WHAT DRIVES THE FINANCIAL PERFORMANCE IN BANKING INDUSTRY? THE CASE OF CIS COUNTRIES

A. Faizulayev[1], G. Dabylova[1], A. Assylkhanova[1]
[1]KIMEP University, Almaty, Republic of Kazakhstan

ABSTRACT

Our purpose is to investigate how bank-specific, macroeconomic indicators and political stability in the country impact commercial banks' profitability in CIS (Commonwealth of Independent States) countries during the period of 1991-2017.

Methodology. To conduct empirical analysis, we applied feasible generalized least square (FGLS) method.

The originality / value of the research is the contribution to the existing literature is twofold: first, to estimate profitability determinants we used broad range of years from 1991 to 2017, secondly, the application of FGLS model was employed for the first time to conduct the research in CIS region using new indicators such as political stability, corruption and global financial crisis dummy.

Findings. Results of our empirical analysis state that some bank specific factors have positive and significant impact on profitability, while macroeconomic factors affect financial performance negatively. Political stability has no effect on profitability of banks in CIS countries.

Keywords: Banks, Profitability, Political Stability, Performance, CIS countries

INTRODUCTION

Banks hold a money creation function by putting together savers and consumers and by doing so banks increase investment and consumption in the country. This in turn is boosting the economic activity in the country, so the banking sector is very important for countries' economies [1].

Therefore, as the economy's wellbeing is strongly connected with performance of banks, banks profitability is a popular and highly covered topic in the studies of performance of banking sectors in many countries around the world.

Since banks have a notable impact on the economy it is crucial to keep them profitable and prospering. In course of gaining profits banks face many types of risks affecting profitability.

Bank profitability determinants can be divided between those which are internal and those that are external. It is possible to describe the internal determinants of bank profitability as those variables determined by the management decisions and policy goals of the bank. The effects of management are the product of bank differences in goals, strategies, decisions and actions of management are reflected in variations in bank operating efficiency, including profitability. External bank profitability determinants are concerned with variables that are not affected by the actions and policies of individual banks, but by events outside the banks control (macroeconomics features).

According to Faizulayev et al. [2] both external and internal factors have significant impact on structure and performance of the banks. Profitability of the banks is defined as the difference between revenue and expenses. Yuksel et al. [3] states that as per banking literature banks' profitability is identified as a function of both micro and macro determinants. Micro determinants are related to internal processes of the banks', so they are named as bank-specific variables and include size, capital, risk management, etc. Yuksel at al. [3] further argues that macro variables like GDP growth, inflation, interest rate and tax rate affect bank's profitability in a very crucial way.

Collapse of the Union of Soviet Socialist Republics (USSR) in 1991 has led to a formation of 15 independent countries. All of them became members of Commonwealth of Independent states (CIS). Currently CIS

includes 9 member states: Kazakhstan, Kyrgyz Republic, Russian Federation, Belarus, Azerbaijan, Moldova, Uzbekistan, Tajikistan and Armenia.

Each of newly independent countries started to develop their own economic systems and "for three decades old Soviet system countries have tried to convert into market-based economy system" [4] As it was mentioned above, banking sector make a big contribution to the development of economy so CIS countries adopted major regulations on banking system right after gaining independence by creating a two-tier banking system with central bank and commercial banks in place.

This study is aimed to investigate the major factors affecting the banks' profitability of CIS countries by considering internal (bank-specific) and external (macroeconomic) determinants alongside with effects of FinTech and political stability in the country. As per Yuksel et. al [3] there is insufficient amount of studies related to research on bank's profitability in CIS countries.

This study is organized in the following way: Section 1 is a literature review and Section 2 describes the data and methodology, also including the hypotheses. Section 3 presents results and provides their interpretations while Section 4 is a conclusion for this study.

LITERATURE REVIEW

Bank Specific Indicators. Different studies in given literature review show how bank specific, macroeconomic indicators and financial technology affect banks profitability, its ROA, NIM, ROE. According to the study of Faizulayev and Wada [4] capital adequacy has a positive impact on NIM (net interest margin), as banks with optimal capital structure have higher possibility to repay its debt payments and increase profitability. Another study, which was conducted on countries of QIZMUT [2] revealed that bank size can have a positive impact on profitability (ROA), however negative NIM shows that larger banks could be less profitable than smaller banks. This could be explained by the fact that loans are defined as the major indicator of earnings of these banks, an increased amount of them leads to higher return, on the other hand, rising debts will lower profitability. Based on regression conducted by Perera at al [5], risk profile for South Asian banks show different ratios associated with liquidity costs. For instance, the ratio of total loans to deposits and short-term funds have negative effect on ROA due to higher levels of non-performing assets and increased liquidity costs.

Macroeconomic Indicators. Riaz and Mehar [6] examined the impact of bank specific variables and macroeconomic indicators' effect on banking sector's profitability in Pakistan from 2006 to 2010 period. The regression results accepted both study hypotheses and show that annual GDP growth rate, interest rate (discount rate) have significant impact on ROE. With the expansion of the economy in Pakistan, higher production will create better environment for development of financial industry, including banking sector.

The effect of dummy variables on conventional banks and Islamic banks is different in the research of Faizulayev et al. [2]. It shows that NIM of Islamic banks is more significant, however ROA is higher for the conventional banks. This is due to the main profit source of Islamic banks, which comes from non-interest income. During the crisis period, conventional banks experienced higher negative effect on profitability than Islamic banks did.

The impact of Financial Technology. The study investigating the effect of bank innovations on commercial banks in Lebanon conducted by Sujud and Hashem [7] shows the result of regression analysis which proves that mobile banking, debit and credit cards, automated machines (ATMs), internet banking, point of sale terminals (PSTs) and electronic funds transfer (EFT) affect significantly the return on assets and profitability of banks. These innovations enable banks to make additional profit such as commissions from transactions done through electronic devices by using debit and credit cards attached.

The study of electronic banking services conducted by Akhisar et al. [8] reveal that profitability of banks of developed and developing countries is significantly affected by the ratio of brunches to the number of ATMs and electronic banking services.

The impact of political stability in the countries. The study of Yahya et al. [1] shows that political stability has a crucial impact on profitability of Islamic banks in Yemen due to political situation. In the result of research, it was concluded that political instability had a positive impact on profitability (ROA and ROE) of Islamic banks under the period of study (2010-2014).

At the same time, in the result of study of Sanlisoy et al. [9] it was stated that banks are influenced negatively by the political risk/instability. According to this study, political risk is formed by political instability and uncertainty which affects decisions of economic units and economic fields.

Table 1 – Literature review

Authors	Title	Countries	Time span	Methodology	Result
Faizulayev et al. [2]	Profitability and persistency in the service industry: the case of QISMUT +3	QISMUT+3	2006-2015	GMM	Islamic banks (IBs) have higher persistence of profits than conventional banks (CBs). CBs are doing better than IBs in terms of equity management. Concerning the credit and liquidity risks CBs are more prone than IBs. The findings of management efficiency show that it has higher negative effect on CB than on the Islamic banks, especially in terms of ROA.
Faizulayev and Wada [4]	What drives the banking performance? Case of Eurasian Economic Union	Countries of Eurasian Economic Union	2011-2017	GLS	Capital adequacy affects positively net interest margin. Size negatively affects the profitability of banks across EAEU regions. Costs to income affects negatively the financial performance of banks and it is highly significant.
Titko et al. [10]	Drivers of bank profitability: Case of Latvia and Lithuania	Latvia, Lithuania	2008-2014	Linear regression analysis	Positive relationships between bank profitability and bank size expressed by the volume of deposits.
Riaz and Mehar [6]	The impact of bank specific and macroeconomic indicators on the profitability of commercial banks	Pakistan	2006-2010	Multiple regression analysis	Credit risk, interest rate (discount rate), total assets have a significant impact on ROE. Credit risk and interest rate also has a significant influence on the ROA.
Perera et al. [5]	Determinants of commercial bank profitability: South Asian evidence	South Asian countries	1992-2007	GMM	Well-capitalized low risk banks and those with relatively more efficient production processes are more profitable. Bank size is positively associated with profitability. There is a positive impact of product differentiation. Slack legal systems positively affect banks' profits.
Yuksel et al. [3]	Determinants of Profitability in the Banking Sector: An Analysis of Post-Soviet Countries	CIS countries	1996-2016	GMM	There is a negative relationship between loans to GDP ratio and the profitability of the banks in CIS countries. There is a low quality of the loans advanced in CIS countries.
Alfadli and Rjoub [11]	The impacts of bank-specific, industry-specific and macroeconomic variables on commercial bank financial performance: evidence from the Gulf cooperation council countries	Gulf cooperation council countries	2011-2017	OLS model	Capital adequacy ratio positively affects financial performance Oil price remains important factor affecting bank performance
Buchory [12]	Banking profitability: how does the credit risk and operational efficiency effect?	Indonesia	2014	Multiple linear regression	NPLs has positive and significant effect on ROA Operating expenses to operating income (OEOI) has negative and significant effect on ROA

Sujud and Hashem [7]	Effect of bank innovations on profitability and return on assets (ROA) of commercial banks in Lebanon	Lebanon	n/a	Linear multiple regression analysis	Bank innovations affect profitability and return on assets of commercial banks positively.
Francis [13]	Determinants of commercial bank profitability in Sub-Saharan Africa	Sub-Saharan Africa	1999-2006	Cost efficiency model	Both bank-specific as well as macroeconomic factors explain the variation in commercial bank profitability over the study period
Akhisar et al. [8]	The effects of innovations on bank performance: the case of electronic banking services	23 developed and developing countries	2005-2013	GMM	Ratio of branches to the number of ATMs and electronic banking services is are significant
Fani et al. [14]	Impact of internal and external factors on bank performance in Pakistan	Pakistan	2012-2016	Feasible generalized least square (FGLS) model	Capital adequacy, asset quality, liquidity, and inflation have strong but indirect correlation with banks' performance. Management efficiency, earning quality, GDP, and stock market performance have positive correlation though the significant impact
Yahya, et al. [1]	The impact of political instability, macroeconomic and bank-specific factors on the profitability of Islamic banks: an empirical evidence	Yemen	2010-2014	Multiple regression analysis	Operating efficiency and financial risk have negative and significant relationships with ROA and ROE. Capital adequacy has negative and statistically insignificant relationship with ROA and ROE
Sanlisoy et al. [9]	Effect of political risk on bank profitability	Turkey	n/a	ARDL method	There is a negative effect of the political risk on the bank profitability
Saeed and Zahid [15]	The impact of credit risk on profitability of the commercial banks	UK	2007-2015	Exploratory research design	Credit risk indicators have positive association with profitability of banks. Bank size, leverage and growth are positively interlinked with each other
Kjosevski et a. [16]	Bank specific and macroeconomic determinants of non-performing loans in the Republic of Macedonia: Comparative analysis of enterprise and household NPLs	Macedonia	2003-2014	Autoregressive distributed lag modelling approach (ARDL)	Profitability of banks, the growth of loans, growth of GDP have negative impact on rise-of nonperforming loans. Banks' solvency and unemployment have positive impact on the rise of non-performing loans
Dietrich and Wanzenried [17]	Determinants of bank profitability before and during the crisis: Evidence from Switzerland	Switzerland	1999-2006 2006-2009	Regression Analysis, Linear Model, Cross Correlation Matrix, Autocorrelation, Data collection based on Fitch-IBCA Bankscope (BSC) database	Banks that are heavily dependent on interest income are less profitable than banks whose income is more diversified. Average loan volume growth increases bank profitability positively. Higher funding costs result in a lower profitability
Neupane, B.P. [18]	Determinants of profitability of Nepalese commercial banks	Nepal	2010-2020	Panel regression model, OLS	External factors and industry specific indicators affect highly profitability (ROA), whereas macroeconomic indicators (GDP growth, inflation rate and exchange rate) have weak influence.
Caliskan, M. M. T., & Kirer-Silva-Lecuna, H. [19]	Determinants of Banking sector profitability in Turkey	Turkey	1980-2017	Multiple regression model	Macroeconomic indicators (inflation, average interest rates and exchange rates) affect negatively both ROA and ROE. Bank specific indicators (assets, efficiency and liquidity) affect positively on profitability.

Note – compiled by the authors

MAIN PART

The data. The study is based on panel data statistics of commercial banks in CIS countries: Kazakhstan, Kyrgyz Republic, Russian Federation, Belarus, Azerbaijan, Moldova, Uzbekistan, Tajikistan and Armenia. The period of analysis is considered between 1991-2017 for all the variables except the indicator of political stability, which was collected between 1995-2017. We conducted the research from collecting data of industry specific and macroeconomic variables from World Bank database, whereas political stability indicator was taken from 2020 Index of Economic Freedom. There is a description of the variables used in this study in the Figure 1 shown below, which includes the information on proxy of measurements, the symbol and the empirical evidence.

Symbol	Variables	Proxy	Researchers
Dependent variables			
NIM	Net interest margin	Net interest margin/total assets	Dietrich and Wanzenried [17]; Faizulayev and Wada [4]
ROA	Return on assets	Return on assets (%) after tax	Faizulayev et al. [2]; Perera et al. [5]
ROE	Return on equity	Return on equity (%) after tax	Riaz and Mehar [6]
Independent variables			
TETA	Capital Adequacy	Bank capital to total assets (%)	Faizulayev and Wada [4]
LIQ	Liquidity ratio	Liquid assets/total assets (%)	Dietrich and Wanzenried [17]; Faizulayev et al. [2]
NPL	Credit risk	Non-performing loans to gross loans (%)	Titko et al. [10]
GDP	LGDP	GDP Logarithm	Riaz and Mehar [6]
DUM	Banking crisis dummy	1=Banking crisis, 0=None	Dietrich and Wanzenried [17]. Faizulayev et al. [2]
POL	Political stability	The rank of political stability (world competitiveness report)	Yahya et al. [1]

Figure 1 – Summary of variables
Note – compiled by the authors

Methodology. The purpose of this study is to empirically investigate the impact of bank specific, macro-economic and political stability factors on the banks' profitability in CIS (Commonwealth of Independent State) countries.

To empirically investigate the variables, we employ feasible generalized least square (FGLS). We employed this model in accordance with the article of Fani et al. [14]. To solve the problem with autocorrelation and heteroscedasticity, and if N < T in the model, it is advised to use FGLS [20].

Our regression model is as following:

$$Y = \beta0 + \beta1 TETA + \beta2 LIQ + \beta3 NPL + \beta4 GDP + \beta5 DUM + \beta6 POL + \varepsilon \tag{1}$$

Here Y represents dependent variable, β represents the coefficients, β0 and ε represent constant term and error term respectively.

As we took for dependent variables ROA, ROE and NIM, the regression models for them are shown below:

$$ROA = \beta_0 + \beta_1 TETA + \beta_2 LIQ + \beta_3 NPL + \beta_4 GDP + \beta_5 DUM + \beta_6 POL + \varepsilon$$
$$ROE = \beta_0 + \beta_1 TETA + \beta_2 LIQ + \beta_3 NPL + \beta_4 GDP + \beta_5 DUM + \beta_6 POL + \varepsilon$$
$$NIM = \beta_0 + \beta_1 TETA + \beta_2 LIQ + \beta_3 NPL + \beta_4 GDP + \beta_5 DUM + \beta_6 POL + \varepsilon \quad (2)$$

Variables. For the empirical analysis we used 3 dependent variables as profitability proxies during our research: NIM (Net Interest Margin), ROA (Return on Assets) and ROE (Return on Equity). ROA shows how efficiently assets are used in order to generate profit for the bank. NIM indicates how efficiently banks are providing loans when generating profit. ROE is a measurement of how well a bank is generating profit from shareholders' investments in the bank.

Independent variables were chosen as follows: capital adequacy, liquidity ratio and credit risk were taken as bank specific variables, while GDP, banking crisis dummy, and political stability were taken as macroeconomic variables.

For bank-specific variables capital adequacy shows the bank's capital in comparison with its risks. Liquidity ratio stands for the ability of the banks to generate enough cash to meet short-term obligations. Credit risk of a banks is determined by the non-performing loans (NPLs) and stands for risk of failure of banks' credits. In the context of this study GDP is determined as the growth rate of gross domestic product during the investigated period.

Hypotheses of the study

H1: Capital adequacy has negative impact on profitability because higher amount of capital means giving less credit to the customers [12].

H2: Liquidity has negative impact on NIM, as banks keep more money in the banks they lose opportunity to earn profit by investing those money [2].

H3: Credit risk has significant negative impact on profit, as increase of bad loans reduce profit of the bank [16].

H4: GDP has significant impact on profitability of banks. Improvement of economic condition of the country will lead to higher profit for the banks [3].

H5: Political instability has significant and positive effect on bank's profitability (ROA and ROE) [3]. *As the government improve political stability in the country this increases the cost for banks and profitability of banks goes down.*

H6: Dummy variable affects negatively on profitability (ROA) [2]. *Financial crisis in the world affects significantly the profitability of banks by decreasing it.*

RESEARCH RESULTS

Variable	Mean	Min	Max	SD
ROA	3.984706454	-24.1815	66.1731	9.21097708
ROE	13.95921973	-26.1042	117.537	15.0160524
NIM	6.398535989	0.170314	21.186	3.15296316
NPL	6.538882258	0.390536	20.9306	4.82676795
TETA	13.54115692	3.42154	24.4	4.61538371
LIQ	40.63473293	15.5267	81.9063	15.0029167
GDP	9.453192132	1.340120752	12.3617278	2.65531768
DUM	0.065843621	0	1	0.24852043
POL	53.32694301	30	70.6	8.6100111

Figure 2 – Descriptive statistics
Note – compiled by the authors

Figure 2 above illustrates the descriptive analysis of the independent and dependent variables used in the study. Average performance indicators are positive. There are only two negative signs stand for profitability indicators (ROA with minimum boundaries of -24.1815 and ROE -26.1042. The mean value of LIQ is the largest one, which is 40.63473293, whereas its standard deviation is similar to ROE's which is also the highest and equal to 15.0029167 and 15.0160524 respectively. We can conclude that there is a high variation of these variables meaning the greater the level of dispersion around the mean. The mean value of ROA is the lowest (3.984706454). It shows small value, while its standard deviation comes third being equal to 9.21097708.

Multicollinearity, autocorrelation and heteroscedasticity tests. Application of feasible generalized least square (FGLS) model requires the existence of group wise heteroscedasticity, autocorrelation, and multicollinearity tests. The results of diagnostic tests are shown in Figure 3, 4, 5, 6, and 7. Probability value of chi2 in heteroscedasticity test was significant ($p < 0.05$) that suggested heteroscedasticity in the data shown in Table 7.

	NIM	ROA	ROE	TETA	NPL	LGDP	LIQ	DUMMY	POL
NIM	1.0000								
ROA	0.1485	1.0000							
ROE	0.2025	0.6148	1.0000						
TETA	0.4414	0.3167	0.0055	1.0000					
NPL	0.1501	-0.1878	0.1611	-0.2269	1.0000				
LGDP	-0.5390	-0.1260	-0.0581	-0.6734	0.0201	1.0000			
LIQ	0.1642	0.1673	0.2262	0.1389	-0.1104	-0.1613	1.0000		
DUMMY	-0.1516	-0.3662	-0.1047	-0.2124	0.0991	0.2615	0.0983	1.0000	
POL	0.0779	0.0366	0.1117	0.2770	0.1446	-0.3378	0.1386	-0.0629	1.0000

Figure 3 – Multicollinearity results
Note – compiled by the authors

The correlation analysis indicates that there is a positive correlation between independent variables, the bank's profitability variable NIM and capital adequacy TETA of 44.14 %, and dependent variables ROA and ROE of 61 %. The nature of these results matches with study of Yahya et al. [1] and Akhtar et al. [8]. However, it shows negative relationship, especially between NIM and LGDP (-54 %).

Variable	VIF	1/VIF
LGDP	2.05	0.488194
TETA	2.03	0.492955
POL	1.19	0.839368
NPL	1.16	0.861457
DUMMY	1.11	0.898640
LIQ	1.08	0.926685
Mean VIF	1.44	

Figure 4 – Variance Inflationary Factor (VIF)
Note – compiled by the authors

Wooldridge test indicated no autocorrelation in panel data for all the variables shown in tables 4 and 5 as probability value was insignificant ($p > 0.05$), apart from the variable for NIM which is 0.0023 in table 6, which proved the existence of disturbance in autocorrelation. In addition, results show that all the variables show the VIF less than 5 which is an acceptable level of multicollinearity.

```
Wooldridge test for autocorrelation in panel data
H0: no first-order autocorrelation
     F(  1,       7) =        0.004
              Prob > F =        0.9484
```

Figure 4 – Autocorrelation for ROE
Note – compiled by the authors

```
Wooldridge test for autocorrelation in panel data
H0: no first-order autocorrelation
     F(  1,       7) =        1.212
              Prob > F =        0.3074
```

Figure 5 – Autocorrelation for ROA
Note – compiled by the authors

```
Wooldridge test for autocorrelation in panel data
H0: no first-order autocorrelation
     F(  1,       7) =        21.926
              Prob > F =        0.0023
```

Figure 6 – Autocorrelation for NIM
Note – compiled by the authors

Regression analysis using FGLS model. Figure 7, 8 and 9 show the results of regression analysis between dependent and independent variables. The P-value of the bank-specific variables in three models LIQ (0.001), Dummy (0.004), LGDP (0.001), TETA (0.003) are less than 5 %, which show the significant relationship with profitability indicators. Specifically, capital adequacy affects negatively on ROE (-.017874). These studies are consistent by its nature with those of findings of Fani et al. [14]. This can be explained as high capital might have adverse effect on the execution of bank if not properly managed.

```
Cross-sectional time-series FGLS regression

Coefficients:  generalized least squares
Panels:        heteroskedastic
Correlation:   common AR(1) coefficient for all panels  (0.2035)

Estimated covariances      =          8      Number of obs      =        102
Estimated autocorrelations =          1      Number of groups   =          8
Estimated coefficients     =          7      Obs per group:
                                                            min =          7
                                                            avg =      12.75
                                                            max =         19
                                             Wald chi2(6)       =      20.37
                                             Prob > chi2        =     0.0024
```

ROE	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
TETA	-.17874	.316261	-0.57	0.572	-.7986002	.4411202
NPL	-.1384354	.194792	-0.71	0.477	-.5202207	.2433499
LGDP	-.858994	1.602472	-0.54	0.592	-3.999781	2.281793
LIQ	.2383106	.0686105	3.47	0.001	.1038365	.3727848
DUMMY	-9.959894	5.732161	-1.74	0.082	-21.19472	1.274935
POL	.1024502	.1282658	0.80	0.424	-.1489462	.3538465
_cons	8.889885	21.31393	0.42	0.677	-32.88465	50.66442

Figure 7 – Determinants of ROE
Note – compiled by the authors

Liquidity has got negative significant impact on ROE, that can be explained in the way that banks keep more money on hand to improve liquidity position in the financial market where they could have lent this money to creditworthy borrowers. Political factor (PF) in CIS countries shows that p-value equals 0.0 in the second model in Figure 8 which means that political stability has a significant impact on the profitability of banks. This finding is in line with the study of Fani et al. [14]. On the other hand, it shows positive coefficient of 0.1025 in the first and negative impact -0.0511 in the last model. The p values are not significant in this case, meaning that we reject the null hypothesis regarding the positive impact on NIM.

```
Cross-sectional time-series FGLS regression

Coefficients:  generalized least squares
Panels:        heteroskedastic
Correlation:   common AR(1) coefficient for all panels  (0.2717)

Estimated covariances      =          8     Number of obs      =        102
Estimated autocorrelations =          1     Number of groups   =          8
Estimated coefficients     =          7     Obs per group:
                                                          min =          7
                                                          avg =      12.75
                                                          max =         19
                                            Wald chi2(6)       =      28.31
                                            Prob > chi2        =     0.0001
```

ROA	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
TETA	.1750671	.0699802	2.50	0.012	.0379084	.3122259
NPL	-.0583361	.0458013	-1.27	0.203	-.148105	.0314328
LGDP	.1113249	.4121721	0.27	0.787	-.6965177	.9191675
LIQ	.0273641	.0141798	1.93	0.054	-.0004279	.0551561
DUMMY	-4.62624	1.619141	-2.86	0.004	-7.799697	-1.452783
POL	.0077428	.0279404	0.28	0.782	-.0470193	.062505
POL	0	(omitted)				
_cons	-3.466215	5.337294	-0.65	0.516	-13.92712	6.994689

Figure 8 – Determinants of ROA
Note – compiled by the authors

Dummy variable's coefficient is negative -4.6262 and has 0.4 % of significant impact on profitability (ROA) shown in Figure 8, which is consistent with previous researchers Faizulayev et al. [2] who covered similar findings. Negative dummy variables could mean that banks might have faced with risky transactions during crisis. LIQ has a negative significant impact on NIM (Figure 9) meaning an inverse effect. This may be justified as if the liquidity is too high banks may not be efficiently using its current assets or excess cash means there are high concentration on savings rather than spending, thus, banks do not tend to lend the money. Thus, we accept our sixth hypotheses. In addition to, capital adequacy positively affects profitability and which is significant. Well-capitalized banks face lowers financial distress cost [17].

The previous results indicate that there is a strong significant relationship between profitability and bank-specific variables except NPL and POL. Thus, we can accept first, second and reject and fifth hypotheses. In addition to, TETA positively affects NIM and which is statistically significant. Well-capitalized banks face lowers financial distress cost [17].

As per Figure 9 the p-value for GDP is less than 5 % and it has negative coefficient, which means that GDP has significant negative impact on banks' profitability. This result is consistent with the study results of Faizulayev et al. [2], which stated that GDP growth has significant negative effect on banks' NIM. Francis [13] in his study suggests that the relationship between GDP trend growth and bank profitability can be pro-cyclical. He further explains such negative effect as decrease of bank credit during economic down swings due to increased risks, so more banks involved in risk exposure the more compensation they will require by charging additional margins on their loans.

```
Cross-sectional time-series FGLS regression

Coefficients:  generalized least squares
Panels:        heteroskedastic
Correlation:   common AR(1) coefficient for all panels  (0.3525)

Estimated covariances     =        8        Number of obs      =        102
Estimated autocorrelations =        1        Number of groups   =          8
Estimated coefficients    =        7        Obs per group:
                                                              min =          7
                                                              avg =      12.75
                                                              max =         19
                                             Wald chi2(6)       =      37.74
                                             Prob > chi2        =     0.0000
```

NIM	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
TETA	.2116773	.0721126	2.94	0.003	.0703392	.3530155
NPL	.0833427	.0417363	2.00	0.046	.0015411	.1651443
LGDP	-1.132526	.3493013	-3.24	0.001	-1.817144	-.4479077
LIQ	-.0028303	.0161426	-0.18	0.861	-.0344692	.0288087
DUMMY	-.0005064	.7775362	-0.00	0.999	-1.524449	1.523437
POL	-.0511417	.0283095	-1.81	0.071	-.1066273	.004344
_cons	17.43391	4.816372	3.62	0.000	7.993994	26.87383

Figure 9 – Determinants of NIM
Note – compiled by the authors

Based on the above data we can accept our fourth hypotheses that GDP has a significant impact on banks' profitability.

As per Figure 9 P-value for NPL is less than 5 % and has positive coefficient, which means that NPL or credit risk has significant positive effect on banks' profitability. Buchory [12] obtained the same results in his study. This is contrary to the studies of Faizulayev et al. [2], Alfadli and Rjoub [11], which demonstrated results of NPL having significant negative impact on banks' profitability. Zahid and Saeed [15] in their study explain the effect of significant and positive impact of NPL on bank's profitability with the fact that even after crisis banks "are taking credit risks and earnings benefits from interest rates, fee, and commissions etc."

As per Figure 7 and Figure 8 the effect of NPL on ROA and ROE is negative but insignificant.

Therefore, we can reject our third hypothesis.

CONCLUSION

This study examines the impact of bank-specific, macroeconomic and political stability on the profitability of commercial banks in CIS countries. For this study we used panel data method with World Bank data source for 9 countries in CIS over the period of 1999-2017. Return on assets (ROA), return on equity (ROE) and net interest margin (NIM) were taken as dependent variables and independent variables were divided as follows: bank-specific variables (capital adequacy, credit risk, liquidity), macroeconomic variables (GDP, banking crisis dummy) and political factors.

The analysis of this study was done in 3 stages. First, the descriptive statistics showed that bank-specific variable such like liquidity has the highest mean. ROE has the highest standard deviation. Second, the multicollinearity, autocorrelation, heteroscedasticity tests were done to run regression model. The third step was application of FGLS model to estimate the effect of the independent variables on banks profitability. The results of this study indicate that GDP and dummy (DUM) have significant and negative impact on banks' profitability. Capital adequacy (TETA), liquidity (LIQ) and credit risk (NPL) have significant positive impact on banks profitability. The study showed that political stability has no impact on profitability of banks in CIS countries.

Recommendations. Based on the findings of the study the following possible recommendations were suggested:

• As it was found from study, bank specific indicators such as capital adequacy play significant and positive role in banks profitability. Banks should increase their capital more and reduce the level of dividend payment to shareholders. Government should encourage banks to raise capital.

• Regarding macroeconomic variables, for instance GDP growth showed significant impact on NIM, banks should concentrate not only on internal factors inside of its organization and operations, but also on macroeconomic environment in the country. Improvement of economic condition in the country could lead to changes in interest margin of banks.

• There were some issues in measurement of political stability in the country. Some data showed zero figures for some countries, which means that there was no transparent and open data to investigate. Therefore, due to an absence of some data available in some countries, the possible full empirical investigation conducted in political stability of countries may yield insights that could be of interest to bankers, policy makers and academics in future research. In addition, such variable as corruption indicators could be added into a political stability variable measurement, which would be improved for further investigation.

REFERENCES

1. Yahya A. T., Akhtar A., Tabash M. I. The impact of political instability, macroeconomic and bank-specific factors on the profitability of Islamic banks: an empirical evidence. // Investment Management and Financial Innovations. – 2017. – № 14(4). – P. 30-39. – DOI:10.21511/imfi.14(4).2017.04

2. Faizulayev A., Bektas E., Ghafar A. Profitability and persistency in the service industry: the case of QISMUT +3. // The Service Industries Journal. – 2018. – № 40 (2014). – P. 1-25. – DOI: 10.1080/02642069.2018.1461210

3. Yuksel S., Mukhtarov S., Mammadov E., Ozsari M. Determinants of profitability in the banking sector: an analysis of Post-Soviet countries. // Economies. – 2018. – № 6(3):41. – 15 p. – DOI: 10.3390/economies6030041

4. Faizulayev A., Wada I. What drives the banking performance? Case of Eurasian Economic Union. Global Issues in Banking and Finance. // Springer Proceedings in Business and Economics. – 2019. – P. 27-33. – DOI: 10.1007/978-3-030-30387-7_3

5. Perera S., Skully M., Chaudhry Z. Determinants of commercial bank profitability: South Asian evidence. // Asian journal of finance & accounting. – 2013. – №5(1). – P. 365-380. – DOI:10.5296/ajfa.v5i1.3012

6. Riaz S., Mehar A. The impact of bank specific and macroeconomic indicators on the profitability of commercial banks. // The Romanian economic journal. – 2013. – №16(47). – P. 91-110.

7. Sujud H., Hachem B. Effect of bank innovations on profitability and return on assets (ROA) of commercial banks in Lebanon. // International journal of economics and finance. – 2017. – № 9(4). – P. 35-50. – DOI: 10.5539/ijef.v9n4p35

8. Akhisar I., Tunay K. B., Tunay N. The effects of innovations on bank performance: the case of electronic banking services. // Social and behavioral sciences. – 2015. – №195. – P. 369-375. – DOI: 10.1016/j.sbspro.2015.06.336

9. Sanlisoy S., Aydin U., Yalcinkaya A. E. A. Effect of political risk on bank profitability. // International journal of business management and economic research, – 2017. – № 8(5). – P. 998-1007.

10. Titko J., Skvarciany V., Jureviciene D. Drivers of bank profitability: Case of Latvia and Lithuania. // Intellectual economics. – 2015. – №9 (2). – P. 120-129. – DOI: 10.1016/j.intele.2016.02.003

11. Alfadli A., Rjoub H. The impacts of bank-specific, industry-specific and macroeconomic variables on commercial bank financial performance: evidence from the Gulf cooperation council countries. // Applied Economic Letters. – 2019. – № 27(2). – P. 1-5. – DOI: 10.1080/13504851.2019.1676870

12. Buchory H. A. Banking profitability: how does the credit risk and operational efficiency effect? // Journal of business and management science. – 2015. – № 3(4), P. 118-123. – DOI: 10.12691/jbms-3-4-3

13. Francis M. E. Determinants of commercial bank profitability in Sub-Saharan Africa. // International Journal of Economics and Finance. – 2013. – № 5(9). – P. 134-147. – DOI:10.5539/ijef.v5n9p134

14. Fani K. A., Khan V. J., Kumar B., Pk B. K. Impact of internal and external factors on bank performance in Pakistan. // International and public affairs. – 2018. – № 2(4). – P. 66-77. – DOI: 10.11648/j.ipa.20180204.11

15. Saeed M., Zahid N. The impact of credit risk on profitability of the commercial banks. // Journal of Business & Financial Affairs. – 2016. – № 5(2). – DOI:10.4172/2167-0234.1000192

16. Kjosevski J., Petkovski M., Naumovska E. Bank specific and macroeconomic determinants of non-performing loans in the Republic of Macedonia: Comparative analysis of enterprise and household NPLs. // Economic research. – (2019). – № 32. – P. 1185-1203. – DOI: 10.1080/1331677X.2019.1627894

17. Dietrich A., Wanzenried G. Determinants of bank profitability before and during the crisis: Evidence from Switzerland. // Journal of International Financial Markets, Institutions and Money, – 2010. – № 5. – P. 307-327. – DOI: 10.1016/j.intfin.2010.11.002

18. Neupane B. P. Profitability determinants of nepalese commercial banks. // PressAcademia Procedia (PAP). – 2020. – Vol. 12. – P. 40-45.

19. Caliskan M. M. T., Kirer-Silva-Lecuna H. The determinants of banking sector profitability in Turkey. // Business and Economics Research Journal. – 2020. – № 11(1). – P. 161-167.

20. Hoechle D. Robust Standard Errors for Panel Regressions with Cross-Sectional Dependence. // Stata Journal. – 2007. – № 7(3). – P. 281-312. – DOI: 10.1177/1536867X0700700301

REFERENCES

1. Yahya, A. T., Akhtar, A. & Tabash, M. I. (2017), "The impact of political instability, macroeconomic and bank-specific factors on the profitability of Islamic banks: an empirical evidence", *Investment Management and Financial Innovations,* No. 14 (4), P. 30-39, DOI: 10.21511/imfi.14(4).2017.04

2. Faizulayev, A., Bektas, E., & Ghafar, A. (2018), "Profitability and persistency in the service industry: the case of QISMUT + 3", *The Service Industries Journal*, No. 40(2014), P. 1-25, DOI: 10.1080/02642069.2018.1461210

3. Yuksel, S., Mukhtarov, S., Mammadov, E. & Ozsari, M. (2018), "Determinants of profitability in the banking sector: an analysis of Post-Soviet countries", *Economies*, No. 6(3):41, 15 p., DOI:10.3390/economies6030041

4. Faizulayev, A. & Wada, I. (2019), "What drives the banking performance? Case of Eurasian Economic Union", *Global Issues in Banking and Finance. Springer Proceedings in Business and Economics*, P. 27-33, DOI: 10.1007/978-3-030-30387-7_3

5. Perera, S., Skully, M. & Chaudhry, Z. (2013), "Determinants of commercial bank profitability: South Asian evidence", *Asian journal of finance & accounting*, No. 5(1), P. 365-380, DOI: 10.5296/ajfa.v5i1.3012

6. Riaz, S. & Mehar, A. (2013), "The impact of bank specific and macroeconomic indicators on the profitability of commercial banks", *The Romanian economic journal*, No. 16 (47), P. 91-110.

7. Sujud H., & Hachem, B. (2017), "Effect of bank innovations on profitability and return on assets (ROA) of commercial banks in Lebanon", *International journal of economics and finance,* No. 9 (4), P. 35-50, DOI: 10.5539/ijef.v9n4p35

8. Akhisar, I., Tunay, K. B., & Tunay, N. (2015), "The effects of innovations on bank performance: the case of electronic banking services", *Social and behavioral sciences,* No. 195, P. 369-375, DOI: 10.1016/j.sbspro.2015.06.336

9. Sanlisoy, S., Aydin, U. & Yalcinkaya, A. E. A. (2017), "Effect of political risk on bank profitability", *International journal of business management and economic research,* No. 8 (5), P. 998-1007.

10. Titko, J., Skvarciany, V. & Jureviciene, D. (2015), "Drivers of bank profitability: Case of Latvia and Lithuania", *Intellectual economics*, No. 9(2), P. 120-129, DOI: 10.1016/j.intele.2016.02.003

11. Alfadli, A. & Rjoub, H. (2019), "The impacts of bank-specific, industry-specific and macroeconomic variables on commercial bank financial performance: evidence from the Gulf cooperation council countries", *Applied Economic Letters,* No. 27(2), P. 1-5, DOI: 10.1080/13504851.2019.1676870

12. Buchory, H. A. (2015), "Banking profitability: how does the credit risk and operational efficiency effect?" *Journal of business and management science*, No. 3(4), P. 118-123, DOI: 10.12691/jbms-3-4-3

13. Francis, M. E. (2013), "Determinants of commercial bank profitability in Sub-Saharan Africa", *International Journal of Economics and Finance,* No. 5(9), P. 134-147, DOI: 10.5539/ijef.v5n9p134

14. Fani, K. A., Khan, V. J., Kumar, B. & Pk, B. K., (2018), "Impact of internal and external factors on bank performance in Pakistan", *International and public affairs,* No. 2(4), P. 66-77, DOI: 10.11648/j.ipa.20180204.11

15. Saeed, M. & Zahid, N. (2016), "The impact of credit risk on profitability of the commercial banks", *Journal of Business & Financial Affairs,* No. 5(2), DOI: 10.4172/2167-0234.1000192

16. Kjosevski, J., Petkovski, M. & Naumovska, E. (2019), "Bank specific and macroeconomic determinants of non-performing loans in the Republic of Macedonia: Comparative analysis of enterprise and household NPLs", *Economic research,* No. 32 (2019), P. 1185-1203, DOI: 10.1080/1331677X.2019.1627894

17. Dietrich, A. & Wanzenried, G. (2010), "Determinants of bank profitability before and during the crisis: Evidence from Switzerland", *Journal of International Financial Markets, Institutions and Money,* No. 5, P. 307-327, DOI: 10.1016/j.intfin.2010.11.002

18. Neupane, B. P. (2020), "Profitability determinants of nepalese commercial banks", PressAcademia Procedia (PAP), Vol. 12, P. 40-45.

19. Caliskan, M. M. T. & Kirer-Silva-Lecuna, H. (2020), "The determinants of banking sector profitability in Turkey", *Business and Economics Research Journal*, No. 11(1), P. 161-167.

20. Hoechle, D. (2007), "Robust Standard Errors for Panel Regressions with Cross-Sectional Dependence." *Stata Journal*, No. 7(3), P. 281-312, DOI: 10.1177/1536867X0700700301

БАНКТЕРДІҢ ҚАРЖЫЛЫҚ КӨРСЕТКІШТЕРІНЕ НЕ ӘСЕР ЕТЕДІ? ТӘУЕЛСІЗ МЕМЛЕКЕТТЕР ДОСТАСТЫҒЫ ЕЛДЕРІ МЫСАЛЫНДА

А. Файзулаев[1], Г. Дабылова[1], А. Асылханова[1]
[1]КИМЭП Университеті, Алматы, Қазақстан Республикасы

АҢДАТПА

Зерттеу мақсаты – 1991–2017 жылдар аралығында Тәуелсіз Мемлекеттер Достастығы (ТМД) ел-дерінде орналасқан дәстүрлі банктердің қаржылық нәтижелеріне нақты банктік, макроэкономикалық айнымалылар мен саяси тұрақтылықтың әсерін зерттеу.

Әдіснамасы. Табыстылықты анықтайтын факторларды эмпирикалық зерттеу үшін біз OLS әдісін қолдандық (панельдік деректердің FGLS моделі).

Зерттеудің бірегейлігі / құндылығы – қолданыстағы әдебиетке қосқан 2 есе үлесі: біріншіден, кірістіліктің детерминанттарын бағалау үшін біз 1991 жылдан 2017 жылға дейінгі кең ауқымды кезеңдерді қамтылды, екіншіден, FGLS моделін қолдану алғаш рет ТМД аймағында саяси тұрақтылық, сыбайлас жемқорлық және әлемдік қаржы дағдарысы сияқты жаңа индикаторларды қолдану арқылы зерттеулер жүргізу үшін қолданылды.

Зерттеу нәтижесі – банкке тән айнымалылардың кірістірілікті түсіндіруде өте маңызды және оң рөл атқаратынын көрсетеді, макроэкономикалық индикаторлар банктің кірістілігіне теріс әсер етеді. Политикалық тұрақтылық ТМД-да банктердің табыстылығына әсер етпейді.

Түйін сөздер: банктер, кірістілік, политикалық тұрақтылық, ТМД.

ЧТО ДВИЖЕТ ФИНАНСОВЫМИ ПОКАЗАТЕЛЯМИ БАНКОВ: ПРИМЕР СТРАН СОДРУЖЕСТВА НЕЗАВИСИМЫХ ГОСУДАРСТВ

А. Файзулаев[1], Г. Дабылова[1], А. Асылханова[1]
[1]Университет КИМЭП, Алматы, Республика Казахстан

АННОТАЦИЯ

Целью настоящего исследования является изучение влияния специфических банковских, макроэкономических переменных и политической стабильности на финансовые показатели традиционных банков, находящихся в странах Содружества Независимых Государств (СНГ) в период 1991–2017 гг.

Методология. Для того, чтобы эмпирически исследовать факторы, определяющие прибыльность банков, мы использовали обобщенный метод наименьших квадратов (ОМНК) (панельная модель данных FGLS).

Оригинальность / ценность исследования заключается во двойном вкладе в существующую литературу: во-первых, мы использовали широкий диапазон периодов с 1991 по 2017 год для оценки показателей прибыльности, во-вторых, модель FGLS была впервые использована в СНГ для проведения исследований с использованием новых индикаторов, таких как политическая стабильность, коррупция и глобальный финансовый кризис.

Результаты исследования показывают, что специфические для банка индикаторы играют положительную и важную роль влияния на прибыльность банков, в то время как макроэкономические переменные играют отрицательную роль в объяснении прибыльности. Политическая стабильность в странах имеет нейтральное отношение к эффекту прибыльности банков.

Ключевые слова: банки, прибыльность, политическая стабильность, СНГ.

ABOUT AUTHORS

Faizulayev Alimshan – Assistant Professor in Acc & Fin of Bang College of Business (BCB), KIMEP University, Almaty, Republic of Kazakhstan, e-mail: a.faizulayev@kimep.kz

Gaukhar Dabylova – Masters in Bang College of Business (BCB), KIMEP University, Almaty, Republic of Kazakhstan.

Assel Assylkhanova – Masters in Bang College of Business (BCB), KIMEP University, Almaty, Republic of Kazakhstan.