How Shifts in Economic Policy Affect Infrastructure Firm Performance ?

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A B S T R A C T

This quantitative research was conducted on companies in the infrastructure sector in Indonesia, Singapore, the Philippines, and Vietnam to see a comparison of economic policies in influencing company performance, the progress of the infrastructure sector, and good implementation in each country. The company performance measurement variables used are ROE and ROA. This research was conducted in a prescriptive way by collecting secondary data from official stock exchange sites, namely the Indonesia Stock Exchange (IDX), Singapore Exchange Limited (SGX), Philippine Stock Exchange (PSE), and Hanoi Stock Exchange (HNX). To find out the relationship between variables, analysis, and data processing in this study we used the Vector Autoregressive (VAR) method. The results of this study are that the economic policies implemented by each country have different impacts according to the economic conditions in the country so they have different impacts on the implementation of monetary and fiscal policies. In Indonesia and the Philippines, the impact of interest rate monetary policy can significantly affect company performance (positive effect), while in Vietnam and Singapore, it is not proven to have a significant effect. In Indonesia and the Philippines, the impact of fiscal policy shows that the performance of companies in the infrastructure sector appears to be positively influenced by the State Budget and IR, but in Vietnam and Singapore, it does not appear to be positively affected.

A B S T R A K

Penelitian kuantitatif ini dilakukan pada perusahaan sektor infrastruktur di Indonesia, Singapura, Filipina, dan Vietnam untuk melihat perbandingan kebijakan ekonomi dalam mempengaruhi kinerja perusahaan, kemajuan sektor infrastruktur, dan implementasi yang baik di masing-masing negara. Variabel pengukuran kinerja perusahaan yang digunakan adalah ROE dan ROA. Penelitian ini dilakukan secara preskriptif dengan mengumpulkan data sekunder dari situs bursa resmi yaitu Bursa Efek Indonesia (IDX), Singapore Exchange Limited (SGX), Philippine Stock Exchange (PSE), dan Hanoi Stock Exchange (HNX). Untuk mengetahui hubungan antar variabel, analisis, dan pengolahan data pada penelitian ini digunakan metode Vector Autoregressive (VAR). Hasil dari penelitian ini adalah kebijakan ekonomi yang dilaksanakan oleh setiap negara mempunyai dampak yang berbeda-beda sesuai dengan kondisi perekonomian di negara tersebut sehingga mempunyai dampak yang berbeda pula terhadap pelaksanaan kebijakan moneter dan fiskal. Di Indonesia dan Filipina, dampak kebijakan moneter suku bunga dapat mempengaruhi kinerja perusahaan secara signifikan (berefek positif), sedangkan di Vietnam dan Singapura tidak terbukti memberikan pengaruh signifikan. Di Indonesia dan Filipina, dampak kebijakan fiskal menunjukkan bahwa kinerja perusahaan-perusahaan di sektor infrastruktur tampaknya dipengaruhi secara positif oleh APBN dan IR, namun di Vietnam dan Singapura, hal tersebut tampaknya tidak terpengaruh secara positif.

INTRODUCTION

Economic policies implemented by a country play a vital role in determining growth, sustainable economic stability in the country so that rapid economic growth can be created. This is

in line with the performance of companies in each line of the economy based on their respective sectors. In running a company, the government's economic policy will more or less influence the company's management in making a policy or decision that will determine which direction the company is moving. Thus, good economic policies will encourage the company's performance growth in a good direction as well (Brigham & Houston, 2010)(Yunanto & Medyawati, 2015).

This can be achieved through the implementation of economic policies, the government uses monetary and fiscal policies as its fundamentals (Senbet, 2011). Each policy has its own influence on the country's economy even though this policy is carried out by separate authorities but will depend on each other so as to produce good, consistent and sustainable policies to avoid failure. So that the government in general, both in developing and developed countries will use economic policies in spurring economic activity and growth in these countries (Cheng, 2018).

Against the current economic backdrop, the relationship between macroeconomic policy and enterprise performance is the focal point of scholars. The study of economic policy influence on the infrastructure companies is representative and it improves the theory of business operation (Rahman, 2005). The theoretical significance of this study is that it clarifies the influence mechanism of economic policy on the performance of infrastructure companies, verifies the economic policy influence on infrastructure companies, and optimizes the theories of macroeconomic policy influence on enterprise performance (Idowu et al., 2020).

The main puzzle of every Central Bank is how to ensure that the monetary policies put in place can achieve their desired aim as well as how to balance on different monetary policy components. If a central bank applies ineffective monetary policy, it can lead recession among other economic problems. The existing monetary policies can either discourage or encourage business growth. For instance, when the interest rates are too high, fewer people access credit which means fewer businesses will be put in place, hence low production of goods and services as well as low job opportunities (Nguyen et al., 2022).

This study uses an empirical analysis approach with the vector autoregression method to examine the impact of changes in economic policy on company performance in the infrastructure sector. Based on the subject matter of this discussion, this paper analyzes the differences between monetary and fiscal policies in Indonesia, Vietnam, Singapore, and the Philippines (Simorangkir, 2006). The differences in the application of monetary and fiscal policies in the countries of Indonesia, Vietnam, Singapore, and the Philippines are based on the character and application of each country's economic policies in 2012–2021, influencing business activities and company performance in those countries.

Identification of problems that can be described from this study are differences in economic policies set by the government and the central bank in a country can affect the overall economy of a country and how big is the influence of economic policy in influencing a company's performance as measured by its fundamental analysis such as ROE and ROA (Rolos et al., 2016).

This paper contributes to the literature in several ways. First, be able to assess the performance of each private issuer company and BUMN in the infrastructure sector so that it can become a guideline for both stakeholders and shareholders. Second, be able to compare and implement economic policies in a country according to the conditions and needs of the country for its progress, especially in the infrastructure sector. Finally, the data in this study can also provide a comparison

of the application of economic policies in each country, which ultimately affects the economic situation in that country.

The structure of this paper is divided into several sections. Section 2 provides a literature review that supports the topic to be discussed in this research. Section 3 evaluates the results of the descriptive statistical analysis of the collected primary data and methodology. Section 4 presents the results using a vector autoregression approach, which discusses the significance of the factors and the relationship between monetary and fiscal policies on company performance. Section 5 provides conclusions and recommendations for further research (Wang et al., 2023).

To begin with, interest rates have a direct impact on fiscal positions through impacting service costs as well as debt sustainability. "Volatility in interest rates induces fluctuations in the level of the primary surplus required to stabilize the debt-output ratio," writes Lane (2002, p. 5). This effect is magnified when the debt level is larger.

Similarly, the magnitude and volatility of inflation rates have an impact on government budgets. High inflation rates lower the actual value of debt obligations that are not indexed in home currency, raising the real tax burden and generating incentives to postpone tax payments. Furthermore, wage increases for government personnel lead to an increase in public spending due to price inflation. As a result, government finances become more volatile, making fiscal planning impossible (Kithandi, 2022).

Nissim and Penman (2001) explored the influence of monetary policy variables like interest rates on asset and equity returns. The empirical study investigated companies listed on the New York Stock Exchange for 36 years, from 1964 to 1999. According to the study's econometric findings, changes in interest rates are positively associated to unanticipated rise in book values, and as a result, residual earnings and interest rate variations are adversely correlated. Chakraborty (2012) investigated interest rate setting in India between 2006 and 2011. In order to establish a link between an increase in the fiscal deficit and an increase in interest rates, the study used a multivariate vector autoregressive model and unit root testing (Ajayi & Atanda, 2012). The econometric findings from the study revealed that in India, fiscal deficit has no effect on both long-term and short-term interest rates.

Fiscal policy is the government's budgetary policy on taxes, public expenditure, public borrowing, and deficit finance. Fiscal policy goals are comparable to monetary policy goals, and both can be used to reduce inflation. Major anti-inflationary fiscal strategies include tax increases, reductions in government spending, increases in government borrowing, and deficit finance control (Hardani et al., 2017). Fiscal policy is the use of government spending, taxing, and borrowing to impact economic activity patterns, as well as the level and growth of aggregate demand, production, and employment. Fiscal policy is the control of the economy by the government through the manipulation of its revenue and spending power in order to achieve specific specified macroeconomic objectives (goals), one of which is economic growth (Tendengu et al., 2022). Longe (2005) asserted that government spending may reduce poverty, improve income distribution, and boost economic activity, and that changes in the composition of government spending signal how the government allocates resources in the economy.

Furthermore, monetary policy can influence fiscal policy indirectly. When monetary policy is aimed at smoothing out unwanted output fluctuations, fiscal policy instruments are committed to

achieving social goals and enhancing microeconomic efficiency (Karl, 2001). When monetary policy is not dedicated to output stabilization, fiscal authorities' principal purpose is to pursue countercyclical stabilization actions.

However, the success of the two policies has been a key worry for economists and policymakers over the previous five decades, with advocates ranging from monetarists to fiscalists to both policy coordination. Monetarists, on the other hand, feel that when utilized for macroeconomic stabilization, monetary policy is a more potent tool. Elliott (1975), Rahman (2005), and Senbet (2011) are examples. On the other hand, fiscalists and Keynesians place more reliance in government spending and tax reforms than in monetary policy. Kaynes is the leader of this organization. These policy perspectives have prompted substantial research into the relative effectiveness of fiscal and monetary policies (Chowdhury, 1986; Ajisafe and Folorunso, 2002; Adefeso and Mobolaji, 2010; Mohammad, Afaque, Amanat, and Faiz-Ur-Rehman, 2010).

One of the most contentious questions in economics has been the impact of monetary and fiscal policy on economic activity. Despite a large empirical literature on the relative effectiveness of fiscal and monetary policies and their impact on economic activity in both developed and developing nations, the results are mixed. Monetary policy is concerned with changes in the money and credit supply. It refers to policies implemented by the government or the Central Bank to impact the availability, cost, and usage of money and credit through the use of monetary procedures in order to achieve specified goals (Monika & Sudjarni, 2017).

It is the control of the expansion and contraction of the amount of money in circulation with the stated goal of achieving a specified goal. It is also the use of the Central Bank's control over the money supply as a tool for attaining economic policy objectives (Bhatti et al., 2015). It is an action made at the discretion of the authorities to impact the supply of money, the cost of money, the rate of interest, and the availability of money.

The relative effectiveness of monetary and fiscal policies has been extended to productivity in major economic areas. The study discovered that both policies contribute greatly to the expansion of the infrastructure industry using the panel vector autoregression (PVAR) estimate approach of data analysis. They came to the conclusion that monetary variables are more effective and reliable than fiscal variables at influencing changes in economic activity. Rakić & Rađenović (2013) used cointegration and error correction modeling approaches to explore the relative influence of fiscal and monetary policy on agricultural productivity in Nigeria. The findings show that monetary policy has a greater impact on agricultural productivity than fiscal policy.

The research objectives that can be described from this study are knowing the extent to which the government's economic policies affect the performance of infrastructure sector companies in Indonesia, Singapore and the Philippines, comparison of economic policies in influencing the progress of the infrastructure sector in each country and the influence on the progress of a country, and the company is able to implement the government's economic policies properly within the company so that the company's performance is maintained.

Seeing the results of previous studies that are inconsistent on an ongoing basis, there are still opportunities to conduct research on economic policies, especially in developing countries. This research is also useful for a comparison of economic policies influence on the progress of the infrastructure sector in each country and their influence on the progress of a country so that

company management can decide what actions to take when the country implements economic policies (Benjamin, 1975).

RESEARCH METHODS

Based on the announcement of Bank Central of Indonesia, Singapore, Philippines and Vietnam to cut interest rates and deposit reserve ratios, and to liberalize deposit rate ceiling for economic policy practice, this paper analyzes the impact of the implementation of this monetary and fiscal policy on the infrastructure industry. And furtherly verify the impact of monetary and fiscal policy on state-owned infrastructure enterprises and non-state-owned enterprises respectively. Data used in this study were obtained from various issues of Central Bank of Indonesia, Singapore, Philippines and Vietnam Statistical Bulletin from the period, 2012 - 2021. This gives a considerable degree of freedom to capture the relative effectiveness of fiscal and monetary policies on the company performance in these countries.

Table 1. Ratio of Observed Public Companies

Companies Code; Country	Start year	End Year	ROA in 2021	ROA Mean	ROA, Std	ROE in 2021	ROE, mean	ROE, Std Dev
META, Indonesia	2012	2021	0.57%	1.85%	1.28%	1.36%	4.03%	2.81%
PTPP, Indonesia	2012	2021	-0.36%	2.98%	1.82%	-1.82%	14.22%	9.70%
TBIG, Indonesia	2012	2021	3.85%	4.22%	2.53%	16.79%	34.25%	31.82%
TLKM, Indonesia	2012	2021	8.16%	10.25%	1.54%	19.09%	22.26%	3.01%
TOTL, Indonesia	2012	2021	3.60%	6.68%	1.93%	8.51%	20.45%	6.93%
TOWR, Indonesia	2012	2021	6.98%	7.38%	3.23%	31.49%	24.22%	8.70%
IDC, Vietnam	2012	2021	18.90%	14.29%	2.90%	33.40%	24.60%	5.66%
EVN, Vietnam	2012	2021	14.10%	10.55%	2.20%	24.80%	20.58%	3.06%
HWC, Vietnam	2012	2021	16.90%	13.13%	2.41%	23.70%	20.29%	2.31%
CII, Vietnam	2012	2021	16.00%	12.23%	2.41%	24.20%	21.07%	2.46%
SAWACO,Vietna	2012	2021	19.20%	16.15%	2.71%	27.90%	23.72%	4.19%
SOWECO,Vietna	2012	2021	11.60%	10.25%	0.91%	19.20%	17.81%	1.74%
VNWR, Vietnam	2012	2021	4.40%	5.16%	0.48%	11.40%	21.38%	2.04%
A17U, Singapore	2012	2021	5.13%	7.37%	0.99%	6.30%	8.26%	1.06%
A7RU, Singapore	2012	2021	1.29%	1.25%	0.32%	4.40%	6.99%	1.66%
B56, Singapore	2012	2021	11.54%	8.03%	2.40%	14.90%	13.62%	3.34%

Companies Code; Country	Start year	End Year	ROA in 2021	ROA Mean	ROA, Std	ROE in 2021	ROE, mean	ROE, Std Dev
C52, Singapore	2012	2021	-2.02%	3.17%	2.29%	-8.50%	6.40%	5.71%
ME8U, Singapore	2012	2021	3.03%	5.13%	0.97%	5.30%	7.81%	1.03%
AEV, Philippines	2012	2021	0.85%	5.15%	2.06%	4.84%	10.84%	2.63%
DMC, Philippines	2012	2021	0.78%	5.57%	2.67%	1.61%	13.89%	5.03%
FGEN,	2012	2021	2.81%	3.56%	0.60%	5.81%	6.07%	0.84%
GLO, Philippines	2012	2021	3.84%	5.98%	1.00%	15.53%	23.62%	3.34%
MER, Philippines	2012	2021	2.98%	5.13%	0.92%	6.57%	11.06%	2.34%
RLC, Philippines	2012	2021	-0.80%	3.43%	1.84%	-3.13%	9.70%	5.32%
SCC, Philippines	2012	2021	-1.21%	15.05%	10.21%	-4.24%	16.02%	9.05%
VLL, Philippines	2012	2021	0.72%	3.89%	1.50%	0.05%	9.93%	4.11%

Table 2. Economic Policy in Observed Countries

Policy Category, Country	Variable	Start year	End Year	Number in 2021	Unit
Fiscal Policy, Indonesia	APBN	2012	2021	1,338,109	Bio IDR
Monetary Policy, Indonesia	Interest Rate (IR)	2012	2021	3.5	%
Fiscal Policy, Vietnam	APBN	2012	2021	9,420	Bio VND
Monetary Policy, Vietnam	Interest Rate (IR)	2012	2021	4.5	%
Fiscal Policy, Singapore	APBN	2012	2021	80	Bio SGD
Monetary Policy, Singapore	Interest Rate (IR)	2012	2021	12	%
Fiscal Policy, Philippines	APBN	2012	2021	2,882	Bio PHP
Monetary Policy, Philippines	Interest Rate (OLR)	2012	2021	2	%

The equation takes into account how monetary and fiscal policy factors affect changes in

output. However, in order to address the issue of missing variables, net exports and the interest rate were incorporated in the calculation. As a result, the model is as follows:

$$GDP = MP + FP + NEX + Ut \quad (1)$$

where GDP = output, MP= Monetary policy, FP= Fiscal policy, NEX= Net export Monetary policy is represented here by the interest rate and broad money supply, whereas fiscal policy is represented by total government spending and the budget deficit. As a result, the model for this investigation is as follows:

Aligning equation (1) with our study, the relationship between company performance output, monetary and fiscal policy can be specified using two models as:

Model 1: The Monetary Policy Model

$$CPQ = f(M2, INT, NEX) \quad (2)$$

Where CPQ= output of company performance, M2 = broad money supply, INT = interest rate (lending), NET = net export . This can be specified in linearly and in logarithm as:

$$LSCPQ = \beta0 + \beta1LM2 + \beta2LINT + \beta3LNEX + Ut \quad (3)$$

Model 2: The Fiscal Policy Model

$$CPQ = f(TGE, BD, NEX) \quad (4)$$

Where TGE= total government expenditure, BD = budget deficit as a ratio of GDP. Linearly and in logarithmic form, equation (4) can be re-specified as:

$$l\_CPQ = \beta0 + \beta1l\_TGE + \beta2l\_BD + \beta3l\_NEX + Ut \quad (5)$$

Combining equations (3) and (5), we have a comprehensive model as:

$$CPQ = f(M2, INT, TGE, BD, NEX) \quad (6)$$

This can be specified in operational form and in logarithm as:

$$l\_CPQ = \beta0 + \beta1l\_M2 + \beta2l\_INT + \beta3l\_TGE + \beta4l\_BDS + \beta5l\_NEX + Ut \quad (7)$$

The first step in using time series data is to examine the data for stationarity. Most macroeconomic time series variables are non-stationary, according to econometric studies, and employing non-stationary variables in the model may result in misleading regressions (Wijaya, 2017). Most variables' first or second differenced terms are usually stationary. The Augmented Dickey Fuller (ADF) unit root test is used to test all variables. The variables are then examined for co-integration to determine their convergence status. This is due to the fact that variables that do not converge in the long run might be dangerous to policymaking (Engle & Granger, 1987).

To determine the lag, we will also look at the selection criteria. Third, we estimate the model to assess the impact of monetary and fiscal policies on firm performance output. The Panel Vector Autoregressive (PVAR) approach is used for estimate. The estimation assumes that the variables have desirable empirical features such as stationariness and convergence (co-integration). If these desirable properties are not visible, we estimate the equation using the error correction specification before utilizing the ordinary least squares technique.

RESULTS AND DISCUSSION
Results
A. Model Analysis

The VAR model is used in modelling with two variables that can be determined namely ROA

and ROE, where the monetary policy is the interest rate and the fiscal policy is government expenditure (APBN).

Indonesia

Model ROA

$$\Delta ROA_{it} = 0.52\Delta ROA_{it-1} + 0.32\Delta ROA_{it-2} - 0.07\Delta APBN_{it-1} - 0.04\Delta APBN_{it-2} + 0.99\Delta IR_{it-1} + 0.80\Delta IR_{it-2} + 1.57$$

Model ROE

$$\Delta ROE_{it} = 0.30\Delta ROE_{it-1} + 0.32\Delta ROE_{it-2} - 0.42\Delta APBN_{it-1} - 0.25\Delta APBN_{it-2} + 5.61\Delta IR_{it-1} + 5.58\Delta IR_{it-2} + 8.92$$

Vietnam

Model ROA

$$\Delta ROA_{it} = 1.98\Delta ROA_{it-1} - 0.98\Delta ROA_{it-2} - 0.01\Delta APBN_{it-1} + 0.01\Delta APBN_{it-2} - 0.00\Delta IR_{it-1} - 0.00\Delta IR_{it-2} + 0.01$$

Model ROE

$$\Delta ROE_{it} = 1.02\Delta ROE_{it-1} - 0.02\Delta ROE_{it-2} + 0.13\Delta APBN_{it-1} - 0.09\Delta APBN_{it-2} + 0.66\Delta IR_{it-1} + 0.14\Delta IR_{it-2} - 0.37$$

Singapore

Model ROA

$$\Delta ROA_{it} = 1.42\Delta ROA_{it-1} - 0.41\Delta ROA_{it-2} - 0.03\Delta APBN_{it-1} + 0.05\Delta APBN_{it-2} - 0.01\Delta IR_{it-1} - 0.02\Delta IR_{it-2} - 0.09$$

Model ROE

$$\Delta ROE_{it} = 1.09\Delta ROE_{it-1} - 0.22\Delta ROE_{it-2} - 0.09\Delta APBN_{it-1} + 0.11\Delta APBN_{it-2} - 0.01\Delta IR_{it-1} - 0.03\Delta IR_{it-2} - 0.02$$

Philippines

Model ROA

$$\Delta ROA_{it} = 0.95\Delta ROA_{it-1} - 0.15\Delta ROA_{it-2} + 0.01\Delta APBN_{it-1} - 0.02\Delta APBN_{it-2} - 0.70\Delta OLR_{it-1} - 1.08\Delta OLR_{it-2} + 0.15$$

Model ROE

$$\Delta ROE_{it} = 0.82\Delta ROE_{it-1} + 0.11\Delta ROE_{it-2} + 0.03\Delta APBN_{it-1} - 0.06\Delta APBN_{it-2} - 1.49\Delta OLR_{it-1} - 3.42\Delta OLR_{it-2} + 0.42$$

Table 3. Unit Root Test

Variable	ADF (P-value)	
	Level	First Difference
Indonesia		
CRR	0.6707	0.0000***

Log Nominal APBN	0.0000***	0.0000***
Interest Rate	0.0022***	0.0000***
ROE	0.0273**	0.0000***
ROA	0.4452	0.0003***
Vietnam		
Log Nominal APBN	0.6722	0.0000***
IR	0.9861	0.0000***
ROA	0.0056***	0.0053***
ROE	0.0000***	0.0000***
Singapore		
APBN	0.9972	0.0000**
Interest Rate	0.0078***	0.0121**
ROE	0.8466	0.0003***
ROA	0.9862	0.0008***
Philippines		
Log Nominal APBN	0.9973	0.7603
ROA	0.7126	0.0651
OLR	0.0005	0.4804
ROE	0.9108	0.0681

Based on Table 3, Indonesia, APBN, interest rate, and ROE are stationary at I(1) or the first difference; this is shown based on the p-value of the unit root 0.05 with the assumption of being stationary in constant terms and trend terms. Meanwhile, ROA and CRR are stationary after the level, or I(0), is carried out, with the assumption that they are stationary in the constant term and trend term.

Vietnam, ROA and ROE are stationary at I(0) or different levels, assuming stationary constant terms and trend terms. Meanwhile, IR and LNAPBN are stationary after the first difference, or I(1), is carried out, with the assumption that they are stationary in the constant term and trend term.

Singapore, the interest rate is already stationary at I(0) or level, with the assumption that it is stationary in constant and trend terms. Meanwhile, APBN, ROE, and ROA are stationary after the

first difference, or I(1), is carried out, with the assumption that they are stationary in the constant term and trend term.

Philippines, log nominal APBN, ROA, and ROE are stationary at I(0) or level, with the assumption of being stationary in constant terms and trend terms. Meanwhile, the OLR is stationary after the first difference, or I(1), is done, with the assumption that it is stationary in the constant term and trend term. Furthermore, the VAR model will be built with variables that are not stationary at the level, and then the model is added to the model with the first difference.

Furthermore, every model with stationary variables does not necessarily have residuals/linear combinations which are also stationary. Therefore it is necessary to check residual stationarity or cointegration. The existence of cointegration means that the model has a long-term relationship. If there is cointegration, the VAR model needs to be added to the restricted VAR / VECM model.

Table 4. Kao Engle Granger Cointegration Test

Cointegration Test	Endogen	t-statistic	Prob
Indonesia			
ROA (Level)	APBN; IR	-0.8323	0.2026
ROA (Differenced)	APBN; IR	-1.4702	0.0708
ROE (Level)	APBN; IR	-1.8322	0.0335*
ROE (Differenced)	APBN; IR	-5.9026	0.0000***
Vietnam			
ROA (Level)	APBN; IR	-1.0274	0.1521
ROA (Differenced)	APBN; IR	-0.7416	0.2292
ROE (Level)	APBN; IR	-1.7073	0.0439**
ROE (Differenced)	APBN; IR	-2.1126	0.0173**
Singapore			
ROA (Level)	APBN; IR	0.4941	0.3106
ROA (Differenced)	APBN; IR	-4.9041	0.0000***
ROE (Leve)	APBN; IR	-0.6178	0.2684
ROE (Differenced)	APBN; IR	1.6446	0.0000***

Philippines

ROA (Level)	APBN; OLR	-5.552778	0.0000
ROA (Differenced)	APBN; OLR	-6.539566	0.0000
ROE (Level)	APBN; OLR	-4.223323	0.0000
ROE (Differenced)	APBN; OLR	-2.898139	0.0019

Lag lengh selection based on SIC with a max lag of 1

Based on the Kao Engle Granger test from Table 4, in Indonesia, the ROA model at the order level and first difference has a p-value > 0.05 or is not significant. So in conclusion, the ROA model does not have a long-term relationship or cointegration.

In Vietnam, the ROA model on I(0) and I(1) has a p-value > 0.05 or is not significant, while the ROE model on I(0) and I(1) has a p-value 0.05 or is significant. So in conclusion, the ROA model at order level and order one does not have a long-term relationship or cointegration, while on the contrary, the ROA model at I(0) and I(1) has cointegration.

In Singapore, the ROA and ROE models at the order level have a p-value > 0.05 or are not significant. So in conclusion, the ROA and ROE models at the order level do not have a long-term relationship or cointegration.

In Philippines, the ROE model at the first order level or differentiator with endogenous OLR has a p-value 0.05 or is significant. So in conclusion, the ROE model at the level of endogenous OLR has cointegration. Likewise, the conclusion for ROA with a p-value 0.05 both at the level order and at the first differentiating order.

Tabel 5 VAR model stability test

Model	Root Conclusion	Model Conclusion
Indonesia		
ROA (Level) - IR	No Root Lies outside the unit circle	Stable Model
ROA (Differenced) - IR	No Root Lies outside the unit circle	Stable Model
ROE (Level) - IR	No Root Lies outside the unit circle	Stable Model
ROE (Differenced) - IR	No Root Lies outside the unit circle	Stable Model
Vietnam		
ROA (Level) - IR	No Root Lies outside the unit circle	Stable Model

ROA (Differenced) - IR	No Root Lies outside the unit circle	Stable Model
ROE (Level) - IR	No Root Lies outside the unit circle	Stable Model
ROE (Differenced) - IR	No Root Lies outside the unit circle	Stable Model

Philippines

ROA (Level) - OLR	2 Root Modulus Lies outside the unit circle	Unstable Model
ROA (Differenced) - OLR	2 Root Modulus Lies outside the unit circle	Unstable Model
ROE (Level) - OLR	2 Root Modulus Lies outside the unit circle	Unstable Model
ROE (Differenced) - OLR	2 Root Modulus Lies outside the unit circle	Unstable Model

Singapore

ROA (Level)	No Root Lies outside the unit circle	Stable Model
ROA (Differenced)	2 Root Modulus Lies outside the unit circle	Unstable Model
ROE (Level)	No Root Lies outside the unit circle	Stable Model
ROE (Differenced)	No Root Lies outside the unit circle	Stable Model

Based on Table 5, in Indonesia and Vietnam, the unit root of each model is < 1 so that the 4 VAR models built with a similar order are stable/stationary models. In Singapore, the unit root of each model is < 1 except for the ROA model with order I(1) which has 2 modulus which has a value of > 1. So all the VAR models built are stable except for the VAR ROA model with order 1(1). Furthermore, testing the assumption of autocorrelation and multiple normality is carried out. In Philippines, it is found that each model has > 1 modulus which indicates the model is still unstable.
Table 6. Pairwise Granger Causality

Indonesia

Null Hypothesis for ROA	P-value	Conclusion
LNAPBN does not Granger Cause ROA	0.0324	Reject
ROA does not Granger Cause LNAPBN	0.2528	Do Not Reject
IR does not Granger Cause ROA	0.0184	Reject
ROA does not Granger Cause IR	0.5002	Do Not Reject
IR does not Granger Cause LNAPBN	0.0000	Reject
LNAPBN does not Granger Cause IR	0.0584	Do Not Reject

Null Hypothesis for ROE	P-value	Conclusion
LNAPBN does not Granger Cause ROE	0.0586	Do Not Reject
ROE does not Granger Cause LNAPBN	0.4160	Do Not Reject
IR does not Granger Cause ROE	0.0389	Reject
ROE does not Granger Cause IR	0.3619	Do Not Reject
IR does not Granger Cause LNAPBN	0.0000	Reject
LNAPBN does not Granger Cause IR	0.0584	Do Not Reject

Vietnam

Null Hypothesis of ROA	P-value	Conclusion
LNAPBN does not Granger Cause ROA	0.3928	Do Not Reject
ROA does not Granger Cause LNAPBN	0.9493	Do Not Reject
IR does not Granger Cause ROA	0.6696	Do Not Reject
ROA does not Granger Cause IR	0.1546	Do Not Reject
IR does not Granger Cause LNAPBN	0.0000	Reject
LNAPBN does not Granger Cause IR	0.0000	Reject

Null Hypothesis for ROE	P-value	Conclusion
LNAPBN does not Granger Cause ROE	0.6533	Do Not Reject
ROE does not Granger Cause LNAPBN	0.0004	Reject
IR does not Granger Cause ROE	0.3751	Do Not Reject
ROE does not Granger Cause IR	0.2780	Do Not Reject
IR does not Granger Cause LNAPBN	0.0000	Reject
LNAPBN does not Granger Cause IR	0.0000	Reject

Indonesia

Null Hypothesis for ROA	P-value	Conclusion

Singapore

Null Hypothesis for ROA	P-value	Conclusion
APBN does not Granger Cause ROA	0.4065	Do Not Reject
ROA does not Granger Cause APBN	0.4208	Do Not Reject
IR does not Granger Cause ROA	0.1230	Do Not Reject
ROA does not Granger Cause IR	0.3732	Do Not Reject
IR does not Granger Cause APBN	0.0000	Reject
APBN does not Granger Cause IR	0.0000	Reject

Null Hypothesis for ROE	P-value	Conclusion
APBN does not Granger Cause ROE	0.3384	Do Not Reject
ROE does not Granger Cause APBN	0.1473	Do Not Reject
IR does not Granger Cause ROE	0.1151	Do Not Reject
ROE does not Granger Cause IR	0.1599	Do Not Reject
IR does not Granger Cause APBN	0.0000	Reject
APBN does not Granger Cause IR	0.0000	Reject

Philippines

Null Hypothesis for ROA	P-value	Conclusion
LNAPBN does not Granger Cause OLR	0.0000	Reject
OLR does not Granger Cause LNAPBN	0.6294	Do Not Reject
ROA does not Granger Cause OLR	0.0091	Reject
OLR does not Granger Cause ROA	0.0356	Reject
ROA does not Granger Cause LNAPBN	0.1422	Do Not Reject
LNAPBN does not Granger Cause ROA	0.0025	Reject

Null Hypothesis for ROE	P-value	Conclusion
OLR does not Granger Cause ROE	0.0501	Do Not Reject
ROE does not Granger Cause OLR	0.0002	Reject
LNAPBN does not Granger Cause ROE	0.0005	Reject
ROE does not Granger Cause LNAPBN	0.0263	Reject
LNAPBN does not Granger Cause OLR	0.0000	Reject

Indonesia		
Null Hypothesis for ROA	P-value	Conclusion
OLR does not Granger Cause LNAPBN	0.6294	Do Not Reject

Based on Table 6, in Indonesia, from the Granger causality test, the ROA variable can be influenced by the APBN and IR but not by the CRR. And the ROA model is not in the form of a bivariate case because ROA does not otherwise affect the APBN and IR. Then, based on Granger causality testing, ROE can be influenced by IR but not by CRR or APBN. Likewise, ROA, ROE, and vice versa, do not affect IR and other variables. So it can be concluded that the performance of infrastructure sector companies in terms of ROA can be influenced by APBN and IR, while in terms of ROE, it can be influenced by IR.

In Vietnam, the endogenous variable ROA cannot be influenced by APBN and IR and has no influence on ROA forecasting. This is shown based on the Granger causality test with a p-value > 0.05. This means that monetary policy tools in the form of IR and APBN have no influence on the performance of shares of infrastructure companies from now on. Likewise, ROE is an endogenous variable that cannot be influenced by APBN and IR and has no influence on ROE forecasting. But interestingly, there is an effect of ROE on the APBN, as indicated by a p value of 0.05.

In Singapore, the Granger causality test for the ROA and ROE variables is seen with a p-value > 0.05 for the IR and APBN variables. This shows that ROA and ROE do not have a greater cause with the APBN and IR. So it can be concluded that the performance of infrastructure sector companies in terms of ROA and ROE cannot be influenced by the APBN and IR.

In Philippines, the endogenous variable ROA can be influenced by OLR and has an influence on ROA forecasting. This is shown based on the Granger causality test with a p-value of 0.05. This means that the monetary policy tool in the form of OLR has an influence on the performance of infrastructure company shares in terms of ROA. Apart from monetary policy, fiscal policy also has an influence, as shown by the Granger causality test with a p-value of 0.05. While the endogenous variable ROE is only influenced by the state budget. This is shown based on the Granger causality test with a p-value of 0.05.

Discussion

In the case of Indonesia, based on Granger causality testing, monetary and fiscal policies are proven to have a positive influence and have an impact on forecasting the performance of public companies in the infrastructure sector in the future. This influence is divided into two sides, namely ROA and ROE. In terms of ROA, monetary policy in the form of interest rates and fiscal policy in the form of the state budget have a significant influence. The APBN has the greatest influence on ROA, where a shock of 1 SD from the APBN will increase ROA, with a contribution to the composition of the variance from forecasting reaching 36% in the third period and continuing to grow in the following period. While IR only contributes to the composition of the variance of forecasting by 2%–4%. Meanwhile, from the side of ROE, variables that have influence only from the side of monetary policy in the form of interest rates provide a significant influence. The presence

of a shock of 1 SD from IR will increase ROE in the short term and then reach balance in periods 3 to 10. The contribution of the composition of the variance of the ROE forecasting from IR only reaches 1%–1.5%.

In the case of Vietnam, based on Granger causality testing, monetary and fiscal policies have proven unable to have a positive effect and have an impact on forecasting the performance of public companies in the infrastructure sector in the future. From the Granger causality results, infrastructure companies in Vietnam are not influenced by either monetary or fiscal policies.

In the case of Singapore, based on Granger causality testing, monetary and fiscal policies are not proven to have an impact on forecasting the performance of public companies in the infrastructure sector. This can be seen from the Granger causality p-value > 0.05.

In the case of the Philippines, based on the Granger causality test, monetary and fiscal policies are proven to have a positive influence and have an impact on forecasting the performance of public companies in the infrastructure sector in the future. This influence has a more significant impact on ROA than ROE. The OLR variable is influential as a monetary policy tool in the Philippines. The shock effect of the OLR of 1 standard deviation will affect the ROA of 13% in the third period.

Each country has a different economic policy, especially in terms of monetary policy. As in Indonesia, interest rates and cash reserve requirements are imposed. Vietnam has implemented several monetary policies, but the interest rate used is the same as that of Singapore. Singapore applies an effective nominal interest rate with a range. Then, in the Philippines, several interest rate replacement tools are implemented, namely ORRR, OLR, and RRR. Monetary policy also has a different effect on the performance of the infrastructure sector in each country. In Indonesia, monetary policy can affect company performance, while in Vietnam and Singapore it is not proven to have an effect. Meanwhile, in the Philippines, monetary policy has been proven to partially affect company performance, namely on the ROA side.

Likewise with fiscal policy, in Indonesia it can be seen that the performance of companies in the infrastructure sector seems to be positively influenced by the APBN and IR, but in Vietnam and Singapore it is not seen to be positively affected. Whereas in the Philippines, the company's performance is affected but with a change value that is not too high.

Thus, it can be concluded that there is indeed an influence from monetary and fiscal policies on company performance, both ROA and ROE, but there are several countries that do not show significant changes. It is suspected that there are several variables that cannot be presented in this study that can affect company performance.

The limitations of this study are partly due to the limited number of time series and finite samples, limitations on different monetary policy tools, and limitations on variables that affect company performance. This then influences the results of this study. The limitations in question include: (a) This study retrieves data from infrastructure sector companies based on ratio data with positive stock performance. The availability of ratio data from companies that have positive stock performance in each country and the most common one starts in 2012, and there are still many companies that did not have ratio data before 2012. So this greatly limits the number of samples that can be observed. (b) Policy The monetary policy applied to each country is different, so the influence on the company's ratio data will also be different. (c) The difference in influence between countries indicates that there are several variables that are suspected to have the possibility of

influencing the model.

CONCLUSION

a. The economic policies implemented by each country have different impacts according to the economic conditions in the country, so they have different impacts on the implementation of monetary and fiscal policies. In Indonesia and the Philippines, the impact of interest rate monetary policy can significantly affect company performance (positive effect), while in Vietnam and Singapore it is not proven to have a significant effect. In Indonesia and the Philippines, the impact of fiscal policy shows that the performance of companies in the infrastructure sector appears to be positively influenced by the state budget and IR, but in Vietnam and Singapore, it does not appear to be positively affected.

b. Each country has economic policies that can influence infrastructure sector companies; however, not all economic policies in this study, which are APBN values and interest rates, have a direct impact on the infrastructure sector because there are other variables that have more influence. Every company in each country is able to implement economic policies set by the government, which can be seen from the company's positive ROE and ROA.

c. The following research only uses data with positive stock performance ratios so that it can still be developed for all issuer data available on each stock exchange to see the more detailed significance of issuers with both positive and negative performance;

d. The economic policies used can be reproduced so that they can produce more comprehensive data because each country with different economic policies adjusts to the circumstances of the country, so the influence on company ratio data will also be different.

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