Regional and Business Studies (2016) Vol 8 No 1, 77-87
Kaposvár University, Faculty of Economic Science, Kaposvár

THE EMPIRICAL ANALYSIS OF THE IMPACT OF THE ECONOMIC CRISIS ON TURKISH ISLAMIC BANKS USING THE CAMEL METHOD

József VARGA, Lívia TÁLOS
Kaposvár University, Faculty of Economic Science, H-7400, Kaposvár, Guba S. u. 40.

ABSTRACT

Islamic banking is a banking system that is based on the principles of Sharia or Islamic law. The principles of Islamic finance forbid interest commonly known as riba, but supports charity (Zakat), forbid high risk (gharar), forbid certain types of transactions like gambling and based on PLS (Profit-Loss Share). The most important concept is that both charging and receiving of interest is strictly forbidden; money may not generate profits. After the 2008 economic crisis special attention was given to alternative financing techniques, and so to Islamic banks. Islamic banks have largely survived the global economic crisis intact and they offer a safer operation than conventional banks. Turkey's banking system consists of 49 banks, four of them operate according to Islamic principles. In the study the authors analyzed the impact of the economic crisis on the Turkish Islamic banks. In the analysis a variety of indicators were calculated based on data from the annual reports. The annual reports of the banks were used between the period 2007 and 2013 and we evaluated indicators of each banks and the banking system from the points of view of Capital adequacy, Asset quality, Management efficiency, Earnings, and Liquidity.
Keywords: Alternative financing, Annual report, Crisis, Islamic banking, Sharia

ISLAMIC BANKING SYSTEM

In a former publication of *Bajkó et al.* (2013) an analysis was made of the Islamic banking system based on the 'saver-bank-borrower' relationship.

In case of the Islamic banking system the use of money is not neutral for the saver. First of all, he has to be sure that the money does not finance any prohibited activity. Second, his return or loss depends on the success of the borrower. Therefore, in this construction all the three parties are in connection with each other, the financial institution does not constitute an impenetrable "wall" between the saver and the borrower: The borrower and the saver find each other by the bank's intermediation.

Within the Islamic banking system risk is a natural part of business life, which equally applies to the participants of the transaction. Participants share the losses. Transactions with great risk have to be avoided. Moreover, speculative deals are explicitly forbidden by the principles. In Islamic banking system, transactions or contracts must be evaluated separately so as not to interfere with the laws of Sharia, and – as loss is shared anyway – it is much easier (cheaper) to say "no" at the beginning than quitting from a collapsed enterprise. Thus, the chance of giving loans to a bad debtor is relatively small. Even in case of returns lower than expected, penalty interest cannot be required due to religious reasons. In such a situation, the bank may account for some additional cost, but its main interest is to have its client to be solvent again. If it can be achieved only by reduced installments, then the bank has to go with the modification. Actually, most Islamic banks can also be regarded as banks for the needy and poor. The conduct of the Islamic bank at this point is very similar to the basic concept of the Grameen Bank (Bank for the Poor) model. The bank for the poor has the opportunity to reschedule the installments without stressing the client with certain sanctions – contrary to the conventional banks where imposition of sanctions are expected. In such cases the bank for the poor helps its clients to recover the lost money as soon as possible.

Profit generation is a central mission for the Islamic banking system as well, the partner-based relationship among the participants, however, is also very important regarding it as real value (especially when all the three parties reach their goals). Because of the risk community they establish, they are all interested in the other one's success. Taking into account the fact that speculative, future or forward and other risky transactions are prohibited, the finance of productive sector comes into view, which gains lower yield at lower risk level.

After the 2008 economic crisis, special attention was given to alternative financing techniques, and so to Islamic banks. Islamic banks have largely survived the global economic crisis intact and they offer a safer operation than conventional banks.

The integration under the Basel III directive does not spare all the antecedents since Saria has already been introduced as a source of law, the so-called Saria judiciaries were inducted (Islamic Sharia Council) in Great Britain. This was a result of the fact that the archbishop of Canterbury saw the tendency clearly in 2008 that Europe was ageing, the demographic balance leaned toward the Muslims, therefore the question is relevant: Is it possible to integrate Islam into the European democracy structure? Another question is whether it is possible to integrate Islamic banks under Basel III. (*Cseh*, 2014).

Within a few years the Saria judiciaries got official legitimation during business related and financial legal conflicts. Hence the legal application of subculture was controlled by the state, the main conflicts ended. Due to Islamic financed products expanding in Germany it is necessary to ensure pioneers as the background of legal material of Saria (*Cseh*, 2014).

Turkey's banking system consists of 49 banks, four of them operate according to Islamic principles. Albaraka Turk Participation Bank Inc., Asya Participation Bank Inc., Kuveyt Turk Participation Bank Inc. and Turkiye Finance Participation Bank Inc. are the Islamic banks in Turkey. (*Annual report of TKBB*, 2014) At this point we would like to mention that the fifth Islamic bank, the Turkish Ziraat Participation Bank was founded on the 14th of October 2015.

CAMEL ANALYSIS

CAMEL analysis is a supervisory rating system to classify a bank's overall condition. The five factors examined are as follows:

C - Capital adequacy
A - Assets
M - Management
E - Earnings
L - Liquidity (*Baka et al*, 2012)

In the analysis a variety of indicators were calculated based on data from the annual reports. The results of the four banks were averaged separately, then classified (1 = good, 2 = adequate, 3 = satisfactory, 4 = acceptable, 5 = unacceptable) according to the desired criteria, the changes over the years and the relative values of the four banks. Furthermore, the Turkish banking sector's weighted average was calculated according to total assets and the results are depicted in the graphs.

Capital adequacy (C)

The bank's equity shows the strength of a bank and it is a major indicator of prudence. *Table 1* shows the evolution of the Turkish banks' Capital adequacy indicators.

Table 1

Results of the Capital adequacy indicators

	Capital adequacy ratio		Leverage ratio		Loan principal coverage indicators	
	Average	**Mark**	**Average**	**Mark**	**Average**	**Mark**
Albaraka	15.55%	1	11.01%	2	15.05%	3
Asya	13.89%	1	13.07%	1	17.74%	2
Kuveyt	15.17%	1	10.57%	2	15.01%	3
Turkiye	15.80%	1	12.21%	2	16.05%	3

Source: Edited from *annual reports of the Turkish Islamic banks*, 2007-2013

The main task of the Capital adequacy ratio (CAR) is maintaining the bank's long-term solvency. The indicator expressing solvency is used worldwide. The value of the index should be at least 8% in accordance with Basel standards.

The data show that in the examined years all banks met the 8% criteria, morever, they reached even higher than that. Looking at the averages, Turkiye Bank had the highest Capital adequacy ratio in the years examined, but the other banks' results were also close to this value. As each bank's results were above the desired value, we regard the development of Capital adequacy ratios as good.

The following is the Leverage ratio. The results of the index were calculated by the comparison of the equity and total assets of the banks. The indicator also provides information about the bank's prudence, namely the distribution of equity and debt. The reductions of the indicators suggest that the equity ratio increased.

Banks mostly manage foreign resources, so a high leverage is typical. In this case, following the crisis the change was a decline.

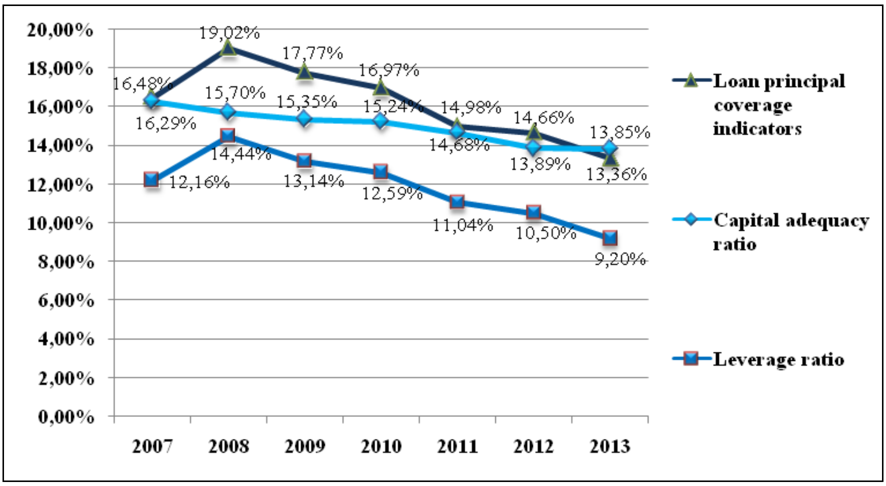
The main activity of the banks is lending. It is important to monitor the degree of credit losses througout this activity, i.e. how they are capable of covering the losses. This is shown by Loan principal coverage indicators. The values of the indicators show varying trends from year to year, but drastic changes cannot be detected. The decreasing tendency can be explained by the growth of loans.

At the end of each of the five factor test we calculated average for the Turkish Islamic banking system by weighting according to the balance sheet total (*Figure 1*).

The Turkish Islamic banking sector's capital adequacy is stable, its Capital adequacy indicators were in line with the accepted value and its solvency was not threatened.

Figure 1

Weighted values according to total assets of Capital adequacy ratios



Source: Based on *Annual Reports of the Turkish Islamic banks*, 2007-2013

Quality of Assets (A)

Lending activities are especially important for banks, so it is essential to analyse the quality of the assets in terms of the bank's successful operation and efficiency. We mainly analyse classified loans especially Non-performing loans (NPL) compared to total loans, and to equity. What is the proportion of creadit loss in the total loans and in equity? *Table 2* shows the Assets quality indicators.

The NPL ratio provides information about the level of Non-performing loans in the total loan portfolio. The value of Non-performing loans below 5% is acceptable. Between 2008-2009, during the crisis there was a slight increase in the proportion of Non-performing loans for all four banks and the values of Kuveyt and Asya jumped above the accepted value. From 2010 to 2012, there may have been adverse events in the operation of Bank Asya, whereas the number of non-performing loans portfolio increased significantly.

Table 2

Results of the Assets quality indicators

	NPL ratio		NPL ratio to equity		The ratio of total assets in the loan portfolio	
	Average	Mark	Average	Mark	Average	Mark
Albaraka	2.62%	1	17.89%	2	72.97%	1
Asya	4.96%	2	29.00%	4	73.83%	1
Kuveyt	3.67%	1	24.21%	3	70.36%	1
Turkiye	2.89%	1	17.96%	2	76.05%	1

Source: Based on *Annual Reports of the Turkish Islamic banks*, 2007-2013

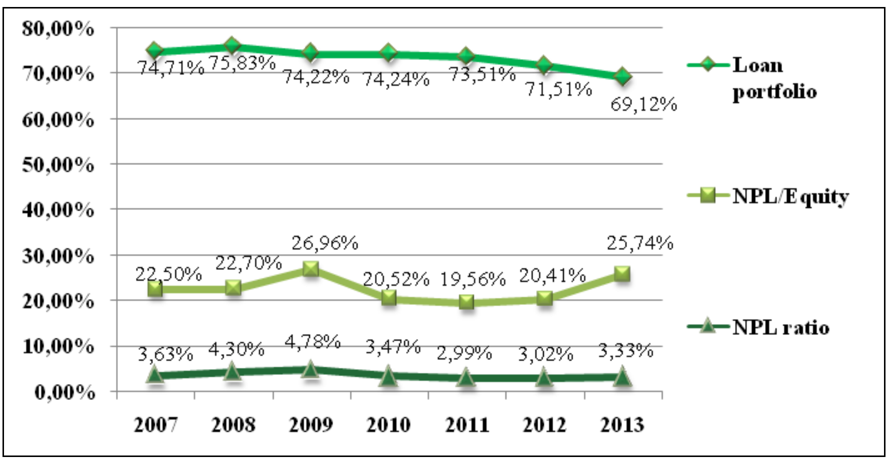
From the comparison of the extent of the NPL to the equity it can be seen that all four banks' indicators increased in the period starting from 2008 as a result of increased Non-performing loans portfolio. Bank Asya values have been higher than those of the other three Turkish banks since 2010 and its value has increased significantly since 2012.

The banks' activity is dominated by lending with more than 70%. On the positive side all of the banks' loan portfolio was higher year after year; i.e. their lending activity has not slowed down.

*Figure 2*shows the weighted values of the Assets quality indicators. With respect to assets we can say that the ratio of Non-performing loans is low and there is no significant deterioration, in spite of the fact that there were unfavourable economic conditions in this period.

Figure 2

Weighted values according to total assets of Assets quality indicators



Source: Based on *Annual Reports of the Turkish Islamic banks*, 2007-2013

Management efficiency (M)

The bank's management is extremely important because the strength and the effectiveness of banks may depend on the type of the leadership and its ability to recognize risks and restore operation growth path. This factor is mainly examined with cost efficiency indicators.

The revenue and the cost of the Turkish Islamic banks were obtained from income statement of annual reports.

Revenues consist of Profit from loans, Profits from the "movable assets", from the Sale and from Leasing of financial income. Naturally, interest and similar income are not found in Islamic banks' revenues.

The total cost of the Turkish Islamic banks consists of Expenditures and Other spending items, in which a steady increase was registered during the reference years. *Table 3* and *Figure 3* show the results of the Management efficiency indicators.

Table 3

Results of the Management efficiency indicators

	Cost / Revenue ratio		**Revenue proportionate earnings**		**Total Costs / Total Assets**	
	Average	**Mark**	**Average**	**Mark**	**Average**	**Mark**
Albaraka	64.07%	3	22.25%	1	6.83%	2
Asya	67.69%	3	17.92%	3	8.56%	3
Kuveyt	65.30%	3	19.61%	2	6.69%	2
Turkiye	68.14%	3	21.68%	1	7.58%	2

Source: Based on *Annual Reports of the Turkish Islamic banks*, 2007-2013

The higher the Cost/Revenue index is the less efficiently a bank operates, i.e. costs erode larger and larger parts of the revenue. The improvement in the cost-effectiveness can be discovered in some places, but it is not significant. Costs consume more than 60% of the revenues. Comparing the four banks, Turkiye proved to be the least cost-effective.

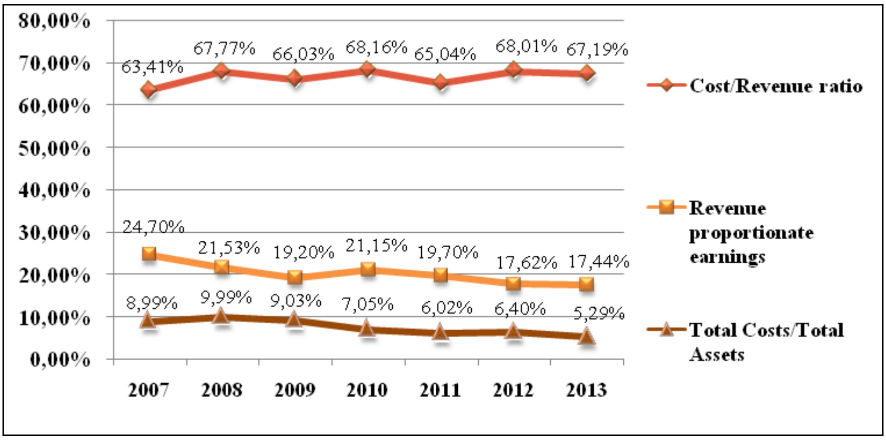
The following efficiency indicator is Revenue proportionate earnings. The pre-tax profit and total revenue ratio reflect the operational efficiency, namely how much of the proceeds is made up by the profits. It is clear that the index value fell between 2008 and 2009, but since 2009 the Turkish banks have been improving, except for Asya.

We can examine the developments on Assets proportionate costs. The index takes into account all costs showing the costs of financial intermediation. The costs of financial intermediation increased in 2008. The proportion of costs compared to total assets is high, but it is positive that we can see a downward trend in the years following the crisis and after 2012.

The efficiency of the banks showed a slight declining performance due to adverse changes in the costs, which have risen at the expense of profits. Overall, the examination of the Turkish Islamic banking performance indicators showed no dramatic changes.

Figure 3

Weighted values according to Total assets of efficiency indicators



Source: Based on *Annual Reports of the Turkish Islamic banks*, 2007-2013

Earnings (E)

By using the profitability indicators we can gain information about the effectiveness of management, i.e. how effectively the available funds and the assets acquired from them are used to generate profits.

Return on equity (ROE) and Return on assets (ROA) are commonly used indicators of profitability. *Table 4* and *Figure 4* show the results of the Earnings indicators.

Table 4

Results of the Earnings indicators

	ROE		ROA		Net operating margin	
	Average	Mark	Average	Mark	Average	Mark
Albaraka	16.56%	1	1.84%	1	3.91%	2
Asya	14.27%	2	1.97%	2	4.18%	2
Kuveyt	14.88%	1	1.57%	1	3.50%	3
Turkiye	15.82%	1	1.91%	1	3.50%	3

Source: Based on *Annual Reports of the Turkish Islamic banks*, 2007-2013

ROE answers the question how the equity produces profit. In case of banks a healthy ROE is around 10-12%. This indicator did not depict a negative value, because there was not negative profit after tax. Markedly the profitability of the

Bank Asya decreased significantly and steadily from 2009, which can be explained by the decrease of net result. The other banks, however, performed above the expected value.

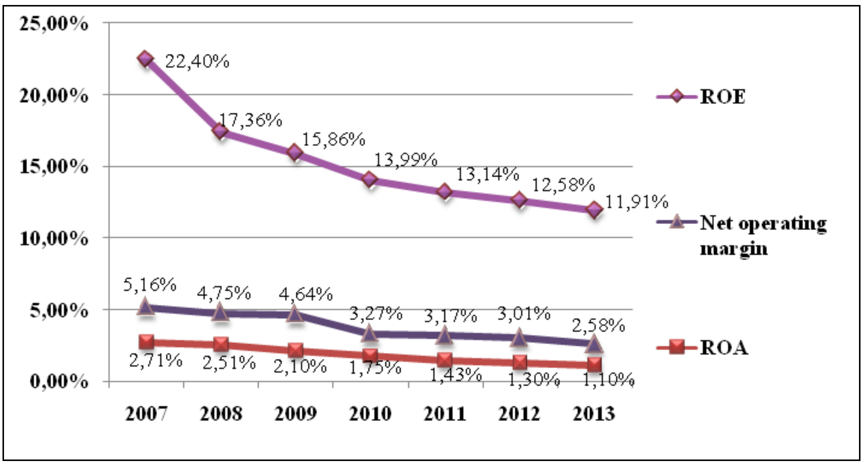
The ROA gives us data about banks'assets. It shows how the good placements of banks and the effectiveness of banks' placements are. The value of the index between 1 and 2 is estimated to be good. The decline of the indexes reflects the deterioration in the banks' recovery. From 2009 a downward trend can be observed. The downward trend in ROA is typical, but it is still within the limits. Bank Asya is classified as 2 due to the gradual decrease and the values below 1.

We get a picture about the effectiveness also by calculating Net operating margin. After the deduction of the full cost of total revenue it is compared to total assets. After the calculation of the index we have got a varied picture. Since 2008 Asya has been working with decreasing effectiveness. Albaraka Bank and Turkiye could improve the effectiveness.

Earlier we saw that the Turkish banks' Leverage ratio was in decline, which is likely to have had a negative effect on the profitability and have spoiled it.

Figure 4

Total assets weighted according to the values of profitability indicators



Source: Based on *Annual Reports of the Turkish Islamic banks*, 2007-2013

Liquidity (L)

Liquid assets include Cash and deposit accounts at the Central Bank, Interbank deposits, as well as the Financial assets for sale.

Cash and deposit accounts at the Central Bank are the bulk of the Turkish banks' liquid assets. The Liquidity indicator informs you to what extent it can meet its short term liabilities with short term assets. The higher the index value is, the more liquid a bank can be considered. The results of the Liquidity indicators are shown in the *Table 5* and *Figure 5*.

Table 5

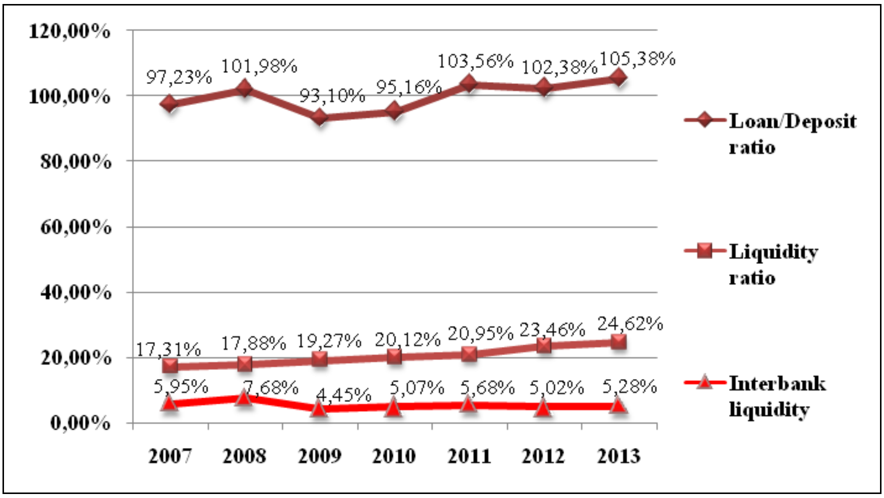
Results of the Liquidity indicators

	Liquidity ratios		Credit / Deposit ratio		Interbank liquidity	
	Average	Mark	Average	Mark	Average	Mark
Albaraka	20.53%	1	92.03%	1	10.05%	2
Asya	18.87%	2	100.67%	1	2.15%	4
Kuveyt	23.82%	1	98.66%	1	8.60%	3
Turkiye	19.06%	2	105.98%	2	3.72%	4

Source: Based on *Annual Reports of the Turkish Islamic banks*, 2007-2013

Figure 5

Weighted values according to the total assets of the Liquidity indicators



Source: Based on *Annual Reports of the Turkish Islamic banks*, 2007-2013

We get a fluctuating picture of the changes of the liquidity of individual banks. The increase and decrease in liquidity may be justified by the changes of banks' liquid assets. In the case of Islamic banks the increase in liquidity can be explained by the rise in Cash and Central Bank accounts.

The Turkish Islamic banking system is on the rise in collecting deposits. The tested banks collected more and more funds each year.

The Banks' business policy is indicated by the Loan / Deposit ratio. In the years between 2011-2013 and in 2008 the index was 100%, which is above the healthy limit, which meant that the Islamic banks were on aggressive business policies, that is the size of the loans exceeded the value of deposits, which was a liquidity risk.

In order to get a picture of Islamic banks in the interbank position, Interbank liquidity ratios were calculated. At the majority of Islamic banks the interbank deposit shows a changing trend. Based on the results they are likely to believe that customer deposits occur faster than bank deposits.

It is clear that the liquidity ratio increased slightly, but the Loan / Deposit ratio was variable, but also slightly.

Therefore, for the qualification of the Turkish Islamic banking system we classified various factors, and then the results were averaged (*Table 6*). The end result, according to the results of the banking system is 1.90, that is rounded to 2, which is good, which means that basically it is a good banking system, there are only a few problems.

Table 6

Results of the Turkish banks CAMEL analysis

	C	A	M	E	L	Average
Albaraka	2.00	1.33	2.00	1.33	1.33	1.60
Asya	1.33	2.33	3.00	1.67	2.33	2.20
Kuveyt	2.00	1.67	2.33	1.67	1.67	1.87
Turkiye	2.00	1.33	2.00	1.67	2.67	1.93
Average	1.83	1.67	2.33	1.67	2.00	**1.90**

SUMMARY

After the 2008 economic crisis, special attention was given to alternative financing techniques, and so to Islamic banks.

The stability of the Islamic banks was higher than the stability of the conventional banks during the crisis, that is why the Islamic bank sector tries to expand its market share not only to Islamic countries but to Christian countries, too. The market share of the Islamic banks increased by 10-15% during the last few years. The experts expect the Islamic bank system to increase its assets by 21% yearly and to gain 70 million customers worldwide. (*Pavelka*, 2016)

Turkey's banking system consists of 49 banks, four of them operate according to the Islamic principles. The annual reports of the banks were used between the period 2007 and 2013 and we evaluated indicators of each banks and the banking system from the points of Capital adequacy, Asset quality, Management efficiency, Earnings and Liquidity.

In the case of the Turkish Islamic banking sector the following conclusions can be made after the examination of the data. The stability of the banks was not at risk, Capital adequacy is satisfactory.

The quality of assets is also said to be satisfactory. There was not significant increase in bad loans; the banks' assets are classified continuously.

With respect to the management - which is quite difficult to measure - revenue, expenses, assets and earnings indicators express the relationship. In this area improvement is needed, as quite high costs arise during operation.

Profitability is slightly on a deteriorating trend.

The liquidity can be said appropriate, as banks sought to have sufficient amount of liquid assets.

REFERENCES

Bajkó, A., Varga, J., Sárdi G. (2013): Rise of the Islamic Banking Sector In: Szendrő, K., Soós, M. (eds.) Proceedings of the 4th International Conference of Economic Sciences. 302-312. p.

Baka, I., Dancsó, J., Ligeti, S. Szarvas, F., Vágyi, F., Varga, J. (2012): Bankismeretek (in Hung.), Budapest : Tanszék Pénzügyi és Szolgáltató Kft., textbook, 44-62. p.

Cseh, B. (2014): A tradicionális vallási jog és a kodifikált állami jog együttélése. Az iszlám és a germán jogi kultúra a német területeken élő muszlim közösségekben (in Hung.), In: Drinóczi, T., Naszladi, G., Novák, B. (eds.) Studia Iuvenum Iurisperitorum 7. - A Pécsi Tudományegyetem Állam- és Jogtudományi Kara Hallgatóinak Tanulmányai, 15-33. p.

Pavelka, V.(2016): A török iszlám és a hagyományos bankrendszer összehasonlító elemzése (in Hung.), dissertation, Kaposvár University

Online Annual Reports of the Turkish Islamic banks:

Annual reports of Bank Albaraka 2007-2013: [online] <URL: http://en.albarakaturk.com.tr/investor_relations/detail.aspx?SectionID=Dr8Cw16dHGqYzoMeqx/jjQ==&ContentID=4oEu6KjEmU33gGZTiL4GkQ==>

Annual reports of Bank Asya 2007-2013: [online] <URL: http://www.bankasya.com.tr/en/investor-relations-annual-reports.aspx

Annual reports of Bank Kuveyt 2007-2013: [online] <URL: http://www.kuveytturk.com.tr/financial_information.aspx>

Annual reports of Bank Turkiye 2007-2013: [online] <URL: http://www.turkiyefinans.com.tr/en-us/investor-relations/financial-data-and-reports/Pages/annual-reports.aspx>

Annual reports of Participation Banks Association of Turkey: [online] <URL: http://www.tkbb.org.tr/research-and-publications-tkbb-publications-annual-sector-reports>

Corresponding author:

Lívia TÁLOS
Kaposvár University, Faculty of Economic Science
H-7400, Kaposvár, Guba Sándor u. 40.
Tel.: +36 20 320-1827
e-mail: livia.talos@gmail.com