sciendo

UDK: 336.055(4)
DOI: 10.2478/jcbtp-2021-0008

Journal of Central Banking Theory and Practice, 2021, 1, pp. 165-181
Received: 27 June 2019; accepted: 25 November 2019

***Veton Zeqiraj*[*], *Flamur Mrasori*[**], *Omer Iskenderoglu*[***], *Kazi Sohag*[****]**

Dynamic Impact of Banking Performance on Financial Stability: Fresh Evidence from Southeastern Europe

Abstract: This study addresses the issue of whether banking performance impacts financial stability in Southeastern European countries. To answer this question, the GMM approach has been applied in the analyses of the panel data over the period 2000-2015 for Southeastern Europe. The findings reveal the presence of significant positive long-run relationship between ROA, ROE, trade openness, and human capital, while government expenditures have negative impact on financial stability. Trade openness, human capital and government expenditures can keep the financial system stable as a whole. The Granger causality analysis discloses the main hypothesis where the banking system in this part of Europe accounts for more than 80% of the financial system. The study sheds light to the policymakers and research about the role of banking performance on financial stability for this region of Europe.

Keywords: Financial stability; Banking performance; Generalized Method of Moments; Southeastern Europe.

JEL Classification: B26, G2, G3, O1, O2

[*] Faculty of Economics, University of Prishtina, Kosovo; Central Bank of the Republic of Kosovo; Fulbright Visiting Scholar University of Arkansas

Email: veton.zeqiraj@uni-pr.edu; veton.zeqiraj@bqk-kos.org

[**] Faculty of Law, University of Prishtina, Kosovo; Central Bank of the Republic of Kosovo

Email (Corresponding author): flamur.mrasori@uni-pr.edu; flamur.mrasori@bqk-kos.org

[***] Halisdemir University, Faculty of Economics and Administrative Sciences, Nigde, Turkey

Email: oiskenderoglu@ohu.edu.tr

[****] Graduate School of Economics and Management Ural Federal University, Russia; Center of Research Excellence in Renewable Energy and Power Systems, King Abdulaziz University, Jeddah, Saudi Arabia

Email: sohagkaziewu@gmail.com

1. Introduction

There is a debate in the literature for financial stability and banking performance regarding their role in the economy.

An increased role in the face of banking performance promotes financial stability, lowers the lack of confidence in the banking system, and promotes economic growth as a whole. The role of financial stability and banking performance is one of the most widely discussed issues in economic literature.

The hard transition towards an open market economy in this region of Europe for more than two decades has opened a new perspective and opportunities. The role of the financial system is the most important in terms of the banking system in this part of Europe as it accounts for more than 80%. Much of research considers it the main catalyst impact of financial stability. Financial stability refers to the capacity of the financial system to withstand and absorb any internal or external shocks both within and outside. It is one of the ingredients that stimulates the overall financial development of every economy, has the ability to stand in case of any shocks and regularizes the system even when the contagion effects penetrate the system. The foundation laid by Walter Bagehot in the late 19th century and Joseph Schumpeter in the early 20th century and other numerous contributors in this research field, reveals that the countries with sound and developed financial sectors are expected to grow faster. Financial stability remains an important segment of the overall financial sector performance in the global economy, and is mostly discussed in line with the level of financial instability. Zingales (2015) argued that in the economy with low level of incomes, more finance in the financial system has a better economic impact.

The concept of financial instability occurs from the shocks that may lead to the worsening of information flow and asymmetry, which may negatively affect saving and investment opportunities in the system. Banking competition, performance and financial stability have attracted much attention among policymakers and academic circles, especially since the 2007-2008 global financial crises (Beck, 2008; Alen et al.; Acharya and Richardson, 2012). This attention stems from the findings that financial stability is considered one of the main determinants of banking performance.

Zeqiraj (2018) emphasizes the functions that the financial inclusion could play in improving the level of financial stability. Initially, diversification of credits to small firms reduces the overall risk of the banks' credit portfolio by restricting the relative size of individual borrower, thus decreasing instability. Secondly, enhancing the quantity of savings account improves the size and stability of both

deposit and savings base of the banks, which will reduce the much dependence on non-core banking finance, and that will become unbalanced throughout the financial crisis. Thirdly, when massive number of people patronize formal financial services, the monetary policy will be correctly conveyed, which contributes enormously to the level of financial stability. Another research finds that when those entities with lower income are incorporated into the formal financial sector, the deposit and credit bases increase and as such, the sector becomes highly stable as low-income section of the population is more prone to economic volatilities. Dumičić (2019) argues that public debt plays a crucial role and that it relies on lower income section that endure macro-crisis compared to the high net worth clients that impact more the financial stability.

The aim of this paper is to empirically examine the dynamic impact of financial stability on the banking performance across 13 Southeastern European countries (Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Greece, Hungary, Moldova, Montenegro, North Macedonia, Romania, Serbia, Slovenia, and Turkey). Among the main important determinants of the banking performance, the following are included: human capital, investment, economic growth, trade openness and government expenditures. The studies that empirically examine the impact of banking performance on financial stability are relatively limited in the current literature, in particular for Southeastern European countries. Therefore, this paper fills the literature gap by examining this essential relationship in this region, including the methodological gap, because to the best of our knowledge, no study so far has applied the generalized method of moments (GMM) to examine the dynamic impact of financial stability on the banking performance in Southeastern European countries.

The generalized method of moments (GMM) is used for its advantage it has in the panel data techniques (e.g. fixed and random effects, mean group and pooled mean group). A more specific advantage is that it controls for endogeneity problem that may arise among the series and county specifics. In the current methodological literature, no panel data approach controls for endogeneity except the GMM. When the first difference is taken, the slope of the coefficient remains the same for all the variables which directly resolves the endogeneity problem and time invariant effects in the model. It is the only panel data technique with a lagged dependent variable. The rest of the paper is structured as follows. Section 2 explores the literature review in respective area of research. Section 3 discusses the econometric methodology used. The data used in the study as well as its sources and variables' measurements are explained in Section 4. Section 5 reports and interprets the empirical findings. The last part concludes and offers some policy recommendations derived from the research outcomes.

2. Literature review

The literature in this area of research is still meagre; therefore, both direct and related topics are taken into consideration with a view to outlining the issue at stake. For example, Shen & Chang (2006) examined the impact of regulations on banking performance in 44 countries from 1998 to 2004 by testing two main hypotheses: i) restriction-enhancing; and ii) facility-supporting. The main finding was that some of the reasons for low banking profits included the denial of their rights to take part in insurance and securities business. However, good governance reduced the adverse effects of the restrictive regulations, which maintained the facility-supporting hypothesis. Naceur & Omran (2011) assessed the impact of banking regulation, concentration, institutional and financial development on the banking profitability across several Middle East and North Africa (MENA) countries during 1988-2005. Certain individual bank features (especially the credit risk and bank capitalization) were found to have a positive and significant effect on the bank's net interest margin, cost efficiency and banking profitability. Al-Tamimi (2010) investigated certain important variations across UAE's Islamic and conventional public owned banks during 1996-2008. The banking concentration and liquidity are considered the most essential factors affecting the conventional banking performance in the UAE. The cost and the number of branches were regarded as the key factors that determine the performance of the Islamic banking system. Zeqiraj et al., (2019) employed the GMM to find how banking performance impacts the economic growth in 13 Southeastern European countries. The impact was found to be positive, where one percent increase in the banking performance was associated with 0.63 percent in economic growth. Based on available research, Arcand, Berkes, and Panizza. (2015) argued that too much finance can be harmful for the economy to a certain level, which implies that financial performance, apart from financial stability, has an impact on economic stability as well.

Xu (2011) applied the bank level measures to empirically examine the influence of foreign banks in China's banking sector performance. The key empirical result revealed that the bank level measures obviously surpassed the overall measures and was an essential determinant of incomprehensive inconsistency obtainable in the current empirical literature. This outcome established strong evidence that the entry of foreign banks into the Chinese banking sector encouraged their market competitiveness.

Poshakwale & Qian (2011) investigated the factors that determine the banking sector reforms on the production competitiveness for the Egyptian banking sector in short-run and long-run, and their impact on economic growth from 1992

to 2007. Competitiveness and production efficiency were found to be the main determinants of the Egyptian financial sector reform. Soedarmono, Machrouh, and Tarazi (2011) investigated whether Asian banks are still prone to moral hazard due to the 1997 Asian financial crisis. The study testing the moral hazard across 27 Asian commercial banks for the period 2001-2007 showed that, higher market power by the banks can create more instability in the system. The findings also highlighted that the banking capitalization is manifested more in less competitive markets with a higher default rate.

More recently, Berger et al. (2019) used a panel regression method to examine if liquidity can generate performance in the Islamic banking system in 24 countries for the period 2000-2014. The findings suggested that the Islamic banking creates more liquidity than the conventional banking, total assets and the bank's overhead expenses are essential determinants of the Islamic banking performance. However, in the event of the financial crisis, the aforesaid factor did not have any important effect on the Bahrain's Islamic banking operations. After the financial crisis, these factors had a positive impact on the Islamic banking performance. Jiang, Yao, and Feng (2013) applied fixed effects of ownership and the dynamic effects of privatization in the China's banking performance during 1995-2010. Private stock commercial and city commercial banks performed better than the public-owned banks, but the latter which were public listed regardless their type of ownership status (inflows and efficiency gains in the short-run and long-run), performed better.

The agents of stock markets are involved in researching the firms to disseminate information which in effect promotes better access to relevant information and capital allocation. Asanović (2018) found that businesses depending on each other find more benefits in countries with better developed financial markets, i.e. the resource allocation is better where the finance is strong. Also, the indicator of banking sector produces information ex-ante about possible investments, which can help the agents to better allocate the resources.

Using the ordinary least square (OLS) technique for the analysis, Beck, Degryse, and Kneer (2014) examined the impact of size of financial intermediation and GDP growth per-capita instability across 77 countries for the period 1980-2007. The key empirical finding revealed that finance enhances economic growth and financial stability through the reduction of long-run financial instability. The next finding highlighted that the development of the financial sector does not have any impact on the real sector output, though sound financial sectors promote economic growth in the short run. Kasselaki and Tagkalakis (2014) investigated the relationship between financial stability and fiscal policy. In ad-

dition, they examined the effect of selected financial stability measurements on the possibility of anticipated debt worsening and held other economic variables constant. The key finding was that an unstable banking system negatively affects country's overall finances. Moreover, poor level of profitability, capital base and asset quality led to banking instability, which ultimately caused fiscal distresses.

Law and Singh (2014) argued that an increase in the level of small and medium-sized enterprises (SMEs) lending promotes financial stability due to its effects in reducing the level of non-performing loans (NPLs). Vithessonthi (2014) estimated the impact of bank risk on financial development of Thailand during 1990-2012, where the development of the stock market was found to have a positive and significant impact on the bank's capitalization ratio, while it had a negative impact with its beta coefficient. Conversely, the banking sector development did not have any impact on the bank's capitalization ratio while its effect on beta is positive. Other studies, such as Samargandi, Fidrmuc, and Ghosh (2015) and Cecchetti and Kharroubi (2015) used a similar methodology to indicate the close relationship between the banking performance and the economic growth, and confirmed their positive and significant relationship.

Upon evaluation of the analysis for the relationship between financial stability and banking performance, it is concluded that financial stability has a positive and statistically significant impact on the banking system performance. Earlier studies such as Schinasi (2004) and Allen and Wood (2006) confirmed that it is of paramount importance to stabilize the financial sector considering its positive impact on the banking sector performance, and financial sector development in general. Also, positive and significant impact of human capital, economic growth, investment, and trade openness on the banking system performance has been proven. The respective studies in general confirmed these variables playing a vital role in banking performance.

The expected signs based on the existing literature and economic theory for financial stability, human capital, trade openness, economic growth, government expenditure, and investment as well as the interaction term between the banking performance and investment are all positive, except for trade openness where the expected sign is either negative and/or positive as shown in Table 1.

Table 1: Expected coefficient signs based on theory

Variables	Expected sign(s)	Studies that confirm the signs
Financial stability	+	Vithessonthi (2014)
Human capital	+	Zeqiraj *et al.* (2019)
Trade openness	+/-	Kim *et al.* (2010a, 2010b), Law & Singh (2014)
Economic growth	+	Samargandi, Fidrmuc, and Ghosh (2015), Zeqiraj *et al.* (2019)
Government expenditure	+	Rajan & Zingales (2003)

3. Empirical methodology and model

It is essential to note that controlling for the unobserved individual specific effects creates a bias in the estimations. Let us consider the panel data regression below:

$$\gamma_{it} = \alpha + X'_{it} + u_{it} \qquad i = 1, \ldots., N; \qquad t = 1, \ldots., T \tag{1}$$

Where *i* denotes individual samples and *t* stands for time. The panel data is considered balanced which means that there is any other missing observations either randomly or otherwise as a result of the sample selection or attrition. α is a scalar, β means $\mathrm{K} \times 1$ while X'_{it} refers to the *i,t* observations on the K regressors. In most panel data approaches, a one-way error is utilized which comprises the model for the disturbances, with

$$u_{it} = \mu_i + v_{it} \tag{2}$$

Where μ_i is the unobservable individual specific effect, while v_{it} measures the remaining disturbances. If the μ_i's are expected to be fixed parameters that could be estimated, it means that the FE model will be obtained. However, if the μ_i's are considered random variables independent of X_{it} and v_{it} for both individual samples across time, then we obtain the RE model. Thus, the regression in equation (2) for the FE models becomes

$$y_{it} = \alpha + x'_{it}\beta + \mu_{it} + v_{it} \tag{3}$$

The objective of every empirical specification is to investigate the steps that will be used to measure the banking performance and its variations across the sample units, e.g. countries. This will go in line with the empirical model that will allow testing the main hypothesis. The method of estimation relies on the Arellano and

Bond (1991) difference-GMM and the Arellano and Bover (1995) system-GMM) dynamic panel GMM estimation approaches. The empirical model includes time and cross-country proportions of the available annual sets of data. To give room for the possibility of partial adjustments, the dynamic log-linear equation of the banking performance with lagged dependent variable is employed. Therefore, this study specifies the following dynamic log-linear equation for the banking performance:

$$BP_{it} = \beta_{0i} + \gamma Y_{it-1} + \beta_1 FS_{it} + \beta_2 HC_{it} + \beta_3 X_{it} + \eta_t + \lambda_i + \varepsilon_{it} \quad (4)$$

Transforming the variables into natural logarithms for the purpose of normalization, the equation 2 takes the following form:

$$lnBP_{it} = \beta_{0i} + \gamma lnBP_{it-1} + \beta_1 lnFS_{it} + \beta_2 lnHC_{it} + \beta_3 X_{it} + \eta_t + \lambda_i + \varepsilon_{it} \quad (5)$$

where *LBP* refers to the logarithm of banking performance, γLY_{it-1} is the logarithm of the lagged dependent variable of banking performance, *LFS* is the logarithm of financial stability, *LHC* is the logarithm of human capital, and *X* is the vector that comprise other control variables. Moreover, η_t signify the time fixed effects, while λ_i imply the stands for the country specific effect, *I* indicates the countries, *t* stands for the study time period, and ε is the random error term.

4. Data

Different sources of the data are used in this study during the period of 2000-2015. The variable of banking performance which is measured by the return on assets (ROA) is obtained from Beck et al. (2012) of the financial development and structure dataset of the World Bank. Financial stability is measured by the Bank's Z-score, also obtained from Beck et al. Human capital is represented by the percentage of gross secondary school enrolment. Economic growth is measured by real GDP per-capita, trade openness is proxied by the sum of export and import as a percentage of GDP, investment is measured by the gross capital formation, while government expenditure is based on the government final consumption expenditure. The data for all these variables were sourced from the World Development Indicators (WDI) of the World Bank Database.

5. Empirical findings

Initially, the preliminary results by highlighting the descriptive statistics of the data and correlation matrix, is discussed. The number of observations of all the variables, their mean, standard deviation, and minimum and maximum values are fully shown in Table 2, including the unit of measurement for each variable. For example, the largest coefficient of variance (i.e. the variance adjusted by the mean, covariance) is for trade openness, followed by human capital and investment, and the lowest is the banking performance.

Investment is related to the committing of financial resources into any business with an intention of making profit from the ventures, regardless of whether the profit is positive or negative (loss). The theoretical link between investment and economic growth is long established by the neo-classical endogenous theory initiated by Robert M. Solow in 1956. According to this theory, investment in human and physical capital promotes the overall performance of the economy, and hence positively affects the long-term growth. The gross investment is one of the main variables of this model, and the argument is that large amount of capital is needed when output and productivity are anticipated to accelerate.

Table 2: Descriptive statistics

Variables	Observation	Mean	Std-dev	Minimum	Maximum	Proxy of measurement
Banking Performance	117	1.273	1.567	-9.53	4.92	Return on Assets
Financial stability	117	14.240	11.896	-3.29	58.71	Bank's Z-score
Human Capital	117	91.436	6.824	75.263	109.041	Share of gross secondary school enrolment
Trade openness	117	93.352	30.507	47.072	168.901	Sum of export/import as a percentage of GDP
Economic Growth	117	9.030	1.410	2.089	6.023	Real Per-capita GDP
Government expenditure	117	18.694	3.891	10.134	29.941	Government final consumption expenditure
Investment	117	25.042	5.179	14.937	40.671	Gross capital formation

The correlation matrix which shows how the dependent variable (banking performance) is related to the regressors is presented in Table 3. It shows that the nexus between the banking performance and financial stability, human capital, and investment is positive and statistically significant, while the relationship between banking performance and the economic growth is negative but significant.

Table 3: Correlation matrix

	BP	FS	HC	INV	TO	GEX	Y
BP	1.0000						
FS	0.1350	1.0000					
HC	0.1760	-0.3730	1.0000				
INV	0.0560	0.1960	0.011	1.0000			
TO	0.0530	0.1500	0.1860	0.3190	1.0000		
GEX	0.1190	-0.2360	0.5200	-0.1920	0.3390	1.0000	
Y	-0.2290	0.0860	0.9030	-0.3110	-0.5350	-0.3200	1.0000

The key empirical findings that answered the main research hypothesis are reported in Table 4. As specified earlier, the estimation technique is based on the Arellano and Bond (1991) difference-GMM estimation and the Arellano and Bover (1995) system-GMM estimation dynamic panel GMM estimation models. Since the system-GMM is considered more robust and efficient, its findings for the analysis of this study rely on it.

Before establishing the dynamic impact of the banking performance on economic growth, traditional panel data techniques of fixed and random effects are estimated.

Table 4: Impact of banking sector performance in financial stability in the Southeastern European countries: Fixed and random effects models

Variables	Fixed effects	Random effects
Financial stability	0.091[b]	0.357[b]
	(0.026)	(0.033)
Human capital	0.294	0.203
	(0.301)	(0.005)
Trade openness	0.025	0.025
	(0.092)	-0.026
Economic growth	0.291[b]	0.590[b]
	(0.451)	(0.052)
Government expenditure	0.502[c]	0.693[b]
	(1.236)	(1.926)
Investment	0.001	0.033
	(0.095)	(0.027)
Constant	-1.202[b]	-5.582[a]
	(1.892)	(2.702)
Hausman test (p-value)	10.28	10.28
	(0.06)	(0.06)

Note: a, b and c is used for hypothesis rejection at 1%, 5% and 10%, respectively and the numbers in parentheses are standard errors.

The estimated results presented in Table 4 should be validated through testing for hetroscedasticity and autocorrelation by post-estimation test. Although they are estimated, the comment on them as they appear in Table 4 cannot be clear as long as they can be biased and the Best Linear Unbiased Estimation (BLUE) results may deviate. Therefore, in order to have an accurate or more credible interpretation for the results in Table 4, the Breusch Pagan LM test, the Greene Likelihood test for heteroscedasticy and the Wooldridge autocorrelation test are performed.

Table 5: Heteroscedasticity and Autocorrelation Test

	Breusch-Pagan Lagrange Multiplier Test	Greene Likelihood Test
Lagrange Multiplier LM Test	1831.732	1004.304
Degrees of Freedom	10	10
P-Value > Chi^2 (10)	0	0
Wooldridge test for autocorrelation		
F (1, 10)		17.29
Prob > F		0.0015

In order to provide that the model is free from the heteroscedasticity problem, the Breusch-Pagan Lagrange Multiplier (BP-LM test) and the Green Likelihood Ratio (LR test) test should be testified (Gujarati and Porter, 2009). Based on the outcomes as reported in Table 5, the panel data are heteroscedastic. Autocorrelation test based on the Wooldridge test reveals that there is an autocorrelation result in Table 4.

The key finding based on the impact of financial stability on banking performance across the sample countries using the GMM model are presented in Table 6. It finds that financial stability has a positive and significant impact on the banking performance across the sample countries. Statistically, the finding shows that a 1% increase in the financial stability can positively promote banking performance by 0.302%. This finding underlines the essential functions that financial stability has in the overall banking performance in the Southeastern European countries. The results further indicate that the variables of economic growth, investment and trade openness have a positive and significant impact on the banking sector performance. To interpret this in statistical terms, they reveal that a 1% increase in investment, economic growth, and trade openness positively impacts the banking performance by 0.558%, 0.173%, and 0.094%, respectively. This denotes the relative importance these variables have on the overall banking performance of the region.

Table 6: Dynamic impact of banking performance on financial stability and banking sector performance: A dynamic panel GMM model

Variables	Model I	Model II	Model III	Model IV
	One step Dif. GMM	Two step Dif. GMM	One step Sys. GMM	Two step Sys. GMM
Lagged dependent variables	0.224	0.190 [b]	0.270 [c]	0.274 [a]
	(0.149)	(0.082)	(0.139)	(0.043)
Financial stability	0.712 [c]	0.855 [b]	0.256 [b]	0.302 [a]
	(0.521)	(0.823)	(0.121)	(0.073)
Human capital	-5.386	-3.648	-4.481 [b]	-0.11.14 [a]
	(3.893)	(3.5)	(1.858)	(3.420)
Economic growth	-1.039	-1.89	0.158 [b]	0.173 [a]
	(1.571)	(1.15)	(0.078)	(0.034)
Investment	1.951 [b]	1.857 [a]	1.159 [b]	0.558 [c]
	(0.821)	(0.59)	(0.526)	(0.345)
Trade openness	-0.259	0.573	0.206 [c]	0.094 [b]
	(1.417)	(0.96)	(0.368)	(0.224)
Government expenditure	-2.287	-1.484	-4.467	0.469
	(1.676)	(2.027)	(0.566)	(0.435)
Number of observations	73	73	85	85
Sample period	2000-2015	2000-2015	2000-2015	2000-2015
Number of time period (T)	9	9	9	9
Number of countries (N)	13	13	13	13
Number of instruments	12	12	10	10
Sargan test (p-value)	11.68	11.68	15.75	15.75
	(0.07)	(0.07)	(0.138)	(0.516)
Hansen test (p-value)	-	8.73	-	3.54
		(0.189)		(0.739)
AR(2)	1.18	1.05	1.21	1.35
	(0.236)	(0.293)	(0.225)	(0.178)

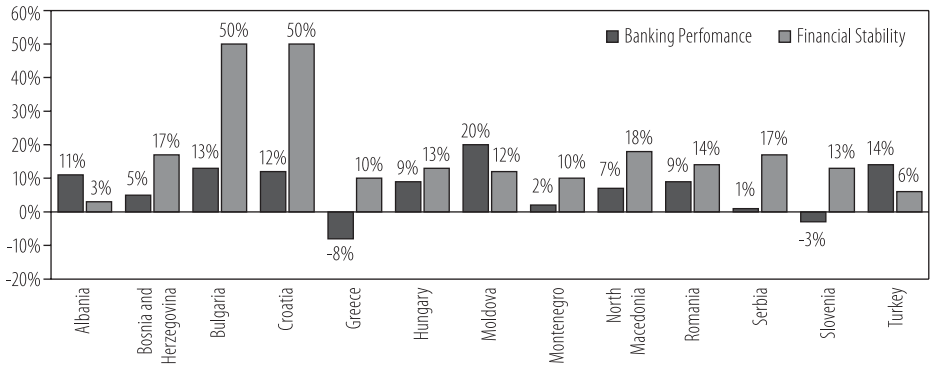
Note: a, b and c signify significance at the 1%, 5% and 10% levels, respectively. The dynamic panel GMM estimators of Arellano and Bond (1991), and the system GMM of Arellano and Bover (1995) are used in the estimations. The figures in the parentheses are standard errors. All estimations are according to the Roodman (2009) simulation study (xtabond2 in Stata).

The post estimation results as highlighted by the p-values of the Hansen & Sargan tests are in line with the theoretical expectations. This means that the null hypothesis of both Hansen & Sargan tests cannot be rejected, thus the instruments of the difference and system GMM methods are suitable and the over-

identification restriction problems are resolved in the model. Furthermore, the model is free from serial autocorrelation because the AR (2), which is used to check the AR (1), is appropriate, thus the p-values of the AR (2) cannot be rejected as required theoretically.

Figure 1 illustrates the average of financial stability and banking performance across the sample countries for the period 2000-2015. The banking performance (ROE) in the vertical axis is presented as a percentage of GDP on average, while financial stability in the horizontal axis is presented as a percentage of GDP on average for each country. The variable of banking performance is higher in few countries and lower in the rest. It is higher in the case of Croatia and Bulgaria, yet lowest in the case of Greece, Montenegro, and Turkey. The variable of economic growth experienced a similar pattern, with the most notable difference recorded in Greece and Slovenia which experienced negative growth. This may depend on the nature and activities of each country's economy; the growth of each country is different depending on economic and political environment, among others. The average GDP growth rates of Croatia, North Macedonia, and Serbia are higher compared to those of Albania, Greece, and Montenegro.

Figure 1: Average of financial stability and banking performance in Southeastern Europe countries for the period 2000-2015



6. Conclusion and policy suggestions

This paper empirically examined the dynamic impact of financial stability on the banking performance in Southeastern European countries during 2000-2015. The dynamic panel generalized method of moments (GMM) was applied in the course of the analysis. The key empirical finding shows that there is a positive

and significant nexus between financial stability and banking performance in the countries concerned. This result highlights the essential functions of financial stability in the overall operations of the banking sector. The results based on the control variables indicate that investment, economic growth, and trade openness have a positive and significant impact on banking performance of the sample countries.

The policy implications based on the research outcome of this study are that it is paramount for the respective central banks of the region to keep up in strengthening the level of their financial stability. Moreover, they should try to track and deal with the signs of uncertainty that may lead to financial distress that can result in negative economic consequences, and also focus more on any dealings that strengthen the level of financial stability in the system as long as it has a direct positive impact on the overall banking performance. The policy makers should always examine their financial dealings with other economies to avoid any negative linkages that may arise due to financial integration with other economies.

References

1. Acharya, V. V., & Richardson, M. (2012). Restoring Financial Stability: How to Repair a Failed System. In *Restoring Financial Stability: How to Repair a Failed System*. https://doi.org/10.1002/9781118258163
2. Al-Tamimi, H. A. (2010). Factors influencing performance of the UAE Islamic and conventional national banks. *Global Journal of Business Research (GJBR)*.
3. Allen, F., Carletti, E., Goldstein, I., & Leonello, A. (2018). Government guarantees and financial stability. *Journal of Economic Theory*, 177, 518–557. https://doi.org/10.1016/j.jet.2018.06.007
4. Allen, W. A., & Wood, G. (2006). Defining and achieving financial stability. *Journal of Financial Stability*, 2(2), 152–172. https://doi.org/10.1016/j.jfs.2005.10.001
5. Arcand, J. L., Berkes, E., & Panizza, U. (2015). Too much finance? *Journal of Economic Growth*, 20(2), 105–148. https://doi.org/10.1007/s10887-015-9115-2
6. Arellano, M., & Bond, S. (1991). Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations. *The Review of Economic Studies*, 58(2), 277–297. https://doi.org/10.2307/2297968
7. Arellano, M., & Bover, O. (1995). Another look at the instrumental variable estimation of error-components models. *Journal of Econometrics*. https://doi.org/10.1016/0304-4076(94)01642-D
8. Asanović, Ž. (2018). An analysis of the determinants of systemic banking crises in southeast european countries. *Journal of Central Banking Theory and Practice*, 7(2), 165–186. https://doi.org/10.2478/jcbtp-2018-0017
9. Beck, T. (2008). Bank Competition and Financial Stability : Friends or Foes ? *World Bank Policy Research Working Paper*.
10. Beck, T., B. Buyukkarabacak, F. Rioja & N. Valev (2012). 'Who gets the credit? And does it matter? Household vs. firm lending across countries.' The *B.E. Journal of Macroeconomics*, 12(1), 1-44. https://doi.org/10.1515/1935-1690.2262
11. Beck, T., Degryse, H., & Kneer, C. (2014). Is more finance better? Disentangling intermediation and size effects of financial systems. *Journal of Financial Stability*, 10, 50–64. https://doi.org/10.1016/j.jfs.2013.03.005
12. Berger, A. N., Boubakri, N., Guedhami, O., & Li, X. (2019). Liquidity creation performance and financial stability consequences of Islamic banking: Evidence from a multinational study. *Journal of Financial Stability*, 44. https://doi.org/10.1016/j.jfs.2019.100692

13. Cecchetti, Stephen G., & Kharroubi, E. (2015). Why does financial sector growth crowd out real economic growth. In *Working Paper Series*. https://doi.org/10.1145/2009916.2010042
14. Dumičić, M. (2019). Linkages Between Fiscal Policy and Financial (In) Stability. *Journal of Central Banking Theory and Practice*, 8(1), 97–109.
15. Gujarati, D. N., & Porter, D. C. (2009). Basic Econometrics (5th ed.). In *Basic Econometrics* (Fifth Edit). New York: McGraw-Hill/Irwin.
16. Jiang, C., Yao, S., & Feng, G. (2013). Bank ownership, privatization, and performance: Evidence from a transition country. *Journal of Banking and Finance*, 37(9), 3364–3372. https://doi.org/10.1016/j.jbankfin.2013.05.009
17. Kasselaki, M. T., & Tagkalakis, A. O. (2014). Financial soundness indicators and financial crisis episodes. *Annals of Finance*, 10(4), 623–669. https://doi.org/10.1007/s10436-013-0233-6
18. Law, S. H., & Singh, N. (2014). Does too much finance harm economic growth? *Journal of Banking and Finance*, 41, 36–44. https://doi.org/10.1016/j.jbankfin.2013.12.020
19. Naceur, S. Ben, & Omran, M. (2011). The effects of bank regulations, competition, and financial reforms on banks' performance. *Emerging Markets Review*, 12(1), 1–20. https://doi.org/10.1016/j.ememar.2010.08.002
20. Poshakwale, S. S., & Qian, B. (2011). Competitiveness and Efficiency of the Banking Sector and Economic Growth in Egypt. *African Development Review*, 23(1), 99–120. https://doi.org/10.1111/j.1467-8268.2010.00275.x
21. Rajan, R. G., & Zingales, L. (2003). "The Great Reversals: The Politics of Financial Development in the twentieth Century," *Journal of Financial Economics*, 69(1), 5-50. https://doi.org/10.1016/S0304-405X(03)00125-9
22. Roodman, D. (2009). How to do xtabond2: An introduction to difference and system GMM in Stata. *The stata journal*, 9(1), 86-136. https://doi.org/10.1177/1536867X0900900106
23. Samargandi, N., Fidrmuc, J., & Ghosh, S. (2015). Is the Relationship Between Financial Development and Economic Growth Monotonic? Evidence from a Sample of Middle-Income Countries. *World Development*, 68, 66–81. https://doi.org/10.1016/j.worlddev.2014.11.010
24. Schinasi, G. J. (2004). Defining Financial Stability. IMF Working Papers. https://doi.org/10.5089/9781451859546.001
25. Shen, C. H., & Chang, Y. H. (2006). Do regulations affect banking performance? Government governance may matter. *Contemporary Economic Policy*. https://doi.org/10.1093/cep/byj013
26. Soedarmono, W., Machrouh, F., & Tarazi, A. (2011). Bank market power, economic growth and financial stability: Evidence from Asian banks. *Journal of Asian Economics*, 22(6), 460–470. https://doi.org/10.1016/j.asieco.2011.08.003

27. Vithessonthi, C. (2014). Financial markets development and bank risk: Experience from Thailand during 1990-2012. *Journal of Multinational Financial Management*, 27, 67–88. https://doi.org/10.1016/j.mulfin.2014.05.003
28. Xu, Y. (2011). Towards a more accurate measure of foreign bank entry and its impact on domestic banking performance: The case of China. *Journal of Banking and Finance*, 35(4), 886–901. https://doi.org/10.1016/j.jbankfin.2010.10.011
29. Zeqiraj, V. (2018). The performance of banking system in Balkan countries and its impact to economy (Doctoral Thesis, Nigde Ömer Halisdemir Üniversitesi/Sosyal Bilimler Enstitüsü). Retrieved from https://hdl.handle.net/11480/6802
30. Zeqiraj, V., Hammoudeh, S., Iskenderoglu, O., & Tiwari, A. K. (2019). Banking sector performance and economic growth: evidence from Southeast European countries. *Post-Communist Economies*, 1–18. https://doi.org/10.1080/14631377.2019.1640988
31. Zingales, L. (2015). Presidential Address: Does Finance Benefit Society? *Journal of Finance*, 70(4), 1327–1363. https://doi.org/10.1111/jofi.12295