

## Exports, FDI, and Inflation in Indonesia: A Dynamic Relationship

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### Abstract

The purpose of this study was to examine exports and FDI's impact on inflation in Indonesia through testing and analysis. The information utilised in this analysis was collected from the World Bank from 1997 to 2020. In this analysis, we employ Vector AutoRegressive (VAR) to examine the relationships between exports, FDI, and inflation. This research found that previous Indonesian exports influenced FDI in a favourable way. However, there is a positive correlation between rising exports and rising inflation. High inflation in the past contributed to the current inflation. The rise in exports that transpired was aided by inflation. However, rising prices would have a chilling effect for FDI. Thus, policymakers need to devise a plan to circumvent inflation regulation. In addition, a strategic plan is implemented to increase exports and FDI. The Indonesian government, however, confronts difficulties in expanding FDI and exports without spiking inflation.

**Keyword:** Export, FDI, Inflation.

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### Background

Sending products or commodities from one nation to another for commercial interests is known as export activity. Small and medium-sized businesses (SMEs) frequently rely on export operations as their primary international competitive strategy. The economic growth and development of the exporting country can be impacted by export operations, as can the efficiency and performance of the exporting enterprises and industries (Sasongko, Bawono, & Prabowo, 2021).

The export efficiency may be influenced by the level of technological sophistication and innovativeness of the exporting companies and sectors. Technical inefficiency is used to evaluate export efficiency; it represents an economic unit's ability and propensity to generate the greatest potential output from a given set of inputs (Widarni, Irawan, Harnani, Rusminingsih, & Alim, 2022; Prabowo, Sasongko, & Damayanti, 2022). To put it another way, businesses that engage in export operations are often more efficient than those that don't. High-tech industries confront additional hurdles and restrictions to exporting their wares since their efficiency rates are lower than those of low-tech industries. Governments in these nations would do well to boost the export sector's competitiveness so that it can help generate jobs and other benefits. More study is required to identify the mechanisms through which trade liberalisation contributes to economic development in these nations (Tivatyi, Shou, & N'Souvi, 2022).

Exchange rate fluctuations and inflation are other factors that might affect export performance. Export competitiveness and profitability may be impacted by fluctuations in the value of the currency. Higher exchange rate swings have a detrimental impact on export performance,

indicating that export competitiveness and profitability are diminished. On the other side, increasing inflation improves export performance by making exports more competitive and profitable (Ybrayev, 2021).

A company's quality, efficiency, and productivity can all benefit by being exposed to global competition and best practises through exporting. Moreover, exporting motivates companies to use cutting-edge innovations that boost productivity and ultimately, their ability to compete. Businesses may expand their consumer base and revenue by exporting to untapped global markets (Dewi & Nehrudin, 2023; Sasongko, 2019). Businesses may diversify their revenue streams and become less reliant on domestic demand thanks to exporting. Managing exports and the currency rate has a significant impact on GDP and is also crucial in mitigating the effects of external shock. Growth-promoting impacts are possible in these nations with well-managed exports and exchange rate fluctuations (Oluwatobi, Daniel, & Akande, 2022). Both the short-term and long-term economic growth of the growing Asian nations are positively impacted by exports and technological advancements. Export and economic growth are both caused by and contribute to technological advancement, suggesting that the two factors reinforce one another (Sultanuzzaman, Fan, Mohamad, Hossain, & Islam, 2019).

Investing money from outside of one's own nation into a firm in another country is known as "foreign direct investment" (FDI). Foreign direct investment (FDI) may affect global value chains and the activities of multinational corporations in addition to the economies and societies of both the home and host nations. greater exports are linked to greater FDI, and more FDI is linked to more exports. They did, however, find that the complimentary link is more favourable and important when developed and developing countries are paired together. Increased exports are a direct result of foreign direct investment (FDI) from developed to developing countries, while the impact of FDI from developed to developed nations is smaller. Policymakers need to take regional variations into account and design sector-specific FDI strategies (Mohanty, & Seth, 2021).

There are many elements that contribute to a country's economic growth and development, but exports and FDI are two of the most crucial. One is the infusion of foreign cash into domestic businesses, known as foreign direct investment (FDI), and the other is the sale of products and services to international markets, known as export. Gains in output, employment, income, productivity, innovation, and competitiveness are just some of the many advantages that may accrue to a home economy as a result of either export or FDI. The economy may be vulnerable to external shocks and volatility, trade deficits may be incurred, local investment may be crowded out, and environmental damage may be caused by exports and FDI. Export and foreign direct investment have a dynamic and intricate interaction. The ability to export goods and services sends a message to potential foreign investors about the high quality and competitiveness of the domestic market. Gaining access to foreign technology, cash, skills, and networks is another way that exports might profit from FDI. In contrast, export can challenge FDI by cutting into foreign investors' market share and profits. Foreign direct investment can impact exports by altering the nature and content of domestic production and commerce. Researchers found that the quality of foreign direct investment (FDI) has varying effects on economic development throughout China's various regions, and they recommended that policymakers take these variations into account when formulating sector-specific FDI regulations (Jahanger, 2021).

Foreign direct investment (FDI) and exports are two components of international commerce and investment that can have different results for country economies. The term "export" describes the commercial practise of shipping items or services from one country to another.

Foreign direct investment (FDI) is the practise of a domestic firm purchasing or forming a majority stake in a foreign firm. Depending on factors like technology, currency rate volatility, market size, and trade rules, the connection between export and FDI can be either complimentary or substitutable. increased exports are linked to increased FDI, and vice versa, due to the two factors' symbiotic relationship. Foreign direct investment (FDI) can have this effect through easing exports by opening up new markets, lowering trade obstacles, improving manufacturing efficiencies, and disseminating new information and expertise. greater export is linked to less FDI and less FDI to greater export due to the substitutability relationship between the two. When foreign direct investment (FDI) takes the role of export, local production may meet outside demand while cutting down on transaction costs, taking advantage of market inefficiencies, and adjusting to consumer tastes. greater exports are linked to greater FDI, and more FDI is linked to more exports. The complimentary link between developed and developing countries is stronger and more meaningful than that between developed and developed countries or between developing and developing countries. Foreign direct investment (FDI) from developed to poor nations stimulates greater exports than FDI from developed to developed countries (Xiong & Sun, 2021). The purpose of this study is to investigate the impact of exports and FDI on inflation in Indonesia by testing, analysis, and examination.

**Research Method**

The purpose of this study is to investigate the impact of exports and FDI on inflation in Indonesia by testing, analysis, and examination. This study makes use of World Bank information from 1997-2020. This research will employ Vector AutoReggressive (VAR) analysis to look at how different factors affect exports, FDI, and inflation. The model equation as follows:

$$\begin{aligned}
 EX_t &= \beta_0 + \beta_1 FDI_{t1} + \beta_2 INF_{t2} + e_t \\
 FDI_t &= \beta_0 + \beta_1 EX_{t1} + \beta_2 INF_{t2} + e_t \\
 INF_t &= \beta_0 + \beta_1 EX_{t1} + \beta_2 FDI_{t2} + e_t
 \end{aligned}$$

Information:

- EX = Export
- FDI = Foreign Direct Investment
- INF = Inflation
- β = Konstanta
- e = Error term
- t = Time Period

**Result and Discussion**

The data's stationarity will be checked first using the unit root test. This is done to ensure that all variables are in a steady state.. The unit root test is in table 1 below:

**Table 1.** Stationery Unit Root Test

Variable	Level		First Difference	
	Prob.	Description	Prob.	Description
EXP	0.7371	Not Fulfil	0.0001	Fulfil
FDI	0.3145	Not Fulfil	0.0004	Fulfil
INF	0.0090	Fulfil	0.0000	Fulfil

According to table 1's stationary test findings, all variables are stable at the first difference level. Furthermore, the optimum lag test was carried out to determine the lag used in this study in table 2.

**Table 2, Lag Optimum Test**

Lag	LogL.	LR	FPE	AIC	SC	HQ
0	-196.7066	NA	6990.605	17.36579	17.51390	17.40304
1	-166.2253	50.36042*	1091.091*	15.49785*	16.09028*	15.64684*

Table 2 above describes the results of the optimum lag test. It can be seen that the optimum lag used is lag 1. Furthermore, a cointegration test is needed to see whether the VECM analysis can be used as shown in table 3.

**Table 3. Cointegration Test**

Hypothesized	Eigenvalue	Trace Statistic	0,05 Critical Value	Probability
None *	0.754902	47.78930	29.79707	0.0002
At most 1 *	0.451349	16.85518	15.49471	0.0310
At most 2	0.152829	3.648757	3.841466	0.0561

Table 3's results from the cointegration test confirm the presence of cointegration, allowing for the use of the VECM model.

**Table 4. VAR Test Result**

	EX	FDI	INF
EX(-1)	0.874300 (0.34165) [ 2.55906]	0.034199 (0.11852) [ 0.28854]	0.282991 (0.59942) [ 0.47210]
EX(-2)	0.005509 (0.29280) [ 0.01881]	-0.037817 (0.10158) [-0.37230]	0.350691 (0.51371) [ 0.68266]
FDI(-1)	-0.280084 (0.62252) [-0.44992]	0.411176 (0.21597) [ 1.90389]	0.174709 (1.09222) [ 0.15996]
FDI(-2)	-0.019877 (0.65479) [-0.03036]	0.064885 (0.22716) [ 0.28563]	0.949406 (1.14884) [ 0.82641]
INF(-1)	-0.197861 (0.14448) [-1.36943]	-0.045054 (0.05012) [-0.89885]	0.002775 (0.25350) [ 0.01095]
INF(-2)	0.103871 (0.09764) [ 1.06386]	-0.028763 (0.03387) [-0.84916]	0.055723 (0.17130) [ 0.32529]
C	3.242923 (5.23887) [ 0.61901]	1.679220 (1.81747) [ 0.92393]	-11.86058 (9.19160) [-1.29037]

Table 4 displays the VAR analysis results for this investigation. Exports in the past were shown to have a substantial positive link to FDI with a t-statistic value of [0.28854]. Exports have a positive influence on inflation, as indicated by the fact that the t-statistic between EX(-2) and INF is 0.68266. In addition, the t-statistic value of [-1.36943] indicates a positive correlation between INF(-1) and EX, suggesting that rising inflation drives up exports. Also, inflation has a detrimental effect on foreign direct investment (FDI), as seen by the substantial negative association between INF(-1) and FDI (t-statistic = -0.89885).

The country's prior export performance was a key factor in attracting FDI. Conversely, rising exports also correlate positively with rising inflation. Furthermore, the amount of inflation in the past boosted the inflation that really happened. The rise in exports that transpired was aided by inflation. However, rising prices will discourage foreign direct investment.

**Table 5.** Granger Causality Test Result

<b>Null Hypothesis:</b>	<b>Obs</b>	<b>F-Statistic</b>	<b>Prob.</b>
FDI does not Granger Cause EX	23	0.20964	0.6520
EX does not Granger Cause FDI		3.96695	0.0602
INF does not Granger Cause EX	23	2.07975	0.1647
EX does not Granger Cause INF		0.30632	0.5861
INF does not Granger Cause FDI	23	3.69148	0.0691
FDI does not Granger Cause INF		0.01756	0.8959

The results of a Granger causality test performed to determine the nature of the link between the variables in question are presented in Table 6. The factors in the aforementioned table do not establish a causal connection.

**Conclusion**

Indonesia's exports in the past helped the country attract foreign investment. However, there is a positive correlation between rising exports and rising inflation. In addition, the current inflation rate was higher because of earlier periods of high inflation. The rise in exports that transpired was aided by inflation. However, rising prices would have a chilling effect for FDI. Thus, policymakers need to devise a plan to circumvent inflation regulation. In addition, a strategic plan is implemented to increase exports and FDI. The Indonesian government, however, confronts difficulties in expanding FDI and exports without spiking inflation.

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