

Impact Of The Russia-Ukraine War On The Indonesian Economy Based On Data On Indonesian Imports From Ukraine And The European Union In 2010-2020

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Abstract

This research aims might look into some effect caused by Ukraine-Rusia war according to data at Indonesian wheat imports from Ukraine and Indonesian Export-Import data with the European Union which have the potential to be disrupted due to the ongoing Russia-Ukraine war. This research depends on secondary information from the Republic of Indonesia's Central Statistics Agency (BPS RI) and World Bank data. The World Bank and the Indonesian Central Statistics Agency have provided this data as a secondary source for 2010 to 2020. The following variables will be analyzed using ARMA. The variable we use is GDP as the dependent variable, Wheat Imports From Ukraine, Import From European Union, and Export to European Union as independent variables. We found that WIU (Wheat Imports from Ukraine) has an effect on GDP, IEU (Imports from the European Union) also has an effect on GDP, and EEU (Exports to the European Union) has an effect on GDP. The Indonesian economy, which is represented by the GDP variable, is influenced by the other three variables. So, economically, the war between Ukraine and Russia has had an impact on the Indonesian economy, especially in imports of wheat, as well as imports and exports between Indonesia and the European Union which have an impact on the Indonesian economy.

Keyword: The Russia-Ukraine War, Indonesian Economy, Indonesian Imports, The European Union

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Background

The conflict between Russia and Ukraine had such an influence for Indonesia as well (Zain, 2022). The conflict had a significant influence on Indonesia. This is due to the consequences of globalization. (Liadze, Macchiarelli, Mortimer-Lee, & Juanino, 2022). Because of globalization, The positive result that Indonesia has gained is the ability to enjoy technology that is on par with other nations and world-class education. Since globalization is having a negative impact on Indonesia, anything that happens in other parts of the world will have an immediate effect on Indonesia (Yasar & Rejesus, 2020 ; Viphindrartin & Bawono, 2021).

The impact of the Russo-Ukrainian war that was most felt for Indonesia was in the export sector. Due to that conflict, Russia will face a trade ban, so that Indonesia cannot export to Russia, and exports to the European Union will also be disrupted (VOI, 2022). The Russian invasion of Ukraine could also affect several sectors in various countries, including Indonesia. The onset of

the war between the two former Soviet Union countries is expected to affect the price increase of a number of goods in several sectors (Soleman,2022). The impact of the Russian invasion of Ukraine in Indonesia, such as the increase in fuel prices and electricity tariffs, can still be avoided if the Indonesian government is willing to increase energy subsidy spending (Wicaksana, & Ramadhan, 2022). However, this is still a question mark, because the fuel subsidy has an impact on the state budget (Kyle, 2018).

Ukraine is Indonesia's second-largest wheat supplier after Australia. As a result of the inhibition of wheat supply, it will have an impact on the prices of wheat derivatives such as instant noodles and bread flour (Xia, Chen, Song, & Pérez-Carrera, 2022). Despite being a non-traditional trading partner, Ukraine maintains significant commercial links with Indonesia. Indonesia is a major wheat importer in the globe (Biloskursky, Verstiak, & Vinnychuk, 2019). Some effect caused by Russia-Ukraine conflict on Indonesia also can be causing inflation, and shipping expenses will be significantly higher (Ben Hassen & El Bilali, 2022). People's purchasing power will be reduced when basic requirements rise. Wheat commodity prices will also increase. Indonesia imports wheat from Ukraine which is utilized primary component in creating bread and noodles in a quick.

Ukraine is Indonesia's largest supplier of wheat. On the other hand, for Ukraine, Indonesia is the second-largest wheat export destination in the world after Egypt. The increase in wheat prices sooner or later still has some effect on consumers at Indonesia, given that wheat is used as a raw ingredient in foods such as quick noodles and flour (Okhrimenko, Tuan, & Lezhen, 2020).

Indonesia again reaffirmed its place of stand, In response to the Russia-Ukraine crisis, Jokowi's travel to see the leaders of the two competing nations exemplified the notion of a free and active foreign policy. Jokowi went going to 2 nations, showing if Indonesia cant interfered with in making political decisions, responding to during armed war (Sandev, 2022). Main mission by Jokowi's while visit to Ukraine is to promote peace dialogue between Kyiv (Ukraine) and Russia (Kurniawan, Anoluthfa, Yusuf, & Mutmainnah, 2022). Despite Russia's frenzied invasion of Ukraine which has lasted more than 4 months, President Jokowi views that peace dialogue remains urgency in resolving conflicts between the two countries (Shofa, 2022). President Jokowi conveyed that he offered himself as a messenger to the Russian President, Vladimir Putin, in his meeting with Zelensky (Sisodia, 2022). Jokowi also invited President Zelensky to attend the G20 summit in Bali which will take place in November 2022 (Strangio, 2022). All efforts must be made to ensure that Ukraine can continue food exports, underscoring the guarantee of safety for Ukrainian food shipments, especially by sea.

Russia's action against Ukraine has jolted the world's trade. The war irrefutably also affected Indonesia. It turned out that there was an impact of the Russo-Ukrainian war on Indonesia. Russia's action against Ukraine has shaken the world economy (Tooze,2022). The war undeniably also affected Indonesia. It turned out that there was an impact of the Russo-Ukrainian war on Indonesia (Zain, 2022). This research aims might look into some effect caused by Ukraine-Rusia war acording to data at Indonesian wheat imports from Ukraine and Indonesian Export-Import data with the European Union which have the potential to be disrupted due to the ongoing Russia-Ukraine war.

Research Method

This research depends on secondary information from the Republic of Indonesia's Central Statistics Agency (BPS RI) and World Bank data. Also there is some infromation about variables that can be seen at the table.

Table 1. Information About the Variables

Variables	Description Of The Variables	Unit of Analysis	Source
GDP	GDP is an overall production including all products and services at Indonesia for one year and is an indication of the Indonesian economy	million USD	World Bank
Wheat Imports from Ukraina	Wheat Imports from Ukraine is the value of Indonesian wheat imports to Ukraine in million USD	million USD	BPS RI
Import From European Union	Import From European Union Is Indonesia's total imports to the European Union in million USD	million USD	BPS RI
Export to European Union	Export to European Union Is Indonesia's total Export to the European Union in million USD	million USD	BPS RI

The World Bank and the Indonesian Central Statistics Agency have provided this data as a secondary source for 2010 to 2020. The following variables will be analyzed using ARMA. The variable we use is GDP as the dependent variable, Wheat Imports From Ukraina, Import From European Union, and Export to European Union as independent variables. We use the following econometric model:

$$GDP_t = \beta_0 + \beta_1 WIU_{t-1} + \beta_2 IEU_{t-1} + \beta_3 EEU_{t-1} + e_t$$

Where,

GDP : Gross Domestic Product

WIU : Wheat Imports From Ukraina

IEU : Import From European Union

EEU : Export to European Union

e : Error term

t : Time series

Result and Discussion

According to the study's variables, descriptive data are shown in Table 1.

Table 2. Descriptive statistics

	GDP	WIU	IEU	EEU
Mean	9.45E+11	1289126.	12205.74	16458.86
Median	9.18E+11	664056.2	12500.90	16763.70
Maximum	1.12E+12	2991812.	14150.00	20508.90
Minimum	7.55E+11	3038.300	9862.500	14363.80
Std. Dev.	1.04E+11	1263987.	1510.572	1855.687
Skewness	0.012626	0.248675	-0.211697	0.709717
Kurtosis	2.404008	1.284460	1.803759	3.054226
Jarque-Bera	0.163095	1.462281	0.738034	0.924794

Probability	0.921689	0.481360	0.691414	0.629772
Sum	1.04E+13	14180384	134263.1	181047.5
Sum Sq. Dev.	1.08E+23	1.60E+13	22818282	34435726
Observations	11	11	11	11

The results of descriptive statistics are expressed in terms of mean, min, max, and Std Dev. GDP Mean 9.45E+11, GDP Min 7.55E+11, GDP Max 1.12E+12, GDP Std Dev 1.04E+11. WIU mean 1289126, WIU Min 3038,300, WIU Max 2991812, WIU Std Dev 1263987. IEU mean 12205.74, IEU min 9862,500, IEU max 14150.00, IEU Std Dev 1510,572. EEU mean 16458.86, EEU min 14363.80, EEU max 20508.90, EEU Std Dev 1855,687. GDP is Indonesia's gross domestic product, WIU is wheat imports from Ukraine, IEU is imported from the European Union, and EEU is exported to the European Union. Before using the ARMA model to estimate values, a stationary test should be performed. Augmented Dickey-Fuller (ADF) can detect whether the series is not stationary by evaluating the error component, which contains the possibility of autocorrelation if the series is not stationary. Here are the results:

Table 3. The test of Unit Root’s ADF to GDP, WIU, IEU and EEU

Variable	Unit Root	Include in the examination Equation	Statistics for the ADF Test	5% Critical Value	Description
Gross Domestic Product (GDP)	Level	Intercept	-1.754468	0.3783	
	First Diff	Intercept	-2.771642	0.0999	
	Second Diff	Intercept	-2.805522	0.0494	Stationer
Wheat Imports From Ukraina (WIU)	Level	Intercept	-0.444360	0.8649	
	First Diff	Intercept	-3.922564	0.0197	Stationer
Import From European Union (IEU)	Level	Intercept	-4.794134	0.0062	Stationer
Export to European Union (EEU)	Level	Intercept	-1.465912	0.5083	
	First Diff	Intercept	-3.153640	0.0624	
	Second Diff	Intercept	-3.930163	0.0267	Stationer

IEU data is stationary in the original data with a critical value of 0.0062, WIU data is stationary at the first difference with a critical value of 0.0197, while GDP and EEU data are stationary at

the second difference with critical values of 0.0494 and 0.0267, respectively. From here we can directly do the ARMA test.

Tabel 4. ARMA analisis

Variable	Coefficient	Std. Error	t-Statistic	Prob.
WIU	81160.75	13879.37	5.847581	0.0006
IEU	27730649	9438113.	2.938156	0.0218
EEU	5844697.	10421161	0.560849	0.5924
C	4.06E+11	1.68E+11	2.409591	0.0468
R-squared	0.899739	Mean dependent var		9.45E+11
Adjusted R-squared	0.856770	S.D. dependent var		1.04E+11
S.E. of regression	3.94E+10	Akaike info criterion		51.90713
Sum squared resid	1.09E+22	Schwarz criterion		52.05182
Log likelihood	-281.4892	Hannan-Quinn criter.		51.81593
F-statistic	20.93926	Durbin-Watson stat		1.966887
Prob(F-statistic)	0.000713			

The Adjusted R-squared value and the R-Bar-squared value of the ARMA model are relatively high, with averages ranging from 0.85 and 0.89. The Adjusted R-squared value of 0.85 indicates that each of the independent variables in the specified ARMA model, namely imports of wheat from Ukraine, imports from the European Union, and exports to the European Union can explain 85% of the variance of the dependent variable of economic growth (in terms of this is represented by GDP). This is an indication that this research model is good enough to be analyzed. WIU has an effect on GDP with a coefficient of 81160.75, IEU also has an effect on GDP with a coefficient of 27730649, and EEU has an effect on GDP with a coefficient of 5844697.

Conclusion

From the results of the ARMA test above, we can conclude that WIU (Wheat Imports from Ukraine) has an effect on GDP, IEU (Imports from the European Union) also has an effect on GDP, and EEU (Exports to the European Union) has an effect on GDP. The Indonesian economy, which is represented by the GDP variable, is influenced by the other three variables. So, economically, the war between Ukraine and Russia has had an impact on the Indonesian economy, especially in imports of wheat, as well as imports and exports between Indonesia and the European Union which have an impact to Indonesian economic.

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