

Testing the Philips Curve Model Based on Financial Technology and Macroprudential Policy in ASEAN Countries with the Highest Unemployment Rate

Nurul Syahfia^{1*}, Lia Nazliana Nasution², Rusiadi³

Universitas Pembangunan Panca Budi, Indonesia

*E-mail Correspondence: nrlysyahfia@gmail.com

Abstract

Financial technology integration can influence unemployment rates in various ways, such as expanding access to the labor market through online platforms, creating new jobs within the financial technology sector itself, or increasing labor market efficiency through technologies such as job matching platforms. Macroprudential policy refers to the steps taken by financial authorities to manage systemic risks in the financial sector. In the context of the Phillips curve, these policies can have a direct or indirect effect on the unemployment rate through their influence on financial system stability and economic growth. In relation to ASEAN countries with the highest unemployment rates, testing this model will pay attention to structural, demographic and economic differences between these countries. These factors will influence how financial technology and macroprudential policy interact with the unemployment rate in each country. The results of this test provide valuable insights for policymakers in ASEAN countries with high unemployment rates. They can use this information to design more effective policies in promoting economic growth and reducing unemployment rates through the appropriate application of financial technology and macroprudential policies.

Keywords Philips Curve, Financial Technology, Macroprudential, Inflation and Unemployment.

INTRODUCTION

In the concept of Phillips curve theory, high unemployment will tend to reduce inflation. AW Phillips (1958) in his writing entitled *The Relationship Between Unemployment and The Rate of Change of Money Wage Rate in the United Kingdom* published in the journal *Economica*, showed that there was a negative relationship between the increase in wage levels and the unemployment rate (which became known as the curve Phillips). Phillips' research, which used data on the rate of change in wages and unemployment in England during the years 1861-1913, showed that if inflation occurred, which was reflected in a high increase in wage levels, it would cause a decrease in the unemployment rate. On the other hand, a high unemployment rate will be accompanied by a decline in wages to low levels (Nabella, 2017).

The country with the highest unemployment rate in ASEAN really needs attention. As we know, many countries in the world face unemployment problems. High unemployment makes some of these countries a sign of economic instability. The higher the unemployment rate, the more it shows that the country's economy is no longer able to survive. Regarding the countries with the highest unemployment rates in ASEAN, according to data obtained from Trading Economics 2021 to 2023, there are 6 ASEAN countries that have the highest average unemployment rates, higher than other countries. Brunei Darussalam with an average unemployment rate of 7.2%, the Philippines with an average



unemployment rate of 5.4%, Indonesia with an average unemployment rate of 5.3%, Timor Leste with an average unemployment rate of 4.9%. Then, Malaysia with an average unemployment rate of 3.4% and Vietnam with an average unemployment rate of 2.3%. Therefore, this research uses six ASEAN countries, namely Brunei Darussalam, Philippines, Indonesia, Timor Leste, Malaysia and Vietnam (Afni et al., 2022).

As time goes by, the economy and employment opportunities in various ASEAN countries have also improved. Based on data from Trading Economics and the International Monetary Fund (IMF), the following is a list of countries with the highest unemployment rates in ASEAN in 2021-2023:

Table 1. List of Country Unemployment Rates in ASEAN 2021-2023
List of Country Unemployment Rates In The ASEAN 2021-2023

<i>Country</i>	<i>Last</i>	<i>Previous</i>	<i>References</i>
Brunei	7.2	7.4	Dec-22
Philippines	5.4	4.2	Oct-23
Indonesia	5.3	5.83	Sep-23
East Timor	4.9	5	Dec-22
Malaysia	3.4	3.4	Oct-23
Vietnamese	2.3	2.25	Jun-23
Laos	2.2	3.6	Dec-22
Myanmar	2.2	1.79	Dec-21
Singapore	2	1.9	Sep-23
Thailand	0.99	1.06	Sep-23
Cambodia	0.36	0.3	Dec-22

Source: Trading Economics

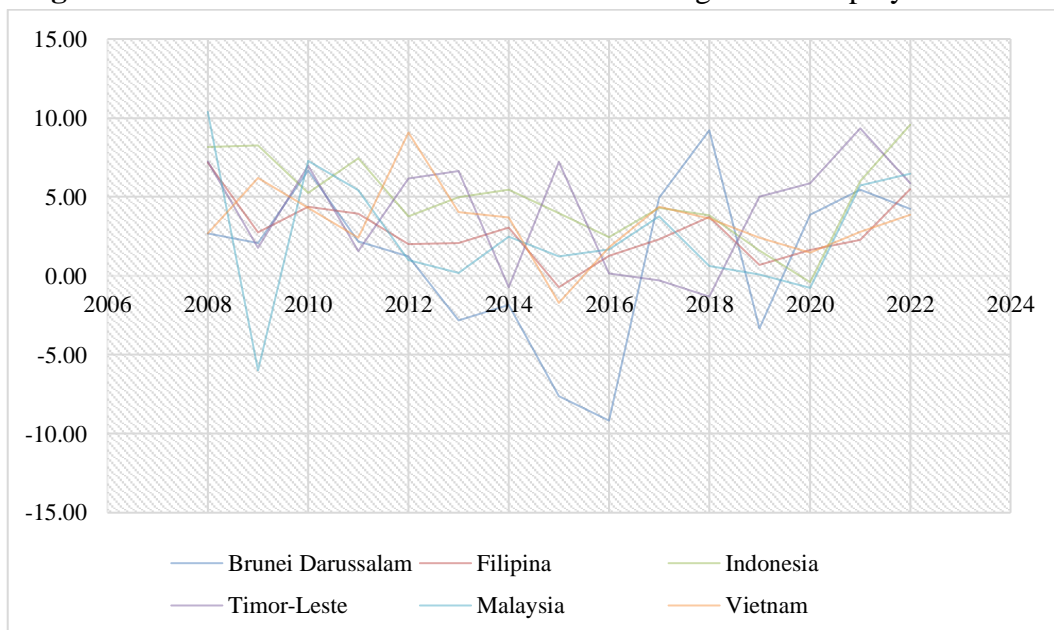
Based on data quoted from an online economic site called Trading Economics, which is the country with the highest unemployment rate in ASEAN, it is known that almost every country is facing the problem of unemployment, both in developing countries and in economically advanced countries. In general, the term unemployment is used for people who are in the workforce but do not have a job or are looking for work and one of the causes of unemployment is due to a lack of job opportunities while the number of workers continues to increase. The unemployment rate is often used as an indicator to measure a country's economy, but a low unemployment rate also does not guarantee the welfare of a country because it is possible that the per capita income it receives is not too high. Unemployment is also a classic problem faced by many countries in the world because the number of job opportunities is very small compared to job seekers, which makes it unequal. However, it turns out that in this world there are countries with low unemployment rates. The reason the author uses ASEAN Countries with the Highest Unemployment (Brunei Darussalam, Philippines, Indonesia, Timor-Leste, Malaysia and Vietnam). Because these six countries have the highest unemployment rates in ASEAN (Rusiadi et al., nd).

In the Phillips curve theory, high unemployment will tend to reduce inflation. However, what is interesting is that in Indonesia, a phenomenon that often occurs is that

when unemployment is high, the inflation rate also remains high. In fact, the goal that is always desired for both problems is low. In simple terms, inflation is defined as a general and continuous increase in prices. An increase in the price of just one or two goods cannot be called inflation unless the increase extends (or results in an increase in prices) for other goods (Bank Indonesia). Hamilton (2022) inflation has been widely described as an economic situation where the increase in the money supply is faster than the production of goods and services in the same economy. The inflation rate is measured as a percentage change in price indices (consumer price index, wholesale price index, producer price index etc.).

Essien (2019) argues that the consumer price index (CPI) measures the prices of a representative basket of goods and services purchased by the average consumer and is calculated on the basis of periodic consumer price surveys. The indicator that is often used to measure the level of inflation is the Consumer Price Index (CPI). Inflation is seen as one of the most important factors influencing a country's economic growth. There are various views regarding the impact of inflation on economic growth, including in 1958, Philips stated that high inflation positively influences economic growth by reducing the unemployment rate. This opinion is also supported by structural and Keynesian perspectives who believe that inflation is not dangerous for economic growth, while the monetarist view believes that inflation is dangerous for economic growth. This is supported by events in 1970 where countries with high inflation, especially Latin American countries, began to experience a decline in growth rates and thus led to the emergence of a view which stated that inflation had a negative effect on economic growth, not a positive effect. (Feronika Br Simanungkalit, 2020).

Figure 1. Inflation in ASEAN Countries with the Highest Unemployment Rates

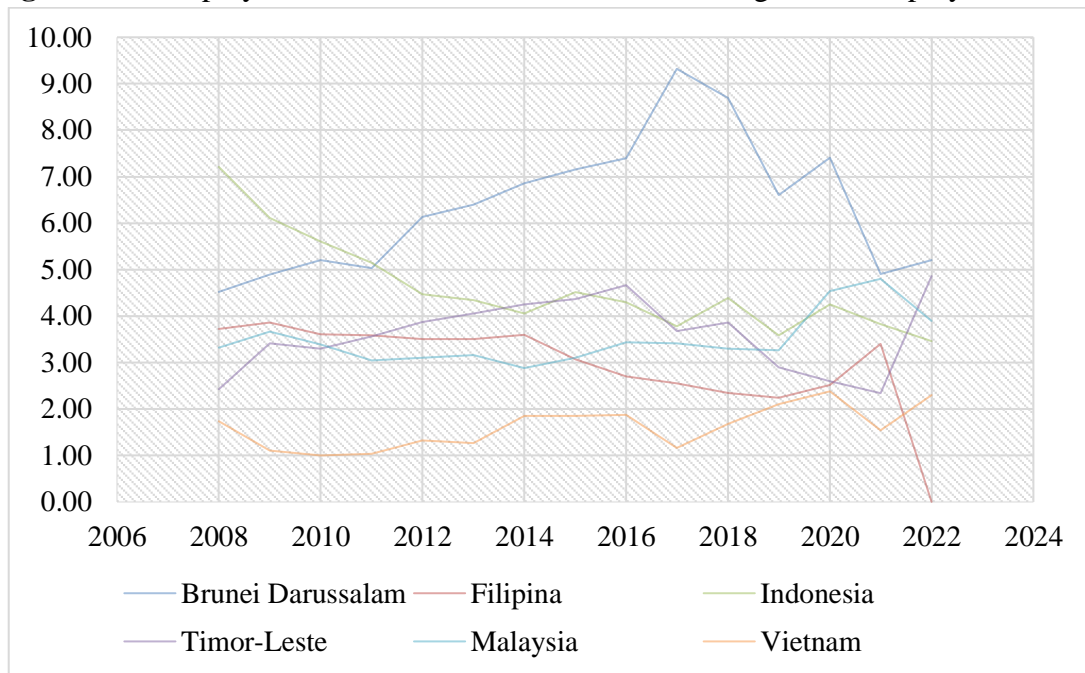


Source: Ceic Data, processed by the author (2024)



The picture above shows the names of several countries with inflation rates that the author studied, namely Brunei Darussalam with an inflation rate of 4.2%, the Philippines with an inflation rate of 5.4%, Indonesia with an inflation rate of 9.5%, Timor-Leste with an inflation rate of 5.8%, Malaysia with an inflation rate of 6.4% and Vietnam with an inflation rate of 3.8%. Furthermore, the author also attaches the unemployment rate in the countries studied, along with a list of tables and figures of unemployment data in countries with the highest unemployment rates in ASEAN.

Figure 2. Unemployment in ASEAN Countries with the Highest Unemployment Rates



Source: Ceic Data, processed by the author (2024)

The picture above shows the names of the countries Brunei Darussalam with a rate of 5.2%, the Philippines with an unemployment rate of 4.3%, Indonesia with an inflation rate of 3.4%, Timor-Leste with an inflation rate of 4.8%, Malaysia with a rate of inflation was 3.9% and Vietnam with an inflation rate of 2.3%.

Macroprudential policy is more oriented to the system as a whole. Bank Indonesia seeks to maintain the stability of the Indonesian financial system through two approaches, namely microprudential and macroprudential. Macroprudential policy will play an important role in the effectiveness of implementing macroprudential policy, so that the communication process regarding macroprudential policy starts from the most basic things. Thus, the focus of macroprudential policy does not only cover financial institutions, but also includes other elements of the financial system, such as financial markets, corporations, households and financial infrastructure (Dinamika et al., 2019).

Macroprudential policy is one of the main policies of Bank Indonesia which is established and implemented to prevent and reduce systematic risks, encourage the intermediation function of financial institutions, and increase access and efficiency of the

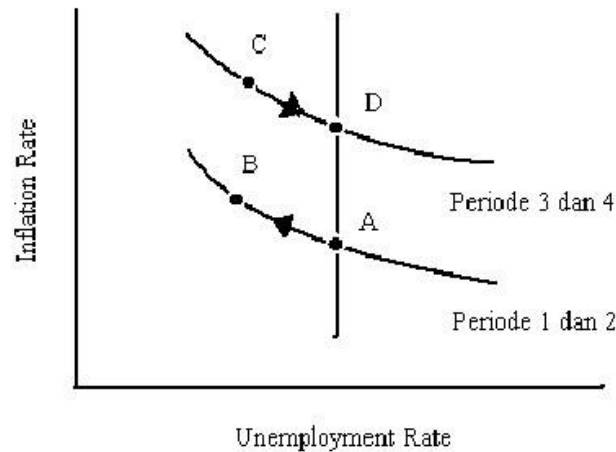
financial system in order to maintain the stability of the country's financial system so that it becomes a form of innovation in the field of innovation. financially so that it can be done more effectively, efficiently and easily (Kusuma et al., nd).

LITERATURE REVIEW

Phillips curve

The name of the curve is taken from the person who first made studies in this aspect. In 1958 AW Phillips, who at that time was a Professor at the London School of Economics, published a study on the characteristics of changes in wage levels in England (Testing the Philips Curve for Indonesia, n.d.)

Figure 3. Philips Curve Graph



This hypothesis supports the Keynesian model because one of the measures of macroeconomic performance is the unemployment rate and inflation rate. Figure 3 shows the tradeoff between the unemployment rate and the inflation rate. The inflation rate will be higher if the nominal wage growth rate is high. The inflation rate and nominal wage growth rate are perfectly correlated at steady-state. This means that the relationship between nominal wage growth and the unemployment rate is similar to the relationship between the inflation rate and the unemployment rate.

Macroprudential Policy

The term macroprudential emerged and became very popular in the financial sector after the global financial crisis. The financial crisis is thought to have occurred because effective macroprudential policies have not been implemented in developed countries, namely policies related to dynamics in the financial sector which originate from interactions between macroeconomics and microeconomics. Macroprudential policy will play an important role in the effectiveness of implementing macroprudential policy, so that the communication process regarding macroprudential policy starts from the most basic things.

In research conducted at BIS, Switzerland, macroprudential policy is defined as a policy that aims to limit the risks and costs of a systemic crisis (Galati G, and Richhild M.,



2019). Meanwhile, the European Systemic Risk Board (ESRB), which is the body whose mission is to supervise the European financial system, as well as prevent and limit the occurrence of systemic risks in the European financial system, defines macroprudential policy as a policy aimed at maintaining the stability of the financial system as a whole, including by strengthening resilience. financial system and reduce the buildup of systemic risk, thereby ensuring the continued contribution of the financial sector to economic growth (ESRB, 2020).

METHOD

This research is quantitative research. Where the quantitative research model is explained precisely and systematically, which is well planned, clearly structured from the beginning to the research design. This research was conducted in ASEAN countries with the highest unemployment rates (Brunei Darussalam, Philippines, Indonesia, Timor Leste, Malaysia and Vietnam. Research variables include what variables will be studied. This research uses 6 (six) dependent variables, namely: E-Money (X1), P2P Lending (X2), NPL (X3), GWM (X4), GDP (X5) and JUB (X6) Independent variables, namely: Inflation (Y1) and Unemployment (Y2).

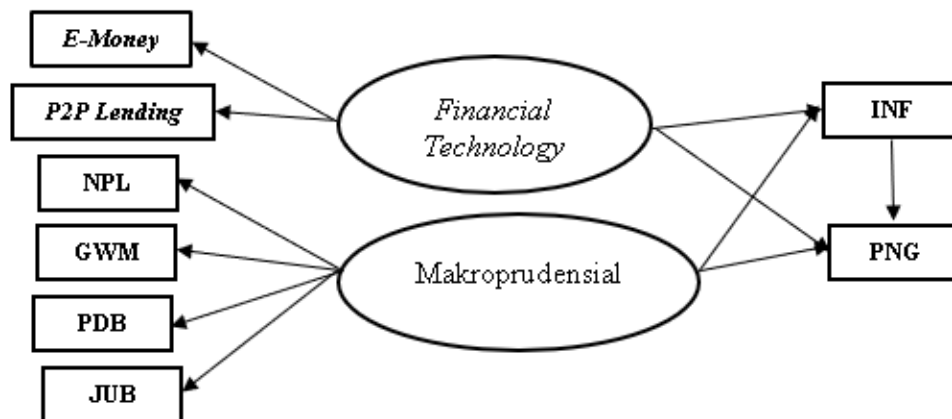
The type of data for this research is secondary data. Secondary data is data collected from existing data. Initially, secondary data was primary data that had previously been collected by someone else either for research purposes or simply to be recorded in a database. The data sources in this research were obtained from the Central Statistics Agency, Bank Indonesia, Financial Services Authority, Trading Economics and World Bank. Data starting from 2008 to 2022 is related to Data on Variables. The data collection technique used in this research is by means of a documentation study, namely collecting and processing data from previous information related to the problem being studied. The data used in this research is secondary data.

SUR (Seemingly Unrelated Regression)

In 1962 Arnold Zellner introduced the SUR model. Zellner stated that SUR is a multivariate regression model (multiple regression), and is part of multiple linear regression. SUR is a model consisting of several equations and the variables are not two-way, but between these equations there is a correlation between the errors of the equations, which is known as peer correlation.

The conceptual framework of this research is placed on the use of the SUR method as a basis for the development of a linear regression model consisting of several regression equations that are related because the errors between different equations are correlated with each other, as follows:

Figure 4. Conceptual Framework of the SUR Model



The SUR model consists of several systems of unrelated equations, meaning that each variable (dependent and independent) is contained in one system. In short, a system of linear equations, several regression equations, can be solved into just one set of equations. The data analysis method used in this research is the Seemingly Unrelated Regression method.

Based on the conceptual framework that has been built, there are 2 equations in this model as follows:

Model Equation:

- **Equation 1:** $INF = F(PNG, EMO, P2P, NPL, GWM, GDP, JUB)$
- **Equation 2:** $PNG = F(INF, EMO, P2P, NPL, GWM, GDP, JUB)$

Econometric Equations:

- **Equation 1:** $\text{Log}INF = a_0 + a_1 \text{Log}(PNG) + a_2 (EMO) + a_3 \text{Log}(P2P) + a_4 \text{Log}(NPL) + a_5 \text{Log}(GWM) + a_6 \text{Log}(GDP) + a_7 \text{Log}(JUB) + e$
- **Equation 2:** $\text{Log}PNG = a_0 + a_1 \text{Log}(INF) + a_2 (EMO) + a_3 \text{Log}(P2P) + a_4 \text{Log}(NPL) + a_5 \text{Log}(GWM) + a_6 \text{Log}(GDP) + a_7 \text{Log}(JUB) + e$

Then the analysis model used is the Seemingly Unrelated Regression system with the EVIEWS 10 program as follows:

Seemingly Unrelated Regression Equation:

- $INF = C(10) + C(11) * EMO + C(12) * P2P + C(13) * NPL + C(14) * GWM + C(15) * GDP + C(16) * JUB$
- $PNG = C(20) + C(21) * EMO + C(22) * P2P + C(23) * NPL + C(24) * GWM + C(25) * GDP + C(26) * JUB$

Seemingly Unrelated Regression (SUR) is a development of the linear regression model which consists of several regression equations that are related because the errors between the different equations are correlated with each other. Time series data is data that is displayed based on time, such as monthly data, daily data, weekly data or other types of time.



RESULTS AND DISCUSSION

Interpretation of SUR (Seemingly Unrelated Regression)

This research uses quantitative data with the Seemingly Unrelated Regression (SUR) approach. The quantitative data in this research is related to the observed variable data, namely Inflation, Unemployment, E-Money, P2P Lending, NPL, GWM, GDP and JUB in the countries of Brunei Darussalam, the Philippines, Indonesia, Timor-Leste, Malaysia and Vietnam in 2008 -2022.

Data processing uses the E-Views 10 program, with the following results:

System: Nurul Syahfia
 Estimation Method: Seemingly Unrelated Regression
 Date: 06/08/24 Time: 14:42
 Sample: 1 90
 Included observations: 90
 Total system (unbalanced) observations 179
 Linear estimation after one-step weighting matrix

	Coefficient	Std. Error	t-Statistics	Prob.
C(10)	0.230059	1.999066	0.115083	0.9085
C(11)	-0.071462	0.213989	-0.333950	0.7388
C(12)	-0.033313	0.084147	-0.395888	0.6927
C(13)	0.149260	0.311843	0.478640	0.6328
C(14)	0.243232	0.187026	1.300528	0.1952
C(15)	0.432976	0.117804	3.675405	0.0003
C(16)	-0.025314	0.204076	-0.124042	0.9014
C(20)	4.212275	0.795801	5.293123	0.0000
C(21)	-0.306928	0.087553	-3.505636	0.0006
C(22)	-0.038472	0.032929	-1.168340	0.2444
C(23)	0.123680	0.122646	1.008427	0.3147
C(24)	0.109395	0.073206	1.494347	0.1370
C(25)	-0.238437	0.046100	-5.172186	0.0000
C(26)	0.108492	0.079645	1.362206	0.1750

Determinants of residual covariance 17.27414

Equation: $INF = C(10) + C(11) * EMO + C(12) * P2P + C(13) * NPL + C(14) * GWM + C(15) * GDP + C(16) * JUB$

Observations: 90

R-squared	0.153993	Mean dependent var	3.182778
Adjusted R-squared	0.092836	SD dependent var	3.568529
SE of regression	3.398852	Sum squared resid	958.8324
Durbin-Watson stat	1.700741		

Equation: $PNG = C(20) + C(21) * EMO + C(22) * P2P + C(23) * NPL + C(24) * GWM + C(25) * GDP + C(26) * JUB$

Observations: 89

R-squared	0.430200	Mean dependent var	3.815618
Adjusted R-squared	0.388507	SD dependent var	1.696566
SE of regression	1.326681	Sum squared resid	144.3267
Durbin-Watson stat	0.582448		

Source: Eviews 10, processed by the author (2024)

Based on the output results of the Seemingly Unrelated Regression equation, it can be seen that there are 2 equations, here are the explanations for each of the 2 equations:

Equation Test Results 1:

The first equation is the equation used to find out Seemingly Unrelated Regression of E-Money, P2P Lending, NPL, GWM, GDP and JUB on Inflation with the following equation as follows:

$$\text{INF} = 0.230059 - 0.071462 * \text{EMO} - 0.033313 * \text{P2P} + 0.149260 * \text{NPL} - 0.243232 * \text{GWM} - 0.43296 * \text{GDP} - 0.025314 * \text{JUB}$$

EMO coefficient

It is known that the EMO coefficient is negative -0.071462. This means that for every 1% increase in EMO, INF will decrease by -0.071462%. The prob value of 0.7388 > 0.05 means that EMO does not significantly affect INF. So it can be stated that E-Money has a negative and insignificant effect on inflation.

P2P coefficient

It is known that the P2P coefficient is negative -0.033313. This means that for every 1% increase in P2P, INF will decrease by -0.033313%. The prob value of 0.6927 > 0.05 means that P2P does not significantly affect INF. So it can be stated that P2P Lending has a negative and insignificant effect on inflation.

NPL coefficient

It is known that the NPL coefficient is positive 0.149260. This means that for every 1% increase in NPL, INF will increase by 0.149260%. The prob value of 0.6328 > 0.05 means that NPL does not significantly affect INF. So it can be stated that NPL has a positive but not significant effect on inflation.

GWM coefficient

It is known that the GWM coefficient is positive 0.243232. This means that for every 1% increase in GWM, INF will increase by 0.243232%. The prob value of 0.1952 > 0.05 means that GWM does not significantly affect INF. So it can be stated that the GWM has a positive but not significant effect on inflation.

GDP coefficient

It is known that the GDP coefficient is positive 0.432976. This means that for every 1% increase in GDP, INF will increase by 0.432976%. The prob value of 0.0003 < 0.05 means that GDP significantly influences INF. So it can be stated that GDP has a positive and significant effect on inflation.



JUB coefficient

It is known that the JUB coefficient is negative -0.025314. This means that for every 1% increase in JUB, INF will increase by -0.025314%. The prob value of 0.9014 > 0.05 means that JUB does not significantly affect INF. So it can be stated that JUB has a negative and insignificant effect on inflation.

The estimation results show that $R^2=0.153993$ which means that EMO, P2P, NPL, GWM, GDP and JUB are able to explain INF by 15.39% and the remaining 84.61%, INF is influenced by other variables outside the estimates in the model.

Equation Test Results 2:

The second equation is the equation used to find out the Seemingly Unrelated Regression of E-Money, P2P Lending, NPL, GWM, GDP and JUB on Unemployment with the following equation as follows:

$$\text{PNG}=4.212275-0.306928*\text{EMO}-0.038472*\text{P2P}+0.123680*\text{NPL}+0.109395*\text{GWM}-0.238437*\text{GDP}+0.108492*\text{JUB}$$

EMO coefficient

It is known that the EMO coefficient is negative -0.306928. This means that for every 1% increase in EMO, PNG will experience a decrease of -0.306928%. The prob value of 0.0006 < 0.05 means that EMO significantly influences PNG. So it can be stated that E-Money has a negative but significant effect on unemployment.

P2P coefficient

It is known that the P2P coefficient is negative -0.038472. This means that for every 1% increase in P2P, PNG will experience a decrease of -0.038472%. The prob value of 0.2444 > 0.05 means that P2P does not significantly affect PNG. So it can be stated that P2P Lending has a negative and insignificant effect on unemployment.

NPL coefficient

It is known that the NPL coefficient is positive 0.123680. This means that for every 1% increase in NPL, PNG will experience an increase of 0.123680%. The prob value of 0.3147 > 0.05 means that NPL does not significantly affect PNG. So it can be stated that NPL has a positive but not significant effect on unemployment.

GWM coefficient

It is known that the GWM coefficient is positive 0.109395. This means that for every 1% increase in GWM, PNG will experience an increase of 0.109395%. The prob value of 0.1370 > 0.05 means that GWM does not significantly affect PNG. So it can be stated that GWM has a positive but not significant effect on unemployment.

GDP coefficient

It is known that the GDP coefficient is negative -0.238437. This means that for every 1% increase in GDP, PNG will experience an increase of -0.238437%. A prob value of $0.0000 < 0.05$ means that GDP significantly affects PNG. So it can be stated that GDP has a negative but significant effect on unemployment.

JUB coefficient

It is known that the JUB coefficient is positive 0.108492. This means that for every 1% increase in JUB, PNG will experience an increase of 0.108492%. The prob value of $0.1750 > 0.05$ means that JUB does not significantly affect PNG. So it can be stated that JUB has a positive but not significant effect on unemployment.

The estimation results show that $R^2=0.430200$ which means that EMO, P2P, NPL, GWM, GDP and JUB are able to explain PNG by 43.02% and the remaining 56.98%, PNG is influenced by other variables outside the estimates in the model.

Interpretation of the Classical Assumption Test

1) Data Normality Test

System Residual Normality Tests
Orthogonalization: Cholesky (Lutkepohl)
Null Hypothesis: residuals are multivariate normal
Date: 06/08/24 Time: 14:43
Sample: 1 90
Included observations: 90

Components	Skewness	Chi-sq	df	Prob.
1	-0.246980	0.914989	1	0.3388
2	0.443961	2.956521	1	0.0855
Joints		3.871510	2	0.1443

Components	Kurtosis	Chi-sq	df	Prob.
1	3.488915	0.896392	1	0.3438
2	3.747342	2.094450	1	0.1478
Joints		2.990842	2	0.2242

Components	Jarque-Bera	df	Prob.
1	1.811382	2	0.4043
2	5.050971	2	0.0800
Joints	6.862352	4	0.1433

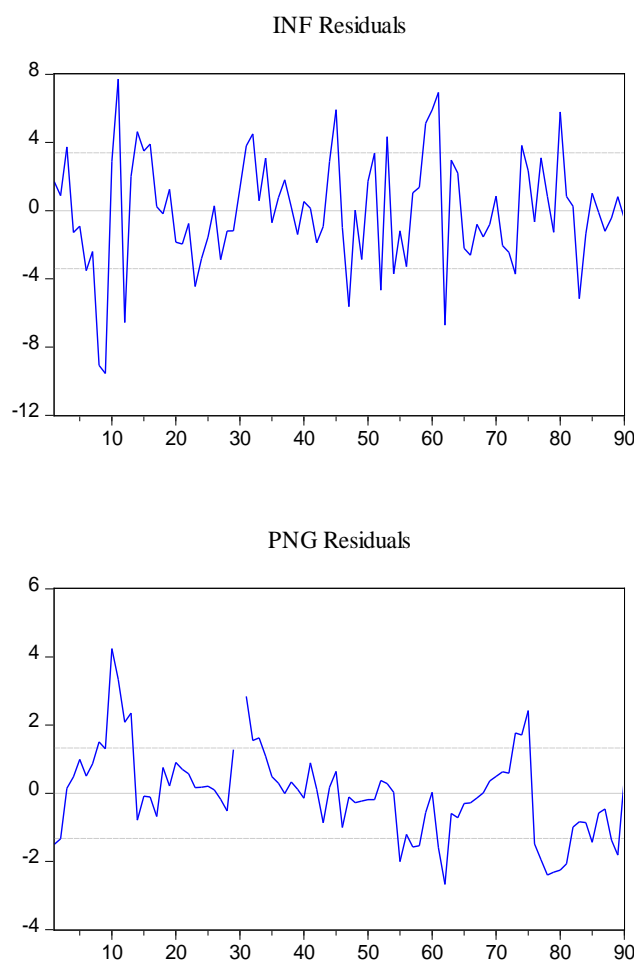
Source: Eviews 10, processed by the author (2024)

In this study, to test the normality of the data, the Jarque-Bera test was used. The criteria used are if the Jarque-Bera test (JB) probability value is $> \alpha 0.05$ then the data



will be said to be normal. In the table it is known that the probability value is $0.1433 > 0.05$ so the normality assumption is said to be fulfilled.

2) Data Heteroxidity Test



Source: *Eviews 10, processed by the author (2024)*

Based on the picture above, you can see the tendency for the residual values for both the INF and PNG variables to fluctuate in positive or negative positions without forming the same pattern. This means that the residual variety is free from the problem of heteroxide.

The Influence of Fintech and Macroprudential on Inflation

Fintech can increase efficiency in carrying out financial transactions, such as payments and money transfers, which in turn can reduce overall transaction costs. With lower transaction costs, consumers and companies may have more money available to use or invest in the economy, which can increase demand and lead to inflation. Macroprudential policies aimed at maintaining overall economic stability, such as maintaining moderate interest rates, can influence inflation. Low interest rates tend to encourage consumption and investment, which can increase inflation, while high interest rates tend to have the opposite effect. Fintech developments are expected to be more inclusive.

The Influence of Fintech and Macroprudential on Unemployment

Fintech can impact the labor market by providing a platform for online job search and recruitment. This can improve the efficiency of matching between job seekers and employers, which in turn can reduce unemployment rates. Macroprudential policy aims to ensure financial system stability by controlling systemic risks. If implemented effectively, these policies can reduce the risk of financial crises that can lead to recessions and high unemployment rates.

CLOSING

Conclusion

Based on the results of testing and data analysis carried out in this research. So the following conclusions can be drawn from the Fintech and Macroprudential side:

1. The research results show that there is an effectiveness influence on inflation during the 2008-2022 period in ASEAN Countries With The Highest Unemployment Rate which shows that the increase in E-Money, P2P Lending and JUB negatively and insignificantly affects inflation activities, NPL and GWM has a positive but not significant effect on inflation, while GDP has a positive and significant effect on inflation.
2. The effect of effectiveness on Unemployment during the 2008-2022 period in Asean Countries With The Highest Unemployment Rate which shows the results that increasing P2P Lending affects Unemployment activities negatively and not significantly, as well as NPL, GWM and JUB has a positive but not significant effect on Unemployment, while E-Money has a positive but not significant effect on Unemployment and GDP has a negative but significant effect on Unemployment.

Suggestion

Based on the results of testing and data analysis carried out in this research. then the following conclusions can be drawn:

1. If it is at the Efficiency Point (Phillips Point):
If the economy is at a point where inflation and unemployment rates are at optimal levels (Phillips point), then no special policy intervention is needed. Policies designed to influence either variable can lead to a trade-off between inflation and unemployment.
If it is Below the Efficiency Point (Below the Phillips Curve):
If the economy experiences high unemployment but low inflation (below the Phillips curve), the government can implement fiscal and monetary policies aimed at increasing aggregate demand. For example, increasing government spending or lowering interest rates can stimulate economic activity, reduce unemployment, and increase inflation.
2. The government can use monetary policy to control inflation and create conditions that support sustainable economic growth. This can be done by managing interest rates effectively, maintaining a balance between inflation and economic growth, and responding carefully to changes in economic conditions.
3. Future researchers are advised to carry out appropriately targeted economic stimulus programs, such as incentives for certain economic sectors or direct assistance to affected



individuals and businesses, which can help overcome low inflation and high unemployment in the short term.

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