

## The Nexus Between Foreign Direct Investment And Export Toward Economic Growth Of Indonesia, China, And India

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### Abstract

Foreign direct investment is one of the most important areas for developing countries, mainly Asian countries such as Indonesia, India, and the Philippines. The economic globalization processes have impact developing countries that have been beholding immense surge of FDI inflows during last two decades. The proposed research aims to examine the impact of FDI on Indonesian, China, and India's economic growth. This study is panel data analysis using Panel data to examine the relationship of FDI and export on the Indonesian, China, and India's economic growth. Further, the research analyses the sector growth challenges in positioning in globally competitive markets for FDI. The paper highlights the policy implications, complexities in sustaining economic growth, regional and global competitiveness in a broad spectrum of FDI.

**Keywords:** Foreign direct investment, export, GDP growth, Panel data, Economic growth, competitiveness, Economic Sector analysis

### 1. Introduction

FDI is an investment made to acquire lasting interest in enterprises operating outside of the economy of the investor. Further, in cases of FDI, the investor's purpose is to gain a compelling voice in the management of the enterprise. The foreign entity or group of associated entities that invest is termed the "direct investor." The unincorporated or incorporated enterprise—a branch or subsidiary, respectively, in which direct investment referred to as a "direct investment enterprise(UNCTAD, 1993).

Foreign direct investments are commonly categorized into three typologies; horizontal, vertical, or conglomerate. A horizontal direct investment is referred to the investor establishing the same type of business operation in a foreign country as it operates in its home country, for instance, a cell phone provider based in the United States opening up stores in China. Further, a vertical investment is the one in which different. However, related business activities from the investor's main business are established or acquired in a foreign country, such as when a manufacturing company acquires an interest in a foreign company that supplies parts or raw materials required for the manufacturing company to make its products. While a conglomerate type of foreign direct investment is one where a company or individual makes foreign investment in a business that is unrelated to its existing business in its home country that takes place in the form of a joint venture because the investor has no previous experience in the industry

The FDI inflows into a country are often linked with the economic prosperity issue. FDI plays an essential role in the internationalization of business. Profound changes have taken place both in terms of size, scope, and methods of FDI in the last decade. These changes occur due to technology, easing restrictions on foreign investment and acquisitions in many countries, and the deregulation and privatization of many industries. The development of information technology systems and cheap global communication enables management of foreign investments much more quickly.

The main benefits of FDI, according to Todaro (2000), are to fill the shortage of savings that can be collected from within the country, increase foreign exchange reserves, increase government revenues and develop managerial skills for the economy in the recipient country.

Export stimulates economic growth from demand-side and produces efficiency gain on the supply side. Anwara and Nguyen (2010) examined the determinants of FDI on economic growth, and they found a close relationship between FDI- led growth.

Based on the 2018 World Investment Report published by UNCTAD, Indonesia is included in the top 20 countries for inflows of FDI.

Indonesia is the world's fourth most populous nation, the world's 10th largest economy in terms of purchasing power parity (PPP). Indonesia is also an emerging market economy of the world with a massive consumption rate so that it attracts foreign investors to invest in Indonesia. The presence of Indonesia in some international trading organizations such as G-20 (Group of twenty) and ASEAN (Association of Southeast Asian Nations) gives a better economic prospect of Indonesia which is suitable for future investment

India well known primary monetary source for economic development derived from foreign direct investment. The foreign direct company invests in fast growing private Indian businesses to consider the lower wages of India. In 2015, India overtook China and the United States as the top destination of foreign direct investment. India attracted investment of \$31 billion compared to \$27 billion of China and \$28 billion of United States (Financial Times, 2015).

China became one of the fastest-growing economies, with an average economic growth of 9.5 percent in the 1980s (Shang-Jin Wei, 73). Then, Chinese economy boosted after China acceded to the World Trade Organization in 2001. China rises in the 1990s directed the concern of FDI redirection from ASEAN to China.

According to Schutz (2001), growth is the sustained rise in both quantity and quality of the goods and services produced in an economy. Economic growth theory evolved from two distinct generation models. The first is exogenous growth model inspired by neoclassical model with exogenous source of long-term growth, which focuses shifted to inflation and unemployment as the determinants of growth. The second is endogenous growth model focus on economic growth as result of rational and optimal behavior of agency and the structural characteristics of the economy and macroeconomic policy. The new model now combined with diffusion of technology to emphasize the role played by FDI in the economy.

The purpose of this study is to identify the relationship between foreign direct investment and export on the economic growth of Indonesia, India, and China. Many studies have investigated the relationship of foreign direct investment on the economic growth of one country. However, there has been a little detailed empirical study on the relationship of FDI on economic growth using panel data analysis from countries of Indonesia, India, and China. It is essential to find out the relationship between FDI and export on the economic growth rate of these three countries. Understanding the causal connections between these phenomena using panel data is essential for developing strategies in Indonesia, India, and China as the most significant countries population in Asia.

## 2. Literature review

### 2.1. Foreign direct investment, export and GDP growth

Andi et al. (2018) in her study on the relationship between Foreign Direct Investment, Export and GDP Growth in Indonesia stated that all countries are very open to the international Trade to achieve high economic growth because extensive researches and economic literature claims that international trade has a positive impact on economic growth.

There are two main points of view on the FDI study. The first is the majority of the study claims that FDI has positive impacts on the host county. FDI becomes powerful tool and indicator for economic development and global integration. The second argument is the study claims that the FDI can cause growth in the economy only in short term conditions and reduce growth in the long- run. The economy of Indonesia has expanded strongly over decades. Indonesia recently becomes a critical country to contribute to the development of the global economy. Indonesia becomes the four largest in east of Asia. In the base of purchasing power parity, Indonesia is the 15th largest economy in the world. Indonesia, as one of the expanded growth, put FDI as one of the most critical engines of power to increase the expected growth of economy.

### 2.2. Foreign Direct Investment effects on economic growth

According to Shahbaz and Rehman (2010), foreign direct investment, financial development, public investment, human capital, trade openness, and inflation have positive effects on economic growth.

Cora et al. (2018) investigate the relationship between foreign direct investment, export, and GDP growth in Indonesia using Vector Error Correction Model (VECM) for the period 1981-2015. The result suggests that there is a relationship between foreign direct investment, GDP growth and export for Indonesia. The Vector Error Correction Model shows that there is long-run and short-run causality running from FDI and GDP to export.

According to Dees (1998), foreign direct investment affects Chinese growth through ideas diffusion. Foreign direct investment plays significant positive effect on Chinese long-term growth by influence of technical change in 1990s.

A study by Berthelemy and Demurger (2000) presented new evidence on the role of human capital and stated that human capital contributes to growth by facilitating the adoption process of foreign technologies. It also showed that the direct impact of export growth disappears when both exports and foreign investments introduced in the regression of growth.

Tsiao and Tsiao (2006) used time series and panel data from 1986 to 2004 to examine the granger causality relations between GDP, exports, and FDI among countries of China, Korea, Taiwan, Hong Kong, Singapore, Malaysia, Philippines, and Thailand. Those countries are rapid, developing East and Southeast Asian Economics. The study construct panel data of the three variables for eight economies as a group and use fixed effects and random effects to estimate the panel data VAR for granger causality test. The result reveals that foreign direct investment has unidirectional effects on GDP directly and indirectly through exports and there is Bidirectional causality between exports and GDP for the group.

Chakraborty and Basu (2002) did their study on India Case. The study used co-integration and error-correction model to investigate the link of FDI on economic growth in India. The study finds out that GDP in India not caused by FDI, and the causality runs more from GDP to FDI.

Alfaro (2003) reported that FDI in the primary sector tends to harm growth, whereas investment in manufacturing has positive effect. A study on India case done by Jayachandran and Seilan (2010) concluded that foreign direct investment and exports are among the factors that affect economic growth, but the reciprocal does not apply. The high and low economic growth rate does not affect the presence of foreign direct investment and exports in India.

### **3. Methodology**

#### *3.1. Data collection*

This study used panel data analysis. The data taken from World Bank, International finance statistics publication and Indonesian Statistic data

#### *3.2. Research variables*

The dependent variable of this research is GDP growth rate, and the independent variables are foreign direct investment and exports.

#### *3.3. Regression Model*

The study uses panel data regression to measure the relationship between foreign direct investments, export on GDP growth rate among three countries Indonesia, China, and India. The study runs the estimation using a fixed-effect approach and a random effect approach technique. Random effect implemented if individual-specific components assumed to use random concerning the explanatory variables and fixed effect implemented if the individual component not independent concerning the explanatory variables.

The study applied pooled OLS Model, Estimate fixed-effect model, estimate random effect model, and Hausman test to check which model is appropriate, whether fixed effect model or random-effect model.

### **4. Result and discussion**

#### *4.1. Pooled OLS Model*

The demographic profile of international tourists who participated in this study summarized in Table 2. The majority of respondents were foreign visitors from Asian countries (58.8%), male (65.9%), between 18–44 years old (82.5%), and employed (51.9%). They traveled with friends (49.1%) and came to Jakarta for vacation purposes (55.7%). Most of the respondents made the arrangements for flights and accommodation themselves (75.8%) and were in Jakarta for the first time (45.8%).

Table 1 Pooled OLS Model

Source	SS	df	MS			
Model	331.261908	2	165.630954	Number of obs =	75	
Residual	552.269025	72	7.67040313	F( 2, 72) =	21.59	
Total	883.530933	74	11.9396072	Prob > F =	0.0000	
				R-squared =	0.3749	
				Adj R-squared =	0.3576	
				Root MSE =	2.7695	

gdpgrowthr~e	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
export	-.1241995	.0409114	-3.04	0.003	-.205755	-.0426441
fdi	1.193958	.2092043	5.71	0.000	.7769166	1.610999
_cons	7.639296	1.106096	6.91	0.000	5.434335	9.844257

4.2. Panel Variable and time variable

The panel variable showed that all countries are energetically balanced.

Table 2 Result of declare data set

panel variable: country (strongly balanced)  
 time variable: year, 1993 to 2017  
 delta: 1 unit

4.3. Fixed effect model estimation

Table 3 Fixed effect model results

Fixed-effects (within) regression	Number of obs =	75	
Group variable: country	Number of groups =	3	
R-sq: within = 0.1535	obs per group: min =	25	
between = 0.9538	avg =	25.0	
overall = 0.3662	max =	25	
corr(u_i, Xb) = 0.5832	F(2,70) =	6.35	
	Prob > F =	0.0029	

gdpgrowthr~e	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
fdi	.7196107	.2657029	2.71	0.008	.1896831	1.249538
export	-.1064651	.0500069	-2.13	0.037	-.2062006	-.0067295
_cons	8.152448	1.35106	6.03	0.000	5.457844	10.84705

sigma_u	1.4095617					
sigma_e	2.6577211					
rho	.21953462	(fraction of variance due to u_i)				

F test that all u_i=0:	F(2, 70) =	4.09	Prob > F =	0.0208
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4.4. Random effect models.

Table 4 Random affect results

Random-effects GLS regression  
 Group variable: country  
 Number of obs = 75  
 Number of groups = 3  
 R-sq: within = 0.1500  
 between = 0.9962  
 overall = 0.3749  
 Obs per group: min = 25  
 avg = 25.0  
 max = 25  
 Random effects u\_i ~ Gaussian  
 corr(u\_i, X) = 0 (assumed)  
 Wald chi2(2) = 43.19  
 Prob > chi2 = 0.0000

gdpgrowthr~e	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
fdi	1.193958	.2092043	5.71	0.000	.7839248	1.603991
export	-.1241995	.0409114	-3.04	0.002	-.2043844	-.0440146
_cons	7.639296	1.106096	6.91	0.000	5.471389	9.807204
sigma_u	0					
sigma_e	2.6577211					
rho	0	(fraction of variance due to u_i)				

4.5. Hausman Test analysis

Hausman test applied to check which model is appropriate, whether fixed effect model or random-effect model. The null hypothesis is random effect model appropriate, and alternative hypothesis is fixed effect model is appropriate. If the probability value is less than 5 %, we can reject null hypothesis and accept alternative hypothesis. In this case, fixed effect model is the right model and should accept fixed effect model as our model.

Table 5 Hausman test results

	Coefficients		(b-B) Difference	sqrt(diag(v_b-v_B)) S.E.
	(b) FIXED	(B) RANDOM		
fdi	.7196107	1.193958	-.4743471	.1638034
export	-.1064651	-.1241995	.0177344	.0287566

b = consistent under Ho and Ha; obtained from xtreg  
 B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

$$\begin{aligned} \text{chi2}(2) &= (b-B)'[(v_b-v_B)^{-1}](b-B) \\ &= 9.32 \\ \text{Prob}>\text{chi2} &= 0.0095 \end{aligned}$$

5. Conclusion

In this study, three countries identified, and three variables of foreign direct investment, export and economic growth revealed. The statistics of fixed-effect models showed the mean values

5.1. Managerial implication

5.1.1 Effects of FDI on Economic growth

FDI in India

From the results of the Fixed effect analysis test that has been carried out previously, it appears that FDI has a significant positive effect on overall economic growth for Indonesia, China, and India. This is generally supported by the geographical and demographic conditions of the countries, which are the objects of research, so it is not wrong if the three countries are the favorite host countries for foreign investors to invest in. Based on the World Investment Report (2019), even the three countries, becoming the 20 favorite countries for foreign investors to invest, China is ranked 2, India is ranked 9, and Indonesia is ranked 18 (UNCTAD, 2020).

An online news page states that from 2000 to December 2019, FDI inflows in India continued to increase until they were able to reach US \$ 456.79 billion. Some sectors that are excellent in India include the service sector, software, computer hardware, telecommunications sector, and trade sector.

In contrast, the countries that were the highest investors in India during that period include Singapore, Mauritius, the Netherlands, Japan, and the United States. Union. (ibef.org, 2020).

The following graph shows the development of FDI inflows in India from 2000-2019:

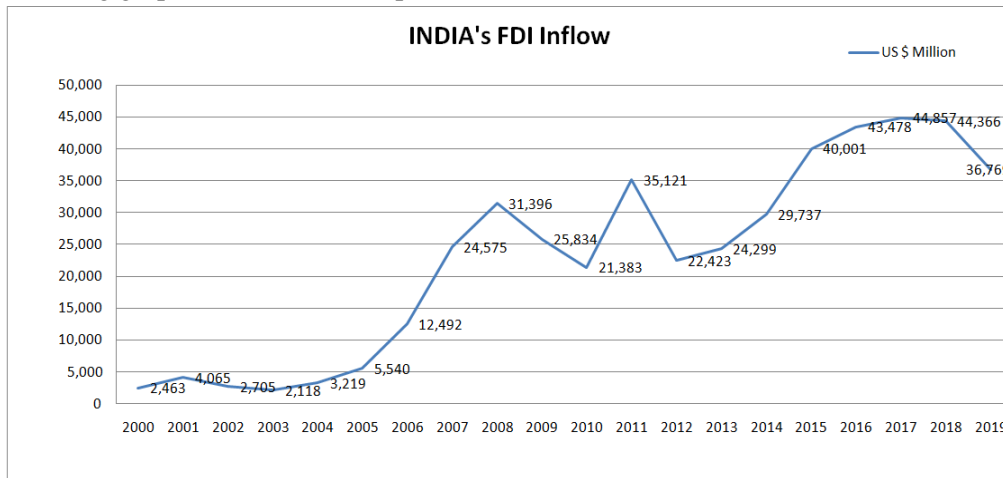


Figure 1

India's FDI Inflows,

(Department for Promotion of Industry and Internal Trade, dipp.gov.in, 2020)

Some of the reasons for the continued increase in FDI flow to India until early 2020, when developed countries experienced low inflows for their FDI, were political upheavals in Global, problems arising from tensions from US and China trade cooperation. So developing countries such as India and other Asian countries are able to absorb 10% of Global FDI Inflows with 80% of the total flow of investment funds coming into India. (Financialexpress.com, 2020).

India's success in increasing the absorption of FDI flows from year to year shows that the Indian government succeeded in implementing ease of doing business and relaxed FDI policies for investors. Some of the policies implemented by India to continue to increase the flow of incoming FDI are (ibef.org, 2020) .:

1. India grants or allows non-Indian citizens to acquire 100% of companies in India, such as Air India
2. Continue to improve the country's infrastructure so that it will continue to attract investors
3. Released national e-commerce policy to encourage FDI
4. Allows coal mining to conduct open markets.

#### b. FDI in China

China is a country that is unique in its investment characteristics, both those made by the people of the country and also investments received or that enter the country. In practice, China is the country with the best investment destination targeted by foreign investors (host country) and is among the top 10 foreign investment destinations in Asia (2018) (kataboka.katadata.co.id, 2020), as well as being a foreign investor investing much foreign capital in various countries.

China is also one of the 10 countries in the world that have experienced a large increase in economic growth and are ranked 31 of the 190 countries reported in (World Banks, 2020 Doing Business Report, 2020) after previously in 2019 it was ranked 46th out of 190 countries, the progress shows an increase in various Chinese economic subcomponents including FDI.

FDI inflows into China from year to year always increase, as illustrated in the following curve:

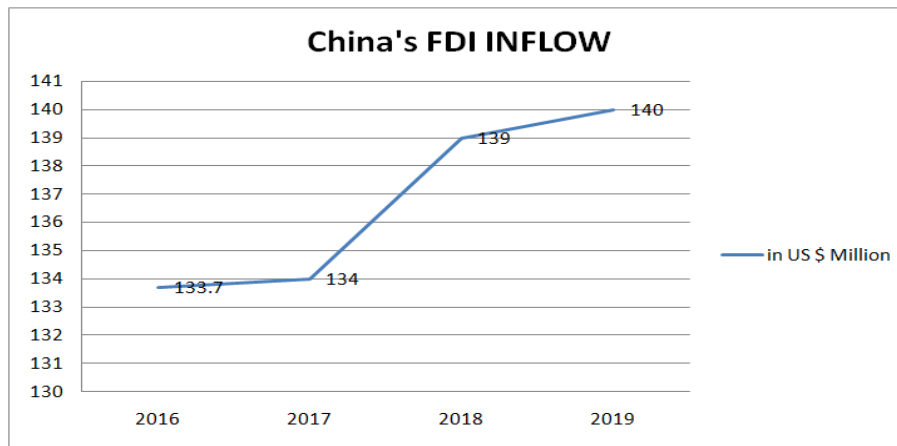


Figure 2

China's FDI Inflows,

(China: Foreign Investment, Santandertrade.com, 2020)

In a news page (China: Foreign Investment, Santandertrade.com, 2020) mentioned that the flow of foreign direct investment (FDI) entering China based on the industrial sector is most supported by the manufacturing industry, information transmission, computer services, and software, real estate and several other major sectors that are excellent for foreign investors in China. While FDI inflows based on the countries that become the central investing countries in China are Hong Kong, Singapore, South Korea, USA, Japan, and several other countries, which also invest their funds in China, some underlying reasons why the flow of foreign investment into China continues to experience an increase among them are:

- a. Increased business process efficiency
- b. Withholding tax
- c. Reduction of obstacles and bureaucratic rules for foreign investors
- d. Reducing import tariffs
- e. Streamline customs clearance
- f. And build an online filing system to manage FDI

#### c. FDI in Indonesia

Indonesia is also still a favorite country for foreign investment in other countries globally, some of the reasons are; conducive socio-political conditions in Indonesia, controlled inflation, an economy that has a growth trend, a stable rupiah exchange rate, and the inclusion of Indonesia as the best 10 host country so that Indonesia is at the level of investment worth and attracts foreign investors to invest in Indonesia (world investment Report 2019, UNCTAD, 2020). Following is the development of the flow of foreign investment flows into Indonesia as a whole year after year:

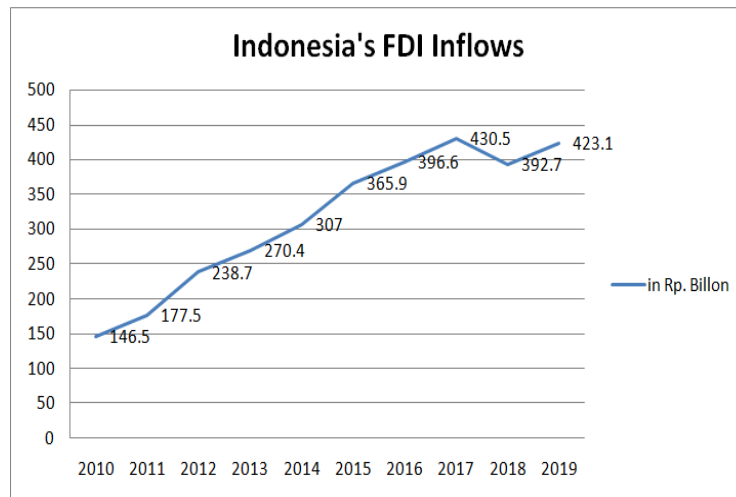


Figure 3  
Indonesia's FDI Inflows,  
(Investment Realization, BKPM.go.id, 2020)

Then, what is the reason for India, China, and Indonesia to become countries that have a releasing trend, and foreign investment continues to increase? With demographic and geographic conditions that are very supportive in the three countries, which are the objects of this research, namely India, China, and Indonesia, these three countries are very potential countries to become the best host country for FDI. For reasons including, strategic geographical location, so it is not uncommon for production raw materials to be available in the country. Demographic conditions are also supportive because it is no longer a foreign matter. If China, India, and Indonesia are the countries with the largest population in the world, making them countries with low production costs in terms of employee costs, so that is one of the reasons that attract foreign investors to invest their capital.

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