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Revisiting Unemployment in Indonesia: Error Correction Model (ECM) Analysis

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Abstract

The rise in population in Indonesia has led to the emergence of a very pressing problem, namely the unemployment rate. Indonesia is currently ranked second in ASEAN as the country with the highest unemployment rate. It has become a serious problem due to the negative impact of such increases in crime, declining economic output, increasing poverty, rising numbers of demonstrators, and rising death rates, especially the rise in suicide rates among men. The rise in unemployment is caused by many factors, one of which is the economy. Some economic variables have experienced a high rise in the next few years to ensure the impact of the tests are carried out, i.e., look at the stationarity of data, see the long-term relationship with the co-integration test, use the Error Correction Model (ECM) method of this study, and conduct the test of the classic assumptions to see how the influence of macroeconomic variables such as foreign direct investment, GDP, government expenditure, exchange rates, and imports on the unemployment rate open in Indonesia with the period of time 1986 to 2022. The results show that there is both long-term and short-term influence, with the variable that has the most significant influence being foreign direct investments. It needs the attention of the government in determining policies and handling them to address the problem of unemployment in Indonesia.

Introduction

The larger the population in a country, the more labor is needed to accommodate the entire workforce. Ideally, population growth is also accompanied by the availability of jobs for balanced economic growth. According to Larasati (2023), one of the critical problems in Indonesia is the high unemployment rate from year to year. Unemployment is caused by an imbalance in demand and supply of labor in terms of the number and quality needed, which can cause serious unemployment problems.

Yurtsever (2023) states that low labor demand in the economy can lead to unemployment because it has an impact on reducing the need for labor. Less demand for labor will result in reduced working hours and even layoffs, which is a detrimental situation for workers. In countries with high unemployment rates, it is important to create policies that ensure the unemployed receive employment and social support. If a country fails to address this, it will result in social instability that impacts the development of the country in various aspects.

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Unemployment can have a negative impact on both the country and the individual. Several studies state that the negative impacts of unemployment include an increase in non-violent crimes that benefit financially (Jawadi et al., 2021), a decrease in economic production, an increase in poverty, an increase in the number of demonstrations (Franita & Fuady, 2019), an increase in mortality (Tufail & Ali, 2020; Granados & Ionides, 2010) and an increase in male suicide rates (Norström & Grönqvist, 2015). However, the impact of unemployment is different and universal across countries.

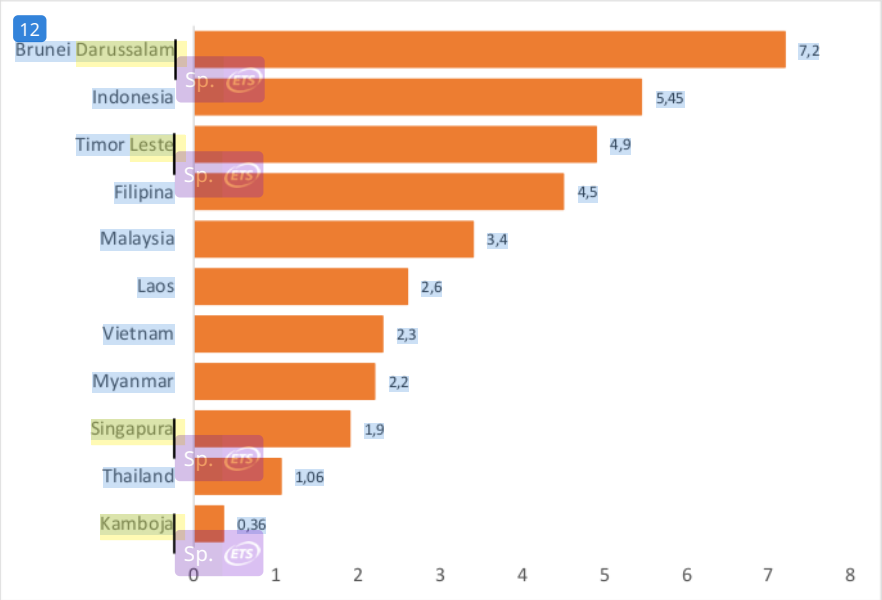

Figure 1. Unemployment Rate in ASEAN Countries (September 2023)
Source : https://databoks.katadata.co.id/

South Korea, Japan, and developed countries in Europe show a relatively mild impact on the unemployment rate compared to developing countries. This difference could be due to the better effectiveness of the unemployment insurance system in developed countries. On the other hand, in Indonesia, the implementation of an unemployment insurance system is still a challenge. This is complicated by Indonesia's status as a developing country with a population of 275 million (2022) and an Open Unemployment Rate of 5.86%. This indicates that about 6 out of every 100 people in Indonesia will be unemployed in 2022, a relatively high rate compared to other ASEAN countries. The data in Figure 1 shows that Indonesia has the second highest unemployment rate in ASEAN after Brunei Darussalam. Given this, it is imperative for the government to provide full support and attention to addressing this issue.

Indonesia's Open Unemployment Rate (OPR) shows a significant pattern from 1986 to 2022. In the late 1980s, the unemployment rate remained relatively low and stable, but in the 1990s, there began to be a sharp rise. This can be attributed to the Asian economic crisis in the 1990s, especially in 1998, which caused many companies to roll down and increase the unemployment rate.

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Entering the early 2000s, Indonesia's unemployment rate indicates a decline that reflects a post-crisis economic recovery. However, in the middle of the 2000s, the unemployment rate was revived due to various economic variables and policy changes. After reaching a certain peak, the unemployment rate showed a consistent downward trend from the middle of the 2000s to around 2010. This period was marked by government efforts to boost investment and open up new jobs, as well as economic programs to drive the formal sector to flourish.

In the subsequent period, the unemployment rate became relatively stable with slight fluctuations, but by the end of the period, the observation rate showed a significant increase. This increase is largely due to the impact of the ongoing global economic crisis as well as challenges in domestic labor markets, including the lack of matching skills and industry needs.

Unemployment rates remained relatively stable during the subsequent period and experienced slight fluctuations; however, by the end of the observation period, unemployment levels had increased significantly. This increase is largely due to the continuing global economic crisis as well as problems in domestic labor markets, such as skill imbalances and industrial needs. Overall, Open Unemployment Rate Indonesia is undergoing changes that reflect changes in government policies that focus on reducing unemployment and improving economic well-being, as well as changes in domestic and global economic conditions.

In response to this problem, the government needs to make efforts that can significantly reduce the unemployment rate. One of the steps that can be taken is to increase economic activity, which is expected to increase the demand for labor, so that in the end it can reduce the number of unemployed people. The implementation of this step includes increasing investment by opening opportunities for other countries to invest in Indonesia (Larasati, 2023). Direct investment flows from a country can contribute to the emergence of innovations in the development of a project, refilling the state budget, growth in the production of goods and services and income, and accelerating economic growth (Sadikova et al., 201

In addition, government spending also plays an important role in increasing the economic activity of a country, and vice versa. In 1998, during the monetary crisis in the Indonesian economy, government spending on goods and services decreased. In the following years, government spending has increased continuously until now. The International Monetary Fund (IMF) asserts that government spending has a direct impact on aggregate demand, controlling GDP and indirectly affecting the consumption, investment, and net export sectors. The IMF also states that government spending has an important role to play in reducing poverty, supporting people with small and medium incomes, and helping the economy grow more stable and sustainable.

Unemployment has a significant impact on the economic world, not only at the individual and family level, but it also has an impact on national economic stability. The importance of government spending in relation to the unemployment rate has also been proven in a study. Mahnaz Rahmat & Saeidi, 2017) showed that one of the most effective ways to reduce the unemployment rate is to create jobs and stabilize spending through government development. Evaluation and improvement of government strategies in this regard can make a positive contribution to economic growth and a decrease in the unemployment rate.

According to research conducted by El-Baz (2016), government spending is the main fiscal policy tool that governments can use to influence aggregate demand, with an impact on economic growth, employment, national income, and its distribution. This is also cited by Abouelfarag & Qutb (2021) in their journal. "Although many studies have discussed the impact of government

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spending on economic growth and employment, the study seeks to fill the gap by focusing on the dynamics of the influence of the currency exchange rate and government expenditure simultaneously on the unemployment rate in Indonesia, which has not been much explored in depth in the Indonesian economic context.

This was mentioned by Abouelfarag & Qaab (2021) in their journal. Not only government spending, but the rupiah exchange rate also plays an important role in the movement of the economic sector and the labor market that occurs through various specific mechanisms, thus affecting the unemployment rate. It is important to note that variables such as government spending and the exchange rate can affect the equilibrium employment rate through varying effects on aggregate supply and demand dynamics. For example, inflation can result in a decrease in the real money supply, as explained by Ogbeide et al. (2015).

Furthermore, fluctuations in the exchange rate, which are influenced by factors such as exports and imports, inflation, and foreign investment, can also potentially have a significant impact on the unemployment rate. Unemployment is also very sensitive to exchange rate volatility. Volatility is caused by the flexibility of the exchange rate market system (Shaari et al., 2012). If fluctuations occur significantly, there is uncertainty among businesses and investors.

The study examines how the interaction between government exchange and exchange rate volatility can simultaneously affect unemployment rates in Indonesia. It also introduces new variable indicators that have not been much studied, such as the impact of foreign direct investment and global market conditions on exchange rates and government spending volatilities. In addition, exchange rate volatility can also put direct pressure on imports, with the increase in production costs, it will directly increase production costs. An empirical study conducted by Shaari et al. (2012) shows that the level of exchange rate volatility has a negative correlation with the level of employment. This means that the higher the level of exchange rate volatility, the greater the possibility of an increase in the unemployment rate.

In the context of a country's economic growth, international trade is a central hub of activity that affects the sustainability of economic development. Two prominent aspects of international trade dynamics are export and import activities. While most attention is focused on exports, it is important to realize the significant impact that importing activities also have on a country's economy. It is crucial for international trade among the participating countries, wherein "import" refers to the act of bringing goods into the customs territory (as defined by the Law of the Republic of Indonesia No. 17 Year 2006, amending Law No. 10 Year 1995 on Customs in Article 1). In this context, "customs" encompasses the entirety of the Republic of Indonesia's territory, comprising land, sea, and airspace, along with specific areas in the Exclusive Economic Zone and continental shelf authorized by law.

Syukur et al. (2021) highlight that, when examining the unemployment rate from the perspective of the Indonesian state, imports influence several channels. Importing goods from other countries subjects the nation to intense competition in the domestic market, leading to a decrease in the production of domestic goods and a potential increase in the unemployment rate. While imports may cut production costs, they also result in a reduced workforce, particularly in sectors unable to compete with lower production costs from abroad. Therefore, there is a need for an import policy that will impact the employment structure across various sectors of the economy.

The COVID-19 pandemic has significantly impacted the domestic sector, affecting both Indonesia's international trade and the global economy, leading to a rise in unemployment rates

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within Indonesia. Furthermore, it has diminished investor optimism in the market, ultimately steering it towards a negative trend (Suprapto et al., 2023). The implementation of lockdowns, adherence to health protocols, restrictions on the import and export of specific goods, and disruptions in global supply chains have brought about substantial alterations in global trade patterns, resulting in a dramatic decline in the country's economy. China, being Indonesia's largest trading partner, encountered challenges, particularly in the importation of garlic (which constitutes almost 100% of Indonesia's imported garlic) and sugar (Putri et al., 2021). Consequently, this scarcity led to a surge in domestic prices. Despite the decrease in industrial and tax sector revenues, Indonesia managed to sustain government revenue growth at the end of the first quarter of 2020, reaching 7.75% compared to -0.5% in February 2020. According to research by Putri et al. (2021), the most significant drop in import activities in Indonesia occurred between February 2020 and May 2020.

Concerning the unemployment rate, it is likely to worsen in Indonesia due to significant shifts in trade patterns and a decline in industrial sector earnings. Disruptions to global supply chains can result in reduced production in sectors dependent on imports, subsequently leading to a reduction in the workforce. The escalation of goods prices due to import barriers can also impact the purchasing power of both the public and businesses, fostering job insecurity (Bellina et al., 2020).

Theoretically, Theoretically, the relationship between imports, unemployment rates and their impact on a country's gross domestic product (GDP) has been the subject of extensive research. In Keynesian theory, aggregate demand plays a very important role in determining economic activity, resulting in an impact on GDP. Keynesian theory shows that increasing imports can reduce aggregate demand, because spending on foreign goods and services leaves the domestic economy, which has the potential to increase unemployment and reduce GDP (Andini et al., 2024).

In this context, Febriyanti's research (2019) provides an understanding that the import variable has a partial negative impact on Indonesia's GDP. The fall in GDP caused by imports is most likely a consequence of its effect on the unemployment rate. As imports increase, the domestic industry may face tighter competition from foreign producers, which has the potential to result in a decline in domestic production and the loss of many jobs.

In the context of the formula (GDP = C + I + G + (X - M)) which includes the value of imports (M) and exports (X), the role of import policy is very important (Benny, 2013). Net export value (X-M) has a significant contribution to GDP. An increase in imports without a balance in exports will reduce the value of net exports, thereby having a negative impact on the value of economic growth and increasing unemployment. Therefore, maintaining a balance between import needs with job protection and national economic stability is very important.

Being ranked 2nd in the ASEAN countries with the highest unemployment rate makes Indonesia a subject of deep concern. The unemployment rate is not merely a statistic but a multidimensional impact that permeates various aspects of life. A high unemployment rate has the potential to exacerbate poverty, strengthen income inequality, and hinder efforts to address social problems in Indonesia. Although the government has made various efforts to tackle this issue, the results have been far from satisfactory. The implemented policies, economic development initiatives, skills improvement programs, and even the creation of new jobs have not significantly reduced the unemployment rate. It is important to understand that the unsustainability of this problem can have serious macroeconomic and social impacts in Indonesia.

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Given the ongoing consequences, it is imperative to carefully identify the factors or dimensions that fundamentally affect the unemployment rate in Indonesia. These factors involve various aspects, including social, educational, and economic dimensions. This research focuses on one of the key factors that has the potential to make a significant contribution to solving the unemployment problem in Indonesia, namely economic factors.

This study includes new variables regarding the impact of macroeconomics on the unemployment rate in Indonesia. In some previous studies, several macroeconomic variables, such as investment, gross domestic product, exports, imports, government expenditure, rupiah exchange rate, foreign exchange reserves, oil prices, etc., are considered to have a significant impact on the unemployment rate. However, this research only focuses on a few variables: the effect of foreign direct investment, gross domestic product, government expenditure, foreign exchange rate, and imports on the unemployment rate, with a time period of 1986-2022. Unlike some previous studies, it has not been possible to determine which variable has the biggest or lower impact on the unemployment rate. Therefore, this research aims to: 1) find out the general description of dependent variables and independent variables used in the study; 2) analyze the influence of macroeconomic variables on the unemployment rate in Indonesia.

Literature Review

Unemployment Rate (TPT)

Djohanputro, (2006) says that unemployment is someone who wants to work, tries to get a job but has not succeeded in finding one. Meanwhile, according to (Murni, 2006), unemployed people are those who do not have a job or income but are trying to get one. In this study, the unemployment variable used is the Unemployment Rate (TPT) which refers to the concept provided by the Central Bureau of Statistics (BPS), namely the percentage of the number of unemployed people to the number of labor force. Where the labor force is the population of working age (more than 15 years) who work or have a job but are temporarily unemployed and unemployed. This value describes the number of unemployed people per 100 working-age people. The open unemployment rate can be calculated as follows

$$TPT = \frac{unemployment\ number}{number\ of\ workforce} x\ 100\%$$

Foreign Direct Investment (FDI)

The definition of FDI used in this study comes from the *World Bank*, where foreign direct investment is defined as money coming into a country from foreign investors to acquire part of the shares of companies operating in that country (at least 10% of voting shares). The data shows the amount of incoming money (new investment minus withdrawal of investment) from foreign investors compared to the value of total economic production (GDP).

Foreign Direct Investment is investment capital that continues to be used for the production activities of a company (Todaro & Smith, 2000). A company that builds or opens its company (subsidiary) in a country that is not its own is defined as foreign direct investment. In this case, establishing a subsidiary means that the company transfers its raw materials, products, and company management to the subsidiary. From an economic point of view, foreign investment can be seen as a process of supplying capital resources, technology, and human resources, but still under the control of the main company (Agustin et al., 2021). Based on Soedomo et al. (2010)

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direct investment can absorb a lot of labor and have a significant multiplier effect on the Indonesian economy.

Exchange Rate

The price of a country's currency in units of foreign currency is called the exchange rate (Samuelson & Nordahus, 2009). There are two types of exchange rates: real exchange rates and nominal exchange rates. The nominal exchange rate is a comparison between the price of a country's currency and another foreign currency, for example, IDR 15,481 per one US dollar. Meanwhile, the real exchange rate is a comparison of the quantity of goods and services of a country with other countries, for example, 0.8 kg of onions in Thailand per 1 kg of onions in Indonesia. In this study, the exchange rate in question is the rupiah against the dollar.

GDP

In measuring economic development, countries calculate the growth of production of goods and services in the economic region in a certain period of time. The value of production is measured using the concept of value added from each economic sector in the region, defined as Gross Domestic Product (GDP). Therefore, GDP is used as an indicator to measure the progress of the country's economy and as an illustration to assess the success of the government in mobilizing economic sectors. There are three approaches in calculating GDP, namely:

a. Production approach
b. Usage/expenditure approach, and
c. Income approach.

In this study, the data is presented with a production approach in annual time periods in current US dollars.

Import

The Ministry of Foreign Trade says imports are actions taken by residents of a country to purchase goods and services sold by residents of another country, which results in the outflow of foreign currency from the country. According to Mankiw (2018), imports are economic activities in which goods or services made abroad are sold and consumed domestically.

Government Expenditure

According to the publication of the BPS, government consumption expenditure is the expense on goods or services consumed by the general government, which consists of collective services as well as certain individual goods and services. The indicators used in this study include Gross Domestic Product (GDP) the spending side, which consists of: (1). Household final consumption expenditure; (2). Gross capital formation, which includes private and public investments in fixed assets, changes in stocks, and net acquisitions of valuables; (3). Net exports, that is exports minus imports.

GDP on this expenditure side is recorded as the buyer's price and already includes the net tax on the product. Moreover, government spending is mostly spent on defense and national security but does not include government military spending. The data is measured in U.S. dollars today.

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Related Research

There are several studies that observe the relationship between foreign direct investment and the unemployment rate. The results show that FDI has a significant impact on the unemployment rate. This can be seen from the research conducted by Strat et al., 2015) in analyzing the causality between unemployment and FDI and (Larasati, 2023a) in analyzing the influence of inflation, population, and direct investment variables on unemployment in Indonesia.

Mahnaz, Rahmat & Saeidi, (2017b) conducted research on the relationship between government development expenditure and the unemployment rate in Iranian provinces in the period 1998-2013. The results obtained showed that government development expenditure produced a negative coefficient value of 0.06. Therefore, an increase in government development expenditure will negatively affect the unemployment rate in the provinces of Iran.

Another research discusses the effect of economic growth on the unemployment rate. From the research (Hjazeen et al., 2021), it was found that using the ARDL-regression method, economic growth has a negative and significant impact on long-term unemployment in Jordan. In contrast, Abouelfarag & Qutb (2021) found that an increase in gross government expenditure led to a strong increase in the unemployment rate in the long run in the period 1980 to 2017.

Shaari et al. (2012) in a study entitled The Effects of Oil Price Changes and Exchange Rate Volatility on Unemployment: Evidence from Malaysia by using the VAR model obtained the result that the Exchange Rate or (ER) affects the unemployment rate. The results also confirm that there is a relationship between these variables in the long run and the analysis says that the exchange rate (ER) affects the unemployment rate in the short run. Another study by fu & Lin (2012) states that there is a cointegration vector between China's real exchange rate and the unemployment rate during the period of time this study was conducted. Conducting research over several time periods allows for a more precise observation of changes in China's real exchange rate regime. The VECM method indicates that higher unemployment will lead to Yuan depreciation (and US dollar appreciation).

Jamil & Damayanti (2018) conducted a study on the impact of import tariff reduction on unemployment in Indonesia in the period 2000-2013. In this study, a regional measurement of tariff exposure at the district/city level was conducted and an econometric model was used. The results of this study in the first stage of analysis showed that the probability of unemployment was higher for young workers, urban workers, and those with low education. The second stage found that a reduction in import tariffs can increase the risk of poverty at the district level, especially in areas with a large allocation of workers in the net importer sector. This result is in line with the findings in Brazil where Dix-Carneiro & Kovak (2017) confirmed that tariff exposure has an impact on poverty levels in Indonesia.

Data and Methods of Analysis

The research method used in this study is a quantitative method using several macroeconomic variables. The dependent variable used in this research is the open unemployment rate while the independent variables are foreign direct investment (FDI), government expenditure, official exchange rate, gross domestic product (GDP) and Indonesian imports.

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Data

The type of data used in this research is secondary data, i.e., time period data or time series of annual periods obtained from the World Bank and the Central Bureau of Statistics (BPS). Secondary data is collected through documentation techniques, that is, by accessing and collecting data from official sources such as the World Bank and the Central Bureau of Statistics (BPS). The process of secondary data collection involves the recording and processing of data published in the form of annual reports, annual publications, and online datasets. The data in this study is a total of observations from 1986–2022. The type of data analyzed is as follows:

1. Foreign direct investment with net inflows (% of GDP) represents new investment flows deducted from investments.
2. Expenditure on final consumption of the general government in US dollars, which includes all current government expenditure on the purchase of goods and services.
3. The official exchange rate is calculated as an annual average based on monthly averages (local currency units relative to the US dollar).
4. Imports of Goods and Services (in US dollars) represent the value of all other market goods or services received from all over the world.
5. GDP per capita (GDP in USD) Gross Domestic Product divided by the population.

Model

This study uses descriptive analysis to describe the development of variables from 1986-2022 and uses inferential analysis, namely the ECM approach with the EViews 13 application. There are several stages that need to be passed to get the completion of time series data analysis with the ECM approach. The following is the ECM work process:

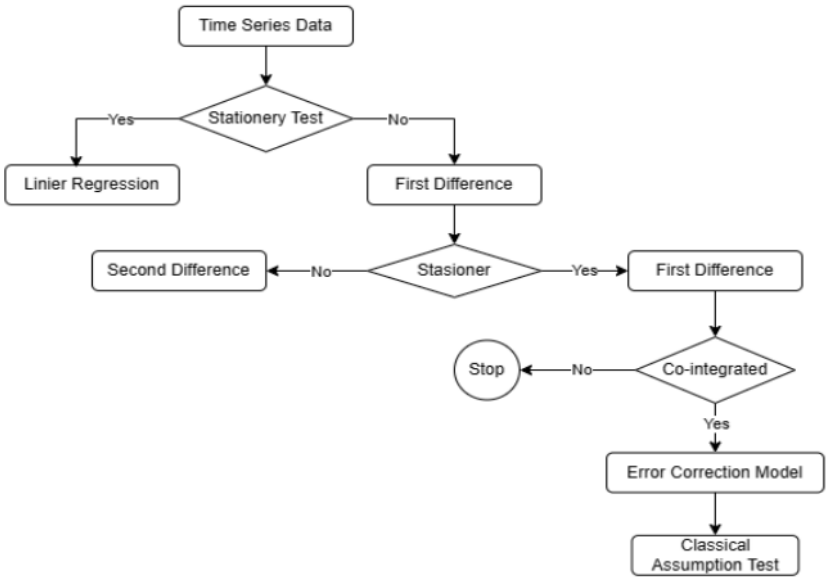

Figure 2. Stages of Time Series Analysis Applied in Research
Source. Data Collection, 2023

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Stationarity Test

At this stage, the Augmented Dickey-Fuller (ADF) test is used. ADF tests the data to obtain data that is stationary at the level or at the same place, and the absolute value is lower than the MacKinnon critical value for data that is already stationary.

Cointegration Test

The purpose of the cointegration test, which is conducted with the Engle-Granger method used in this study, is to determine whether there is a long-term relationship between variables (Zahrotussolichah & Septiani, 2022). The Cointegration test is carried out through testing the residuals of the long-term equation with the residual hypothesis not containing a unit root (stationary) or in other words that the Y and X variables are cointegrated (Kartiasih & Setiawan, 2020).

ECM Model or Error Correction Model

The ECM (Error Correction Mechanism) model is applied because it is able to correct short-term disequilibrium towards long-term equilibrium (Kartiasih & Setiawan, 2020). This technique is particularly useful in situations where long-term equilibrium and short-term disequilibrium behavior are of concern (Li et al., 2006). According to Laura et al., 2023) Short-term equilibrium correction is measured through the adjustment speed value if the negative adjustment speed value indicates that the short-term equilibrium will be corrected towards long-term equilibrium. The following is the model in this study.

$$TPT_t = \alpha_0 + \alpha_1 FDI_{t-1} + \alpha_2 GOV\_EXP_{t-1} + \alpha_3 IR_{t-1} + \alpha_4 ER_{t-1} + \alpha_5 GDP_{t-1} + \alpha_6 IMPORT_{t-1} + \varepsilon_t \quad (2)$$

$$\Delta TPT_t = \beta_0 + \beta_1 \Delta FDI_{t-1} + \beta_2 \Delta GOV\_EXP_{t-1} + \beta_3 \Delta IR_{t-1} + \beta_4 \Delta ER_{t-1} + \beta_5 \Delta GDP_{t-1} + \beta_6 \Delta IMPORT_{t-1} + \mu_t \quad (3)$$

Equation (2) is a long-run equation with t: time or period, α_0: intercept, TPT is the unemployment rate, FDI is foreign direct investment, GOV_EXP is government spending, ER is the rupiah exchange rate, GDP is gross domestic product, and IMPORT is Indonesian imports. Parameters α_i long-run coefficient in the variable and ε_t: error term.

Equation (3) is a short-term equation with t-1: previous year period, β_0: intercept, γ : speed of adjustment, parameters β_i: short-run coefficient of the variable, and μ_t: error term. In the short-term equation, the residuals are also seen, namely the ECT parameter or speed of adjustment where the parameter must be negative because the negative speed of this adjustment parameter indicates how fast the variable is heading towards equilibrium and its value must be between negative and between 0 and 1.

Classical Assumption Test

Before starting regression analysis and hypothesis testing, a classical assumption test must be performed. The purpose of the classical assumption test is to determine whether the regression model used has avoided deviating assumptions, fulfills the requirements for getting a good linear, or whether the estimated value of the parameters is in accordance with the true value. The following classic assumption test is used:

Normality Test

This test is carried out to observe whether the variables used in this study are normally distributed. The Jarque-Bera or J-B test is often used to see if data is normally distributed. If the

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value is more than the value of the significant level of alpha, it can be said that the data is normally distributed.

Multicollinearity Test

Multicollinearity, or near linear dependence, is a statistical phenomenon in which two or more predictor variables in a multiple regression model are highly correlated (Daoud, 2017). To observe the presence of multicollinearity in variables, it can be seen from the VIF or Variance Inflation Factor value.

Heteroscedasticity Test

Heteroscedasticity, the violation of this assumption, means that the Gauss-Markov Markov theorem does not hold, which means that the ordinary least squares ordinary least squares estimator is not the best linear unbiased estimator, and its variance is not the lowest of all other unbiased estimators (Uyanto, 2022). There are several heteroskedasticity testing methods that can be used such as Breusch-Pagan, Gletsjer, Goldfeld-Quandt, Harvey-Godfrey, Harrison-McCabe, Park, and White tests. The study will be said to fulfill this assumption when the value of the chi-square probability is higher than the value of the significant level.

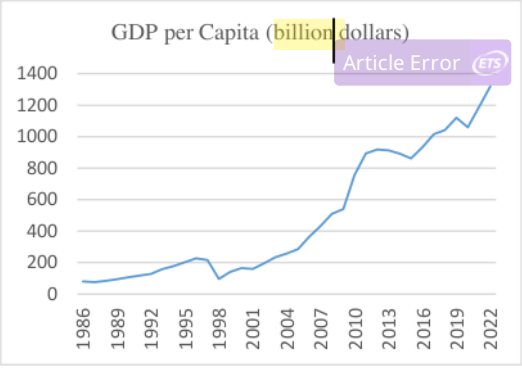
Autocorrelation Test

In time series data, this test serves to see the effect of past conditions on current conditions. This test is carried out using the LM test method. When the odds value of the chi-square is more than the significant level value, it can be said that autocorrelation occurs.

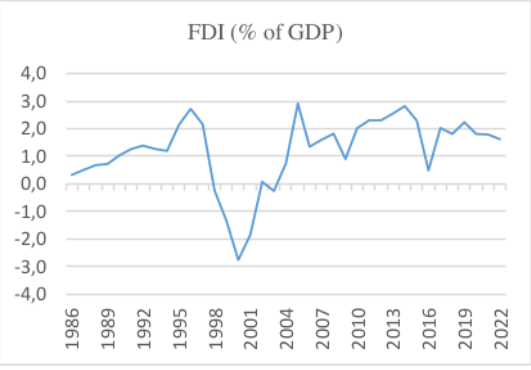
Results and Discussions

Descriptive Analysis

On the Figure 3 shown by Indonesian per capita GDP, government spending, imports, and real exchange rates show positive trends as well as significant increases. While the graph shows that FDI experienced a drastic decline from 1997 to the 2000's, this was due to the major economic crisis that occurred in 1998, followed by a warming political and security situation, which affected the macroeconomic variables as well. (Mustika et al., 2018) stated that FDI was one of the economic components affected, as the security and economic crisis caused many foreign investors to leave Indonesia and want to return, so that Indonesian FDI growth dropped drastically by 59.91%.



(a)



(b)

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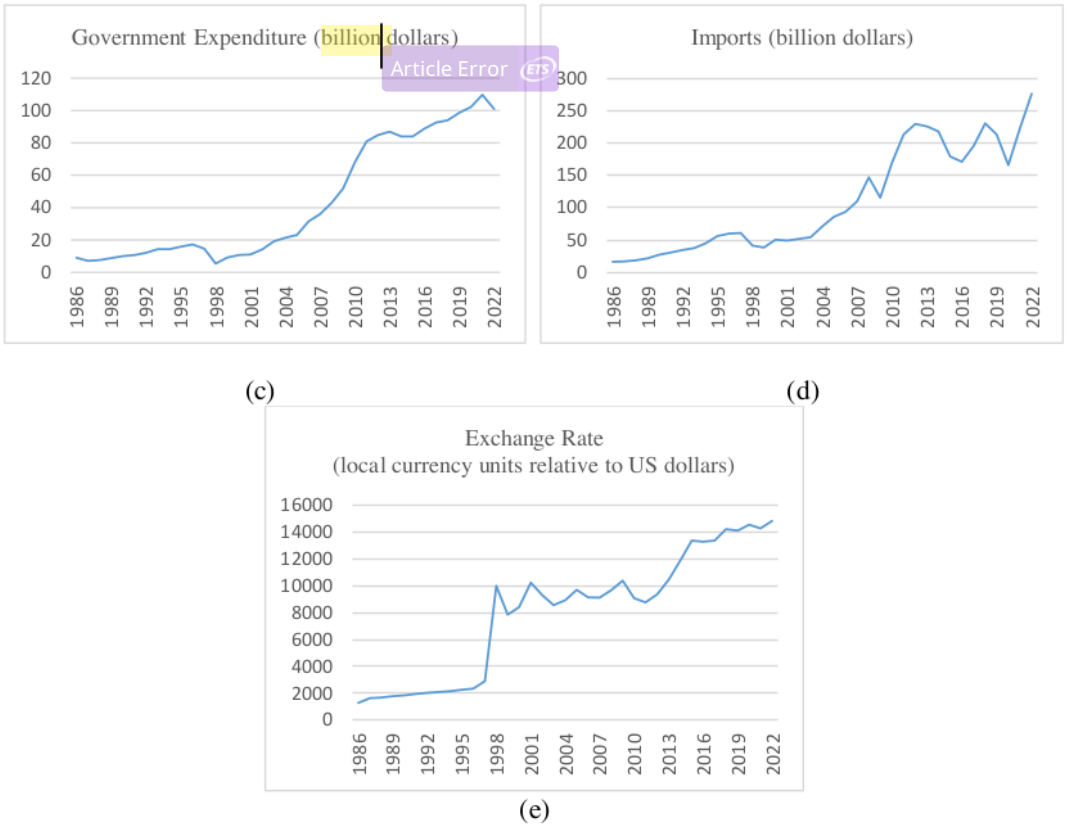

Figure 3. (a) Gross Domestic Product per capita; (b) Foreign Direct Investment with Net Input Flows; (c) General Government Final Consumption Expenditure; (d) Imports of Goods and Services; and (e) Real exchange rates calculated as annual averages based on monthly averages.
Source : World Bank, authors calculation.

Inferential Analysis

Stationarity Test

The main condition in the application of the ECM method is to perform the stationarity test. Stationarity tests are important because, when performing regression analysis, regression analyses cannot be processed if non-stationary data is primarily time series data, and if continuously continued, it will result in spurious or false regression. (Rahmatik, 2023). This is done by testing the root of the unit to find out the data integration. The data will be stationary when the value of the t test statistic is smaller than the critical point (Nisa & Juliprijanto, 2022). The fifth-variable stationarity test results can be seen in the following table.

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Table 1. Stationary Test Results in Levels

Variable	ADF	t Statistics 1%	5%	10%	Description
TPT	-1.467	-3.627	-2.946	-2.612	Non-Stationary
FDI	-2.381	-3.627	-2.946	-2.612	Non-Stationary
GOV_EXP	-0.524	-3.633	-2.948	-2.613	Non-Stationary
ER	-0.876	-3.627	-2.946	-2.612	Non-Stationary
GDP	1.612	-3.627	-2.946	-2.612	Non-Stationary
IMPORT	0.018	-3.627	-2.946	-2.612	Non-Stationary

Source : EViews 13 (authors calculation).

Tests at the level for each variable obtained results with the stationarity test using Augmented Dicky Fuler (ADF) showed that with significance levels of 1%, 5%, and 10% and p-value values on the respective variables above the significance rate of 5%, then for all non-stationary variables at the level. As previously explained, non-stationary data can result in spurious regression. Consequently, the estimates produced can be biased and inconsistent, leading to incorrect conclusions. This means that the regression results might show that the variables are significantly related, when in fact there is no real economic relationship between them. To qualify for the ECM method, a stationarity test is performed again on the first difference.

Table 2. Stationary Test Results in First Difference

Variable	ADF	t Statistics 1%	5%	10%	Description
TPT	-5.050	-3.633	-2.948	-2.613	Stationer
FDI	-5.696	-3.633	-2.948	-2.613	Stationer
GOV_EXP	-3.139	-3.633	-2.948	-2.613	Stationer
ER	-7.134	-3.633	-2.948	-2.613	Stationer
GDP	-4.189	-3.633	-2.948	-2.613	Stationer
IMPORT	-5.126	-3.639	-2.951	-2.614	Stationer

Source : EViews 13 (authors calculation).

The ADF test performed on each of the above variables showed that the ADF value is greater than the MacKinnon critical value and the p-value is less than the 5% significance level. Therefore, the variable is considered stationary. Since all variables on the first difference are already stationary, it can be said that the variables are qualified in the ECM model.

Cointegration Test

After all variables are checked and are stationary on the First Difference, a co-integration test of the variables in the study will be performed. According to Engle's and Granger's theories (1987), it is intended to test whether the resulting regression residues are stationary or not. This test is done by looking at the residual of a regression model between a bound variable and a free variable at a level. Co-integrity occurs when a residual on a level has a white noise property, or a long-term model is stationary. The calculations obtained from the long-term estimates based on the ECM tests carried out are as follows:

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Table 3. Error Correction Term (ECT) Results

Variable	ADF	t Statistics 1%	5%	10%	Description
ECT	0.0032	-3.627	-2.946	-2.611	Stationer

Source : EViews 13 (authors calculation).

The result of the test was that the residual probability value of 0.0032 was smaller than the significance level value (alpha = 5%), so the result was a H_0 reject. It can then be concluded that the variables observed in this study are co-integrated to the same degree or have a long-term balanced relationship with each other. Since the condition of the ECM method is residual at a significant level or acquires a long-term relationship, the model of ECM can be defined.

Error Correction Model (ECM)

After several previous tests, the next step is to estimate the ECM test results shown in the following table.

Table 4. Long-term ECM Estimate Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.985136	0.596341	3.328859	0.0023
FDI	0.722544	0.281956	2.562615	0.0155
GOV_EXPENDITURE	-4.12E-11	6.26E-11	-0.657101	0.516
ER	0.000774	0.00011	7.024926	0
GDP	-8.04E-12	7.01E-12	-1.146646	0.2603
IMPORT	2.37E-11	1.49E-11	1.595033	0.1209
R-squared			0.682	
F-statistic			13.305	
Prob(F-statistic)			0.000001	

Source : EViews 13 (authors calculation).

Based on the table obtained co-integration regression equation as follows

$$TPT_t = 1.677 + \alpha_1 FDI_{t-1} + \alpha_2 GOV\_EXP_{t-1} + \alpha_3 ER_{t-1} + \alpha_4 GDP_{t-1} + \alpha_5 IMPORT_{t-1} + \varepsilon_t \quad (4)$$

The above equation has the co-integrity shown by the statistical probability value F with a value of 0.000 less than the significance level of 0.05, meaning that the variables FDI, GOV_EXPENDITURE, ER, GDP, and IMPORT simultaneously have a significant influence on the magnitude of the variable TPT. If seen from the partial test results (test), it is seen that the FDI and ER variables have a less than significant probability of reaching the level, resulting in a H0 rebound result, which means that the FDI variables and ER have significant long-term effects on the TPT (Unemployment Rate). This result differs from the study conducted by Abouelfarag & Qutb (2021), in which the study found that in the long term, an increase in gross government spending (GOV_EXPENDITURE) led to a strong rise in unemployment rates.

The TPT variable has a parallel relationship with FDI, ER, and Import. This is seen in positive signs that indicate a correlation where the higher the foreign investment that comes in, the higher the rupiah value, and the higher the imports that are made, the higher the unemployment rate in Indonesia will rise. Investment and unemployment have a strong relationship in the long term. This relationship arises if you look at it from the point of view that if investments are down,

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then jobs are down too. In a formal analysis, the result was that the general factors that prompted the occurrence of investment were almost the same as the common factors that led to unemployment. (Smith & Zoega, 2009). Furthermore, if reviewed from the FDI variable, the findings are in line with research conducted by Strat et al. (2015) and (Larasati, 2023a), where the foreign direct investment variable (FDI) significantly affects the unemployment rate variable. As well as ER variables, there is a study conducted by (Shaari et al., 2012) that supports this result, where the exchange rate (ER) affects the unemployment rate in the short term.

From the output above, the imports are not significant in affecting the unemployment rate, so it may be stated that the change in imports will not have a significant impact on unemployment. This is different from the results found by (Jamil & Damayanti, 2018), which state that in the period 2000–2013, the reduction in import tariffs had an impact on Indonesia's employment.

The relationship between the original exchange rate and unemployment can be influenced by such factors as the financial situation of each country. In a study conducted by (Frenkel & Ros, 2006), it was found that the higher the country's real exchange rate, the higher its unemployment rate. Then, from the output of R-square value, a result of 0.6821 was obtained, which means that 68.21% of the diversity of the unemployment rate can be explained by the macro variables of the economy, and the rest is described by other variables.

Table 5. Short-term ECM Estimate Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.202485	0.175164	1.155972	0.2571
D(FDI)	0.408936	0.13467	3.036587	0.005
D(GOV_EXPENDITURE)	2.86E-11	3.63E-11	0.787766	0.4372
D(ER)	8.58E-05	0.000124	0.694678	0.4928
D(GDP)	-7.31E-12	4.50E-12	-1.624424	0.1151
D(IMPORT)	2.88E-12	9.46E-12	0.304645	0.7628
ECT (-1)			-0.251454	
R-squared			0.438	
F-statistic			3.767	

Source : EViews 13 (authors calculation).

Short-term testing with a variable in the First Difference obtained the speed of adjustment result indicated by the ECT parameter, obtaining a negative ECT coefficient value of 0.2514. The value of the parameter speed of adjustment, or ECT parameters, is negative and statistically significant at a 95% confidence rate, indicating that the application of the ECM model in this study is valid. For a long-term equilibrium to occur, a negative ECT coefficient is needed to correct the existing deviation (Kartiasih & Setiawan, 2020). For the speed of adjustment value on the long-term model, the result (1/0.2514 = 3.98) is about 3.98 years.

Based on the equation model obtained, it can be said that the macro-economic variables, including GDP, foreign direct investment, government spending, the rupee exchange rate, and the error correction term, simultaneously have a significant effect on the value of unemployment rate in the short term. In addition, from the resulting R-square value, the composer variables can explain as much as 43.80% of the diversity of the unemployment rate value, with other variables explaining the rest.

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Classic Assumption Test

Classical assumption testing is performed to obtain regression results that meet the BLUE (Best Linear Unbiased Estimator) criteria obtained as follows:

Table 6. Classic Assumption Test Results

Multicollinearities		Heteroscedastic Prob. Chi-Square (6)	Auto-Correlation Probability	Normality Probability
Variabel	**Centered VIF**			
FDI	1.415	0.87	0.029	0.192
GOV_EXPENDITURE	3.316			
ER	2.636			
GDP	8.07			
IMPORT	4.545			
ECT	1.912			

Source : EViews 13 (authors calculation).

a. Normality test. A good regression model has a residual value that is normally distributed. Based on the results in Table 6 above, the normality test results are obtained using the Jarque-Bera method with a probability value of 0.192, which is greater than the value of the significance level (alpha = 0.05), which means the residual is distributed normally.

b. Multicollinearity test. A regression model is said to be multicollinear if there is a perfect linear function on some or all the independent variables in a linear function. VIF (Variance Inflation Factor). I used to see the presence of multicollinearities on the model. Based on the results in Table 6 above, the obtained centered calculation VIF shows all values for each variable below 10. So, it can be concluded that the predicted model is free of the problem of multicollinearity.

c. Heteroscedasticity test. Heteroskedasticity indicates the state in which an inequality in the variance value of the residual occurs for any observation value in the regression model. Based on the results in Table 6 above, the results are obtained from the Breusch-Pagan-Godfrey test with a prob. Chi-square, which is 0.8703 greater than the degree of significance (alpha = 0.05). It can then be concluded that in this study there is no heteroskedasticity, or, in other words, the model has residual variance similarities.

d. Auto-Correlation test. Autocorrelation indicates a condition in which, in the regression model obtained, there is a correlation between the residual in the period t and the residual of the previous period (t-1). A good regressive model is one in which there is no auto-correlation. This test was carried out using the Breusch-Godfrey Correlation LM Test. Based on the results in Table 6 above, we obtained a prob. Ci-Square on the LM test of 0.0292, which is smaller than the level of significance (alpha = 0.05). So, it can be concluded that the inter-residual regression in the model has an autocorrelation. Many methods are used to deal with autocorrelation problems, such as adjusting the significance level, especially when the sample size is small, but from the 25–50 data range, it can still be said that there will be strong autocorrelations, so more substantial methods need to be dealt with. (Bence, 1995).

Conclusion

This study was conducted to see if there was an influence of macroeconomic variables on the unemployment rate (TPT). Data was used for the period 1986–2022, using the Error Correction

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Model method (ECM). The research was carried out because of the problems associated with the rising unemployment rate in Indonesia from year to year. This problem is caused by many factors and is a problem in many countries, without exception in Indonesia. Unemployment in Indonesia is not only a local problem but also affects stability at the regional level, given that Indonesia is ranked second highest in terms of the unemployment rate in ASEAN after Brunei Darussalam. Unemployment has negative impacts such as rising non-violent crime, declining economic output, increasing poverty, and so on.

Therefore, it is important to know what causes the rise in unemployment in Indonesia from an economic perspective. Testing is done by looking at the stationarity of the variables used. The result shows that the variable is not stationary at the level but stationary in the first difference. Then we'll see if there's a long-term or short-term relationship. The results indicated that the variables of foreign direct investment, government spending, GDP, real exchange rates, and imports have a long-term and short-term impact on unemployment rates. Investment and unemployment have strong links in the medium and long term, which is proved by significant partial tests in both the short and long term.

In classical assumption testing, the resulting output stated that the data already met the assumptions of normality, heteroscedasticity, and multicollinearity. However, there is a violation of the autocorrelation assumption, which means that the variable with the time period 1986–2022 is affected by the previous time period. In some selections, different results are obtained between variables that have a significant influence on the research. This is due to the difference in the period of time used because of the violation.

These tests and analyses result in some crucial recommendations for governments in addressing unemployment issues and maintaining economic stability. Governments need to improve policies that lead to increased productivity, efficiency, and employment. Vocational training and education programs that are tailored to the needs of the labor market can help to align labor skills with the demands of the industry. By implementing a mature and measured set of measures based on these recommendations, governments are expected to be able to respond effectively to the challenge of unemployment and treat economic stability in a comprehensive manner. In order to create effective incentives, governments are advised to implement policies that support foreign direct investments. This can be done by reviewing and strengthening existing regulations, as well as ensuring clarity of investment objectives and key sectors requiring special attention.

References

Abouelfarag, Hanan AbdelKhalik, and Rasha Qutb. 2021. "Does Government Expenditure Reduce Unemployment in Egypt?" *Journal of Economic and Administrative Sciences* 37(3):355–74. doi: 10.1108/jeas-01-2020-0011.

Agustin, Erika Bela, Sri Muljaningsih, and Kiki Asmara. 2021. "Analisis Faktor-Faktor yang Mempengaruhi Foreign Direct Investment (Fdi) Di Singapura Tahun 2004-2019." *Equlibrium* 10(2):105–12.

Andini, Dhita, Melinda Nur Aini, Muhammad Fatkhul Arifin, and Universitas Trunojoyo Madura. 2024. "Konsep Permintaan Uang Menurut Keynes Dan Relevansinya Dalam Prespektif Ekonomi Islam." 6(1):14–24.

Jurnal
Akuntansi, Manajemen, Bisnis dan Teknologi (AMBITEK)
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http://jurnalambitek.stie-mahaputra-riau.ac.id
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ISSN: 2715-7083 (Cetak)
2962-2042 (Online)
Page. 222-241

Bellina, Sophie, Tomy Tri Citra Cahyaningrat, and Septia Thalia Adinda Putri. 2020. "Dampak Karantina Wilayah Terhadap Perekonomian Indonesia." *Jurnal IlmiahDunia Hukum* 5(1):18–30.

Bence, James R. 1995. "Analysis of Short Time Series : Correcting for Autocorrelation Author (s): James R . Bence Analysis of Short Time Series : Correcting for Autocorrelation." *Ecology* 76(2):628–39.

Benny, Jimmy. 2013. "Pengaruhnya, Impor Dan, Ekspor Pengaruhnya, Impor Posisi, Terhadap Devisa, Cadangan Benny, Jimmy Ekonomi, Fakultas Pembangunan, Jurusan Ekonomi." *Jurnal EMBA : Jurnal Riset Ekonomi, Manajemen, Bisnis Dan Akuntansi* 1(4):1406–15.

Daoud, Jamal I. 2017. "Multicollinearity and Regression Analysis." *Journal of Physics: Conference Series* 949:012009. doi: 10.1088/1742-6596/949/1/012009.

Franita, Riska, and Andes Fuady. 2019. "Analisa Pengangguran di Indonesia." *Nusantara (Jurnal Ilmu Pengetahuan Sosial)* 2:88–93.

Frenkel, Roberto, and Jaime Ros. 2006. "Unemployment and the Real Exchange Rate in Latin America." *World Development* 34(4):631–46. doi: 10.1016/j.worlddev.2005.09.007.

Fu, Tze Wei, and Monli Lin. 2012. "Interest Rate, Unemployment Rate and China's Exchange Rate Regime." *International Journal of Emerging Markets* 7(2):177–90. doi: 10.1108/17468801211209947.

Granados, José A. Tapia, and Edward L. Ionides. 2010. "Mortality And Macroeconomic Fluctuations in Contemporary Sweden*". European Journal of Population / Revue Européenn 27*(2):157–184. doi: 10.1007/s10680-011-9231-4.

Jawadi, Fredj, Sushanta K. Mallick, Abdoulkarim Idi Cheffou, and Anish Augustine. 2021. "Does Higher Unemployment Lead to Greater Criminality? Revisiting the Debate over the Business Cycle." *Journal of Economic Behavior and Organization* 182:448–71. doi: 10.1016/j.jebo.2019.03.025.

Johanputro, Bramantyo. 2006. *Prinsip-Prinsip Ekonomi Makro*. 1st ed. edited by Y. Yuwono. Jakarta: PPM.

Kartiasih, Fitri, and Adi Setiawan. 2020. "Aplikasi Error Correction Mechanism Dalam Analisis Dampak Pertumbuhan Ekonomi, Konsumsi Energi Dan Perdagangan Internasional Terhadap Emisi Co2 Di Indonesia." *Media Statistika* 13(1):104–15. doi: 10.14710/medstat.13.1.104-115.

Larasati, Erlynda Rizky. 2023. "Analisis Pengaruh Inflasi, Populasi Dan Investasi Asing Langsung Terhadap Pengangguran Di Indonesia." *Jurnal Akuntansi, Manajemen, Bisnis Dan Teknologi (AMBITEK)* 3(2):191–99. doi: 10.56870/ambitek.v3i2.94.

Laura, Gabriella Deby, Rahmania Nur Chasanah, Nafisatul Faridah, and Fitri Kartiasih. 2023. "Assessing Fiscal Sustainability in Indonesia: Error Correction Mechanism Diagnostic." *Jurnal Ekonomi Pembangunan* 21(1):49–60. doi: 10.29259/jep.v21i1.19624.

Li, Gang, Kevin K. F. Wong, Haiyan Song, and Stephen F. Witt. 2006. "Tourism Demand Forecasting: A Time Varying Parameter Error Correction Model." *Journal of Travel Research* 45(2):175–85. doi: 10.1177/0047287506291596.

Mahnaz Rahmat, Dear, and Khalil Saeidi. 2017a. "International Journal of Economics and Financial Issues The Effect of Government Development Expenditures on Unemployment Rate in the Provinces." *International Journal of Economics and Financial Issues* 7(5):71–77.

Jurnal
Akuntansi, Manajemen, Bisnis dan Teknologi (AMBITEK)
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http://jurnalambitek.stie-mahaputra-riau.ac.id
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2962-2042 (Online)
Page. 222-241

Mahnaz Rahmat, Dear, and Khalil Saeidi. 2017b. "International Journal of Economics and Financial Issues The Effect of Government Development Expenditures on Unemployment Rate in the Provinces." *International Journal of Economics and Financial Issues* 7(5):71–77.

Mankiw, N. Gregory. 2018. *Principles of Microeconomics*. 8th ed. Boston: Cengage Learning.

Murni, Asfia. 2006. *Ekonomika Makro*. Bandung: Refika Aditama.

Mustika, Candra, Erni Achmad, and Etik Umiyati. 2018. "Dampak Ekspor Ke Jepang Dan Investasi Asing Terhadap Pendapatan Perkapita Masyarakat Di Indonesia." *Jurnal Paradigma Ekonomika* 13(2):47–54. doi: 10.22437/paradigma.v13i2.6668.

Nisa, Elis Laili Khoirun, and Whinarko Juliprijanto. 2022. "Analisis Faktor yang Mempengaruhi Investasi Asing Langsung di Indonesia Pada Tahun 1989 - 2019." *TRANSEKONOMIKA: Akuntansi, Bisnis Dan Keuangan* 2(1):29–44.

Norström, T., & Grönqvist, H. (2015). The great recession, unemployment and suicide. *Journal of Epidemiology and Community Health*, *69*(2), 110–116. https://doi.org/10.1136/jech-2014-204602

Ogbeide, Frank Iyekoretin, Hillary Kanwanye, and Sunday Kadiri. 2015. "The Determinants of Unemployment and the Question of Inclusive Growth in Nigeria: Do Resource Dependence, Government Expenditure and Financial Development Matter?" *Montenegrin Journal of Economics* 11(2):49–64. doi: 10.14254/1800-5845.2015/11-2/3.

Putri, Diva Permata Tri, Eva Wina Aprielya Damayanti, and Intan Sianturi. 2021. "Pengaruh COVID-19 Terhadap Kegiatan Ekspor Impor Di Indonesia." *Dinamika Bahari* 2(2):169–74. doi: 10.46484/db.v2i2.271.

Rahmatika, Diniawati. 2023. "Penerapan Model Ecm: Analisis Faktor Yang Mempengaruhi Produksi Karet Jambi Periode 2000-2021." *Transekonomika: Akuntansi, Bisnis Dan Keuangan* 3(4):721–39. doi: 10.55047/transekonomika.v3i4.483.

Sadikova, Malika, Faisal Faisal, and Nil Gunsel Resatoglu. 2017. "Influence of Energy Use, Foreign Direct Investment and Population Growth on Unemployment for Russian Federation." Pp. 706–11 in *Procedia Computer Science*. Vol. 120. Elsevier B.V.

Samuelson, Paul A., and William D. Nordahus. 2009. *Economics*. 19th ed. McGraw-Hill Education.

Shaari, Mohd Shahidan, Nor Ermawati Hussain, and Hussin Abdullah. 2012. "The Effects of Oil Price Shocks and Exchange Rate Volatility on Inflation: Evidence from Malaysia." *International Business Research* 5(9):72–83. doi: 10.5539/ibr.v5n9p106.

Smith, Ron, and Gylfi Zoega. 2009. "Keynes, Investment, Unemployment and Expectations." *International Review of Applied Economics* 23(4):427–44. doi: 10.1080/02692170902954767.

Soedomo, Pramono, Mohamad Nasir, Dahliana Hasan, Adrianto Dwi Nugroho, R. Nurhidajat, and Sigit Setiawan. 2010. "Kajian Ekonomi Keuangan." in Vol. 14. Jakarta.

Strat, Vasile Alecsandru, Adriana Davidescu(Alexandru), and Andreea Maria Paul(Vass). 2015. "FDI and The Unemployment - A Causality Analysis for the Latest EU Members." *Procedia Economics and Finance* 23:635–43. doi: 10.1016/s2212-5671(15)00448-7.

Suprapto, Yandi, Novi Angelina, and Selina Ng. 2023. "YUME : Journal of Management Analisis Pengaruh COVID-19 Terhadap Kegiatan Ekspor Dan Impor Antara Indonesia Dengan Cina." *Journal of Management* 6(2):160–66.

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Syukur, Musthafa, Muhammad Nur Salam, and Muhammad Imam Junaidi. 2021. "Dampak Pandemi Covid-19 Terhadap Perekonomian Indonesia: Analisis Terhadap Sektor Domestik Dan Stabilitas Inflasi." *TRILOGI: Jurnal Ilmu Teknologi, Kesehatan, Dan Humaniora* 2(3):382–88. doi: 10.33650/trilogi.v2i3.3082.

Todaro, Michael P., and Stephen C. Smith. 2020. *Economic Development*. 13th ed. England: Pearson Education.

Tufail, Muhammad, and Junaid Ali. 2020. *Assessment of Economic Values of Goods and Services Provided by Conifer Forest Ecosystems in the Khyber Pakhtunkhwa Province of Pakistan*.

Uyanto, Stanislaus S. 2022. "Monte Carlo Power Comparison of Seven Most Commonly Used Heteroscedasticity Tests." *Communications in Statistics: Simulation and Computation* 51(4):2065–82. doi: 10.1080/03610918.2019.1692031.

Yurtsever, Mustafa. 2023. "Unemployment Rate Forecasting: LSTM-GRU Hybrid Approach." *Journal for Labour Market Research* 57(1). doi: 10.1186/s12651-023-00345-8.

Zahrotussolichah, Sinta, and Yustirania Septiani. 2022. "Analisis Faktor-Faktor Yang Mempengaruhi Kemiskinan Provinsi Jawa Timur : Pendekatan Error Correction Model." *Transekonomika: Akuntansi, Bisnis Dan Keuangan* 2(6):153–66. doi: 10.55047/transekonomika.v2i6.280.

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