The impact of trade liberalization on economic growth in Indonesia

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Abstract

Using a vector autoregression (VAR) model, this article explores how trade liberalisation has affected GDP growth in Indonesia. Tariffs, quotas, subsidies, rules, and standards are all examples of trade barriers that may be loosened or eliminated through the liberalisation of trade. When trade restrictions are lifted, economies flourish and people's incomes are more evenly distributed. However, the size and direction of these impacts are contingent on a number of variables, including the starting conditions, the depth and velocity of liberalisation, the supplementary policies, and the external environment. So, the results of trade liberalisation are neither simple or consistent, but rather variable and diverse. Both positive and negative outcomes associated with trade liberalisation on GDP growth and income distribution are discussed in this article. The impact of government expenditure (GG) on trade openness (Tr), the poverty headcount ratio (PHR), and the article itself is estimated using a VAR model. According to the data presented here, GG has no noticeable effect on itself or Tr but a notable and beneficial effect on PHR. The article concludes that trade liberalisation affects economic growth and income distribution in Indonesia in complex and heterogeneous ways, and that policymakers should take a holistic and context-specific approach to designing and implementing trade policies that can maximise the benefits and minimise the costs of trade liberalisation.

Keywords: Trade liberalization, Economic growth, VAR, Indonesia
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Background

Since the late 1980s, under the leadership of the International Monetary Fund and the World Bank, Indonesia has vigorously pursued trade liberalisation as part of its structural adjustment programme. As a result of its participation in a number of global, regional, and bilateral trade agreements, Indonesia has been able to cut its average tariff rate from 27% in 1986 to 2% in 2020. Indonesia joined the World Trade Organisation (WTO), ASEAN, and the ASEAN Free Trade Area (AFTA) upon its inception. Indonesia also has FTAs with a number of other nations including: China, Japan, Korea, Australia, New Zealand, India, Pakistan, and Chile. And Indonesia has shown interest in joining the TPP deal that covers the Pacific Rim (Syarip, 2020).

The main objectives of trade liberalization in Indonesia are to increase market access, reduce trade costs, stimulate competition, foster specialization, and improve welfare. Trade liberalization is expected to enhance economic growth by increasing exports, attracting foreign direct investment, promoting technological innovation, and creating employment opportunities

(Widarni, Irawan, Harnani, Rusminingsih, & Alim, 2022; Prabowo, Sasongko, & Damayanti, 2022). Trade liberalization is also expected to improve income distribution by reducing poverty, increasing wages, lowering prices, and expanding consumer choice. These expectations are based on the standard neoclassical trade theory, which assumes that trade liberalization leads to an efficient allocation of resources and a convergence of factor prices across countries (Barros & Mart\'\inez-Zarzoso, 2022).

The term "trade liberalisation" refers to the procedure of lowering or doing away with trade restrictions such tariffs, quotas, subsidies, rules, and standards. Increased international trade has the potential to significantly alter national economies and the distribution of wealth. The beginning circumstances, the level and speed of liberalisation, the complementing policies, and the global backdrop all have a role in determining the amount and direction of these impacts. Because of this, the effects of trade liberalisation are neither simple or uniform, but rather complicated and varied (Bezuneh & Yiheyis, 2014).

One of the main arguments in favor of trade liberalization is that it can enhance economic growth by increasing market access, reducing trade costs, stimulating competition, and fostering specialization. Trade liberalization can also generate dynamic gains from greater capital accumulation, technological innovation, and learning by doing. Moreover, trade liberalization can improve welfare by expanding consumer choice, lowering prices, and increasing quality. These arguments are based on the standard neoclassical trade theory, which assumes perfect competition, constant returns to scale, full employment, and factor price equalization (Trejos & Barboza, 2015).

However, empirical research has shown that there is little causality between trade liberalisation and GDP growth. However, some research has revealed either no effect or a detrimental effect of trade liberalisation on economic development between countries. Some research has also shown that the impact of trade liberalisation on economic growth varies with factors such as the country's level of development, the strength of its institutions, the extent to which it is open to trade, and the nature of its trade policy. Because of this, trade liberalisation is not a necessary condition for economic development; rather, it is a necessary condition for trade liberalisation (Akayleh, 2014).

Another important issue related to trade liberalization is its impact on income distribution. Trade liberalization can affect income distribution through various channels, such as factor prices, sectoral composition, productivity differences, market imperfections, and policy responses. Trade liberalization can also affect income distribution through its impact on economic growth. The theoretical predictions and empirical findings on the effect of trade liberalization on income distribution are also mixed and inconclusive (Dorn et al., 2022). By shifting relative factor prices in line with relative factor endowments, trade liberalisation can influence the distribution of income. When trade restrictions are lifted, countries can boost their actual returns on abundant factors while lowering their returns on scarce ones. As a result, income disparity can be reduced in developing countries with available labour and increased in wealthy ones with ample capital as a result of trade liberalisation. Nonetheless, this forecast is predicated on a number of suppositions that may not be accurate (Lopez, 2017).

For example, trade liberalization may not lead to factor price equalization across countries due to differences in technology, preferences, and institutions. Trade liberalization may affect income distribution within factors due to differences in skill levels, mobility, and bargaining power, also trade liberalization affect income distribution across sectors due to differences in scale economies, market structure, and externalities, on other side trade liberalization also affect income distribution through its impact on economic growth, which may have different effects on different segments of the population depending on their initial conditions, access to opportunities, and exposure to risks (Özdemir, 2020).

The impact of trade liberalisation on income distribution has been studied empirically, and the results have been mixed. While some research has concluded that freer trade has led to greater wealth disparity within countries, others have found the opposite to be true. Additionally, although some research has concluded that trade liberalisation has raised economic disparity across nations, other research has found that it has decreased income inequality. Some research has also shown that trade liberalization's impact on income distribution is conditional on variables such as a nation's level of development, the strength of its institutions, its degree of openness, and the nature of its trade policy (Mkubwa et al., 2014).

Research Method

We proxied Adjusted Trade variable, with the Poverty headcount ratio at national poverty lines variable. For the GDP growth variable. We use secondary data from the world bank. Our research period is from 2005 to 2020. We use the following equation:

$GG_t = \beta_0 + \beta_1 Tr_t + \beta_2 PHR_t + e_t$ eql 1

$Tr_t = \beta_0 + \beta_1 GG_t + \beta_2 PHR_t + e_t$ eql 2

$PHR_t = \beta_0 + \beta_1 GG_t + \beta_2 Tr_t + e_t$ eql 3

Description:

GG : GDP growth
Tr : Trade
PHR : Poverty headcount ratio at national poverty lines
β : the magnitude of the effect of causality
e = Error term
t = Time period
eql: equation

Table 1. Variable Description

Variable	Explanation	Data type	Source
GDP growth	Gross domestic product (GDP) growth rate in constant annual local currency. Totals are calculated using 2015 prices, which are held constant in terms of the U.S. dollar. Gross domestic product (GDP) equals the amount of all	Percent	World Bank

	product taxes and subsidies subtracted from the value of all final goods and services produced inside an economy whose producers are residents. Depreciation of manufactured assets and deterioration of natural resources are not factored into the calculation.		
Trade	When expressed as a percentage of GDP, "trade" refers to the combined value of all commodities and services exported and imported.	Percent	World Bank
Poverty headcount ratio at national poverty lines	The number of people who fall below a given country's poverty threshold expressed as a percentage. Subgroup estimates from household surveys are weighted to account for the total population in order to provide national estimates. EU-SILC data are given using the income reference year (the year preceding the survey year) for the respective economy.	Percent	World Bank

Result and Discussion

Table 2. Root Test Results

Variabel	Unit Root	Statistics for the Augmented Dickey Fuller	Probability	Description
Personal remittances (GG)	Level	0.106429	0.9548	Tidak Stationary
	First Different	-1.401274	0.5512	Tidak Stationary
	Level	-1.508523	0.5020	Tidak Stationary

Foreign direct investment (Tr)	First Different	-4.483099	0.0049	Stationary
International tourism (PHR)	Level	-0.779070	0.7959	Tidak Stationary
	First Different	-5.437801	0.0008	Stationary

*the limit value used at the significance level of 0.05

Based on the findings shown on Table 2. The fact that GG, Tr, and PHR stationary data are not at the same level, so that the first differencing is put into action. The results of the first differencing show that the data is stationary with a probability value < 0.05. After knowing the stationarity of the data held, then testing is carried out to calculate the best lag duration to utilize. The method used determining the optimal lag duration LogL, LR, FPE and AIC. The smaller the value of LogL, LR, FPE, AIC, the lag is the most optimum lag. The outcomes of the test are shown on the next table

Table 3. Maximum Lag Test

Lag	LogL	LR	FPE	AIC
0	-103.5824	NA	298.2570	14.21099
1	-74.48648	42.67408*	21.27495*	11.53153*

Table 3. Shows the optimum lag testing of the VAR model using the LogL, LR, FPE and AIC criteria. Based on these results, it is known that the optimum model is found in Lag 1 because the LogL, LR, FPE and AIC values in Lag 1 are the smallest compared to the previous Lag.

Table 4. Cointegration Test

Hypothesized at Most	Eigenvalue	Trace Statistic	0.05 Critical Value	Probability
None	0.837242	27.23239	21.13162	0.0061
1	0.205208	3.445129	14.26460	0.9128
2	0.013621	0.205723	3.841466	0.6501

* Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level

The cointegration test results are shown in table 4 above explain one probability value is under 0.05. It means that there is one significant probability. Analysis of VAR for identify connection among the researched variables studied that one variable have influence other variables in short term. The coefficients on the VAR analysis can be used to determine the influence between variables. If the coefficient value is less than the t-statistic value, then there is an influence relationship between these variables.

Table 5. VECM Estimation Results

	D(GG)	D(Tr)	D(PHR)
D(GG(-1))	-0.873270	6.371884	0.286285
	(2.09286)	(3.66978)	(0.19154)
	[-0.41726]	[1.73631]	[1.49466]
D(Tr(-1))	0.104714	-0.378092	-0.013855
	(0.30502)	(0.53484)	(0.02792)

	[0.34330]	[-0.70692]	[-0.49632]
D(PHR(-1))	0.598919	2.605726	0.733741
	(1.37441)	(2.40999)	(0.12579)
	[0.43576]	[1.08122]	[5.83326]
C	3.299623	-12.07149	0.075689
	(10.1214)	(17.7475)	(0.92630)
	[0.32601]	[-0.68018]	[0.08171]

Considering what the VAR analysis revealed, could be said that relationship between GG and GG has a non significant impact because the coefficient value's at -0.873270, more than the -0.41726 t-statistic's value. The non significant correlation also exists between GG and Tr, meaning that the two variables are not related to each other because the coefficient value is at 6.371884 way more than the 1.73631 t-statistic value. The significant correlation finally found exists between GG and PHR, because the coefficient value is at 0.286285 much less than the 1.49466 t-value statistic.

Conclusion

To my knowledge, there is no direct connection between them. When considering only GG, the -0.873270 coefficient value is larger than the -0.41726 t-statistic value, hence the impact is not significant at the 5% level of statistical significance. A t-statistic of 1.73631 suggests that the impact is not statistically significant at the 5% level, while the coefficient value for GG on Tr, at 6.371884, is much larger than this value. A positive and statistically significant relationship between GG and PHR is shown in the VAR analysis, suggesting that higher GG levels are associated with higher PHR. When comparing the t-statistic of 1.49466 to the coefficient value of 0.286285 for GG's influence on PHR, the smaller value shows a statistically significant effect at the 5% level.

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