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FINANCIAL DEVELOPMENT AND ECONOMIC GROWTH IN SERBIA

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Abstract

Financial markets represent a crucial part of the overall economic and financial system of any country. It is the most sensitive part of the mentioned system because financial instruments are traded on it, and its main role is to facilitate capital allocation and risk management. An unstable financial system can cause a financial crisis with negative consequences that spread throughout the country's economy, thus, it is essential that the financial system is safe, sound and sustainable. Financial development is an integral part of economic development, and it implies healthy, safe and developed financial institutions and financial markets. The aim of this paper is to examine the relationship between financial development and economic development on the sample of Serbia as a developing country. The observation period is from 2003 to 2023. In order to examine the mentioned nexus, Pearson's correlation analysis was applied. The contribution of this paper would be that it can make an positive contribution to policy makers, especially in the area of the financial sector.

Key words: *Financial development, Economic growth, Correlation analysis, Pearson correlation.*

1. Introduction

In conditions of financial stability, economic actors have confidence in the banking system and gain access to financial services, such as payment execution, lending, deposit investment and risk protection (National Bank of Serbia, n.d.). Financial stability means that the financial system – financial intermediaries, financial markets and financial infrastructures – is capable of ensuring efficient allocation of financial resources and fulfilling its key macroeconomic functions even

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if financial imbalances and shocks occur in the domestic and international environment (National Bank of Serbia, n.d.). Financial stability indicators are: financial soundness indicators (capital adequacy ratio, capital to assets, gross non-performing loans to total gross loans, return on equity, etc.); banking sector indicators (the capital adequacy ratio, foreign currency loans, net operating income, liquidity coverage ratio, etc.); non-banking financial sector indicators (profitability indicators, the fondex daily value, emerging market bond index global, etc.); financial markets and real estate market – the best known indicator is the bid-to-cover ratio, which is defined as the ratio between the nominal value of total submitted bids and the nominal value of sold securities (National Bank of Serbia, 2024, p. 41).

The literature generally agrees on the notions of growth and development. It refers to growth when dealing with proportional changes in GDP or, more frequently, in GDP per capita, and to development when analysing living standards – including features that do not necessarily form the object of monetary measurement (Colombatto, 2006, p. 243). GDP has been accepted as a standard in measuring the national economy and can be calculated by the method of production, the method of income and the method of expenditure, thus, the purpose of the three methods is the same, namely the dimensioning of the economic activity of any society, offering governments an important tool in managing the levers of the economy, but also a tool that makes possible developments and comparative assessments in time and space of national economies (Chițoiu & Voda, 2022, p. 88).

This paper aims to investigate the relationship between financial development and economic growth in the Republic of Serbia. The first part of the paper presents an overview of the previous research on the mantioned relationship. The second part represents a brief overview of economic growth in Serbia. The third part of the paper is about data and methodology used in study. The fourth part represents results and discussion about the research results, and the fifth part of the paper presents conclusions and guidelines for future research.

2. Literature review

Božović (Božović, 2019) investigated the relationship between financial development and economic growth in Serbia, with focus on the influence of stock market and banking-sector development on growth. Research has revealed a positive and statistically significant impact of stock market liquidity and bank credit on economic growth.

Afonso and Blanco-Arana (2018) investigated the relationship between economic growth and the main determinants of financial development in OECD countries, with special focus to the recent economic crisis. The research results showed that an increase in domestic credit, provided by financial sector, in market capitalization and in the turnover ratio of domestic shares, results wit a significant positive effect on the GDP per capita, and effects during the period of crisis were different.

Megnigang (2024) conducted a critical analysis of the literature related to the relationship between financial system development and economic growth. It turned out that theoretical and empirical work does not really illustrate the nature of the mentioned relationship in the case of developing countries, thus, banking sector development is, in general, captured by credit to the private sector, and in developing countries, the majority of bank credit is allocated to large commercial enterprises that sell mainly imported products.

A group of authors (Lum et al. 2024) investigated the impact of financial development on economic growth in Sub-Saharan Africa. The results revealed that certain financial development indicators, such as credit to the private sector and stock traded have positive impacted on economic growth, while other indicators, such as broad money supply and stock market capitalization, have a negative impact on economic growth.

Another group of authors (Trebicka, Harizi, Krasniqi & Kalaja, 2024) have explored the impact of financial systems, stability, and institutional quality on economic performance. The results showed that significant improvements in financial systems correlate positively with economic growth, highlighting the crucial mediating roles of improved financial inclusion, market stability, and governance.

Many other studies conducted in this area (Igbinosa & Chijuka, 2024; Durusu-Ciftci, Ispir & Yetkiner, 2016; Graff, 2001) have shown that financial development has a significant positive impact on economic growth.

3. Economic growth in Serbia – a brief overview

Causal relationship from financial development to economic growth empirically has been the crucial issue so far, thus, authors King and Levine used a regression across different countries in one of the first attempts to test the mentioned causality, and they found that the size of the country's banking system relative to GDP predicts long-term growth rates, even when one controls for other explanatory variables (Božović, 2019, p. 78).

Hence, the following figures (figure 1 and figure 2) represent the trend of GDP and GDP per capita in Serbia, therefore, economic growth.

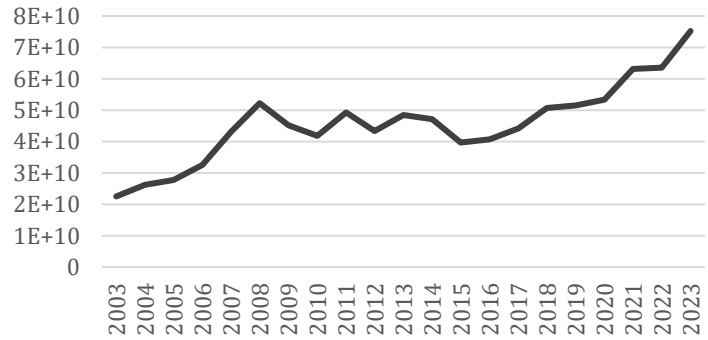

Figure 1: GDP trend in Serbia, in the last twenty years (current US$).

Source: World Bank (n.d.a), Author's creation.

From 2003 to 2008, there was a constant growth in GDP in Serbia, and then, from 2009 to 2015 an uneven trend was recorded, with frequent rises and falls. Starting from 2016, there was a constant growth in GDP in Serbia, with the highest value in 2023 (even 75187125427 US$).

The following figure 2 represents annual GDP per capita growth in Serbia.

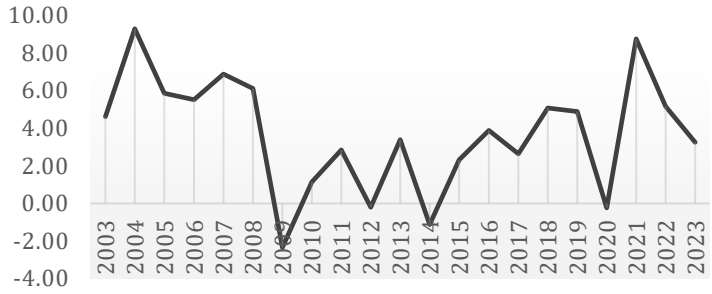

Figure 2: GDP per capita growth in Serbia, in the last twenty years (annual %).
Source: World Bank (n.d.f), Author's creation.

As for GDP per capita growth rate in Serbia, the trend was very uneven in the observed period. The highest value was registered in 2004 (9.28%), followed by 2021 (8.75%), while negative values were recorded in 2009 (-2.34%), 2012 (-0.20%), 2014 (-1.13%) and 2020 (-0.24%).

4. Data and methodology

For the purposes of this study, the data were collected from the official website of the World Bank Group. The observation period is from 2003 to 2023, given the availability of data. The research was conducted on the sample of the Republic of Serbia. The aim was to examine the linear relationship between the following variables – *GDP* (gross domestic product as the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products (World Bank, n.d.a)), *M1* (broad money, as the sum of currency outside banks, demand deposits other than those of the central government, the time, savings, and foreign currency deposits of resident sectors other than the central government, bank and traveler's checks, and other securities such as certificates of deposit and commercial paper (World Bank, n.d.b)), *DCPS* (domestic credit to private sector by banks refers to financial resources provided to the private sector by other depository corporations (deposit taking corporations except central banks), such as through loans, purchases of nonequity securities, and trade credits and other accounts receivable, that establish a claim for repayment (World Bank, n.d.c)), *GCF* (gross capital formation, formerly known as gross domestic investment, consists of outlays on additions to the fixed assets of the economy plus net changes in the level of inventories (World Bank, n.d.d)), and *FDI* (foreign direct investments net inflows are inflows of investment to acquire a lasting

management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor (World Bank, n.d.e)). In other words, financial development is examined using four indicators – *M1*, *DCPS*, *GCF* and *FDI*, because it is not possible to examine it using only one variable. In order to examine the relationship between financial development and economic growth, Pearson correlation was applied. Table 1 gives definitions of variables with their unit and sources.

Table 1: Definition of variables, unit, and data source

Variable	Definition	Unit	Source
lnGDP	Gross domestic product in Serbia	current US$	World Bank
lnM1	Broad money	% GDP	World Bank
lnDCPS	Domestic credit to private sector by banks	% GDP	World Bank
lnGCF	Gross capital formation	% GDP	World Bank
lnFDI	FDI net inflows	% GDP	World Bank

In order to achieve linearity, all values are logarithmized by the natural logarithm (ln). Statistical data processing was performed using IBM SPSS Statistics 25 software. The missing data for variable lnFDI are from 2003 and 2006.

5. Results and discussion

Figure 3 gives the relationship of the variables, represented by the scatter matrix.

The figure above shows potential bivariate relationships between the analyzed variables. It can be concluded that there are probably positive, very strong linear relationships between lnM1 and lnDCPS, lnM1 and lnGDP, lnDCPS and lnGDP, and lnGCF and lnFDI. The next step is to calculate the Pearson's correlation coefficient (R).

As can be seen in the table above, for the observed period from 2003 to 2023, there is a positive correlation between lnM1 and lnDCPS, due to the positive value of correlation coefficient ($R = 0.877$). Since $0.70 < 0.877 < 0.90$, this is a strong correlation, thus, since $p < 0.01$, there is a statistically significant relationship between the observed variables. There is also a positive correlation between lnM1 and lnGDP ($R = 0.892$), thus, since $0.70 < 0.892 < 0.90$, this is a strong correlation, and statistically significant ($p < 0.01$). There is positive, strong correlation between lnDCPS and lnGDP ($R = 0.769$; $0.70 < 0.769 < 0.90$), and, since $p < 0.01$, this is statistically significant correlation. There is one positive, moderate correlation between lnGCF and lnFDI ($R = 0.603$; $0.50 < 0.603 < 0.70$), and since $p < 0.05$, this is statistically significant correlation.

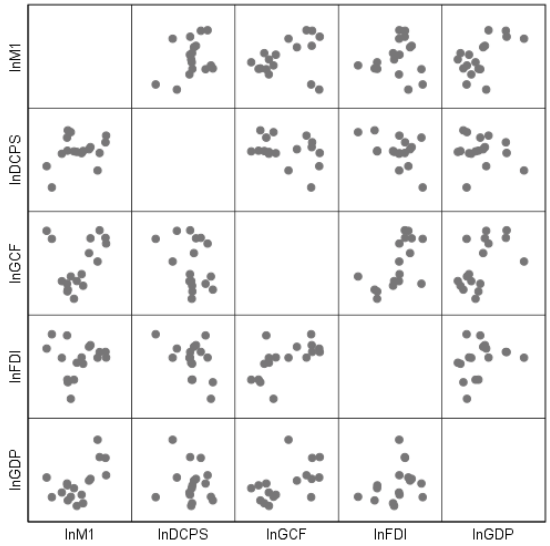

Figure 3: Relationship between broad money, domestic credit to private sector by banks, gross capital formation, FDI net inflows, and gross domestic product in Serbia.
Source: SPSS output.

Table 2: Correlation between broad money, domestic credit to private sector by banks, gross capital formation, FDI net inflows, and gross domestic product in Serbia, from 2003 to 2023.

		lnM1	lnDCPS	lnGCF	lnFDI	lnGDP
lnM1	R	1	0.877**	-0.028	0.058	0.892**
	p		0.000	0.905	0.826	0.000
	N	21	21	21	17	21
lnDCPS	R	0.877**	1	-0.245	-0.473	0.769**
	p	0.000		0.285	0.055	0.000
	N	21	21	21	17	21
lnGCF	R	-0.028	-0.245	1	0.603*	0.128
	p	0.905	0.285		0.010	0.579
	N	21	21	21	17	21
lnFDI	R	0.058	-0.473	0.603*	1	0.297
	p	0.826	0.055	0.010		0.248
	N	17	17	17	17	17
lnGDP	R	0.892**	0.769**	0.128	0.297	1
	p	0.000	0.000	0.579	0.248	
	N	21	21	21	17	21

R – Pearson's correlation coefficient; p – significance level; N – number of observations
***. Correlation is significant at the 0.01 level (2-tailed).*
**. Correlation is significant at the 0.05 level (2-tailed).*
Source: SPSS output.

It can be concluded that there is a significant impact of broad money on economic growth and domestic credit to private sector by banks in Serbia, as well as that domestic credit to private sector by banks in Serbia has a significant impact on economic growth. Likewise, gross fixed capital formation has a significant influence on foreign direct investments in Serbia.

6. Conclusions

Increased economic growth and preserved financial stability, along with a decrease in the share of problematic loans in total loans, confirms that Serbia managed to ensure medium-term price stability with an adequate monetary policy, which was continuously tightened in the previous period.

The aim of this paper was to examine the relationship between financial development and economic growth in Serbia, thus, linear relationship between the representative variables of financial development (broad money, domestic credit to private sector by banks, gross capital formation, FDI net inflows) and GDP as the proxy of economic growth. In order to examine the relationship between financial development and economic growth, Pearson correlation was applied. The results revealed four positive, strong and statistically significant correlations between broad money and economic growth, broad money and domestic credit to private sector, and domestic credit to private sector and economic growth, and gross capital formation and foreign direct investments.

The recommendation for future researchers in this field would be to expand the research with a more complex statistical method, such as regression analysis, as well as to have more studies dedicated to the relationship between financial stability and economic development in Serbia and the region.

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