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Impact of Financial stability on economic growth in Nigeria

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Abstract

Economic growth is reflected in SDG8 of the sustainable development goals. Financial stability has been identified as a factor promoting economic growth. However, there is little evidence on the effect of financial stability on economic growth in Nigeria. This study empirically examines the effect of financial stability on economic growth in Nigeria from 1993 to 2017. The results show a positive relationship between financial stability and economic growth in Nigeria. Specifically, the result shows that a high ZSCORE, which reflects low insolvency risk, has a positive effect on economic growth. Similarly, fewer nonperforming loans improve economic growth in Nigeria. In contrast, capital adequacy was found to have a negative effect on economic growth in Nigeria.

Keywords: financial stability, ZSCORE, economic growth, Nigeria

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1. Introduction

This paper examines the effect of financial stability on economic growth in Nigeria. Economic growth is reflected in SDG8 of the sustainable development goals. The relationship between financial stability and economic growth is a topic of intense debate in the economics and finance literature (Tosunoglu, 2018; Ehigiamusoe and Samsurijan, 2020; Nasreen and Anwar, 2018 Ozili and Iorember, 2023). Scholars consider financial stability to be a potential factor affecting economic growth.

There is some consensus that a stable financial system ensures that credit is allocated efficiently to households and firms for consumption and investment purposes, which in turn, leads to greater production of goods and services, thereby leading to higher economic output and economic growth (Min, Wen, Xu and Wu, 2021; Dejan, 2018; Ozili, 2018). This suggests a positive relationship between financial stability and economic growth. Some studies in the literature also document mixed results for the relationship between financial stability and economic growth.

In Nigeria, the financial system is crucial for economic growth. Nigeria operates a bank-based financial system which means that the financial system is dominated by banks. Economic agents in Nigeria rely on banks to allocate credit for productive economic activities. But for this to happen, the financial system must be stable – it must be well-capitalised and have few non-performing loans and low risk of insolvency. Several studies show that these three factors are the pre-conditions to have a stable financial system (Thakor, 2018; Lepetit, Strobel and Tran, 2021; Lukić, Popović and Janković, 2019; Karugu, Achoki, and Kiriri, 2018).

In this paper, I examine the effect of financial stability on economic growth. I use several indicators of financial stability and examine their effect on economic growth measured by real GDP per capita. There are few recent studies on the relationship between financial stability and economic growth in Nigeria such as Njang, Omini, Bekun and Adedoyin (2020). This paper is different from Njang, Omini, Bekun and Adedoyin (2020) in that it uses a more recent dataset and a unique set of financial stability and economic growth indicators.

The analysis in this paper contributes to the literature in the following way. It contributes to this literature by showing that financial stability is a determinant of economic growth. Second, this paper adds to the scant literature on the effect of financial stability on economic growth in Nigeria.

The rest of the paper is structured as follows. Section 2 presents the literature review. Section 3 presents the methodology. Section 4 presents the results. Section 5 concludes.

2. Literature review

In this section, I review the recent literature on the relationship between financial stability and economic growth.

Batuo, Mlambo and Asongu (2018) assess the linkages between financial instability, financial liberalisation, financial development and economic growth in 41 African countries from 1985 to 2010. The results suggest that financial development and financial liberalisation have positive effects on financial instability. They also find that economic growth reduces financial instability.

Jayakumar, Pradhan, Dash, Maradana and Gaurav (2018) study the interaction between banking competition, banking stability, and economic growth in a

panel of 32 European countries from 1996 to 2014. They find that both banking competition and banking stability are significant long-term drivers of economic growth in European countries. Carlson, Correia and Luck (2019) find that banks operating in markets with lower entry barriers extend more credit and leads to a credit boom. The resulting credit boom led to expansion in real economic activity. Overall, they show that banking competition can cause both economic growth and financial instability.

Njang, Omini, Bekun and Adedoyin (2020) examine the influence of financial system stability on economic growth in Nigeria from 1986 to 2016. They use the granger causality test, Johansson co-integration test and vector error correction model (VECM) estimation techniques. The granger causality test revealed a uni-directional causality between financial stability and economic growth in Nigeria. The Johansson co-integration test showed that long-run co-integration relationship exists between financial stability and economic growth. The VECM results show that financial stability has a negative relationship with economic growth.

Ehigiamusoe and Samsurijan (2020) analyse the variables that moderate the impact of financial development on economic growth. They show that financial and economic development, institutions, and macroeconomic stability moderate the finance-growth nexus. Stewart, Chowdhury, and Arjoon (2020) investigate the direct relationship between bank stability and economic growth and, further, examine the effect that regulatory capital and institutional quality have on this relationship. They examine 100 countries from 1995 to 2015. They use the generalized method of moments method and find no support for a regulatory capital-induced trade-off between banking stability and economic growth. Bayar, Borozan and Gavriletea (2021) analyse the dynamic and causal

effects of banking sector stability on economic growth in post-transition European Union countries from 1998 to 2016. The causality analysis shows an opposite causality direction between the banking sector stability indicators and economic growth. Creel, Hubert and Labondance (2015) assess the link between economic growth and financial stability in the EU. They examine the period from 1998 to 2011. They find that financial instability has a negative effect on economic growth.

Ijaz, Hassan, Tarazi and Fraz (2020) investigate the effect of bank competition and financial stability on economic growth. They examine 38 European countries from 2001 to 2017 using the fixed-effect panel regression estimator and system generalized method of moment (GMM). They find that bank stability significantly contributes to economic growth in Europe. Lower banking competition supports economic growth and increases financial stability. Alsamara, Mrabet, Jarallah and Barkat (2019) investigate the relationship between financial stability and economic growth in the Qatar economy from 1980:Q1 to 2013:Q4 using a Vector Error Correction Model (VECM) with structural breaks approach. They show that real GDP growth has a long-run negative impact and a moderate short-run positive impact on real loan provisions. This negative relationship indicates that an increase in real GDP growth may lead to fewer defaults on loans.

Younsi and Nafla (2019) examine the relationship between financial stability, monetary policy, and economic growth in 40 developed and developing countries from 1993 to 2015. They use the fixed and random effects panel regression models to determine the impact of financial stability and monetary policy on economic growth. They find that financial crises, bank liquid reserves, and bank nonperforming loans negatively affect financial stability and economic

growth. Tosunoglu (2018) examines the relationship between financial stability and economic growth in Turkey from 2002 to 2017. They find that a steadily functioning financial system is a requirement for economic growth. They find that financial leverage, capital adequacy, asset quality, and liquidity are important components of financial stability affecting economic growth.

Sotiropoulou, Giakoumatos and Petropoulos (2019) investigate the impact of financial development and stability on economic growth. They examine 28 European Union countries from 2004 to 2014. The results show that banking system development has a negative impact on economic growth. Private credit allocation does not improve the economic growth. The size of the stock market has a positive effect on economic growth, whereas market liquidity and financial instability negatively influence economic growth. Prochniak and Wasiak (2017) study the impact of financial sector stability on economic growth. They examine 28 EU and 34 OECD economies during the 1993–2013 period. They find a nonlinear relationship between financial sector stability and economic growth. They also find that a large-sized financial system does not lead to more rapid economic growth, it may even negatively affect GDP dynamics.

Nasreen and Anwar (2018) examine the relationship between economic development and financial stability in five South Asian economies, namely Pakistan, India, Bangladesh, Sri Lanka and Nepal from 1980 to 2012. Human development index (HDI) is used to measure economic development while financial stability is measured by constructing an aggregate financial stability index (AFSI) that combines various indicators relating to financial sector development, vulnerability, and banking soundness. They find evidence of a long-run relationship between selected variables. They find that financial

stability is an essential factor for improving the process of economic development in South Asian countries.

There are few recent studies on the impact of financial stability on economic growth in Nigeria. This study aims to fill this gap in the literature.

3. Methodology

3.1. Data

To analyse the effect of financial stability on economic growth in Nigeria, I use Nigerian data collected from the World Bank's global financial development indicators. Financial stability indicators, economic growth data and other macroeconomic data were collected. The sample period covers a 24-year period from 1993 to 2017.

3.2. Model specification and estimation technique

The variables presented in the model are described in table 1. The explanatory variables are the three financial stability indicators, namely, capital adequacy ratio (CAR), the nonperforming loans ratio (NPL) and the insolvency risk variable (ZSCORE). The dependent variable is real GDP per capita. The control variable is inflation rate. The inflation variable controls for macroeconomic performance. The model is estimated using time series ordinary least square (OLS) regression.

Table 1: Variable source and description			
Variable	Variable description	Predicted signs	Data source

GDPC	Real GDP per capita		Global financial development indicators
CAR	Capital adequacy ratio measured as total equity capital divided by total asset of banks	+	Global financial development indicators
NPL	Nonperforming loans ratio measured as total bad debt divided by total loan	-	Global financial development indicators
ZSCORE	Insolvency risk of the banking sector	+	Global financial development indicators
INF	Inflation rate	+	Global financial development indicators

4. Regression result

4.1. OLS Regression result

The OLS regression model estimates the effect of inflation (INF), nonperforming loans ratio (NPL), capital adequacy ratio (CAR) and insolvency risk (ZSCORE) on real GDP per capita (GDPC). The result is reported in table 2 below. The NPL coefficient is negative and statistically significant. This suggests a negative relationship between nonperforming loans ratio (NPL) in the financial sector and economic growth in Nigeria. This implies that high level of financial stability, measured by low nonperforming loans (NPL) in the financial sector, has a positive effect on economic growth in Nigeria.

The CAR coefficient is also negative and statistically significant. The result suggests a negative relationship between capital adequacy ratio (CAR) in the financial sector and economic growth in Nigeria. This implies that high level of

financial stability, measured by high capital adequacy ratio (CAR) in the financial sector has a negative effect on economic growth in Nigeria.

The ZSCORE coefficient is positive and statistically significant. The result suggests a positive association between ZSCORE and economic growth. This means that high level of financial stability, as measured by the high ZSCORE, has a positive effect on economic growth in Nigeria.

The INF coefficient is positive but insignificant, therefore, no meaningful conclusion can be drawn.

Table 2: OLS regression result			
Dependent variable: Real GDP per capita (GDPC)			
Variables	Coefficient	T-statistic	P-value
CAR	-45.051**	-2.216	0.045
NPL	-39.906***	-4.765	0.0004
ZSCORE	76.061***	3.276	0.006
INF	14.982	0.817	0.429
R-square	73.62		
Adjusted R-square	65.51		

4.2. Robustness checks

I conduct an additional analysis to check whether the main result is affected by skewness in the data distribution for the variables. To do this, I transformed all the variables into their logarithmic form. Thereafter, I run a log-linear regression estimation. The result is reported in table 3 below. The NPL coefficient remains negative and statistically significant. The result confirms the earlier result in reported in table 2 and suggests that fewer nonperforming loans in the financial sector has a positive effect on economic growth in Nigeria. The ZSCORE

coefficient is positive and statistically significant. The result confirms the earlier result in table 2 and suggests that low insolvency risk in the financial sector improves economic growth in Nigeria. The CAR coefficient is statistically insignificant. The result does not confirm the earlier result. Also, the INF coefficient is weakly significant and does not confirm the result obtained in table 2.

Table 3: OLS Regression result			
Dependent variable: Log of Real GDP per capita (GDPC)			
Variables	Coefficient	T-statistic	P-value
Log (CAR)	-2.810**	-0.139	0.891
Log (NPL)	-27.517***	-2.848	0.013
Log (ZSCORE)	130.55***	20.779	0.000
Log (INF)	40.839	1.908	0.077
R-square	52.26		
Adjusted R-square	42.03		

4.3. Correlation result

The correlation result is reported in table 3. The correlation between economic growth (GDPC) and inflation is negative. This means that an increase in inflation is associated with low economic growth. Second, the correlation between economic growth (GDPC) and capital adequacy (CAR) in the financial sector is positive. This means that an increase in capital adequacy in the financial sector is associated with high economic growth. Third, the correlation between economic growth (GDPC) and nonperforming loans (NPL) in the financial sector is negative. This means that low nonperforming loans in the financial sector is associated with high economic growth. Finally, the correlation between economic growth (GDPC) and insolvency risk (ZSCORE) in the banking sector is

negative. This means that high level of financial stability, as measured by the high ZSCORE, is associated with high economic growth in Nigeria.

Variable	GDPC	INF	CAR	NPL	ZSCORE
GDPC	1.000				

INF	-0.041	1.000			
	(-0.163)	-----			
	((0.87))	-----			
CAR	0.081	-0.263	1.000		
	(0.326)	(-1.092)	-----		
	((0.74))	((0.29))	-----		
NPL	-0.607**	0.277	-0.619**	1.000	
	(-3.059)	(1.153)	(-3.160)	-----	
	((0.01))	((0.26))	((0.01))	-----	
ZSCORE	0.513**	-0.058	-0.049	-0.035	1.000
	(2.393)	(-0.233)	(-0.197)	(-0.140)	-----
	((0.03))	((0.81))	((0.84))	((0.89))	-----

T-statistics are reported in single parenthesis (). P-values are reported in double parenthesis (()). ** represent statistical significance at the 5% level.

5. Conclusion

Economic growth is reflected in SDG8 of the sustainable development goals. Financial stability is a potential factor affecting economic growth. This study

examined the effect of financial stability on economic growth. Using Nigeria data obtained from the World Bank's global financial development indicators, the result showed evidence that some financial stability indicators have a positive effect on economic growth in Nigeria. High ZSCORE, which reflects low insolvency risk, had a positive effect on economic growth. Similarly, low level of nonperforming loans improved economic growth in Nigeria.

One implication of the findings is that the effect of financial stability on economic growth in Nigeria depends on how financial stability is measured. Therefore, it is recommended that policy makers should carefully choose the relevant financial stability indicators that capture the extent of stability or fragility in the Nigerian financial system and increase its surveillance of the developments in the selected financial stability indicators. It is also recommended that the financial system regulator should increase its supervision of the Nigerian financial system to ensure that the behaviour and activities of all financial institutions contribute to the stability in the Nigerian financial system.

Future studies can examine the effect of financial stability on economic development. Future studies can examine additional indicators of financial stability and examine their effect on several indicators of economic growth in Nigeria.

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