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RELIGION AS A DETERMINANT OF FINANCIAL STABILITY AND PROFITABILITY OF BANKS IN THE SELECTED ISLAMIC AND CHRISTIAN COUNTRIES

RELIGIA JAKO DETERMINANTA STABILNOŚCI I RENTOWNOŚCI BANKÓW W WYBRANYCH KRAJACH ISLAMSKICH I CHRZEŚCIJAŃSKICH

Summary: The aim of this study is to assess the impact of religion on the financial stability and profitability of banks in 22 countries, i.e. 11 Islamic with functioning Islamic banks, and 11 with Christianity as the dominant religion in the society. To verify the hypothesis a review of literature, analysis of statistical data and a panel study carried out on the basis of data from 2012 to 2016 were used. The results of the research prove the limited and ambiguous influence of religion on the stability and profitability of banks. In Islamic countries the level of NPL for the period 2012-2016 was confirmed as higher than in the Christian ones. The fact that there is no statistically significant influence of religion on the value of ROA was proved. However, in Islamic countries the level of ROE was lower than in the Christian countries. Moreover, it has been proved that there is no statistically significant influence of religion on the financial stability indicators of banks.

Keywords: religion, Islam, financial stability of banks, banks profitability.

Streszczenie: Celem artykułu jest ocena wpływu religii na stabilność finansową i rentowność banków w 22 krajach: 11 islamskich, z funkcjonującymi bankami islamskimi, oraz 11 z chrześcijaństwem jako religią dominującą w społeczeństwie. W celu weryfikacji hipotezy posłużono się przeglądem literatury przedmiotu, analizą danych statystycznych oraz badaniem panelowym przeprowadzonym na podstawie danych z lat 2012-2016. Wyniki badań

dowodzą ograniczonego i niejednoznacznego wpływu religii na stabilność i rentowność banków. W krajach, w których islam jest religią dominującą, potwierdzono wyższy niż w krajach chrześcijańskich poziom NPL dla portfela kredytowego w latach 2012-2016. Wykazano, że nie istnieje statystycznie istotny wpływ religii na wartość wskaźnika ROA, jednakże w krajach, w których islam jest religią dominującą, potwierdzono niższy niż w krajach chrześcijańskich przeciętny poziom ROE. Udowodniono, że nie ma statystycznie istotnego wpływu religii na wskaźniki stabilności finansowej banków.

Słowa kluczowe: religia, islam, stabilność finansowa banków, rentowność banków.

1. Introduction

The global financial crisis, which started in 2007 had its significant sources in the banking sector, has become an important stimulant for the discussion on the financial stability. In the post-crisis literature, the uniform opinion prevails that ensuring the stability of commercial banks' operations, due to their significance for the safety of the banking system and the entire economy, should be a priority for all stakeholders (Piechocińska-Kałużna, 2011, pp. 141-151). Financial stability has in the post-crisis period become the basic value of the financial system, to a much higher degree than its growth potential and innovation, which is commonly demonstrated not only in the legal regulations (Czerwińska, 2015, pp. 220-236).

Problems in the regulation and supervision of the banking market are indicated as one of the causes of the global financial crisis in 2007-2009 (Dam, 2010; Merrouche and Nier, 2010). As remedial measures, a series of significant changes in the regulatory sphere of the banking sector were indicated (Maciejewski, 2014, pp. 102-104). Only between 2011 and 2016 within the area of the financial market of the European Union, the work was undertaken on 56 regulations, whilst 37 had already been implemented.

In the literature it was proved that the banks with a better capital base are characterized by a higher stock market valuation (Mehran and Thakor, 2011, pp. 1020-1067), but excessively restrictive regulations within the scope of capital adequacy can lead simultaneously to limiting the bank activity and decreasing the profitability of operations (Gorton and Winton, 2017). These conclusions are also considered as the consequences of the latest regulatory changes in many countries, along with the improvement in the solvency of banks resulting from the increase in capital requirements, the deterioration of profitability of credit institutions is observed, which long-term may be a significant problem for the increase of own equity base.

Together with the discussions on the subject of legal regulations, the necessity to increase the capital requirements and establishing international regulatory institutions in the post-crisis period, the suggestions appeared regarding alternative methods of influencing the stability and profitability of banks, among others through

the use of moral norms related to the biggest religions in the world, in particular Islam. The following were indicated in particular: the moral-spiritual approach to the banking standards, the nature of offered products and the dynamic development of Islamic banks.

Religiousness is an important social mechanism, which influences the behaviour of individuals both in terms of economic decisions as well as social interactions (Stulz and Williamson, 2003; Boone, Khurana, and Raman, 2012).

Empirical studies show that firms operating in different social environments exhibit different behaviour. The literature links religious adherence to lower risk-taking (Li, Griffin, Yue, and Zhao, 2013). This assumption is convergent with the results of the studies conducted by Hilary and Hui (2009, pp. 455-473). The conclusion was that non-financial firms located in countries with higher levels of religiousness demonstrate lower degrees of risk exposure, as measured by variances in equity returns or returns on assets, however they exhibit a lower investment rate and less growth. Díez-Esteban, Farinha, García-Gómez (2019, pp. 36-55), using a large sample of firms from 37 countries over the period of 2007-2015 observed that different religious backgrounds have different impacts on corporate risk-taking, these being negative for Catholic and Islamic-based countries and positive for firms in Protestant nations.

Kurkliński (2016) points to the far-reaching convergence of a large number of moral judgments, prohibitions and orders of all major religions strongly affecting the functioning of banks. These conclusions are also confirmed by empirical studies.

Using a sample of publicly traded depository institutions in the US Adhikari and Agrawal (2016) found robust evidence that banks headquartered in more religious areas take less risk and remain less vulnerable to crises. However, these banks command lower market valuations during normal times. To reduce risks, these banks grow their assets more slowly, hold safer assets, rely less on non-traditional banking, and provide fewer incentives to their employees and executives to increase risks. Analysis of 1,578 public and private US banking institutions over the period 2000--2010, performed by Chircop, Fabrizi, Ipino and Parbonew (2017, pp. 271-294), provided robust evidence that the branch's religiousness is positively related to the bank's stability measured by the Z-score index. They argued that it may affect bank risk-taking because religious customers are per se less risky borrowers (demand effect) and decisions taken by banks need to be aligned with the values of the geographic area in which the bank operates (supply effect).

Research by Cantrell and Yust (2018, pp. 86-105) showed that religiousness always has a close relationship with banks' risk and has an impact on their performance in an extremely good or bad way. For the crisis (2007-2009) period, analysis by Kanagaretnam, Lobo and Wang (2015) showed that banks in countries with higher level of religiousness show lower risk of reporting asset deterioration and lower probability of having poor performance.

Considering the above, the goal of this article was to check the significance of the impact of religion on the stability and effectiveness of banks in the post-crisis period. In order to implement this goal, a panel study was carried out including the analysis of the determinant of financial stability (measured by the loan indicator with non-performing loan (NPL), total capital ratio (TCR) and leverage ratio (LR)), and bank profitability (measured by ROA and ROE indicators), with a particular emphasis on religion as the experimental variable.

2. Religion as a determinant of banks' operation on the example of Islamic banking

Religion, defined as "a set of beliefs relating to the existence of God or gods, the origin and purpose of human life, the creation of the world and related to it rites, moral rules and organizational forms" is inseparably connected with the concept of a moral system. It can be defined as a set of rules describing the behaviour which is socially approved and its complete negation. It specifies what is socially accepted and what is not. The moral model of human behaviour assumes that people make decisions based on convictions and values that were instilled in them in their childhood (Wilk and Cliggett, 2012, p. 135). Moral imperatives are shaped on an ongoing basis through intellectual currents, trends and the progressive development of civilization.

The criteria that give meaning to the religions are very similar norms, even identical to those characterizing the financial markets. In Western cultures, the saying was adopted that money is the god of our times, that it gives sense to our actions, and for many it is an unsurpassed, immaterial being. It is not without reason that Adam Smith raised religious aspects in formulating new economic ethics and his famous classical theory (Khan, 2010, p. 2).

The entirety of financial systems, regardless of the place of their occurrence is subject to laws and values. It is created by the participants of the markets who make economic decisions being able to predict their result, among others, due to the existence of rules and dependencies (Moid, 2016, p. 93). The moment the investors begin to lose trust in established law, they start to put more emphasis on the religious laws.

Economists constitute a significant part of scholars who deal with social and religious issues. For a long time, some experts have emphasized the overlapping of religious values onto economic theories. These views intensified along with the perception of the effects of the global crisis of 2007-2009. The resulting series of regulations and reforms, often hard to accept by the world of finance, was motivated by religious and ethical postulates. In this period, the reference to faith was extremely important because it allowed to put the disturbed economic order into universal moral norms, making it more transparent (Eluke, 2014, p. 21).

A special example of combining the economic, social and religious issues is the functioning of Islamic banking. Even though the flourishing of the Islamic financial services system goes back to the 20th century, the rules of its operation are based

on the tradition dating back to medieval times. Algaoud and Lewis (2007, p. 38) distinguish five basic rules of an Islamic economy. Riba (usury) is forbidden in all transactions; all ventures and investments must be undertaken on the grounds of halal (legality), and the entrepreneur or investor should not conduct haram (illegal) activity, i.e. one contrary to Sharia principles; maysir (gambling) is forbidden; every investment should be free from gharar (speculation, unreasonable uncertainty), and every investor should pay zakat (tax, alms) for the good of society.

The content of Islamic banking law is not identical in every country, which results from the internal diversity of Islam. The five dominating factions are: Shia (in Iraq, India and the Gulf States), Hanafi (India, countries of the Middle East), Maliki (African countries), as well as Shafi'i (Southeast Asia) and Hanbali (Saudi Arabia), and thus is prohibited in Egypt can be commonly used in Iran and vice versa. The differences in interpretation have an impact on the development of markets, number and characteristics of banking products and the legality of the concluded contracts. Defining Islamic banking, Włodarczyk (2013, p. 3) draws attention to the synthesis of economic thought taking into account the rules specified in the Koran.

Religion in Islamic countries has a significant impact on the shape of the financial markets. However, Islamic banking rarely (as the biggest element of the Islamic financial markets) has over a 50% share in the sector. The only state with the banking completely subordinated to Sharia law is Iran. Islamic banks constitute 90% of the banking sector in nine countries, i.e. Saudi Arabia, Malaysia, Kuwait, Qatar, Turkey, Indonesia, Bahrain, Pakistan and the United Arab Emirates (Zemke, 2015).

There are 129 Muslim financial institutions worldwide. In 2016 the assets of entities operating in accordance with halal were valued at USD 2,202 trillion, of which USD 1,599 trillion are found in the banking system. It is estimated that in 2022 the value of assets will increase to USD 3,782 trillion. Banking products will be responsible for 64% of the value – USD 2,439 trillion (Thomson Reuters, 2018, p. 62).

The dynamic development of the Islamic financial system is closely related to the invention of new banking products and services. Due to the large number of complicated rules deriving from the Koran, it is necessary to verify the innovative solutions with traditional norms, in order to eliminate the risk of non-compliance (Adamek, 2017, p. 43).

3. The assessment of the impact of religion on the stability and profitability of banks in light of the panel survey

3.1. The assessment and research method

The assessment of the impact of religion on the functioning of the financial sector was made using research techniques of econometrics and of panel data.

In order to verify the research hypothesis on the significance of the impact of religion on the financial stability and profitability of banks based on the literature review, two regression models were built. The first model tested the influence of religion on the stability of banks (measured by the credit indicator of non-performing loans in the credit portfolio (NPL), total capital ratio (TCR) and the leverage ratio (LR). The second study related to the impact of religion on the profitability of banks (measured by ROA and ROE indicators).

The scope of the carried out analyses was conditioned by the availability of data. Information relating to Islamic banks is characterized by the lower availability and popularity in relation to traditional banking. Based on the review of the Bankscope database (currently Orbis) and the World Bank's 2019 Bank Regulation And Supervision Survey, 11 countries were distinguished with the highest number of Islamic banks, whose reporting data were gathered in the Orbis database and which had the largest share in the banking sector (group A).

The reporting period was from 2012 to 2016. This is due to significant deficiencies in the variable values for the period up to 2012, reporting delays which occurred in 2017 and 2018, and the general preferences regarding the post-crisis analysis.

The counterparts of the countries from group B were selected using the clustering procedure based on two key indicators: value of annual GDP per capita (in USD) and the share of the followers of Christianity as the dominant religion (%). To form coherent clusters, the hierarchical agglomerative methods of the centroid linkage had preference. Such a procedure infers the creation of groups of units on the basis of the closest distance.

The macroeconomic data (GDP dynamics, inflation rate, unemployment rate) were taken from the Internet sites of the World Bank. Information regarding the basic characteristics of groups A and B are presented in Tables 1 and 2.

In order to conduct the analysis, taking into account the type and scope of the available data (micro-panel data, resulting from the combination of time series observations for cross-sectional units i.e. banks), it was decided to employ the dynamic panel models, estimated using the Generalized Method of Moments, further referred to as GMM, in the GMM-SYS version, introduced to the literature by Blundell and Bond (1998, pp. 115-143). GMM models are considered to be useful in financial research (Andreß, Golsch, and Schmidt-Catran, 2013). Among the advantages of this method one should indicate the lack of assumptions about the strict exogeneity of regressors, thanks to which it is possible to take into account the delayed values of the dependent variable, which is not possible in the case of statistical panel models (with fixed effects and individual random effects) (Kozłowski, 2016, p. 205). Methods that are based on GMM are therefore considered in the literature to be particularly useful for models including endogenous or predetermined explanatory variables (Dańska--Borsiak, 2009), as is the case with this research. Moreover, the relatively small sample used in the study (maximum 1989 observations) argues in favour of using the GMM-SYS model (Bond, 2002). The GMM-SYS estimator gives in similar cases

Table 1. Basic information regarding group A (countries with Islam as the dominant religion)

Country	Share of the followers of dominant religion (%)	Percent of the banking system's assets in Islamic banks	Number of Islamic banks included in the study[*]	Number of other banks included in the study[*]	Value of annual GDP *per capita* (in USD)
Bahrain	70	14.1	26	18	25 851
Iran	99	ND	21	5	5 491
Malaysia	63	23.4	19	57	10 942
Sudan	61	ND	19	6	808
Iraq	99	ND	12	37	5 930
Indonesia	87	3.78	13	42	3 871
United Arab Emirates	77	ND	10	30	40 711
Kuwait	74	38.4	10	29	30 839
Pakistan	96	7.2	10	45	1 555
Bangladesh	86	18	9	67	1 745
Saudi Arabia	93	25	6	15	25 566

    [*] Number of banks may vary, depending on a model, in case of lack of information on a given variable.

Source: own study based on the World Bank and Orbis data.

Table 2. Basic information regarding group B (countries with Christianity as the dominant religion)

Country	Share of the followers of dominant religion (%)	Number of banks included in the study[*]	Value of annual GDP *per capita* (in USD)
Canada	64	154	46 261
Belarus	62	32	6 306
Hungary	37	36	15 924
Zambia	87	28	1 417
Costa Rica	67	95	11 744
El Salvador	89	21	3 924
Norway	76	102	81 695
Switzerland	37	142	82 950
Nicaragua	50	21	2 108
Honduras	50	40	2 521
Netherlands	39	85	53 106

    [*] Number of banks may vary, depending on a model, in case of lack of information on a given variable.

Source: own study based on the World Bank and Orbis data.

more reliable and accurate results (Baltagi, 2005). Statistical inference within the scope of significance of parameters of the model was carried out based on the one-step estimate, because basing the analysis on the two-step method within the scope of standard errors of the estimators can lead to erroneous conclusions, especially in the case of the heteroscedasticity of the random component (Blundell and Bond 1998, pp. 115-143). For diagnostic purposes, the Sargan test was used for the two-step method, as well as Arellano-Bond autocorrelation tests for the first differences: AR (1) and AR (2). This type of models is also used, among others, in the analyses of financial stability (Pawłowska, 2016, pp. 21-49).

The final shape of the estimated dynamic models of regression is given by the equation:

$$ZZ_{it} = a_0 + a_1 * ZZ_{it-1} + a_2 * ZM.MAKRO_{it} + a_2 * ZM.MIKRO_{it} +$$
$$a_3 * ZM.RELIGION_{it} + v_{it} \qquad (1)$$

where ZZ is a dependent variable describing the chosen aspect of functioning of the banking market (i.e. the quality of credit exposure, stability, profitability), $ZM.MAKRO_{it}$ is a vector of the country's macroeconomic variables affecting the quality of credit exposure of the bank in the period t; $ZM.MIKRO_{it}$ is a vector of the control variables characterizing the specifics of activity of a particular bank, $ZM.RELIGION_{it}$ is a vector of variables characterizing dominant religion and the type of bank (Islamic/traditional), and v_{it} is a random factor for the bank and in the period t.

The description of the variables in the model were presented in Tables 3 and 4.

Table 3. Characteristics of the dependent variables explained in the panel studies of the Islamic and traditional banks in the chosen countries in 2012-2016

Explained variable	Description	Data source
NPL	The share of irregular loans in total loans – a measure of stability based on the quality of credit expositions	Bankscope/Orbis
TCR	*Total Capital Ratio* – a measure of stability based on the bank's solvency	Bankscope/Orbis
LR	The ratio of equity to assets – a measure of stability based on financial leverage	Bankscope/Orbis
ROA	Average annual rate of return on assets – a measure of profitability	Bankscope/Orbis
ROE	Average annual rate of return on assets – a measure of profitability	Bankscope/Orbis

Source: own study.

Table 4. Characteristics of the independent variables explained in the panel studies of the Islamic and traditional banks in the chosen countries in 2012-2016

Variable	Description	Data source
Macroeconomic variables		
ΔPKB	GDP dynamics is the annual average for the country in which the bank leads a dominant or exclusive activity – a measure of speed of economic growth	World Bank https://data.worldbank.org/ indicator/NY.GDP.MKTP. KD.ZG?view=chart
I	Consumer price index in the country of the bank's operation – a measure of inflation	World Bank https://data.worldbank.org/ indicator/FP.CPI.TOTL.ZG
B	Registered unemployment rate in the country of the bank's operation with the use of human capital	World Bank https://data.worldbank.org/ indicator/SL.UEM.TOTL.NE.ZS
Microeconomic variables		
L_A	Logarithm of the values of the bank's assets at fixed prices from 2004 – a measure of the bank's size	Own calculations based on the data of Bankscope/Orbis
C_I	The ratio of costs to income – a measure of the cost effectiveness	Bankscope/Orbis
K_D	The ratio of loans to deposits of non-financial sector – a measure of the bank's liquidity level	Bankscope/Orbis
WNO_WPO	The ratio of non-interest income to fees and commissions – the characteristic of the business model of the bank	Own calculations based on the data of Bankscope/Orbis
Experimental variables related to religion		
R	Dominant religion in the country of bank's operation – binary variable: 0 – Islam; 1- Christianity	World Bank https://data.worldbank.org/ indicator/SL.UEM.TOTL.NE.ZS
S	Bank specialization – binary variable: Islamic banking – 0; traditional banking 1.	Own calculations based on the data of Bankscope/Orbis

Source: own study.

In order to eliminate the redundancy of variables in the model, the analysis of variables correlation was carried out.

3.2. Results and conclusions of econometric studies

The results of the research based on the shown methodology with the use of the dynamic model are presented in Tables 5 and 6.

Table 5. The results of panel model (1-step GMM-SYS dynamic model) of ROA and ROE determinants in the analysed group of banks in 2012-2016

Independent variables	Dependent variables	
	ROA	ROE
Lag of dependent variable (-1)	0.306***	0.013
	(0.093)	(0.009)
const	1.772**	−0.010
	(0.720)	(6.94933)
ΔPKB	0.010	0.724855
	(0.016)	(0.167)
B	0.047 *	0.286 *
	(0.026)	(0.167)
I	0.047 *	−0.002
	0.008	(0.232)
L_A	−0.022	0.779***
	(0.030)	(0.218)
WNO_WPO	−0.000	−0.000*
	(0.000)	(0.000)
C_I	−0.017 ***	−0.119 **
	(0.004)	(0.048)
L_D	0.002 **	0.015
	(0.001)	(0.010)
R	−0.057	−3.113 ***
	(0.139)	(0.829)
S	−0.082	−1.066
	(0.175)	(1.109)
Observations	1989	1936
Test AR (1)	−3.432 (0.006)	−1.142 (0.253)
Test AR (2)	1.141 (0.254)	0.998 (0.318)
Sargan test (two-step)	59.597 (0.000)	331.248 (0.000)
Wald test	97.815 (0.000)	79.689 (0.000)

* Significant at 10%; **significant at 5%; ***significant at 1%.

Source: own study.

As a result of the carried out research it was proved that there is no statistically significant influence of religion on the value of the average annual rate of return from the assets measured by the ROA indicator. Among the significant macroeconomic

determinants of the described measure of profitability the positive impact of the unemployment level was confirmed (at a 90% confidence level). At the significance level of 1% the impact of the indicator of the annual rate of return on assets was additionally confirmed, and the direction was positive. With a 99% confidence level it was also proved that the banks with a higher cost-to-income ratio are characterized by a poorer ROA indicator. Furthermore, it was also proved that there is a statistically important (with a 95% confidence level) positive impact of loans to deposits ratio of the non-financial sector.

On the basis of the conducted research, it was shown that there is a statistically significant (at the significance level of 1%) influence of religion on the value of an average annual rate of return measured by the ROE indicator. In the countries where Islam is the dominant religion, the lower level of an average annual return on equity in the studied period (value of directional coefficient –3.113) than in the Christian states was confirmed. Among the remaining variables, the size of banks significantly influenced the level of the ROE indicator. The direction of impact was positive (it was confirmed at the significance of 1%). Similarly, as in the case of ROA, the significance of the C/I indicator's impact on the profitability of equity was confirmed (negative correlation). At a 90% confidence level also the positive impact of the variable value on its present value was demonstrated. Among the macroeconomic variables it was shown that at a 99% confidence level, the unemployment rate is a statistically significant determinant of the average annual return on equity.

The results of research with the use of the dynamic model for NPL, TRC and LR are presented in Table 6.

Based on the carried-out research, it was proved that there exists a statistically significant (at a 95% confidence level) impact of religion on the quality of banks' credit exposure measured by the NPL indicator. In the countries where Islam is the dominant religion, the higher level of impaired loans in the credit portfolio within the researched period was confirmed (value of directional coefficient –1.069). Among the remaining variables, the NPL level in the studied banks is significantly affected by the level of this indicator in the previous year (at the highest level of confidence in the presented data − 99%). Among the significant microeconomic NPL determinants is the negative impact of the bank's size (measured by the logarithm of the value of its assets) on the level of impaired loans. Moreover, at the significance of 5%, the impact of the loan-to-deposit ratio on NPL levels was confirmed, and the direction of impact was negative. This means that better quality credit exposures are observed in banks with a higher share of loans compared to non-financial sector deposits.

On the basis of the conducted research it was additionally confirmed that the statistically significant impact of religion on the current level of total capital ratio does not exist. Among the significant microeconomic indicators that measure the stability based on the bank's solvency, the value of this indicator from the previous period (at the significance of 1%) is positively influenced. At the 95% confidence level the impact of total assets value on the Total Capital Ratio was additionally

Table 6. The results of panel research (one-step GMM-SYS dynamic model) of the NPL, TRC and LR determinants in the analysed group of banks in 2012-2016

Independent variables	Dependent variables		
	NPL	TCR	LR
Lag of dependent variable (-1)	0.679***	0.727 ***	1.002 ***
	(0.179)	(0.049)	(0.049)
const	6.918**	19.878**	0.606
	(3.896)	(9.092)	(2.306)
ΔPKB	−0.037	−0.188	0.0239
	(0.047)	(0.146)	(0.032)
B	−0.128	1.291*	0.022
	(0.097)	(0.672)	(0.040)
I	−0.028	0.048 *	0.004
	(0.037)	(0.163)	(0.029)
L_A	−0.228**	−0.961**	−0.038
	(0.103)	(0.482)	(0.107)
WNO_WPO	−0.000	−0.000	-0.000
	(0.000)	(0.000)	(0.000)
C_I	0.023	−0.019	−0.003
	(0.020)	(0.038)	(0.007)
L_D	−0.009**	−0.049	0.008
	(0.003)	(0.031)	(0.003)
R	1.069**	−1.624	−1.423
	(0.480)	(2.458)	(0.858)
S	−1.018	2.799	−1.579 **
	(1.065)	(3.629)	(0.529)
Observations	1514	1374	1989
Test AR (1)	−2.592 (0.010)	−1.0306 (0.303)	0.943 (0.046)
Test AR (2)	1.484 (0.137)	1.021 (0.307)	−0.896 (0.370)
Sargan test (two-step)	159.848 (0.000)	351.297 (0.000)	84.549 (0.000)
Wald test	174.05 (0.000)	1152.85 (0.000)	1232.36 (0.000)

　* Significant at 10%; **significant at 5%; ***significant at 1%.

Source: own study.

proven, and the direction of impact was positive. This means that bigger banks are characterized by the higher value of the total capital ratio. Moreover, at the 10% significance level the impact of the unemployment rate on the Total Capital Ratio was also confirmed, and the direction of influence was positive.

Analysing the obtained results of the econometric model, it was proved that there is no statistically significant impact of religion on the leverage ratio. At the 1% significance level, on the other hand, the impact of the LR indicator from the period preceding the one in the current period was confirmed, and the direction of influence was positive. Among the important determinants of the leverage-based stability indicator, at the 95% confidence level, the positive impact of the bank's specialization (Islamic/non-Islamic bank) was confirmed – it was thus proved that Islamic banks are characterized by the lower leverage (so the higher values of the LR indicator) than conventional banks.

4. Conclusion

Based on the conducted literature review, the complex nature of the interpretation of religion was shown as the source of the rules of banks' operation and the significant complexity of the connections of the economic sphere with the moral sphere.

The research with the use of dynamic panel models enabled to demonstrate that religion significantly affects the quality of banks' credit portfolio. In the countries where Islam is the dominant religion, the higher level of impaired loans in credit portfolio was confirmed than in Christian countries in the researched period. In the states where Islam is the dominant religion, the higher level of impaired loans in the credit portfolio was confirmed in the researched period. As a result of the conducted analyses, no statistically significant impact of religion on other indicators of banks' stability was demonstrated. Among the significant determinants of the stability based on the leverage ratio, on the other hand, the negative impact of specialization (binary variable) was immediately confirmed, which means that the traditional banks are statistically characterized by the higher leverage (lower indicator – equities/assets) than Islamic banks.

In addition, it was proved that there is no statistically significant impact of religion on the value of average annual rate of return from the assets measured by the ROA indicator, whilst there exists a statistically significant (at a 1% significance level) effect of religion on the value of average annual return on equity, measured by the ROE indicator. In the countries in which Islam is the dominant religion, the lower than in the Christian countries level of average annual return on equity in the researched period was confirmed.

The obtained results call into question many current concepts indicating the superiority of Islamic banking over the conventional one. Whilst the negative impact of Islamic banking convention on the profitability of banks is understood, the fact that banks in Islamic countries are characterized by a worse stability assessment made using the NPL indicator raises considerable doubts.

The findings can thus confirm the view emerging in literature that both the Islamic economy, and its principles and assumptions are an extensively described phenomenon impossible to implement due to technical aspects and human nature as the very foundation of the system – the Riba – raises many doubts. For over 50 years of the functioning and dynamic growth of this economic idea, it was not specified how interest-free banking works in the event of inflation. Doubts appear, for instance, in the aspect of the phenomenon of inflation and the related to it differences between nominal and real interest rate (Bukowiecki, 2014, p. 50).

Islamic banks either try to avoid using the term "interest", motivated by pursuing the aims that are in line with Islamic teachings (e.g. investments that generate interest with the intention to dedicate them to social objectives are considered Islamic, thanks to which they are not forbidden) or hide its true meaning under complicated economic terms (Ahmed, 2005, p. 11).

Practice has shown that the assumptions of Islamic banking are not always implemented. No institution was established to determine the proportion of shares of generated profit between the bank and the client, and the banks benefit from the fact that Muslim society is very poorly developed. The clients face another disadvantage in the fact that all the offered banking products are not very competitive in relation to each other. This results mainly from the fact that a practising Muslim, limited by the Koran, cannot have a deposit in a conventional bank. Banks, being aware of their monopolistic position in the religious sphere, very often pay out the profits comparably smaller than in the case of conventional banking.

The results obtained are also consistent with the conclusions of the studies relating to the risk and profitability of Islamic banks in the crisis period, in which it was determined that the Islamic financial system cannot be a substitute for the traditional system, but rather a financial supplement to the traditional system (Trad, Trabelsi, and Goux, 2017, pp. 40-45).

It should be noted that the research results presented in this article are of an experimental character, and include relatively short time series and limited number of entities from the area of Islamic banking. This is the effect of problems with the availability of comparable data and the necessity to eliminate the entities where the quality of reporting leaves much doubt. In the future, when continuing the research, it would be worth considering the possibility of using the databases conducted strictly in Arab countries.

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