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# The Effect of Macroeconomic Factors on the Stock Price Index of Developing Countries and Developed Countries in Asia 2001-2020

**Eliezer Yudha Nattan[1], Wisnu Mawardi[2]**
[1,2]*Universitas Diponegoro, Indonesia*
*eliezeryudha@gmail.com*

**Abstract**

*This study aims to determine whether macroeconomic factors influence stock price indexes in developed countries and developing countries in the Asian region during 2001-2020. Macroeconomic factors are world oil prices, world gold prices, interest rates, exchange rates against the USD, and gross domestic product (GDP). The countries that are the object of research are Indonesia, Japan, China, Hong Kong, and India. This research uses the panel data regression method. Based on the model estimation test, oil prices, gold prices, exchange rates, and GDP positively and significantly affect stock price indices in both developed and developing countries. On the other hand. The interest rate has a negative and significant influence on the stock price index of developing and developed countries.*

Keywords
macroeconomic; stock price index; developing countries and developed countries

## I. Introduction

The capital market is one of the most important economic instruments for a country (Mroura & Trabelsi, 2019). The capital market has two main functions, namely the economic function and the financial function. In the financial function, the capital market facilitates two parties, namely investors (those who have more funds) and issuers (those who need funds). Through the capital market, investors can provide capital to issuers in the hope of getting a return, and companies (issuers) can use the capital provided to develop their companies. The capital market also has a financial function because the capital market provides an opportunity for investors to get a return that follows the investment choices taken. In short, the role of the capital market in a country's economy is crucial because it acts as an economic indicator in a country (Danila et al., 2021). The economic condition of the population is a condition that describes human life that has economic score (Shah et al, 2020). Economic growth is still an important goal in a country's economy, especially for developing countries like Indonesia (Magdalena and Suhatman, 2020).

Quoting Julie Hunt (2020) in Face to Face Finance, the development of capital markets in the world is starting to 'turn around. Over the past decades, Asian capital markets have always been dominated by world capital markets (other than Asia). However, in 2000, the margin between Asian capital markets and world capital markets decreased. Today, the movement of the capital market has begun to change. This movement indicates that Asian capital markets are growing. The following is a picture of the order of the top ten capital markets from the most to the least market capitalization. There are 4 Asian countries included in the ten countries, namely Japan, China, Hong Kong, and India. Japan, China, and Hong Kong are ranked second to the fourth-largest capital market globally.

The performance of the capital market can be seen through the movement of stock prices in the capital market. According to Heriyanto (2014), the stock price index can indicate trends market. This makes stock price movements an essential indicator for economic decision-makers, investors, and economic analysts. Agrawalla and Tuteja (2008) state that macroeconomic factors affect the stock price index. Therefore, research is needed to analyze the effect of macroeconomics on the stock price index because macroeconomics can have a bad or good influence on the stock price index (Verma & Bansal, 2021).

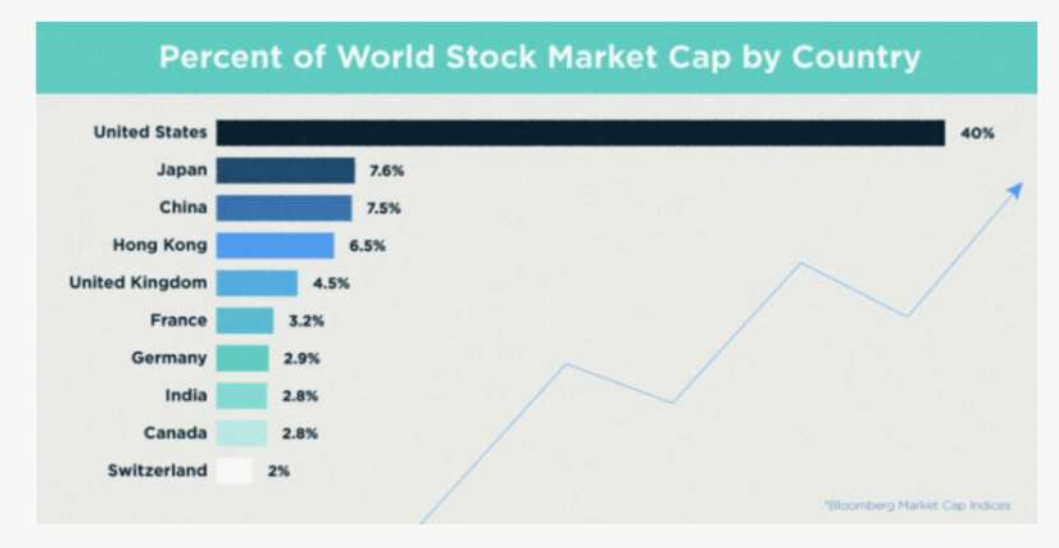


***Figure 1.*** *Percent of World Stock Market Cap by Country*

Previous studies examined the effect of macroeconomic variables on the stock price index in one country. In contrast to previous research, this research has the object of research in developing countries and developed countries in Asia, which have massive developments. Developing countries that are the research object in this study are Indonesia, China, and India (Investopedia, 2021). Meanwhile, the developed countries studied were Japan and Hong Kong (Investopedia, 2021). The purpose of this study is to determine the effect of macroeconomic factors, which world oil prices will represent, gold prices, interest rates, exchange rates against USD, and GDP, on stock price indexes in developing and developed countries. This research is also expected to help investors as an additional reference and increase literacy in the academic field and be complementary data for the government in making policies related to economic development.

## II. Review of Literature

### 2.1 Stock Price Index

Stock prices shown in index numbers are called stock indexes (Samsul, 2006). This index is a summary of the factors that influence economic phenomena. In its development, the stock price index has become one of the indicators to determine economic health. The Composite Share Price Index (CSPI) is a composite index obtained from all stock prices on a stock exchange. This index will also describe the general performance of the shares listed on the stock exchange. The stock exchange will publish the JCI figures where the shares are listed.

### 2.2 World Oil Prices

Oil prices are one of the global macroeconomic factors. Many crude oil prices can be used worldwide, but two world oil prices are the world's reference: West Texas Intermediate (WTI) and Brent. The difference between WTI and Brent crude oil is their mining source and characteristics. WTI's oil mines are in the Americas, and most of its oil is used to produce gasoline, while Brent's mines are in the European North Sea, and most of its oil is used to produce diesel. In terms of price, the price of Brent oil tends to be more expensive than the price of WTI oil. This world oil price, directly and indirectly, affects the capital market because energy, including world oil, is a pillar of economic growth in a country (Zhang, 2011).

### 2.3 Gold Price

The increase in gold prices will attract investors to invest in gold commodities rather than in the capital market. In addition, when economic conditions are down, commodity (gold) provides a sense of certainty. It opens opportunities for investors to buy gold because it positively correlates with inflation (Bampinas, 2015). In diverting their investment, investors will sell in the capital market, which will result in a decrease in the stock price index.

### 2.4 Interest Rates

Interest rates are closely related to the economic conditions of a country. Interest rates can affect the level of investment, inflation, bonds, money supply, and so on. Rising high-interest rates to exceed expected returns Stock will encourage investors to shift their capital from the capital market to deposits because it has a more negligible risk (Avonti & Prawoto, 2003). Reduced capital in the company will hurt the company. The company will have a declining performance, and the impact on the stock price index will fall.

### 2.5 Exchange Rate

According to Kurnia and Purnomo (2000), the exchange rate can be a macroeconomic indicator that shows the economic condition. The growth in the value of a country's currency states that the economic conditions in that country are relatively excellent or stable. There are two types of exchange rates: nominal exchange rates and actual exchange rates. The nominal exchange rate is a price used when someone exchanges one currency for another. On the other hand, the real exchange rate is the price used when a person exchanges goods or services in one country for goods or services in another country.

### 2.6 Gross Domestic Product

Gross Domestic Product (GDP) is the total value of production in a country for a year. The total value is the combined value of goods and the value of services. The amount of GDP is not influenced by the nationality of a company or citizen. GDP calculates the entire production value in Indonesia regardless of company origin and nationality. In general, economists usually use GDP as an indicator of a country's economic condition. The higher the GDP per capita indicates that the country has an excellent economic condition (Greenlaw & Saphiro, 2017).

### 2.7 The Effect of World Oil Prices on the Stock Price Index

A study conducted by Mensi et al. (2014) found that world crude oil prices positively affect stock indices of several countries that are members of the BRICS (Brazil, Russia, India, China, and South Africa). This study was conducted on data from 1997 to 2013 by measuring the influence of global factors such as world oil prices and world gold prices.

The positive and significant effect of oil prices on the aggregate stock price index was also found by Kalengkongan & Rate (2016) and Pardede et al. (2016). Kalengkongan & rate (2016) examine macroeconomic factors, such as world oil prices, exchange rates, and interest rates, on aggregate stock price indices in Indonesia and Japan. At the same time, Pardede et al. (2016) researched the effect of gold prices, inflation rates, interest rates, and currency exchange rates on the stock price index of mining companies in ASEAN. Based on previous studies, the hypotheses to be proposed in this study are:

H1a: World oil prices positively affect the stock price indexes of developing countries.

H1b: The world oil price positively affects the stock price index of developed countries.

### 2.8 The Effect of World Gold Prices on Stock Price Index

In 2014, Gumilang et al. carried out a study to determine the effect of macroeconomic variables on the aggregate stock price index in Indonesia. The macroeconomic variables studied were gold prices, oil prices, interest rates, money supply, GDP, and exchange rates. The results of this study found that the price of gold had a positive and significant effect on the Indonesian aggregate stock price index.

This study uses macroeconomic indicators as the independent variable and the BRICS state stock price index as the dependent variable. The data used by this study is data collected in 1997 – 2013. The research proves that the gold price has a positive and significant effect on the stock price index in several BRICS countries. The results of this study are also in line with the research conducted by Mensi et al. (2014).

Singhal, Choudhary, and Biswal (2019) examined the influence and relationship of world oil prices, gold prices, and exchange rates on stock price indexes in Mexico. The study states that the price of gold has a positive and significant influence on the movement of the aggregate stock price index in Mexico. The study uses daily data from each variable from 2006 to 2018.

Following the results of previous studies, the hypothesis to be proposed regarding the effect of gold prices is as follows:

H2a: Gold prices positively affect stock price indexes of developing countries.

H2b: The price of gold positively affects the stock price index of developed countries.

### 2.9 The Effect of Interest Rates on the Stock Price Index

The negative and significant effect of interest rates on the aggregate stock price index was also found in the research of Gumilang, Hidayat, and Endang (2014). The study took samples of gold prices, world oil prices, interest rates, exchange rates, money supply, and GDP as independent variables and the aggregate stock price index as the dependent variable.

Other research results in line with previous research are the research of Barakat, Elgazzar & Hannafy (2016), where the object of research is the stock price index of two developing countries, namely Egypt and Tunisia. Interest rates have a negative and significant effect on the Tunisian stock price index (Barakat et al., 2016).

Another study on the effect of interest rates and stock price indexes was also conducted by Chang & Rajput (2018). This study examines the effect of Pakistan's macroeconomic variables, such as exchange rate, interest rate, inflation rate, and

production level, on Pakistan's stock price index. From this study, it can be seen that interest rates have a negative and significant effect on the stock price index.

By following the current research results, a hypothesis is formed in this study.

H3a: Interest rates hurt the stock price index of developing countries.

H3b: Interest rates hurt the stock price index of developed countries.

### 2.10 Effect of Exchange Rate on Stock Price Index

Gumilang et al. (2014) examined the effect of oil prices, gold prices, interest rates, money supply, exchange rates, and GDP on the JCI from 2009 to 2013 using multiple regression analysis. The study found a negative and significant effect of the exchange rate on the JCI. Ouma and Muriu (2014) conducted a study on the effect of macroeconomic variables on the stock price index in Kenya from 2003 to 2013. They found that the exchange rate hurt the stock price index.

Ndlovu and Faisal (2018) conducted a study to find the effect of macroeconomic factors on the Johannesburg stock price index from 1981 to 2016. The macroeconomic factors studied were inflation, money supply, interest rates, and exchange rates. This study indicates that the exchange rate has a negative and significant effect on the Johannesburg stock price index.

In their study, Nordin et al. (2020) stated that the exchange rate hurts the Malaysian stock price index. In this study, the macroeconomic variables used were the price of coconut oil, the price of crude oil, the price of gold, the interest rate, and the exchange rate. The data used in this study is monthly data from 1997M12 to 2012M9.

Based on the studies that have been carried out, this study will formulate the following hypothesis:

H4a: Exchange rates hurt stock price indexes of developing countries.

H4b: The exchange rate hurts the stock price index of developed countries.

### 2.11 Effect of GDP on Stock Price Index

Jareno and Negrut (2016) conducted a study to determine the effect of GDP, inflation rate, industry level, unemployment rate, and interest rates in America on stock indexes in America from 2008 to 2014. Using the regression method, this study finds that GDP has a positive and significant effect on the American stock price index.

Nijam et al. (2015) researched macroeconomic factors and the stock price index in Sri Lanka. This study examines the effect of GDP, inflation rate, interest rate, the balance of payments, and the exchange rate on the stock price index from 1980 to 2012. Nijam et al. (2015) found that GDP has a positive and significant effect on the stock price index.

Giri and Pooja's research (2017) which examines the effect of macroeconomic indicators on the stock price index in India from 1979 to 2014, also states that GDP has a positive effect on India's stock price index. The macroeconomic indicators in this study are GDP, inflation rate, exchange rate, and world oil prices. Following previous studies, this study proposes a hypothesis regarding the effect of GDP on the stock price index, namely:

H5a: GDP has a positive effect on the stock price index of developing countries.

H5b: GDP has a positive effect on the stock price index of developed countries.

## III. Research Method

### 3.1 Population and Sample

This study uses secondary data types as the data studied. The data in this study were taken from several sources. Data on world oil prices, gold prices, and aggregate stock price indexes are taken from www.investing.com. Data for interest rates in Indonesia are obtained from the Indonesian Economic and Financial Statistics (SEKI), while for interest rate data in other countries, this study takes data from CEIC. The same source is used to obtain information on the five countries' exchange rates, inflation rates, and GDP. The population is a unit of all units to be studied (Priyono, 2016). The population in this study is the stock price index, oil price, gold price, interest rate, exchange rate, inflation, and GDP of Indonesia, Japan, Hong Kong, China, and India as a whole (covering all time).

There are several types of sampling techniques. This study uses a non-probability sampling technique, namely sampling purposive. The sample used is the aggregate stock price index, oil price, gold price, interest rate, exchange rate, inflation, and GDP from Indonesia, Japan, Hong Kong, China, and India from 2001 to 2017. The sample is part of the population that will be the object of research (Priyono, 2016).

### 3.2 Variable Measurement

Stock Price Index aggregate is the dependent variable in this study. The aggregate stock price index used is the monthly average of the stock price indexes of all companies listed on the stock exchange from 2001 to 2020. The aggregate stock index in Indonesia that is the research object is the Composite Stock Price Index (JCI). The aggregate stock index in Japan, the object of research, is NI225 (Nikkei 225). The aggregate stock index in Hong Kong, the object of research, is HSI (Hang Seng Index). The aggregate stock price index in China, the object of research, is the SSE (Shanghai Stock Exchange). The aggregate stock price index in India, the object of research, is the BSE (Bombay Stock Exchange).

All aggregate stock price index data from the five countries is obtained from www.investing.com. CPI is used as the operational name of the stock price index variable in this study. The crude oil price used is the monthly WTI crude oil price from 2001 to 2020. The unit of this crude oil price is USD per barrel. Crude oil price data is obtained from the website www.investing.com. The operational name of the crude oil price variable in this study is OIL. The gold price used is the gold price in USD per troy ounce (the unit for calculating gold). The gold price used is the average monthly gold price for 2001 – 2020. This study uses www.investing.com as a source of gold price data collection. The gold price uses GOL as the operational name of the variable in this study. The bank interest rates used in this study are each taken from the data from these five countries. Monthly interest rate data for 2001 – 2020 is used as data in this study.

The Indonesian interest rate (BI rate) data is taken from SEKI. For bank interest rates from Japan, Hong Kong, China, and India, this study draws on data available at CEIC. The operational name of the variable for bank interest rates is IR. For Indonesia, exchange rate data use IDR/USD, Japan uses JPY/USD, Hong Kong uses HKD/USD, China uses CNY/USD, and India uses INR/USD. The sources used to obtain data IDR / USD, and JPY/USD is the official website of the central bank of each country that is www.bi.go.id and www.boj.or.jp.This study obtained data on HKD/USD, CNY/USD, and INR/USD exchange rates through CEIC. The exchange rate data used is the average monthly exchange rate for 2001 – 2020. In this study, the exchange rate variable has the operational name EX. In this study, GDP data for Indonesia, Japan, Hong Kong, China, and India will

use quarterly GDP data for each country during 2001 – 2020. The quarterly data is processed into monthly data using the interpolation method. Indonesia GDP data were taken at the site www.bps.go.id.Meanwhile, other countries' GDP data uses GDP data taken from the website www.ceic.com. GDP will be used as the operational name of the variable GDP.

### 3.3 Analysis Techniques

This study uses the panel regression method to find the effect of macroeconomic variables on the stock price index. In performing panel data regression models, where panel data is a 'mixed data' between time-series data and data cross-section, three approaches can be used. The three approaches are the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM). According to Gujarati (2014) on Kasmiarno (2016), the classical assumption test is not needed in panel data regression research because this model can take advantage of wide variations and information to minimize the possibility of bias.

The CEM model is the simplest panel data regression model. CEM combines time-series and cross-sections into one (pooled data) regardless of time or individual differences. In other words, the CEM model assumes that individuals have a constant trait over time. In the regression estimation, the CEM model approach uses the least-squares technique called OLS (Ordinary Least Square).

The FEM model is a panel data regression model that uses variables dummy in its regression model. The assumption used in this model is that each individual cross-section has an intercept that is not constant but has a slope consistent. With the addition of a variable dummy, the regression estimation of the FEM model uses the LSDV (technique Least Square Dummy Variable).

The REM model is a model that uses errors (interference variables) from individual data cross-section and time series. REM assumes that the intercept is random but has a constant mean value. Deviation from the mean value will show the intercept of each individual cross-section. In its regression estimation, REM uses GLS (Generalized Least Square).

In the process of selecting the suitable model to estimate regression from panel data, a formal statistical test is needed (Setiowati, 2009). Three types of tests can be done to choose the suitable model: Chow test, Hausman test, and Lagrange test. The Chow test aims to determine which model is best to use between the CEM model or the FEM model. This test uses the FEM model in the test. The determination of the model can be seen from the statistical value of F, where:

$H_0$ : CEM model

$H_1$ : FEM model

The hypothesis is null accepted if the significance value of $F > 0.05$, which means that the CEM model is selected. If the CEM model is selected, the next test that must be carried out is the Lagrange test. However, if the significance value of $F < 0.05$, then the hypothesis is null rejected, and the FEM model is the chosen model. So the next test is the Hausman test.

The Hausman test determines the best model between the FEM and REM models. In using the Hausman test, the REM model is tested. The hypotheses in this test are as follows:

$H_0$: REM model

$H_1$: FEM model

The F statistic value is the determinant in the selection of this model. If the F value > 0.05, then the hypothesis is null accepted. So the REM model is selected and must continue on the Lagrange test. On the other hand, if the F value < 0.05, the hypothesis is null rejected, and the FEM model is the chosen model. At this test point, if FEM is selected as the best model, then the FEM model is the selected model, and testing is no longer needed.

This test is conducted to select the best model between the CEM and REM models. In this test, the model used is the CEM model, where the hypotheses used are:

$H_0$: CEM model

$H_1$: REM model

The value seen is the F value > 0.05, then the hypothesis is null accepted, so the CEM model is the best. However, if the F value < 0.05, then the REM model is the best model. The model selected in this test is the most appropriate in regression analysis.

## IV. Results and Discussion

The analysis technique used is the panel data regression method. The first thing to do is estimate three models in the panel data regression model: CEM, FEM, and REM. After estimating the model, the Chow test, Hausman test, and Lagrange test determine which model is the best among the three models. The following are the results of the Chow Test from developing and developed countries to determine which model is the best between the FEM or CEM models.

**Table 1.** Chow Test for Developed Countries

| Variable | Cross-section Chi-Square |
|---|---|
| OIL | 0.0000 |
| GOL | 0.0000 |
| IR | 0.0000 |
| EX | 0.0000 |
| GDP | 0.0000 |

In the Chow test, the value cross-section Chi-square determines which model is selected. If the value Chi-square cross-section is less than 0.05, the model chosen is the FEM model. Because the value of each model is smaller than 0.05, the FEM model was selected. Moreover, to find out which model is more feasible than the FEM and REM models. The results of the Hausman test are shown in the following table.

**Table 2.** Test Hausman Developing Countries

| Variable | Cross-section Chi-Square |
|---|---|
| OIL | 1.0000 |
| GOL | 1.0000 |
| IR | 0.5514 |
| EX | 0.2752 |
| GDP | 0.7630 |

**Table 3.** Test Hausman Developed Countries

| Variable | Cross-section Chi-Square |
|---|---|
| OIL | 1.0000 |
| GOL | 1.0000 |
| IR | 0.0000 |
| EX | 0.0000 |
| GDP | 0.0000 |

In the Hausman test developing countries, the cross-section ci-square value in each variable is higher than 0.05. Based on these values, the selected model for all variables is the REM model, so the next is needed, namely the Lagrange Multiplier Test. While in the table of developed countries, the value chi-square cross-section in the variable model of oil prices and gold prices is higher than 0.05, while the variable model of interest rates, exchange rates, and GDP chi-square value is smaller than 0.05. This shows that the best model for the variables of interest rates, exchange rates, and GDP from developed countries is the FEM model.

**Table 4.** Lagrange Multiplier Test for Developing Countries

| Variable | Value Both |
|---|---|
| OIL | 0.0000 |
| GOL | 0.0000 |
| IR | 0.0000 |
| EX | 0.0000 |
| GDP | 0.0000 |

**Table 5.** Lagrange Multiplier Test for Developed Countries

| Variable | Value Both |
|---|---|
| OIL | 0.0000 |
| GOL | 0.0000 |

The two tables above show the results of the Lagrange Multiplier Test for each model. If both values are less than 0.05, the chosen model is the REM model. The best model for each variable in developing countries is the REM model from the table of developing countries. While in developed countries, the REM model on the variables of oil and gold prices is the best. Based on the three tests, the selected models are:

**Table 6.** Selected Models in Developing Countries

| **OIL PRICE (REM)** | | | | |
|---|---|---|---|---|
| **Variable** | **Coefficient** | **Std. Error** | **t-Statistic** | **Prob.** |
| **C** | 5721.375 | 5292.189 | 1.081098 | 0.2800 |
| **OIL** | 38.67034 | 9.495691 | 4.07241 | 0.0001 |
| **GOLD PRICE (REM)** | | | | |
| **Variable** | **Coefficient** | **Std. Error** | **t-Statistic** | **Prob.** |
| **C** | 5276.29 0.008277 0.9934 | | | 43.67166 |
| **GOL** | 7.839025 | 0.413028 | 18.97939 | 0.0000 |

| INTEREST RATE (REM) | | | | |
|---|---|---|---|---|
| **Variable** | **Coefficient** | **Std. Error** | **t-Statistic** | **Prob.** |
| **C** | 13252.64 | 7076.71 | 1.872713 | 0.0615 |
| **IR** | -858.0201 | 117.6824 | -7.290981 | 0.0000 |
| **EXCHANGE (REM)** | | | | |
| **Variable** | **Coefficient** | **Std. Error** | **t-Statistic** | **Prob.** |
| **C** | 5510.931 | 6633.343 | 0.830792 | 0.4064 |
| **EX** | 0.713623 | 0.195664 | 3.64719 | 0.0003 |
| **PDB (REM)** | | | | |
| **Variable** | **Coefficient** | **Std. Error** | **t-Statistic** | **Prob.** |
| **C** | 668.6153 | 3839.011 | 0.174163 | 0.8618 |
| **GDP** | 0.0018 | 3.64E-05 | 49.42646 | 0.0000 |

**Table 7.** Selected Models Developed Countries

| OIL PRICE (REM) | | | | |
|---|---|---|---|---|
| **Variable** | **Coefficient** | **Std. Error** | **t-Statistic** | **Prob.** |
| **C** | 14780.23 | 2862.892 | 5162692 | 0.0000 |
| **OIL** | 40.74371 | 9.227993 | 4.41523 | 0.0000 |
| **GOLD PRICE (REM)** | | | | |
| **Variable** | **Coefficient** | **Std. Error** | **t-Statistic** | **Prob.** |
| **C** | 10463.34 | 2833,667 | 3.692507 | 0.0002 |
| **GOL** | 6.644814 | 0.392159 | 16.94419 | 0.0000 |
| **INTEREST RATE (FEM)** | | | | |
| **Variable** | **Coefficient** | **Std. Error** | **t-Statistic** | **Prob.** |
| **C** | 18462.07 | 314.5566 | 58.69238 | 0.0000 |
| **IR** | -881.1646 | 161.1245 | -5.468842 | 0.0000 |
| **EXCHANGE (FEM)** | | | | |
| **Variable** | **Coefficient** | **Std. Error** | **t-Statistic** | **Prob.** |
| **C** | 9092.788 | 1457.64 | 6.238022 | 0.0000 |
| **EX** | 143.8566 | 25.16619 | 5.716263 | 0.0000 |
| **PDB (FEM)** | | | | |
| **Variable** | **Coefficient** | **Std. Error** | **t-Statistic** | **Prob.** |
| **C** | -10711.89 | 1098.227 | -9.753803 | 0.0000 |
| **GDP** | 0.152843 | 5.93E-03 | 25.78464 | 0.0000 |

In the two tables above, the model equations for developed and developing countries show that oil prices have a positive and significant effect on stock price indexes in developing and developed countries. The significance value of world oil prices on the stock price index of developing countries is 0.0001 and in developed countries is 0.0000. The significance value of both is smaller than the value, alpha which means the effect is significant.

In the panel data regression model for developing and developed countries, the gold price variable has a positive effect because it has a positive coefficient. The effect of gold

prices is also significant because the model for developing countries is 0.0000 and for developed countries is 0.000. Both significance values are smaller than 0.05.

Interest rates have a negative and significant effect on the stock price index of developing countries. This is indicated by the negative value of the variable's coefficient and the significance value, which is smaller than the value alpha. The same effect was found in the panel regression model for developed countries.

The exchange rate variable has a positive and significant effect on the stock price index of developing countries. This is stated by the positive value of the coefficient of the variable and the significance value of the exchange rate variable, which is smaller than 0.05. The same effect was also found from the exchange rate variable on the stock price index of developed countries. The coefficient of the exchange rate variable is positive, and the significance value is 0.000.

The two tables above have positive coefficients on the GDP variable, and this variable has a significance value smaller than the value alpha. It can be concluded that the GDP variable has a positive and significant effect on the stock price index in both developing and developed countries.

**Table 8.** Hypothesis Testing

| | |
|---|---|
| H1a: Oil prices positively affect the stock price index of developing countries. | Based on the model estimation test results, oil prices have a positive and significant effect on the developing stock price index, then H1a is accepted. |
| H1b: Oil prices positively affect the stock price index of developed countries. | Based on the test results of model estimation, oil prices are a positive and significant impact on the stock price index developed countries, the H1b received |
| H2a: The price of gold has a positive influence on the stock price index of developing countries | based on test results estimation mode, the gold price positive and significant impact on the stock price index developing, then H2a is accepted |
| H2b: The price of gold positively affects the stock price index of developed countries. | Based on the model estimation test results, the gold price has a positive and significant effect on the stock price index of developed countries, then H2g is accepted. |
| H3a: Interest rates harm the stock price index of developing countries. | Based on the model estimation test results, the interest rate has a negative and significant effect on the developing stock price index, then H3a is accepted. |
| H3b: Interest rates harm the stock price index of developed countries. | Based on the model estimation test results, the gold price has a positive and significant effect on the stock price index of developed countries, then H3b is accepted. |
| H4a: The exchange rate positively affects the stock price index of developing countries. | Based on the model estimation test results, the exchange rate has a positive and significant effect on the developing stock price index, then H4a is rejected. |

| | |
|---|---|
| H4b: The exchange rate harms the stock price index of developed countries. | Based on the model estimation test results, the exchange rate has a positive and significant effect on the stock price index of developed countries, then H4b is rejected. |
| H5a: GDP has a positive effect on the stock price index of developing countries. | Based on the model estimation test results, GDP has a positive and significant effect on the stock price index of developing countries, then H5a is accepted. |
| H5b: GDP has a positive effect on the stock price index of developed countries. | Based on the test results of model estimation, GDP has a positive and significant impact on developed countries' stock price index. The H5B received |

## V. Conclusion

This research is based on the problem of research where there are differences in the results of previous studies related to the influence of macroeconomic factors on the stock price index of developing countries and developed countries. Based on the results of this study, there is a significant influence of macroeconomic factors on the stock price index in developing and developed countries. Oil prices, gold prices, exchange rates, and GDP have a positive and significant influence on the stock price index. On the other hand, interest rates have a negative and significant effect on stock price indexes in developing and developed countries.

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