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ANALYSIS THE RELATIONSHIP BETWEEN DIRECT INVESTMENT AND LABOR

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ABSTRACT

The establishment of the ASEAN Economic Community (AEC) makes the movement of labor in the ASEAN region more free and dynamic. This provides wider opportunities for Indonesian workers to get better jobs. On the other hand, the same opportunity is also owned by citizens of other ASEAN countries to enter the labor market in Indonesia. Based on several previous empirical studies, the entry of foreign workers into a country can significantly impact economic growth, both positively and negatively. The impact is greatly influenced by the skill level of a worker. High skilled labor tends to have a positive impact on economic growth. The increase in the number of foreign workers is also influenced by FDI and GDP. The study aims to explain the impact of increased FDI, GDP, and inflation on the entry of foreign labor in Indonesia between 2010 and 2021. The study used quantitative approach with a model based on research from Zamzami et al. (2017) to estimate the impact of FDI on the workforce in three sectors namely agriculture, manufacturing, and services. This research shows that FDI has a significant relationship with foreign labor force, followed by technology transfer activities that strongly support production activities. In addition, the study looked at derivative variables of FDI that have links to the foreign labour market. The tendency of foreign skilled workers who have higher wages than domestic workers makes wage inequality between workers. Increased employment of foreign workers could also widen the wage gap in Indonesia.

KEYWORDS *investment; labor; AEC*

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INTRODUCTION

The ASEAN economic community in force since 2015 has made the movement of labor in the ASEAN region more free and dynamic (Ishikawa, 2021). The large number of Indonesians and the beginning of the demographic bonus phase made the Indonesian labor force try to get out of the country in the hope of getting a better job (Wisnumurti et al., 2018). But this is also the opposite, where people from other countries can also easily enter Indonesia to work. The growing number of foreign labor in Indonesia is a problem that is frequently discussed.

The phenomenon of the entry of foreign labor into a country can be seen according to the characteristics of the country itself whether it immigrates from the developed country to the developing country or vice versa (Ratha et al., 2011). Several international trade studies have looked at factors as well as the influence of the entry of foreign labor that may be interesting in the context of increasing foreign labor towards a country (Yuliastuti, 2018). Some of the factors found are by Piore (1979), where the changes in the economic structure from the agricultural sector to the industrial sector have long been considered as one of the causes of the entry of TKA into the labor market of a country.

Borjas (1995) explained that the shift of labor is based on the improvement of technology and wage levels. Ottaviano and Peri (2012) argued that their research explains the possible relationship between labor migration and economic growth (size GDP). The study also explains that the recruitment of foreign workers can have a number of negative effects, including: a reduction in employment rates because employers use foreign labor to replace local labor force (the transfer effect), increased unemployment rates, reduced vacancies, and emphasis on wage rates.

According to Green et al. (2008), there are two main reasons why employers recruit foreign workers: to carry out jobs that require specialist skills that are not available in the host country (i.e., to address the shortage and shortages of skills), and to fill vacancies where the gross amount of labor is insufficient.

Influence of foreign labor is traditionally seen in terms of complementarity or substitution with indigenous people in the provision of household services (Greene, 2008). Literature reviews show that results on the impact of foreign labor on the host economy have given mixed signals. On the one hand, foreign labor helps address labor market shortages, supplying labor to fill vacancies where there is a shortage of the number of workers and skills in a particular sector of the economy. Further entry of foreign labor helps the host economy to maintain positive growth by enabling increased productivity and sustainable outcomes. However, these findings also suggest that foreign labor may have a number of negative effects.

Norris (2011) stated that evidence suggests that foreign workforce sends their income back to their home countries in the form of outflow money transfers, which affects the host country's payments balance. There was a case in a country in the ASEAN region such as Malaysia and Singapore in the issue of foreign labor that was my motivation to see what happened in Indonesia with the development that is being done by the current government.

In the case of Malaysia, the problem comes in a lot of dependence on low-skilled labor. The problem in Malaysia will be the number of low-skilled labour becomes a major concern of academics and that one of the sectors that is a special concern is construction, which is discussed in the journal of Wood and Chen (2012). The rapid growth of the construction industry has led to an increase in the need for construction workers; therefore, it has become one of the sectors facing severe labor shortages in developed and developing countries (Mohammud et al., 2011).

Foreign workers from less developed countries have been sought as a solution to this problem (Abdul-Rahman et al., 2012; Han et al., 2008). However, only the negative impact is the focus of this study. In 2004, there were 1,470,900 foreign workers; in 2009, after the government promised to reduce the influx, the number had swelled to 2,100,000. International labour migration has become an increasingly important phenomenon and a very significant influence in most developing countries in the last three decades (Adi, 2003). Nevertheless, Wells (1996) affirmed that the recruitment and employment of foreign workers in the international construction industry has received little scientific attention. Population mobility increases with economic growth and globalization (Pillai, 1999). Migration can affect a country in terms of social, economic, and political factors, and there are many fundamental tensions underlying efforts to manage international migration in a globalizing world (Yap, 1999).

In Singapore, given that Singapore's economy is in a transition to higher value-added activities, they are facing a phase of preparing a strong skilled domestic workforce to keep the survival of the high-value added industry. Thus, qualified foreign workers are expected to add domestic human capital and encourage innovation activities in the domestic economy (Thangavelu, 2015). It is expected to maintain the competitiveness of exporting top-class products of local companies.

Instead, the economy also attracts low-skilled foreign workers to manage the mining effects of multinational companies as they restructure their production structures to low-cost countries such as India and China. However, the effects of migration on the balance and dynamics of the labour market are quite complex given the characteristics of foreigners and the domestic economic structure of the economy at the time of the study. In the long run, the impact on the long-term growth of foreign workers depends on their productivity and, therefore, their skills and education. This will have a direct impact on the innovation and technology adoption capabilities of domestic companies. Thus, the average human capital of foreign workers will have long-term implications for Singapore's economy.

If we look deeper and its implications for Indonesia, according to articles made by Tangavelu (2015) and Ismail and Yuliyusman (2014), foreign labor has an impact on economic growth both positively and negatively according to the level of job skills and also the period of time. With the explanation of the article written by Duasa (2007), it is said that FDI and growth are dynamic, where the entry of FDI with the correct arrangement will stimulate economic growth. The growth of the FDI's economy was countered by improved institutional quality, infrastructure, and economic stability, which, if correlated with Ismail and Yuliyusman's articles, attracted foreign labor into Malaysia.

The research related to this issue in Indonesia was conducted by Zamzami et al. (2017), where they conducted research on the influence of FDI on the absorption of labor, in this case local labor in Indonesia. The study states that the impact of FDI on foreign labor force is positive but not significant. This is contrary to the results of Ismail and Yulisyusman's research where the results say that the foreign labor force that enters is influenced by FDI. However, research in Malaysia is carried out with a longer and more complex time so it is still necessary to look deeper in the case of Indonesia with additional relevant variables. The study aims to explain the impact of increased FDI, GDP, and inflation on the entry of foreign labor in Indonesia between 2010 and 2021.

RESEARCH METHOD

The study used quantitative approach with a model based on research from Zamzami et al. (2017) to estimate the impact of FDI on the workforce in three sectors namely agriculture, manufacturing, and services. The authors applied this research model with slight modifications to foreign labor force using eight sectors: agriculture, mining, industry, utilities, building, trade, transportation, and services. Sectors selected according to the grouping carried out by the Kemenaker. With this approach, we can formulate a more suitable model like the one below.

$$\ln FW_{it} = \alpha_0 + \alpha_1 \ln FDI_{it} + \alpha_2 \ln GDP_{it} + \alpha_3 inf_{it} + u_{it} \ldots (1)$$

In the above model, the subscription i is the sector taken for research and data dissemination and the subskip t is due to the time or in this research is the year used. Thus it can be understood FW_it is the foreign labour force sector i in year t, FDI_it the foreign investment flow sector I in year T, and for inflation it is the rate of inflation in the year t. we will see the influence of foreign investment flows on the entry of foreign labour from eight sectors namely agriculture, mining, industry, utilities (electricity, gas, and water), buildings, trade, transportation, and other services. To look further, the authors use two determinant variables of FDI namely GDP and Inflation, these two variables are selected because of the availability of data with the same sectors from both FDI data and foreign labor data. Variables FW, FDI, and GDP are logarithmic transformations while the inflation variable is already in percentage units. The model used in this study is the log-log model. Panel data structure in this study makes the authors will use FEM or REM depending on the results of the hashman test to be performed in the next section.

The data used in the research is secondary data that can be accessed free of charge and also through request. The first data is foreign labor data obtained through the Central Statistical Agency (BPS), which is the result of processing data by the Ministry of Foreign Affairs. The data used is data over 9 years from 2010 to 2018 taken by sector. Then the second is the FDI data obtained from the Capital Plantation Coordination Unit (BKPM), with a time range specification of 9 years (2010-2018) and is data per sector. Both FDI and Foreign Employment data use the same eight sectors: agriculture, mining, industry, utilities (water and gas electricity), buildings, trade, transportation, and services. GDP and inflation data obtained from the Central Statistical Authority (BPS).

Table 1. Data and Data Source

Variable	Source	Unit
WF	Central Bureau of Statistics, Ministry of Labor	Person
FDI	Investment Coordinating Board	USD
GDP	Central Bureau of Statistics	USD
Inf	Central Bureau of Statistics,	Percentage

Source: Personal preparation

RESULT AND DISCUSSION

The authors processed data both statistically descriptive and panel regression to explain the relationship between WF with FDI, GDP, and inflation in Indonesia from 2010 to 2021.

Table 2. Statistic Descriptive

Variable	Mean	Std. Dev	Min	Max
FW	85,494.22	12,031.92	68,112	98,335
FDI	23,929.78	4,432.52	14,735.4	28,467.64
GDP	654,764.5	60,805.54	610,963.1	768,745
Inf	4.85	3.25	4.21	9.35

Source: Personal preparation

From the descriptive statistical table above, the average FW who entered Indonesia in 2010-2021 amounted to 85,494 people each year. The Indonesian economy is also well positioned with an average FDI of $23,929 per year, GDP of $654,764.5 per year and inflation of 4.85%. The author also calculates the average value of each variable based on each sector in the following table.

Table 3. Mean Variable Based Sector

Sector	Mean Variable		
	WF	FDI	GDP
Agriculture	2,745	1,735.7	97,134.2
Mining	5,854	3,653.4	66,461.4
Industry	24,488	11,834.1	158,285,4
Utilities	6,939	2,254	8.385.2
Building	7,536	585.4	71,925.1
Trade	11,942	785.2	101,982.7
Transport	4,563	2,7546	28,836.5
Service	13,264	645	54,756.9

Source: Personal preparation

The majority of foreign labour in Indonesia is on average in the industrial, service and trade sectors. Agriculture was the sector with the least WF in Indonesia in 2010-2021. The industrial sector is still the sector with the largest amount of FDI in Indonesia on average in 2010-2021 with the amount of the FDI of $11,834. This is followed by the GDP of the industrial sector, which still accounts for the largest proportion, following by the trade and agriculture sectors.

Table 4. Fixed Effect Regression

Variable	FW	
	Koefisien	P value
FDI	0.3280654***	0.000
GDP	0.056433***	0.003
Inf	-0.121564	0.539
Constanta	4.278863***	0.000
R Square	-	0.6553
Prob > F	-	0.0019
Obs	-	72
Hausman	-	0.000

***: significance level 5%

Source : Personal preparation

The above table is a result using the fixed-effect data panel method because based on the hausman test showed that FEM is better at explaining the model than REM. The 0.328 coefficient stated that an increase in the number of incoming workforce by 1 percent, would increase the FDI that enters Indonesia by 0,328 percent. The results showed that the flow of Foreign Direct Investment (FDI) significantly and positively influenced the growth of foreign labor inputs. (FW). This is in line with the research carried out by Ismail and Yuliyusman (2014) where it is said that WF will enter as the FDI from foreign countries. If you look further into the relationship between these two variables, the study of Ismail and Yuliyusman is relevant because more than 60 percent of the foreign labor force that enters is high-skilled foreign labour force, where the urge of advanced countries to do FDI in developing countries such as Indonesia is to do efficient hard-working industries and use the advantage of lower wage rates. It is also in accordance with the Neoclassical theory of the influence of FDI on the host country in terms of technology transfer, with mass production and the presence of technological shifts in its process making it necessary for expert labor from the FDI country of origin to come to the host nation in this case Indonesia.

Then we look at another variable, GDP, which produces a coefficient of 0.056 which can be understood that an increase in GDP of 1 percent will increase the number of foreign labor entrants by 0.056 percent. The results indicate that the size or size of GDP has a positive and significant influence on changes in the number of foreign labor inputs (FW). It is in accordance with the journal article of George Borjas that the economic size or economic size of a country influences the migration or movement of people from one country to another either in terms of jobs or better living facilities, or in this case, affects the entry of foreign labor into a country. If you look at the direct relationship between GDP and FDI, this is supported by the labor market theory by Borjas where it is said that foreign labor affects the rate of wages with the increase in state income exceeds wage spending or otherwise depends on the proportion of high or low skilled. However, with the large number of foreign high-skilled labor in Indonesia, making conditions where the wage rate is higher than the local labor force and making wage spending for foreign labor force exceed the increase in the country's income, which appears to be detrimental to the host country.

Another variable studied is inflation, which produces a coefficient of -0,121 which can be interpreted as saying that an increase in inflation by 1 percent would reduce the number of foreign labor entrants by 0,121 percent. These results show that inflation has a negative and insignificant impact on changes in foreign labor inputs. (FW). This result is consistent with Erramilli and D'Souza's (1995) study, where host country economic instability can be a major barrier to the flow of FDI and foreign labor. The higher inflation is estimated to have a negative impact on the entry of FDI, and the results obtained also, inflation gives a negative coefficient on the input of foreign labor, but there is an interesting thing found in the outcome of this data run, where the p value is so high that although theoretically in line with previous research that produces a negative factor, it is not significant. Like GDP, inflation is one of the determining factors of FDI but it does not appear to have a significant influence on foreign labor force. The results also reflect the results of research by Ahn, Adji and Willett (1998), which says inflation can be used as an indicator of the host country's economic and political conditions, but the difference between "high" and "low" inflation is not too striking. It can be said that inflation does not affect the FDI and also the entry of foreign labor force.

CONCLUSION

The study responded to whether the increase in FDI affected the rate of entry of foreign labor in Indonesia. This research shows that FDI has a significant relationship with foreign labor force, followed by technology transfer activities that strongly support production activities. In addition, the study looked at derivative variables of FDI that have links to the foreign labour market. One is GDP, where the effect of GDP on foreign labor is also significant, this is supported by the labor market theory by Borjas (1995) where it is said that foreign labor affects the rate of wages by increasing state income over wage spending or otherwise depending on the proportion of high or low skilled. However, with the large number of foreign high-skilled labor in Indonesia, making conditions where the wage rate is higher than the local labor force and making wage spending for foreign labor force exceed the increase in the country's income, which appears to be detrimental to the host country. Another variable seen is inflation, where the results obtained are negative and in line with previous studies by Erramilli and D'Souza but not significant, at least in the case of Indonesia.

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