

# Analysis of the Influence of World Oil Prices, Exports and Investment on Economic Growth with Exchange Rates as a Moderating Variable in Indonesia

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## ABSTRACT

This research intends to know the influence of world oil price, export, and investment with the exchange rate as a moderating variable in Indonesia. Population in this research is Indonesia, and 20 of them were selected to be the samples for this research through a purposive sampling technique. Estimates conducted by the multiple regression analysis. The data that were used in this study were secondary, consisted of World Oil Price, Export, and Investment to economic growth for the year 2000-2019. The results of this research that Based on the partial test (t-test), the Investment variable has no significant effect. In contrast, the World Oil Price and Export variables have a significant effect on the variables of the Economic Growth in Indonesia, the simultaneous test (F test), world oil price, export, and investment have a significant effect on the variables of the economic growth. The exchange rate is unable to moderate the relationship between world oil price, export and investment on economic growth.

**Keywords:** World Oil Price, Export, Investment, Exchange Rate and Economic Growth

## INTRODUCTION

Economic growth is an illustration of the impact of government policies implemented, especially in the economic field. Economic growth is a growth rate formed from various economic sectors which indirectly describes the rate of economic growth that occurs. For the regions, this indicator is essential to

determine the success of development in the future.

Growth is a primary measure of the successful development, and the results of economic growth will also be enjoyed by the people down to the lowest layers, either by themselves or with government intervention.

Growth must go hand in hand and be planned, striving for the creation of equal opportunities and distribution of development results more equitably. Thus, low, underdeveloped, unproductive regions will become productive, which will eventually accelerate growth itself. This strategy is known as "Redistribution With Growth".

Economic growth in Indonesia since 1985 has fluctuated, with the lowest peak of -13.12% in 1998 due to the impact of the economic crisis, namely the weakening of the Thai bath exchange rate against the US dollar which subsequently had an impact on the depreciation of some currencies in ASEAN countries. Including the rupiah exchange rate, then in the following years economic growth in the State of Indonesia increasingly showed at 4.62% in 2009 due to the impact of the global crisis that occurred in 2008, then in 2010 increased to 6.22%. However, in 2011, economic growth in the State of Indonesia continued to decline until 2014 to 5.02% (Putra, 2016).

One of the sectors that have a significant contribution to Indonesia's GDP is the oil and gas sector. The oil and gas

sector makes a significant contribution to Indonesia's economic development (Anwar & Ssenyoga, 2007: 67). However, in its development, Indonesia became one of the net importing countries of world oil because Indonesia's oil reserves were not able to meet Indonesia's consumption needs which resulted in Indonesia's economy being vulnerable to fluctuating oil prices. Exports and investment also influenced economic growth.

Oil and its price fluctuations have a very vital influence on almost all macroeconomic activities because oil is one of the primary energies used both directly and indirectly in producing goods and services. Oil is the top source of energy used to support the production process compared to other energy sources so that oil price fluctuations are very sensitive to economic conditions or economic growth in each country. Moreover, no country does not depend on oil and can immediately reduce its consumption due to price increases, including Indonesia (Arifin, 2016).

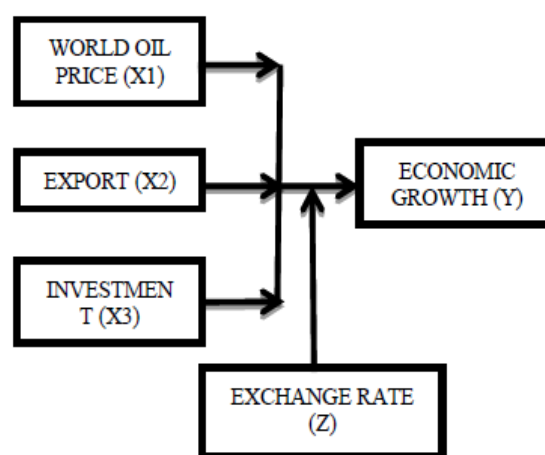
Exports are purchases from other countries of goods made by domestic companies. In 1998 there was a decline in the value of exports made possible because higher inflation made production costs more expensive. Finally, the value of Indonesia's exports in 1998 was the US \$ 48 billion. This decline is not too drastic even though inflation continues to increase because this year new Micro, Small and Medium Enterprises (MSMEs) emerged to support the economy. Different conditions occurred at the height of the global crisis, in 2008 the value of Indonesia's exports increased to the US \$ 137 billion compared to the beginning of the global crisis which amounted to the US \$ 114 billion (Safari, 2016).

Today, many countries are implementing policies aimed at increasing investment, both domestic and foreign capital. The government does it because investment activities will encourage economic activities of a country, absorb labour, increase the resulting output, save

foreign exchange or even increase foreign exchange. According to Husnan (1996: 5) states that an investment project is a plan to invest resources, both giant projects and small projects to get benefits in the future. In general, this benefit is in the form of monetary value, while capital can be in the form of non-money, for example, land, machinery, buildings and others (Kurniawan, 2016).

The exchange rate is a significant variable in an open economy because this variable affects other variables such as prices, interest rates, the balance of payments, and current account (Batiz, 1994). Exchange rates are also one of the most critical factors in determining international cooperation because exchange rates are a direct effect of developments in the prices of goods and services at home and abroad in the form of transaction tools in export and import activities. So that they significantly impact a country's economic growth (Abdelhak, 2019). Sitepu's research (2010) found a positive and significant effect of the exchange rate on economic growth. Also, Omuju's research (2012) also found an increase in a country's economic growth due to an increase in the exchange rate. On this basis, the exchange rate is used as a moderating variable to see whether the exchange rate can moderate the influence of the variable world oil prices, exports and investment on economic growth in Indonesia.

### Framework



Following the description of the background of the problem, literature review, and previous research, a conceptual research framework prepares as follows:

- H1: World Oil Price has a positive and significant effect on Economic Growth.
- H2: Export has a positive and significant effect on Economic Growth.
- H3: Investment has a positive and significant effect on Economic Growth.
- H4: World Oil Price, Export, Investment have a positive and significant effect on the Economic Growth
- H5: Exchange Rate can moderate the world oil price, Export and Investment on Economic Growth in Indonesia

## RESEARCH METHODS

This type of research includes the kind of quantitative research. The approach used is causality and inferential. This study uses statistical analysis, which aims to test the hypothesis (Sugiyono, 2017). Research is conducted with a causal research approach to investigate cause-and-effect relationships by observing the effects that occur and the possible factors (causes) that cause these effects.

The populations in this study are World Oil Prices, Exports, Investments, Exchange Rates and Economic Growth. The sample is part or representative of the population that is the object of research. The sample in this study is World Oil Prices, Exports, Investments, Exchange Rates and Economic Growth in Indonesia from 2000 to 2019.

## RESULT AND DISCUSSION

### Normality test

Based on Figure 1 above, it can be seen that the data distribution is normal and meets the normality assumption. It can be seen from the formed line which looks to have a bell shape.

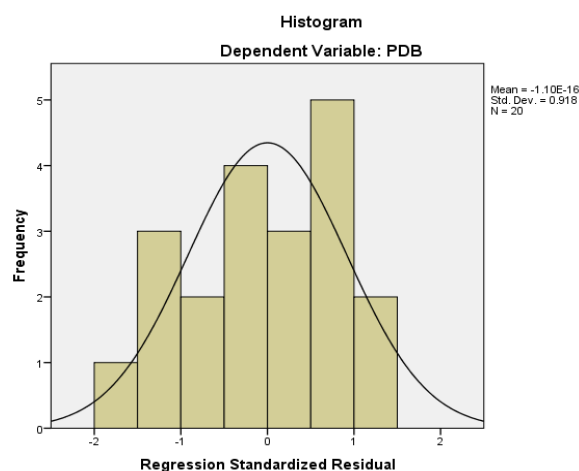


Figure 1 Histogram Graph Normality Test Results  
Source: Calculation Results of Eviews 10

## Linear regression of World Oil Prices, Exports and Investment on Economic Growth in Indonesia

Table 1 Regression Results Coefficients

Model		Unstandardized Coefficients		t	Sig.
		B	Std. Error		
1	(Constant)	-240.392	77.344	-3.108	.007
	World Oil Price	16.572	4.040	4.102	.001
	Export	36.428	15.283	2.384	.030
	Investment	6.953	8.510	.817	.426

a. Dependent Variable: PDB  
Source: Calculation Results of Eviews 10

### Individual Regression Coefficient Testing (Statistical t-Test)

#### 1. World Oil Prices

For the World Oil Price variable, the t-count value is 4.102 with a probability (significance) value of 0.001. Thus  $H_0$  is accepted, because the probability value is smaller than the value of 0.05 ( $0.000 < 0.05$ ) and  $t\text{-count} > t\text{-table}$  ( $4.102 > 2.119$ ). It means that it can conclude that the World Oil Price variable has a significant (significant) effect on the variable of economic growth in Indonesia by testing at the 95% (= 5%) confidence level.

#### 2. Export

For the Export variable, the t-value is 2.384 with a probability (significance) value of 0.030. Thus,  $H_0$  is accepted, because the probability value is smaller than the value 0.05 ( $0.030 < 0.05$ ) and the  $t\text{-count} > t\text{-table}$  ( $2.384 > 2.119$ ). It means that

it can conclude that the export variable has a significant (significant) effect on the variable of economic growth in Indonesia by testing at the 95% confidence level (= 5%).

### 3. Investments

For the investment variable, the t-count value is 0.817, with a probability (significance) value of 0.426. Thus  $H_0$  is accepted, because the probability value is greater than the value 0.05 ( $0.426 > 0.05$ ) and the t-count  $<$  t-table ( $0.817 < 2.119$ ). It means that it can conclude that the investment variable has no significant (significant) effect on the variable of economic growth in Indonesia by testing it at the 95% confidence level (= 5%).

### Simultaneous Testing of Regression Coefficients (Statistical F Test)

Table 2 ANOVA test

Model		F	Sig.
1	Regression	18.486	.000 <sup>p</sup>
	Residual		
	Total		

Source: Calculation Results of Eviews 10

Based on the output of the SPSS program, the F-count value is 18.486 with a probability (significance) value of 0.000. Thus  $H_a$  is accepted, because the value of F-count  $>$  F-table ( $18.486 > 3.24$ ) and the probability value (significance) is greater than the value of 0.05 ( $0.000 < 0.05$ ). It means that it can conclude that the variable  $X_1$  (World Oil Price), variable  $X_2$  (Export) and variable  $X_3$  (Investment) have a significant (significant) effect on Economic Growth (Y) at the 95% confidence level (= 5%).

### Moderating Test Results (Residual Test)

Table 3 Coefficients

Model		Unstandardized Coefficients		t	Sig.
		B	Std. Error		
1	(Constant)	385.657	655.303	.589	.563
	PDB	89.695	125.119	.717	.483

Source: Calculation Results of Eviews 10

Based on the results of the residual test in table 3, the moderation regression equation is obtained as follows:

$$Z = -24625,935 + 9588,007 X_1 - 803,758 X_2 - 1664,592 X_3$$

$$|e| = 385,657 + 89,695 Y$$

A variable is said to be moderating if the P-Value (Sig)  $< 0.05$  and the parameter coefficient value is negative. Based on Table 5.6 the results of the residual test show that the significant value of 0.483 is greater than  $\alpha = 0.05$  ( $0.483 > \alpha = 0.05$ ) and the positive coefficient value is (89.695), it can conclude that the Exchange Rate is not able to moderate the relationship between the Oil Price variable, World, Exports, and Investment on Economic Growth. In other words, the Exchange Rate variable is not a moderating variable in this study ( $H_5$  is unacceptable).

### CONCLUSION

Based on the results of data analysis and research discussion, the following conclusions can be drawn:

1. From the results of the F test, it concludes that the World Oil Price, Exports and Investment during the period 2000 to 2019 have a significant simultaneous effect on Economic Growth in Indonesia at a 5% significance level. Thus the research hypothesis is accepted.
2. Based on the partial test (t-test), the variables of world oil prices and exports have a partially significant effect. In contrast, the investment variable has no significant effect on the variable of economic growth in Indonesia by testing at the 95% confidence level (= 5%).
3. The Exchange Rate variable is unable to moderate the relationship between World Oil Prices, Exports and Investment to Economic Growth in Indonesia
4. The coefficient of determination (R) is 0.847, which means that the variables  $X_1$  (World Oil Price),  $X_2$  (Exports) and  $X_3$  (Investment) together can explain variations in Economic Growth in Indonesia of 84.7%. In contrast, the remaining 15, 3% is explained by new

variables that not include in the model estimation.

## REFERENCES

1. Abdelhak, Errami.2019. Pengaruh Ekspor- Impor Dan Investasi Asing Terhadap Pertumbuhan Ekonomi Indonesia Dengan Menggunakan Nilai Tukar Sebagai Variabel Moderasi Periode 2010-2017. Universitas Islam Negeri Maulana Malik Ibrahim, Malang.
2. Anwar, Pratiwi dan Mulyana Ssenyonga. 2007. Mengembangkan Hubungan Industrial yang Baik di Industri Minyak dan Gas Indonesia. Jakarta: Organisasi Perburuhan Internasional.
3. Arifin, Yaenal. (2016). Pengaruh Harga Minyak Dunia, Nilai Tukar dan Inflasi Terhadap Pertumbuhan Ekonomi Indonesia. Economics Development Analysis Journal 5 (4), Semarang.
4. Batiz, Francisco L.Rivera & Luiz A. Rivera-Batiz.1994. International Finance and Open-Economy Macroeconomics. 2<sup>nd</sup> Edition. New York: Macmillan Publishing Company.
5. Husnan.1996. Manajemen Keuangan Teori dan Penerapan (Keputusan Jangka Panjang) Edisi 4. BPFE. Yogyakarta
6. Jhingan,L.M.2012. Ekonomi Pembangunan dan Perencanaan. Jakarta : RajaGrafindo Persada.
7. Kurniawan, Chandra. 2016. Pengaruh Investasi Terhadap Perekonomian Indonesia. Jurnal Media Wahana Ekonomika, Vol.12 No.4
8. Octavianingrum, Denty. 2015. Analisis Pengaruh Investasi, Tenaga Kerja dan Tingkat Pendidikan Terhadap Pertumbuhan Ekonomi Di Daerah Istimewa Yogyakarta: Studi 5 Kabupaten/Kota. Fakultas Ekonomi Universitas Negeri Yogyakarta.
9. Omuju, O., 2012. Does Trade Promote Growth in Developing Countries? Empirical Evidence from Nigeria. International Journal of Development and Sustainability. Vol. 1 No.3, 743-753
10. Putra, Hendra Putra. (2016). Pengaruh Harga Minyak Dunia, Nilai Tukar Rupiah, Pengeluaran Pemerintah Dan Ekspor Netto Terhadap Pertumbuhan Ekonomi Di Indonesia Tahun 1985-2014. Fakultas Ekonomi dan Bisnis Universitas Airlangga, Surabaya
11. Septiawan, Dwi Afif, Hidayat,Raden Rustam, Sulasmiyati,Sri. (2016). Pengaruh Harga Minyak Dunia, Inflasi, Dan Nilai Tukar Terhadap Pertumbuhan Ekonomi Indonesia (Studi Pada Tahun 2007-2014). Jurnal Administrasi Bisnis Vol.40 No.2 November 2016
12. Safari, Menik Fitriani. 2016. Analisis Pengaruh Ekspor, Pembentukan Modal, Dan Pengeluaran Pemerintah Terhadap Pertumbuhan Ekonomi Indonesia. Fakultas Ekonomi Universitas Negeri Yogyakarta.
13. Sugiyono. (2017). Metode Penelitian Kuantitatif, Kualitatif, dan R&D. Bandung : Alfabeta, CV
14. Utami, ayudya. 2019. Pengaruh konsumsi, ekspor dan impor terhadap pertumbuhan ekonomi regional sumatera utara. Fakultas Ekonomi dan Bisnis Islam Universitas Islam Negeri Sumatera Utara, Medan.

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