOAN/DEP	80	0,822	0,550	80	0,910	0,151	-0,087	-1,084
FIX/ASS	80	0,096	0,047	80	0,037	0,016	0,058	8,302 ^a

a, b and c denote significance at the 1, 5, and 10 percent level, respectively.

Table 4 presents the t-test results related to the asset quality of the banks in Turkey and Kyrgyzstan. As seen in Table 4, loan ratios (*LOAN/ASS*) within total assets of the banks in Turkey are higher compared to the same ratio of the banks in Kyrgyzstan. However, fixed asset ratio (*FIX/ASS*) of Kyrgyz banks are observed to be higher compared to Turkish banks. Although, banks in Turkey had higher loan-deposit ratios (*LOAN/DEP*) which show the ability of the banks to transform collected deposits into loans, this difference is not statistically significant. Therefore, H2 hypothesis is accepted.

Table 5. Capital Adequacy

Variables	Kyrgyzstan Banks			Turkey Banks			Mean Difference	T Test
	Observation	Mean	Std. Error	Observation	Mean	Std. Error		
EQU/ASS	80	0,282	0,133	50	0,115	0,017	0,167	8,761 ^a

a, b and c denote significance at the 1, 5, and 10 percent level, respectively.

Table 5 presents the t-test results related to the capital adequacies of the banks operating in Turkey and Kyrgyzstan. As seen in Table 5, capital adequacy (*EQU/ASS*) is a distinguishing feature for Turkish and Kyrgyz banks. Kyrgyz banks have higher capital adequacy ratios compared to Turkish banks. In other words, 11.5% of the resources of Turkish banks consist of equities while this ratio is 18% for Kyrgyz banks. Therefore, H3 hypothesis is rejected.

Table 6. Income-Expense Structure

Variables	Kyrgyzstan Banks			Turkey Banks			Mean Difference	T Test
	Observation	Mean	Std. Error	Observation	Mean	Std. Error		
INC/EXP	80	8,39	19,37	80	1,87	0,314	6,520	2,308 ^b
EXP/ASS	80	0,041	0,026	80	0,061	0,016	-0,020	- 4,591 ^a
NINC/ASS	80	0,021	0,025	80	0,041	0,006	-0,020	- 5,592 ^a

a, b and c denote significance at the 1, 5, and 10 percent level, respectively.

Table 6 presents the t-test results related to income-expense structure of the banks in Turkey and Kyrgyzstan. As seen in Table 6, there is a significant difference between income-expense structures of the banks in Turkey and Kyrgyzstan. The ratio of interest expenses (*EXP/ASS*) and non-interest incomes (*NINC/ASS*) within the total assets of the banks in Turkey is higher compared to the banks in Kyrgyzstan. However, the ratio of total interest incomes-total interest expenses (*INC/EXP*) of the banks in Kyrgyzstan is higher compared to the same ratio of the banks in Turkey. Therefore, H_4 hypothesis is accepted.

Table 7. Ratios of Profitability

Variables	Kyrgyzstan Banks			Turkey Banks			Mean Difference	T Test
	Observation	Mean	Std. Error	Observation	Mean	Std. Error		
ROA	80	0,009	0,024	80	0,019	0,005	-0,01	- 2,308 ^b
ROE	80	0,127	0,013	80	0,170	0,007	-0,042	- 4,591 ^a

a, b and c denote significance at the 1, 5, and 10 percent level, respectively.

Table 7 presents the t-test results related to the profitability of the banks (ROA and ROE) operating in Turkey and Kyrgyzstan. As seen in Table 7, profitability ratios are distinguishing features for Turkish and Kyrgyz banks. Return on equity (ROE) and return on assets (ROA) of the banks in Turkey are higher than the ones belonging to the banks in Kyrgyzstan. Therefore, H_5 and H_6 hypotheses are accepted.

CONCLUSION

The present study aims to compare the financial structures of the banks operating in the banking sectors of Turkey and Kyrgyzstan in the period between 2007 and 2014. Financial data of the banks of Turkey and Kyrgyzstan were used to create a sample. 10 financial ratios were used in 5 categories in order to compare the structures of the banks. The mentioned categories are related to balance sheet structure, asset quality, capital adequacy, income and expense structure, and profitability. T-test was utilized in empirical analyses.

The results of the study suggest that there is not a significant difference between ratios of deposit within the assets for Turkish and Kyrgyz banks. This finding may be explained by the fact that the banks don't have a difference in terms of their services, even though their countries are different. However, loan ratios (*DEP/ASS*) within total assets of the banks in Turkey are higher compared to the same ratio of the banks in Kyrgyzstan. Moreover, banks in Turkey have higher loans-deposits ratios (*LOAN/DEP*), even though this was not found to be statistically significant. This may be expressed by saying that Turkish banks have a higher capacity in transforming their deposits into loans. When capital structures of banks are analyzed, Kyrgyz banks are observed to have higher capital adequacy ratios compared to Turkish banks. This may be explained by the fact that banks in Kyrgyzstan maintain more equities in order to allocate loans, in other words, to gain income due to inadequate savings in Kyrgyzstan.

Kyrgyz banks have higher capital adequacy ratios compared to Turkish banks. The differences in structures and development levels of the two countries as well as the differences between their banking supervisions and regulations have all contributed to the difference between their capital ratios. Additionally, high equity level in a bank doesn't necessarily show its efficiency and effectiveness. For banks, it is very important to keep equity levels at minimum and to have profitability at maximum. When the differences related to income-expense structures, the ratio of total interest incomes-total interest expenses of the banks in Kyrgyzstan is observed to be higher compared to the same ratio of

the banks in Turkey. This result may be explained by the fact that Turkish banks provide multiple services, diversify their incomes and non-interest incomes have an important share in their general income. When profitability-related financial ratios are compared, return on equity (ROE) and return on assets (ROA) of the banks in Turkey are observed to be higher than the ones belonging to the banks in Kyrgyzstan. In other words, banks in Turkey have utilized their equity and assets more efficiently compared to the banks in Kyrgyzstan.

General results of the analysis suggest that Kyrgyz banks have higher capital adequacy compared to the banks in Turkey. However, banks in Turkey were observed to have higher levels of non-interest incomes, asset quality, return on assets and return on equity compared to the banks in Kyrgyzstan.

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Mesut Dođan, Feyyaz Yıldız

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