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Effectiveness Of Mix Police (Fiscal And Monetary Police) In Reducing Unemployment In 5 Southeast Asia Countries (Indonesia, Malaysia, Thailand, Singapore And Philipnes)

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ABSTRACT
This study aims to analyze the contribution of the effectiveness of the mix police (fiscal and monetary police) in reducing unemployment in 5 Southeast Asian countries (Indonesia, Malaysia, Thailand, Singapore and the Philippines). This study uses secondary data or time series, namely from the first quarter of 2001 to the fourth quarter of 2018. The data analysis model in this study is the Vector Autoregression (VAR) model and the ARDL Panel then sharpened by analysis of Impulse Response Function (IRF) and Forecast Error Variance Decomposition (FEVD). The results of the Vector Autoregression analysis show that the past variable (t-1) contributes to the present variable both on itself and on other variables. From the estimation results, it turns out that there is a reciprocal relationship between one variable and the other variables that contribute to each other.

Keywords : Fiscal Policy, Monetary Policy, Unemployment, South East Asia

INTRODUCTION

In order to reduce unemployment, every country must have strategies or policies to reduce unemployment and make the economy stable. One of the policies that are often carried out, especially developing countries in Southeast Asia, is fiscal and monetary policy. This is in line with Hossain (2010) that disciplined monetary and fiscal policies are recognized as playing an important role in keeping inflation and unemployment at low levels in various East and Southeast Asian economies. Unemployment is also influenced by inflation, fiscal policy (government spending and taxes) and monetary policy (interest rates and money supply) set by the government in regulating the rate of economic growth. Therefore, fiscal policy and monetary policy greatly affect unemployment and the economy (Wulandari, 2018)

Outlining the definition of fiscal policy as an economic policy used by the government to manage/direct the economy to a better or desired condition by changing government revenues and expenditures. In general, there are two types of fiscal policy, namely expansionary and contractionary fiscal policy (Mankiw, 2013: 68). The phenomenon of the problem in this study is by looking at the various responses of macroeconomic variables to the ability of fiscal and monetary policies to reduce unemployment in 5 Southeast Asian countries. These countries are Indonesia, Malaysia, Thailand, Singapore and the Philippines, where these countries were chosen because they represent Southeast Asian countries which are also members of the Emerging market countries, with the following problem phenomena:

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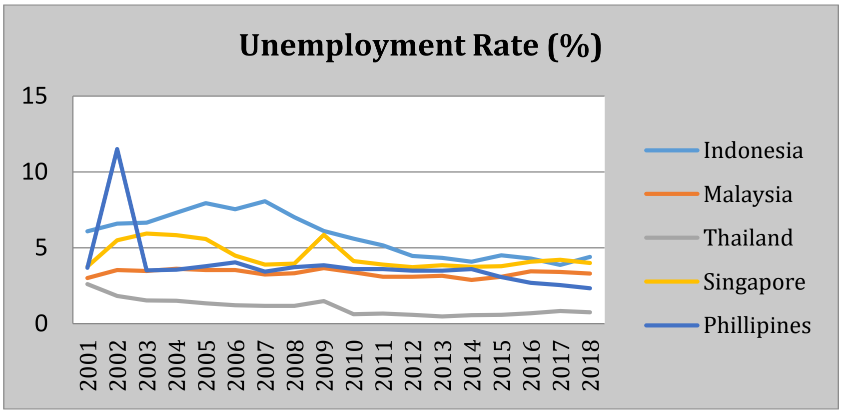

Figure1. Development of Unemployment Rate (%) in 5 Asian Countries Southeast Year 2001 to 2018.

Based on graphs and variables 1, It is known that the unemployment rate in 5 Southeast Asian countries namely Indonesia, Malaysia, Thailand, Singapore and the Philippines experienced various fluctuations. Where in Indonesia the highest unemployment rate occurred in 2008 at 8.06%. Meanwhile in Malaysia, it remained stable at 3% where the highest unemployment rate in 2014 was 3.88%. Then in Thailand the unemployment rate has the lowest level among others, which is only 0 to 2.60% and the highest rate in Thailand is only 2.60% which occurred in 2001. Then in Singapore the unemployment rate is 3 to 5% where the unemployment rate is the highest amounted to 5.93% which occurred in 2003. Meanwhile in the Philippines the unemployment rate fluctuated from 2 to 4% but there was a very high increase in 2002, where the unemployment rate was 11.51%.

LITERATURE REVIEW

Fiscal Policy

Fiscal policy is the government's steps for changes in the tax system or in its spending with a view to overcoming the economic problems it faces (Sadono Sukirno, 2013). According to Wayan Sudirman (2011) fiscal policy is an adjustment in government revenues and expenditures as stipulated in the state revenue and expenditure budget which is abbreviated as APBN to achieve better economic stability and the desired pace of economic development which is generally stipulated in the development plan. Fiscal policy is the dominant policy tool and governance of developing countries. Changes in macro indicators that are the target of fiscal policy can be contractive (reducing economic activity) or expansionary (economic stimulus). The effect of increasing government spending when used for government spending according to Romer (1996) in Nova (2006) in Real Business Cycle Theory is only temporary where the shock of an increase in government spending by 1% will have a temporary impact on capital (K), labor (L), output (Y), consumption (C), and the wage rate (w) and the interest rate (r).

Monetary Policy

Monetary policy is a policy carried out by the central bank or Bank Indonesia with the aim of maintaining and achieving currency value stability which can be carried out, among

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others, by controlling the amount of money circulating in the community and setting interest rates. Monetary policy is in the form of policy measures implemented by the central bank or Bank Indonesia to be able to change the money supply or change the existing interest rate, with the aim of influencing spending in the economy.

Unemployment

Unemployment is a number that shows how many of the workforce are actively looking for work. Unemployment is a condition where someone belonging to the labor force wants to get a job but they have not been able to get the job (Subri, 2003). According to Putong (2008) the category of unemployed people is usually those who do not have a job at working age and working period. Working age is usually the age that is not in school but above the age of children (relatively above 6-18 years, namely the education period from elementary school to high school graduation). Meanwhile, those over the age of 18 who are still in school can be categorized as unemployed, although this is still widely debated.

METHODS

This research approach is associative/quantitative research. To support the quantitative analysis, the VAR model is used, where this model is able to explain the long-term reciprocal relationship of economic variables as endogenous variables. According to Ariefianto (2012), the VAR model was built to overcome the problem of the difficulty of fulfilling the identification of super exogenity where the relationship between economic variables can be estimated without the need to focus on the problem of exogenity. In this approach all variables are considered as endogenous variables and estimates can be done simultaneously or sequentially. VAR Analysis Model with formula:

$$\mathbf{TAXt} = \beta10GOVt\text{-}p + \beta11JUBt\text{-}p + \beta12SBt\text{-}p + \beta13INVt\text{-}p + \beta14INFt\text{-}p + \beta15PGRt\text{-}p + \beta16TAXt\text{-}p + et1$$
$$\mathbf{GOVt} = \beta20JUBt\text{-}p + \beta21SBt\text{-}p + \beta22INVt\text{-}p + \beta23INFt\text{-}p + \beta24PGRt\text{-}p + \beta25TAXt\text{-}p + \beta26GOV + et2$$
$$\mathbf{JUBt} = \beta30SBt\text{-}p + \beta31INVt\text{-}p + \beta32INFt\text{-}p + \beta33PGRt\text{-}p + \beta34TAXt\text{-}p + \beta35GOVt\text{-}p + \beta36JUBt\text{-}p + et3$$
$$\mathbf{SBt} = \beta40INVt\text{-}p + \beta41INFt\text{-}p + \beta42PGRt\text{-}p + \beta43TAXt\text{-}p + \beta44GOVt\text{-}p + \beta45JUBt\text{-}p + \beta46SBt\text{-}p + et4$$
$$\mathbf{INVt} = \beta50INFt\text{-}p + \beta51PGRt\text{-}p + \beta52TAXt\text{-}p + \beta53GOVt\text{-}p + \beta54JUBt\text{-}p + \beta55SB\text{-}p + \beta56INV\text{-}p + et5$$
$$\mathbf{INFt} = \beta60PGRt\text{-}p + \beta61TAXt\text{-}p + \beta62GOVt\text{-}p + \beta63JUBt\text{-}p + \beta64SB\text{-}p + \beta65INV\text{-}p + \beta65INF\text{-}p + et6$$
$$\mathbf{PGRt} = \beta70TAXt\text{-}p + \beta71GOVt\text{-}p + \beta72JUBt\text{-}p + \beta73SBt\text{-}p + \beta74INV\text{-}p + \beta75INF\text{-}p + \beta75PGR\text{-}p + et7$$

Where :

TAX = *Tax Revenue (%)*
GOV = *Government Expenditure (%)*
JUB = *Total Money Supply (%)*
SB = *Interest Rate (%)*
INV = *Investment (Billion USD)*
INF = *Inflation (%)*
PGR = *Unemployment (%)*
et = *random disturbance*
p = *Length of lag*

RESULTS AND DISCUSSION

Results

VAR analysis is to determine whether there is a simultaneous relationship (interrelated or mutually contributing) between variables, as exogenous and endogenous variables by including the element of time (lag). The following are the results of the VAR table analysis:

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Table 1. VAR Estimation Results

Vector Autoregression Estimates
Date: 04/16/21 Time: 22:22
Sample (adjusted): 3 90
Included observations: 84 after adjustments
Standard errors in ( ) & t-statistics in [ ]

	GOV	INFL	INV	JUB	SB	TAX	UMPL
GOV(-1)	0.014253	-0.036335	-0.014870	0.397304	-0.002240	0.052093	0.023032
	(0.12836)	(0.07864)	(0.15915)	(0.13658)	(0.03981)	(0.03471)	(0.03148)
	[0.11104]	[-0.46207]	[-0.09343]	[2.90896]	[-0.05627]	[1.50090]	[0.73168]
GOV(-2)	0.039774	0.144787	-0.007250	0.008111	-0.036843	0.009308	0.058205
	(0.11899)	(0.07290)	(0.14753)	(0.12661)	(0.03691)	(0.03218)	(0.02918)
	[0.33425]	[1.98619]	[-0.04914]	[0.06406]	[-0.99826]	[0.28929]	[1.99458]
INFL(-1)	0.356366	0.161051	-0.366233	0.053863	-0.069016	-0.014993	0.094552
	(0.19352)	(0.11855)	(0.23993)	(0.20591)	(0.06002)	(0.05233)	(0.04746)
	[1.84150]	[1.35848]	[-1.52640]	[0.26159]	[-1.14983]	[-0.28654]	[1.99232]
INFL(-2)	-0.198850	0.083951	0.078751	-0.176851	-0.073559	-0.048551	0.035065
	(0.20853)	(0.12775)	(0.25855)	(0.22188)	(0.06468)	(0.05639)	(0.05114)
	[-0.95357]	[0.65715]	[0.30459]	[-0.79704]	[-1.13729]	[-0.86104]	[0.68565]
INV(-1)	0.081469	-0.008289	0.588737	-0.234920	-0.011274	-0.005103	-0.043504
	(0.10281)	(0.06298)	(0.12747)	(0.10939)	(0.03189)	(0.02780)	(0.02521)
	[0.79241]	[-0.13160]	[4.61869]	[-2.14748]	[-0.35353]	[-0.18355]	[-1.72546]
INV(-2)	-0.192983	-0.043246	0.176359	0.141500	0.024290	-0.004924	0.069050
	(0.10045)	(0.06154)	(0.12454)	(0.10688)	(0.03116)	(0.02716)	(0.02463)
	[-1.92114]	[-0.70275]	[1.41604]	[1.32386]	[0.77959]	[-0.18129]	[2.80294]
JUB(-1)	-0.110597	0.019800	0.000394	0.219118	-0.007958	-0.001767	-0.029506
	(0.11279)	(0.06909)	(0.13984)	(0.12001)	(0.03498)	(0.03050)	(0.02766)
	[-0.98059]	[0.28657]	[0.00282]	[1.82588]	[-0.22748]	[-0.05795]	[-1.06678]
JUB(-2)	0.147350	0.048637	-0.168199	0.054388	-0.014297	0.000742	-0.031328
	(0.10440)	(0.06396)	(0.12944)	(0.11109)	(0.03238)	(0.02823)	(0.02560)
	[1.41136]	[0.76044]	[-1.29941]	[0.48959]	[-0.44151]	[0.02629]	[-1.22357]
SB(-1)	-0.074567	-0.110641	-0.239008	-0.318172	0.608347	-0.066825	0.528001
	(0.44553)	(0.27293)	(0.55238)	(0.47405)	(0.13819)	(0.12047)	(0.10926)
	[-0.16737]	[-0.40538]	[-0.43269]	[-0.67118]	[4.40238]	[-0.55472]	[4.83253]
SB(-2)	0.095390	0.170908	0.062219	0.345781	0.196126	0.074252	-0.525633
	(0.43169)	(0.26446)	(0.53523)	(0.45933)	(0.13390)	(0.11673)	(0.10587)
	[0.22097]	[0.64625]	[0.11625]	[0.75279]	[1.46477]	[0.63612]	[-4.96503]

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TAX(-1)	1.050353	-0.112535	0.085176	-1.112496	0.051925	0.743413	-0.243484
	(0.49077)	(0.30065)	(0.60847)	(0.52219)	(0.15222)	(0.13270)	(0.12036)
	[2.14021]	[-0.37430]	[0.13998]	[-2.13043]	[0.34112]	[5.60216]	[-2.02304]
TAX(-2)	-0.882660	-0.082871	-0.078971	0.312969	-0.061344	-0.227780	0.161916
	(0.46780)	(0.28658)	(0.58000)	(0.49776)	(0.14510)	(0.12649)	(0.11472)
	[-1.88681]	[-0.28917]	[-0.13616]	[0.62876]	[-0.42279]	[-1.80076]	[1.41136]
UMPL(-1)	0.453797	-0.111206	0.275883	-0.244353	-0.022881	-0.072045	0.585715
	(0.39234)	(0.24035)	(0.48644)	(0.41746)	(0.12169)	(0.10609)	(0.09622)
	[1.15663]	[-0.46267]	[0.56715]	[-0.58533]	[-0.18802]	[-0.67911]	[6.08742]
UMPL(-2)	-0.205069	0.467385	0.085908	0.557632	0.057941	-0.148556	0.171378
	(0.38641)	(0.23672)	(0.47909)	(0.41115)	(0.11985)	(0.10448)	(0.09476)
	[-0.53070]	[1.97441]	[0.17932]	[1.35626]	[0.48344]	[-1.42181]	[1.80849]
C	1.613501	2.410566	3.558089	15.15384	1.868866	7.282519	1.526122
	(6.06008)	(3.71247)	(7.51349)	(6.44808)	(1.87962)	(1.63860)	(1.48616)
	[0.26625]	[0.64932]	[0.47356]	[2.35013]	[0.99428]	[4.44434]	[1.02689]
R-squared	0.235152	0.398806	0.674326	0.389773	0.699287	0.669878	0.790188
Adj. R-squared	0.079965	0.276825	0.608247	0.265959	0.638272	0.602897	0.747617
Sum sq. resids	1045.594	392.4031	1607.272	1183.769	100.5876	76.44596	62.88355
S.E. equation	3.892755	2.384744	4.826365	4.141989	1.207390	1.052574	0.954650
F-statistic	1.515286	3.269402	10.20486	3.148048	11.46103	10.00098	18.56181
Log likelihood	-225.0948	-183.9327	-243.1529	-230.3078	-126.7597	-115.2331	-107.0305
Akaike AIC	5.716544	4.736493	6.146497	5.840662	3.375232	3.100787	2.905488
Schwarz SC	6.150618	5.170567	6.580571	6.274736	3.809306	3.534862	3.339562
Mean dependent	5.402857	3.208452	5.971071	9.485357	5.419167	13.50155	3.741667
S.D. dependent	4.058402	2.804271	7.711056	4.834468	2.007505	1.670325	1.900264

Determinant resid covariance (dof adj.)	20926.66
Determinant resid covariance	5280.663
Log likelihood	-1194.352
Akaike information criterion	30.93695
Schwarz criterion	33.97547

Based on the results of the Vector Autoregression analysis, it is known that the previous variable also contributed to the current variable as shown in table 1 above that the past variable (t_{-1}) is related to the variable itself and other variables. By using the basis of lag 2, it can be seen that there is a contribution from each variable to the variable itself and other variables, thus the variables in this study contribute to each other. The VAR analysis in this study includes the variables of unemployment (UMPL), Money Supply (JUB), Interest Rate (SB), Inflation (INF), Tax Revenue (TAX), Government Expenditure (GOV) and Investment (INV). The

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following table concludes the contribution of VAR analysis:

Table 2. VAR Analisis analysis

Variable	Biggest Contribution 1	Biggest Contribution 2
GOV	TAX $_{t-1}$ 1,050353	UMPL $_{t-1}$ 0,453797
INFL	UMPL $_{t-2}$ 0,467385	SB $_{t-2}$ 0,170908
INV	INV $_{t-1}$ 0,588737	UMPL $_{t-1}$ 0,275883
JUB	UMPL $_{t-2}$ 0,557632	GOV $_{t-1}$ 0,397304
SB	SB $_{t-1}$ 0,608347	SB $_{t-2}$ 0,196126
TAX	TAX $_{t-1}$ 0,743413	SB $_{t-2}$ 0,074252
UMPL	UMPL $_{t-1}$ 0,585715	SB $_{t-1}$ 0,528001

The conclusion of the contribution of VAR analysis as shown in table 2 above shows the largest contribution of one and two to a variable, which is then analyzed as follows:

1. VAR analysis of GOV
   The biggest contribution to government spending is tax revenue for the previous period and followed by unemployment in the previous period. The amount of tax revenue will increase state spending by spending government spending on productive activities which will reduce unemployment.
2. VAR analysis of INF
   The biggest contribution to inflation is unemployment for the current period, followed by interest rates for the current period. When the demand for labor is high and there are few workers unemployed, employers can be expected to bargain for wages fairly quickly. However, when the demand for labor is low and unemployment is high, workers are reluctant to accept wages lower than the prevailing level. When interest rates fall or are low, the demand for loans will be more, where people will choose to borrow more money than save. This means that more money will be spent, so the economy grows and the inflation rate increases.
3. VAR analysis of INV
   The biggest contribution to investment is the investment itself in the previous period and followed by unemployment in the previous period. An increase in income will increase purchasing power and increase demand, an increase in demand will increase investment to meet people's demand. An increase in investment will reduce unemployment.
4. VAR analysis of JUB
   The biggest contribution to the money supply is unemployment in the current period, followed by government spending in the previous period. The increase in the money supply this year was also influenced by the increase in people's income and the pressure in the money supply this year. An excessive increase in the money supply can encourage an increase in prices beyond the expected level so that in the long term it can interfere with economic growth so that unemployment increases. An increase in gross domestic product will increase production and encourage investment, an increase in investment will increase people's income and an increase in the ownership of money in the hands of the public due to an increase in people's purchasing power, an increase in people's purchasing power increases government spending.
5. VAR analysis of SB

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The biggest contribution to interest rates is the interest rate itself in the previous period and followed by the interest rate itself for the current period. In the interest rate setting policy is based on a very strong consideration of the interest rate itself in the previous and current periods where the interest rate is a policy variable based on market conditions. Economic conditions are also a reference for policy setting interest rates.

6. VAR analysis against TAX
   The biggest contribution to tax revenue is the tax revenue itself in the previous period, followed by the interest rate itself for the current period. The amount of tax revenue and an increase in interest rates will increase state income, rising interest rates, people will prefer to keep their money in banks because they expect profits. Where the profits can meet household needs, save and pay taxes.
7. VAR analysis of UMPL
   The biggest contribution to unemployment is unemployment itself in the previous period and followed by interest rates in the current period. The high unemployment is caused by unemployment itself and the impact of rising interest rates that must be considered is the sluggish economy which has an impact on decreasing job opportunities. Decreased production also has an impact on reducing the number of employees. Unemployment occurs due to an imbalance between employment and people who need work, so that only a few get the opportunity to work.

CONCLUSION

Based on the analysis and discussion that has been carried out, the following conclusions can be drawn:

1. This study has a good model, where the specifications of the model formed have stable results, which show that all unit roots are in the circle of the Inverse Roots of AR Characteristic Polynomial image.
2. The results of the Vector Autoregression Analysis using the lag 2 basis show that there is a contribution from each variable to the variable itself and other variables. Contributions to the government contest variables are tax revenue (t_{-1}) and festivals (t_{-1}). Contributions to inflation variables are (t_{-2}) and interest rates (t_{-2}). Contributions to investment variables are investment (t_{-1}) and movement (t_{-1}). Contributions to the variable amount of money in circulation are budgeting (t_{-2}) and government spending (t_{-1}). Contributions to interest rate variables are interest rates (t-1) and interest rates (t_{-2}). The contribution to the variable of tax revenue is tax revenue (t_{-1}) and interest rates (t_{-2}). Contributions to the movement variable are movement (t_{-1}) and interest rates (t_{-1}). The results of the Vector Autoregression Analysis also show that the past variable (t_{-1}) contributes to the present variable both on itself and on other variables. From the estimation results, it turns out that there is a reciprocal relationship between one variable and the other variables that contribute to each other.

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