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ADVANCES IN SOCIAL HUMANITIES RESEARCH

The Impact of the Export Purpose Import Facility (KITE) on the Export Foreign Exchange Value of the Indonesian Manufacturing Industry

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Abstract

The Indonesian government has consistently introduced stimulus measures to enhance export performance, including the implementation of an import duty drawback scheme through the Kemudahan Impor Tujuan Ekspor (KITE), officially known as the Import Facility for Export Purposes. The KITE facility provides import duty refunds and exemptions, as well as applicable tax facilities related to value-added tax and luxury goods sales tax. This export incentive scheme underwent three regulatory amendments during the study period, accompanied by improvements in administrative procedures for obtaining duty exemptions and refunds. This study aims to examine the impact of the KITE facility on export values using a generalized least squares (GLS) regression model. Export value data from seven manufacturing sectors covering the period from 2005 to 2019 were used as the dependent variable. The independent variables included import duty refund values, import duty exemption values, dummy variables representing KITE policy changes in 2011, 2013, and 2018, inflation, the Indonesian Crude Price (ICP), exchange rates, population, U.S. gross domestic product (GDP) at purchasing power parity (PPP), China's GDP at PPP, total employment in the manufacturing industry, and foreign direct investment (FDI). The findings reveal a positive and statistically significant relationship between the KITE facility and export values. Both import duty refunds and exemptions positively affect export values. Furthermore, changes to the KITE facility as a comprehensive export incentive package, including the simplification of application procedures, demonstrate a substantially greater and more statistically significant impact on export values. The manufacture of plastic products exhibits the highest sensitivity to import duty refund values, whereas the basic metals and fabricated metal products industry demonstrates the highest elasticity in response to changes in KITE policy.

INTRODUCTION

Indonesia's trade balance performed poorly in 2018. Specifically, Indonesia recorded a trade balance deficit of US$8.6 billion that year. The value of Indonesia's exports reached US$180 billion, representing an increase of 6.50% compared with the export value recorded in 2017. Non-oil and gas exports amounted to US$162.6 billion, reflecting an increase of 6.53%. However, despite the increase in exports, the value of imports also rose between 2017 and 2018, with a substantially larger increase, thereby contributing to the trade balance deficit. The US$8.6 billion trade deficit was primarily

attributable to Indonesia's negative oil and gas trade balance, whereas its non-oil and gas trade balance remained positive. In 2019, Statistics Indonesia (Badan Pusat Statistik [BPS], 2019) reported that Indonesia's trade balance recorded a deficit of US$3.20 billion, considerably lower than the deficit recorded in 2018.

Indonesia's trade balance deficit underscores the need for the government to introduce stimulus measures to increase exports. The opportunities offered by an increasingly liberalized and open international trading environment must be maximized (Pangestu et al., 2015). Indonesia must strengthen its ability to compete with other countries in producing export-oriented goods that offer high market value and quality (Athukorala & Patunru, 2023; Patunru, 2023). Foreign trade contributes to economic development both directly and indirectly by increasing national income, creating employment opportunities, generating foreign exchange earnings, facilitating the transfer of capital and technology from abroad, and promoting the establishment of new domestic industries as part of the industrialization process (Muchtar, 2001).

Government support for export promotion can generally take the form of tariff and non-tariff measures (Salvatore, 2013). The provision of Import Facility for Export Purposes (Kemudahan Impor Tujuan Ekspor [KITE]) facilities is governed by Minister of Finance Decree No. 580/KMK.04/2003 concerning the Management and Supervision of Import Facilities for Export Purposes. Issued on December 31, 2003, Minister of Finance Decree No. 580/KMK.04/2003 represented one of the government's initiatives to promote export growth by providing KITE facilities. Under this regulation, the facilities include exemptions from and/or refunds of import duties (Bea Masuk [BM]) and/or excise duties, as well as exemptions from the collection of value-added tax (VAT) and luxury goods sales tax (Pajak Penjualan atas Barang Mewah [PPnBM]) on imported goods and/or materials intended for processing, assembly, or installation into other products, provided that the resulting products are primarily intended for export. These facilities are expected to stimulate growth in the export value of Indonesia's manufacturing industry.

Until the end of 2017, the KITE facility policy had undergone two regulatory amendments, namely in 2011 and 2013. In 2011, Minister of Finance Regulations (Peraturan Menteri Keuangan [PMK]) Nos. 253/PMK.04/2011 and 254/PMK.04/2011 were issued to strengthen service controls and supervision over the provision of KITE facilities. Subsequently, in 2013, PMK Nos. 176/PMK.04/2013 and 177/PMK.04/2013 were issued to relax regulatory requirements, simplify administrative procedures, and automate the administration of KITE facilities. These policy changes affected the number of companies holding a Company Identification Number (Nomor Induk Perusahaan [NIPER]), which serves as an identification number for KITE facility recipients. Following the implementation of PMK Nos. 253 and 254 in 2011, the number of NIPER holders declined sharply. However, following the regulatory relaxation introduced in 2013, the number of NIPER holders increased by only 40. This situation raises questions about whether the limited increase in NIPER holders after the regulatory relaxation indicates that the supervision requirements and application procedures for obtaining KITE facilities remained relatively complicated, despite the government's intention to simplify the regulations in 2013.

Changes in policies governing KITE facilities affect not only the number of NIPER holders but also, indirectly, the export values generated by companies receiving these facilities. The export values of KITE facility recipients fluctuated between 2003 and 2019, coinciding with policy changes introduced in 2011 and 2013. In 2010, the export

value of KITE facility recipients reached US$31,649,336,779 before declining in subsequent years. An increase was recorded again between 2014 and 2016, when the relaxed regulations governing KITE facilities were in effect. However, this upward trend was not sustained. Through 2019, the export values of KITE facility recipients continued to fluctuate, despite the implementation of more flexible regulations for export-oriented manufacturing industries since 2013.

In 2018, the government issued two new regulations, namely PMK Nos. 160/PMK.04/2018 and 161/PMK.04/2018, which came into effect on February 18, 2019. These regulations were introduced to deregulate and simplify existing requirements, expand export channels for manufactured products, and improve the KITE facility framework established under the previous regulations issued in 2011 and amended in 2013. The latest regulatory framework was expected to expand export opportunities and enable manufacturing companies throughout Indonesia to utilize KITE facilities as a stimulus for increasing production. By benefiting from import duty exemptions or refunds and exemptions from the collection of import taxes (Pajak Dalam Rangka Impor [PDRI]), companies are expected to produce goods with greater competitiveness in international markets, thereby increasing export values. However, since the issuance of the new KITE regulations in 2018, which became effective in February 2019, relatively few manufacturing companies across Indonesia have obtained official approval to access KITE facilities, either through exemption or refund schemes. Furthermore, compared with the Bonded Zone scheme, the number of KITE facility recipients remains considerably lower. As of July 2020, the number of companies utilizing Bonded Zone facilities had reached 1,354 (Database of the Directorate of Customs Facilities, Directorate General of Customs and Excise [DJBC]).

Several studies have examined the relationship between KITE-related facilities and export performance. These studies have identified positive relationships between import volumes and export performance, tariff exemptions and productivity, as well as tariff exemptions and other policy reforms with trade performance and economic welfare (Batavia & Nandakumar, 2017; Chandra & Long, 2013; Chao et al., 2006; Feng et al., 2016; Herlinda & Verico, 2023; Ianchovichina, 2004; López-Valenzuela, 2022; Yu, 2015; Zhang, 2019). Fanta and Teshale (2014) examined the influence of export incentives on export growth in Ethiopia from 2003 to 2011. Their findings indicated a sustained improvement in export performance following the introduction of the incentive scheme. However, the export earnings examined in their study were derived from several primary commodities, including coffee, cereals, oilseeds, and nuts, rather than from specific manufacturing industry sectors, as investigated in the present study.

Meanwhile, Mansor and Karim (2012) examined the long-term relationship between subsidies and exports in Malaysia using annual data covering the period from 1976 to 2010. Their findings highlighted the essential role of government intervention in promoting exports and suggested that subsidies do not necessarily have detrimental effects on the economy. Their study focused on the provision of gasoline subsidies to industries as an incentive to promote exports without explicitly considering the export value that recipient industries were required to generate. In contrast, under the KITE facility scheme, the exemptions and refunds provided to companies are associated with obligations to export their manufactured products in accordance with the applicable requirements. Furthermore, the present study examines the effects of regulatory changes governing KITE facilities on the export earnings generated by manufacturing industries.

Several studies have specifically examined KITE facilities in Indonesia. Research

conducted by Aritonang (2005), Praja (2014), and Sriyanto and Nabila (2018) identified positive effects of KITE facilities on exports. However, Anggawijaya's (2008) study found that import duty exemptions provided through KITE facilities did not have a statistically significant effect on export values.

Aritonang's (2005) study employed import values, export values, money supply, and the rupiah exchange rate as research variables but did not incorporate regulatory changes or dummy variables representing changes in KITE policies. Furthermore, the study examined aggregate export values rather than focusing on specific manufacturing industry sectors. Similarly, Anggawijaya (2008) used the value of import duty exemptions as the primary research variable, with the study limited to the Jakarta area. Praja (2014), in contrast, examined not only the value of KITE facilities as a fiscal incentive but also the role of non-fiscal incentives. Although the study covered 17 business sectors, its geographical scope was limited to the Bonded Zone in the Bekasi region. Furthermore, Sriyanto and Nabila (2018) conducted a similar study by incorporating variables representing changes in KITE policies. However, their analysis, which used data from 2013 to 2016, found no statistically significant effect.

To extend the existing body of research on KITE facilities, the present study examines not only the value of KITE incentives but also changes in KITE facility policies over time, using data covering the period from 2005 to 2019 and encompassing three major policy changes. In addition, this study examines the elasticity of seven manufacturing industry sectors in response to changes in KITE facilities. These seven sectors were selected because their realized export foreign exchange earnings collectively accounted for 95% of the total export foreign exchange value generated by KITE facility recipients.

From an academic perspective, this research is expected to contribute to the literature on the relationship between import duty exemptions and refunds and export performance by providing empirical evidence of their direct relationship and the magnitude of their effects. Furthermore, this research provides academics and policymakers with information regarding the manufacturing industry sectors that exhibit the greatest responsiveness to the implementation of KITE facilities.

This study also examines how changes in various provisions and administrative mechanisms governing access to KITE facilities affect export performance over time, focusing on three regulatory milestones: 2011, 2013, and 2018. As previously discussed, the increase in the number of companies utilizing KITE facilities has remained relatively limited compared with the overall number of manufacturing companies in Indonesia. According to the 2019 Manufacturing Industry Directory published by Statistics Indonesia, there were 33,923 large- and medium-scale manufacturing companies in Indonesia. In contrast, the number of companies utilizing KITE facilities in 2019 was only 29.

This study employs monthly data covering the period from 2005 to 2019. However, the incentives available to companies are not limited to the existence or absence of import duty exemptions through KITE facilities; they also depend on the ease of accessing and utilizing these facilities. Accordingly, the findings are expected to provide valuable input for the Government of Indonesia in evaluating whether improvements to the regulatory provisions and administrative mechanisms governing KITE facilities have contributed to better export performance.

The provision of KITE facilities is not the only factor influencing export performance. Previous studies have identified several other determinants, including

exchange rates, labor subsidies, export promotion assistance programs, subsidies, export duty exemptions, export quota restrictions, Bonded Zone schemes, and Export Credit Guarantees (ECGs) (Felbermayr & Yalcin, 2011; Syafi'i et al., 2023). To account for the potential contributions of these factors to export performance, this study incorporates several control variables, including inflation, exchange rates, population, GDP, the number of industrial workers, and foreign direct investment (FDI).

Based on the background and problems described above, this study addresses the following research question: "What is the impact of providing KITE facilities on the export foreign exchange value of Indonesia's manufacturing industry?" Accordingly, this study aims to determine the impact of KITE facilities on the export foreign exchange value generated by Indonesia's manufacturing industry and identify the manufacturing sectors that are most sensitive to KITE facility policies. From a regulatory perspective, the findings are expected to serve as an evaluation instrument and provide input for developing policies that support domestic industries and facilitate international trade. From an academic perspective, the findings are expected to provide an additional reference for research on the provision and implementation of KITE facilities.

RESEARCH METHODS

Data Source

This study utilized secondary data covering the period from 2005 to 2019, obtained from the Directorate General of Customs and Excise, Statistics Indonesia, Bank Indonesia, and the Indonesian Ministry of Energy and Mineral Resources, as presented in the following table.

Table 1 Research Data Sources

No.	Variable	Data Source	Units
1	Export Foreign Exchange Value of KITE Facilities by Industry Type	Directorate of Customs and Excise Information, DJBC	**Rupiah**
2	Exemption Value of KITE Facility Users	Directorate of Customs and Excise Information, DJBC	**Rupiah**
3	Return Value of KITE Facility Users	Directorate of Customs and Excise Information, DJBC	**Rupiah**
4	Inflation	BPS	**Presses**
5	Indonesia Crude Price	esdm.go.id	**USD**
6	USD Exchange Rate	bi.go.id	**Rupiah**
7	Number of inhabitants of Indonesia	BPS	**People**
8	U.S. GDP PPP	data.worldbank.org/	**USD**
9	China's PPP GDP	data.worldbank.org/	**USD**
10	Total Industrial Workforce	BPS	**People**
11	**FDI**	**BPS**	**Rupiah**

Data Type

The data used in this study is secondary data with the research time span of 2005 to 2019 using monthly data obtained from internal data from the Directorate General of Customs and Excise. In addition, data is also obtained from BI, BPS and other sources according to the needs for data processing.

Analysis Method

In general, the regression model used to see the effect of KITE Facilities on

Industrial Export Value in Indonesia is as follows:

$$LnDEVEKSPit = \alpha it + \beta 1 LnIt \text{ release} + \beta 2\ LnIt \text{ return} + \beta 3PMK2011it + \beta 4PMK2013it + \beta 5PMK2018it + \beta 6Inflation + \beta 7ICPit + \beta 8LnUSDit + \beta 9LnIt\ population + \beta 10LnGDPPPPUSit + \beta 11LnGDPPPPCH_{it} + \beta 12LnTKIndri_{it} + \beta 13LnFDIit + eit$$

Where:

Foreign Exchange Exports	:	Export foreign exchange value of KITE facility users
Liberation	:	Exemption value obtained from KITE phase users
Returns	:	Return value obtained from KITE fas users
PMK2011	:	Changes to the KITE (rule tightening) policy
PMK2013	:	Changes to the KITE policy (relaxation of rules)
PMK2018	:	Changes to the KITE policy (relaxation of rules)
Inflation	:	Indonesia's inflation rate
ICP	:	*Indonesia Crude Price*
USD	:	Industrial exchange rate
Population	:	Number of Indonesian Population
U.S. GDP PPP	:	*Gross Domestic Product based on purchasing power parity*
China's PPP GDP	:	*Gross Domestic Product based on purchasing power parity*
Industrial Workforce	:	Total Processing Industry Workforce
FDI	:	Direct investment from abroad
eit	:	*Term error*

RESULTS AND DISCUSSION

Empirical Analysis

Give an introduction, don't be immediately given a table without any information2

1. Model Testing

Table 2 Estimated Exemption and Return on Foreign Exchange Exports

	GLS
LN Liberation	**0.365*** **
	(0.000)
LN Returns	**0.0766*** **
	(0.000)
PMK 2011	**-0.964** **
	(0.035)
PMK 2013	**3.342*** **
	(0.000)

PMK 2018	**1.205***
	(0.063)
Inflation	0.715
	(0.877)
LN ICP	-3.353***
	(0.000)
LN USD	9.727***
	(0.000)
LN Population	-761.7***
	(0.000)
U.S. GDP	8.524
	(0.326)
LN GDP PPP Ch	82.20***
	(0.000)
Industrial Kindergarten	46.27***
	(0.000)
LN FDI	2.256***
	(0.000)
Constant	11081.10***
	(0.000)
Observation	1232

For model testing in panel data, there are 3 approach techniques that can be used, namely Pooled Least Square (PLS), Fixed Effect Model (FEM) and Random Effect Model (REM). The best model is selected based on the results of the Chow test and Hausman test (appendix) and with the consideration of the classical assumption test.

The Chow test is carried out by looking at the Prob >F value on the results of the FEM test. From the results of the Chow test, the best result is FEM compared to PLS. Furthermore, because the best option is FEM, it must be determined again, between FEM and REM which is better with the Hausman test. Based on the results of the Hausman test from the two models, the best choice is REM compared to FEM.

In the classical assumption test, the multicollinearity problem can be solved in the panel data, meaning that the panel data can be a solution if the data experiences multicollinearity. Because the model used in this study is a panel data model, the Multicollinearity test is not necessary. The next assumption, considering that the selected model is a Random Effect Model, it is not necessary to perform a Heterokedasticity test, the Heterokedasticity test is only carried out when using Fixed Effect Model and PLS estimates. The last classical assumption test is the Autocorrelation test where in this study shows Prob > F = 0.0013 or it can be said (Prob > Chi2) < Alpha (0.05) so that in the model where the autocorrelation problem is present, it must be estimated using another method. The solution is to use the Fit Panel-data model with GLS (General Least Square).

2. Analysis of the Influence of KITE Facilities on the Export Foreign Exchange Value of the Manufacturing Industry

The regression results of the influence of the KITE Facility on the export foreign exchange value of the KITE Facility users can be seen in table 4.2. The results show that the KITE facility has a positive and significant effect on the value of export foreign exchange. These results are obtained using GLS.

The effect of exemption and refund of Import Duty, VAT, and PPnBM has a positive and significant effect. The significance of the effect of the existence of the KITE

facility through exemption and return is because the provision of these facilities is an incentive provided by the government to encourage exports, where there are benefits that can be used by manufacturing industry companies in importing their raw material needs without being charged Import Duty and PDRI. The exemption and return of this KITE facility can help industrial companies reduce their production costs which come from the amount of import duties and taxes that should be paid on the import of raw materials and auxiliary materials in the production process. The reduction in production costs results in lower prices of export goods and can compete with foreign products.

The results of this study support previous research which showed that there is a relationship between import duty exemption and an increase in exports. Feng et al. (2016) in their study examined the causality effect between the increase in intermediate input imports on export results. The results of their research stated that the increase in unit imports between contributes to the export growth of manufacturing companies in China. The increase in unit imports in their research is mentioned as a reduction in the price of imported goods. In addition, Felbermayr and Yalcin (2011), examined the effect of providing export credit guarantees in Germany on export performance. In their study, panel data were used per destination country and per industrial sector for the period 2000 to 2009, where the results of the study showed that the export credit guarantee was proven to be able to significantly increase exports. In addition, the significant relationship between the provision of KITE facilities and the value of export foreign exchange can also be related to the law of demand where when the price of goods falls, demand will rise. In this case, the exemption and return from the KITE facility reduces production costs which has an impact on the low price of goods to be exported. The cheap price of goods in the market will increase the demand for these goods.

Furthermore, the policy of providing KITE facilities also needs to be seen from the government's efforts to improve regulations related to KITE facilities. Where since 2003 until now the government has made several improvements through changes in the rules related to the mechanism for providing KITE facilities. Where changes in the policy of KITE facilities in this study have a significant effect on the value of export foreign exchange. The change in FMD in 2011 has a negative and significant effect. This can be explained considering that when PMK 253/PMK.04/2011 and PMK 254/PMK.04/2011 came into effect, the rules for providing KITE facilities were stricted. In the PMK, it is more strictly regulated regarding sanctions and fines for exporters who do not carry out their obligations. There are sanctions in the form of fines if companies that obtain NIPER returns or exemptions do not export within 12 months of 100%-500% which in the previous regulation, namely KMK 580 of 2003, the imposition of a fine sanction was only 2%. This regulation also emphasizes the freezing of NIPER and the prohibition of selling its production products to the domestic market. From the tightened regulation, it is hoped that the provision of KITE facilities will be more targeted and have a greater impact on companies that are truly export-oriented. The tightening of this rule has made the number of NIPER decrease drastically from the previous 966 companies to 398 companies. This also supports the results of the research where the variable of policy changes in 2011 was negative and significant to the value of export foreign exchange. With the decrease in the number of companies using KITE facilities, it will have an impact on export foreign exchange receipts from KITE facility users.

For the 2013 PMK and 2018 PMK variables, the results of the study show positive and significant results. This is in line with the policy direction where at the time of PMK 176/PMK.04/2013 and PMK 177/PMK.04/2013 regulations in the background of the

government's efforts to carry out fiscal stimulus. One of the efforts to encourage exports, reduce the trade balance deficit, strengthen the competitiveness of companies, and increase investment needs to be given fiscal incentives in the form of VAT facilities that are not collected for imported goods whose production is not exported. The Minister of Finance Regulation on the amendment of KITE in 2013 is also in the background of the need for simplification related to service requirements and procedures and licensing as well as automation in terms of the use of information technology in supporting KITE business processes.

The PMK variable in 2018 also obtained significant results, policy changes this year have given many facilities in the application process to be able to obtain KITE facilities. These facilities include applications that can be submitted through INSW in the framework of Online Single Submission (OSS), companies also no longer need to take care of the Company Identification Number (NIPER), shorter decision-making times, faster export checks, and the existence of the E-KITE application that makes it easier for companies using KITE facilities. However, from the existence of new regulations related to the provision of KITE facilities in 2018, only 29 new companies have been registered to receive KITE facilities while other companies must adjust this new KITE rules to be able to start getting KITE exemption or return facilities. The distribution of companies that use KITE facilities is also concentrated on the island of Java, it needs to be seen further whether the type of manufacturing industry is indeed more developed on the island of Java or not, because the existence of new regulations related to the ease of company registration to obtain online KITE facilities should be able to maximize the benefits of this KITE facility.

The results of the study for the 2011 PMK and 2013 PMK variables do not support previous research which shows the insignificance of the influence of policy changes on exports. Sriyanto and Nabila (2018) in their research conducted on 45 companies that have obtained KITE facilities from DJBC from January 2013 to October 2016, showed that there are only a few factors of policy change on exports. In their research, it was explained that the change in KITE policy in 2013 provided an opportunity for exporters to extend the export period. So it is said that the cause of the effect of policy changes cannot have a direct impact on the increase in exports, so to be able to obtain clearer results, a longer period of time is needed to see the effect of the policy change. Meanwhile, in this study, the variables of policy changes were studied from 2005 to 2019 where in that time span the author can see the policy changes that occurred and the impact of these changes, which resulted in policies that were more towards regulating restrictions as well as sanctions that the policy had a negative and significant effect, while policies that were more towards relaxation obtained positive and significant results on the value of foreign exchange exports of the manufacturing industry.

The inflation control variable is not significant to the foreign exchange value of the manufacturing industry's exports. Inflation is a price increase that occurs in a country's economy. Dornbusch et al. (2008) stated that "inflation is the rate of change in prices, and the price level is the cumulation of past inflations". The inflation rate that occurs in a country is measured based on certain indicators, and the most widely used indicator is the Consumer Price Index (CPI). CPI is the price index of goods that is most often used by consumers (Sukirno, 2013).

The insignificance of inflation in this study shows that the inflation rate in Indonesia can still be said to be stable. The portrait of national inflation if drawn 10 years ago in 2008 is indeed quite high, but over time it can be suppressed and in the era of President

Joko Widodo inflation managed to stabilize in the range of 3%. This is the reason why the inflation rate is in line with the change in the policy of providing KITE facilities which is more towards relaxation of foreign exchange is not significant to export foreign exchange.

The USD exchange rate variable is positive and significant for export foreign exchange. A positive influence can occur when the rupiah depreciates so that the selling price of the products produced by the manufacturing industry becomes cheaper for Indonesia's export destination countries. This is in line with Mankiw (2007), the domestic currency exchange rate depreciates against foreign currencies, so domestic goods will be relatively cheaper than foreign goods. This causes consumers abroad to be interested in the production of the Indonesian manufacturing industry and has an impact on increasing exports.

Companies using the KITE facility will also import their raw materials if the rupiah exchange rate is in a stronger condition against the USD, the raw materials and auxiliary materials from the import will be cheaper for the company, and the purchase of these cheap raw materials will encourage the company's production to be able to export the goods it produces. The increase in the company's production will have the potential to increase exports. With the cheaper raw materials, the price of exported goods will be able to compete in the global market. When the positive thing of the exchange rate and export relationship is greater, the exchange rate will be more positively related to exports.

The variable of population or population is negative and significant to the value of foreign exchange exports. The following graph shows the growth trend of the number of Indonesia's population which is always increasing every year. It is recorded from BPS data in 2005 that the number of Indonesia's population was 226,712,700 people and in 2019 the number of Indonesia's population reached 268,369,114 million people. Population has a role in terms of demand and supply. When viewed in terms of demand, the population is a consumer, and in terms of supply, the population acts as a producer. In other words, population can play a role in increasing exports or also be a factor in the high number of imports in a country. Worldbank.org mentioned that Indonesia is the fourth most populous country in the world. The large population demands the government to be able to meet the needs of its people, therefore it is not surprising that the import rate of consumptive goods in Indonesia is high. With an increase in the population, consumption will increase, which means increasing the domestic demand of a country for a commodity, Salvatore (2013). When domestic demand is not met, imports will be made, and this will greatly benefit the exporting country.

The high number of Indonesia's population also has a positive impact on the processing or manufacturing industry itself. The Ministry of Industry in its press release stated that in the midst of a slowdown in the manufacturing industry, domestic consumption greatly helps the sustainability of the domestic industry to survive. This can be used as a reason why there is a negative and significant influence of the population on the value of export foreign exchange, because the production of the Indonesian manufacturing industry is absorbed domestically and indirectly reduces the number of products exported.

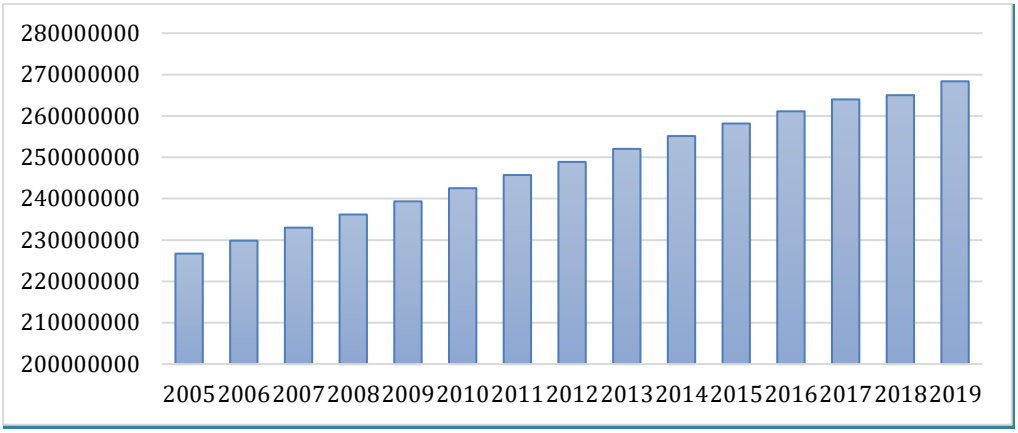


Figure 1. Total Population of Indonesia 2005 to 2019
Source: Central Statistics Agency (processed)

The next variable is the GDP variable, for the GDP of the USA it is not significant while for the GDP variable of China it is positive and significant for the foreign exchange of the export industry of the manufacturing industry. Changes in the GDP of the export destination country can affect the country's demand for a good or a commodity. The increase in the GDP of the importing country causes an increase in consumption and also purchasing power in the community. However, for the GDP of the USA, which is not significant with the foreign exchange exports of the seven manufacturing industries in Indonesia, it indicates the increasing wealth of individuals or industries in the United States, does not make the United States immediately increase the demand for imports from the products of the manufacturing industry in Indonesia. The seven types of industries that the researchers tested, namely the industry of goods from plastics, electronics and components, motor vehicles, pharmaceutical chemicals, metals and metal goods, food and beverages and textiles are not the main commodities exported to the United States.

Based on the diagram, Indonesia's trade balance is always surplus and tends not to fluctuate too much. Indonesia's export chart in 2019 decreased by 3.8% to US$17.7 billion. Meanwhile, imports decreased by 8.8% to US$9.3 billion. The United States is among the top three export destination countries for Indonesia (Badan Pusat Statistik, 2019). The largest commodities exported are footwear, furniture and parts, then men's coats, such as suits and blazers. These commodities are not very suitable for the commodities that researchers research, so the GDP of the United States is not significant to the export foreign exchange value of the manufacturing industry that uses KITE facilities.

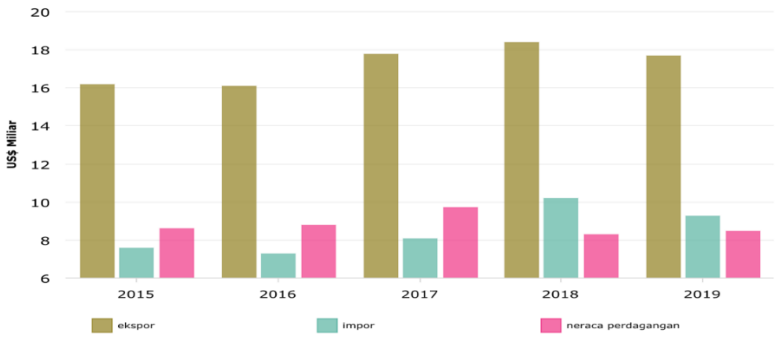


Figure 2. Trade Balance of Indonesia and the United States
Source: Ministry of Trade, 2020

The next variable is China's GDP variable where positive and significant results are obtained on the export foreign exchange of the manufacturing industry. This is in line with the research of Nadeem et al. (2012) it is said that the GDP of the export destination country, which is an independent variable in his research, has a significant positive effect on exports. The price factor of goods is not the only factor that affects the high or low demand for goods. In the theory of demand, the factor of people's income level also has a positive correlation with the demand for a good. The higher the income of the people, the higher the demand for the goods they need. In the era of the open economy, the level of income of the export destination country greatly affects the value of exports. With the increase in GDP in the export destination country, it will have an impact on the country's purchasing power. So if you look at the GDP growth graph of China, which is seen to overtake the GDP of the United States, it shows that China's state income is very good, which ultimately has a positive impact on Indonesia's export foreign exchange.

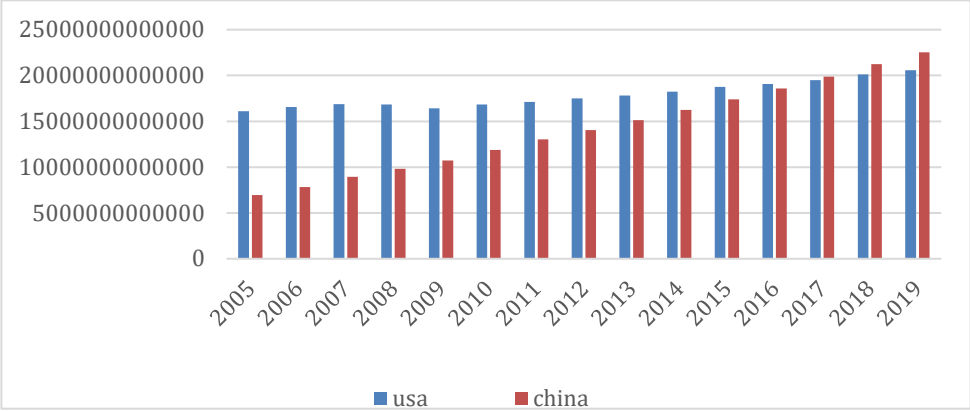


Figure 3. GDP of the United States and China from 2005 to 2019
Source: https://data.worldbank.org/indicator (processed)

Along with the graph above, the Ministry of Industry stated in its press release that China is one of Indonesia's export destination countries. The food industry sector is the largest foreign exchange contributor followed by base metals, chemicals, textiles, rubber and plastic goods. In addition, as the largest population in the world, it is also a factor in increasing demand for imported goods in the country. In accordance with the results of the study, China's GDP is significantly positive for export foreign exchange.

The variables of labor and FDI have a significant effect on export foreign exchange. This is appropriate if the labor absorbed production increases and will increase export foreign exchange. while FDI, according to Sukirno (2013) is said to increase investment will cause an increase in the quantity of production so that it will have a positive impact on increasing exports.

3. The Types of Industries That Are Most Elastic to KITE Facility Policy

The regression results show the influence of the provision of KITE facilities on the value of export foreign exchange from each type of manufacturing industry that uses KITE facilities. The type of goods industry from plastics, textiles, food and beverages, motor vehicles and their components, chemicals and pharmaceuticals, electronics and metals are the types of industries that are significant to the provision of KITE facilities. Looking at the coefficient value for the plastic goods industry, the largest coefficient value among other types of industries is obtained. The coefficient of the KITE facility exemption variable is 1.107, it can be explained that the type of plastic industry has a positive relationship where every time there is an increase of one percent in the exemption variable, and the other free variables remains, the value of export foreign exchange using

the exemption facility will increase by 1.107 percent. Meanwhile, the value of the textile industry coefficient value is 1.031, for the food and beverage industry the value of the coefficient is 1.023, for motor vehicles and their components is 0.961, and for the chemical and pharmaceutical industry the value of the coefficient is 0.666.

Table 2. Estimation of Industry Elasticity to KITE Facility Policy

	Plastic	**Electronics & Components**	**Motor Vehicles**	**Chemistry and Pharmaceuticals**	**Metals**	**Food & Beverage**	**Textiles**
LN Liberation	1.107***	0.179**	0.961***	0.666***	0.158***	1.023***	1.031***
	(0.000)	(0.038)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
LN Returns	0.0153*	0.0794	0.0188*	-0.0200	0.0895***	0.0333***	0.0148
	(0.053)	(0.230)	(0.050)	(0.493)	(0.002)	(0.006)	(0.173)
PMK 2011	0.301	-3.092**	-0.332	-0.277	-1.468	-0.204	0.415
	(0.262)	(0.016)	(0.415)	(0.685)	(0.185)	(0.596)	(0.220)
PMK 2013	0.717*	10.17***	1.703***	2.267**	3.778**	1.544***	1.562***
	(0.076)	(0.000)	(0.004)	(0.020)	(0.020)	(0.008)	(0.002)
PMK 2018	0.705*	2.006	0.0532	0.788	1.054	0.409	0.535
	(0.056)	(0.242)	(0.926)	(0.413)	(0.501)	(0.445)	(0.254)
Constant	1245.0***	17325.7***	3663.3***	13240.7***	9423.6***	1315.7**	2376.4***
	(0.002)	(0.000)	(0.000)	(0.000)	(0.000)	(0.020)	(0.000)
Observation	176	176	176	176	176	176	176

p-values in parentheses * p<0.10, ** p<0.05, *** p<0.01

As shown in table 4.3, the results of data processing are to see how each industry affects the policy variables of the KITE facility. For the metal and metal goods industry and the food and beverage industry, it is positive and significant for the exemption and return facility scheme. The seven types of industry groups are both positive and significant for the variables of the 2013 FMD policy change.

The electronics and component industry is the only industry that has a negative and significant influence on the 2011 FMD variable. The policy change in 2013 is a policy towards relaxation. Meanwhile, the FMD 2011 variable reflects the policy change towards tightening the rules. The tightening of the rules that took effect in 2011 focused on sanctions and sanctions for companies that use KITE facilities but do not actually export raw materials that they have imported before. In addition, the implementation of the KITE facility in 2011 is also based on the government's concern over the manufacturing industry in Indonesia which relies too much on imported raw materials. Furthermore, the existence of PMK 2011 has an impact on the restriction of the ease of being able to obtain raw materials. This has a negative impact on the export foreign exchange value of the electronics industry and its components. To better understand the comparison of the identification of responses from each type of industry to the KITE facility policy, see table 3.

Table 3. Comparison of Industry Responses to KITE Policies

SEE	Plastic	Electronics	Vehicles motorized	Pharmaceutical chemistry	metal	Food Drinks	Textiles
Liberation	E	THE	THE	THE	THE	E	E
Returns	THE	THE	THE	THE	THE	THE	THE
PMK 2011	THE	E	THE	THE	E	THE	THE
PMK 2013	THE	E	E	E	E	E	E
PMK 2018	THE	E	THE	THE	E	THE	THE

Ket: E = elastic (E>1), TE = inelastic (E<1)

In terms of the degree of elasticity, for the type of plastic industry it is elastic to the KITE exemption facility because the value is more than 1, which means that the increase in the provision of exemption facilities has a sensitive effect on the increase in foreign exchange exports of the plastic industry. Meanwhile, for policy changes, both those that are more towards tightening the rules and policies that aim to relax the rules for the plastic industry are inelastic or inelastic. The plastics industry's more sensitivity to the provision of exemptions is strengthened by data according to table 4.5 where for the number of companies in the plastic goods industry out of a total of 51 companies, 39 companies use the exemption scheme and the rest are returns.

Table 4. Number of Users and Types of KITE Facility Schemes

Type of Industry	Release Decree	Return Letter	Total
Plastic Items	39 Companies	12 Companies	51
Electronics and Components	5 Companies	1 Company	6
Motor Vehicles and Components	21 Companies	15 Companies	36
Chemistry and Pharmacy	5 Companies	8 Companies	13
Metals and Items from Metal	21 Companies	13 Companies	34
Food and Drink	16 Companies	14 Companies	30
Textiles, Apparel and Accessories	77 Companies	17 Companies	94

Source: Directorate of Customs Facilities (processed)

The insignificance of the plastic industry to the tightening of rules as obtained from the regression results is due to the not too long implementation time, where PMK 253 and 254/PMK.04/2011 came into effect in April 2012, while the realization of exports can be seen in 2013 and 2014. The graph shows that the value of export foreign exchange in the range of 2005 to 2019 fluctuated. It can be seen that in 2013 export foreign exchange decreased compared to the previous month and year. However, if you look at the degree of elasticity of policy changes, where for the plastic industry it is inelastic to policy changes. This means that every policy change both towards tightening rules and towards relaxation is not sensitive affecting the increase in foreign exchange exports of the plastic industry and goods from plastics. As stated in the press release, the Ministry of Industry, and the Indonesian plastic industry still relies on raw materials, this makes the provision of exemption of KITE facilities more influential on export foreign exchange. As a comparison of the number of plastic industries currently recorded at the Ministry of Industry, in the press release, it is said that there are 925 companies, if from this number, most of them have export-oriented plastic industries that can take advantage of the KITE scheme, then the productivity of the plastic industry will increase.

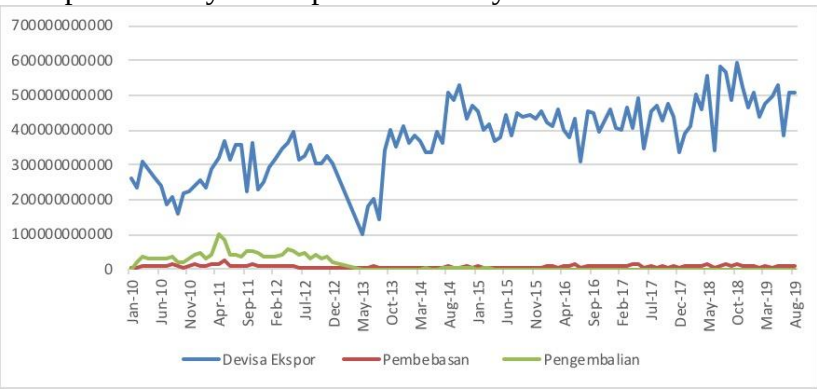


Figure 4. Export Foreign Exchange Value of Plastics and Plastic Goods Industry

Source: Directorate of Customs and Excise Information (processed)

KITE facilities are provided by the government to overcome the problems of the manufacturing industry in Indonesia. Where the Indonesian manufacturing industry is highly dependent on imported raw materials. The plastic industry, for example, is one of the industries that relies on raw materials from imports, therefore this KITE scheme is indeed very suitable for use. In addition to the plastic industry, the food industry also still depends on the import of raw materials, especially food additives such as dyes, artificial sweeteners, preservatives, flavors, flavor and aroma preservatives, and thickeners (ekonomi.bisnis.com). Technology is the main obstacle in the development of the raw materials sector of the food and beverage industry in Indonesia. This makes Indonesia still inferior to its competitors such as the United States and European countries in terms of the availability of raw materials for the food and beverage industry. Furthermore, textiles, America is an exporting country for cotton as a raw material for Cutton, which is indeed famous for its quality and high price. Cotton fabric is one of Indonesia's raw material import commodities, apart from the quality of the land in Indonesia is also not able to produce cotton well when compared to the United States with the same land capacity. In addition, the flood of textile imports from both China and America makes the domestic industry unable to compete so that many domestic textile industries go out of business. This supports the results of this study where the variables of GDP USA for the plastic, food and beverage and textile industries are significantly negative for the foreign exchange exports of the Indonesian manufacturing industry, as shown by the regression results per type of industry in the appendix sheet.

Meanwhile, for the electronics and component industry, it is inelastic to the KITE facility both with an exemption scheme and a return scheme. For the 2011, 2013 and 2018 FMD policy changes, the electronics and component industry is elastic because the value is more than 1 which means that policy changes both towards tightening rules and relaxation of rules have a sensitive effect on the foreign exchange value of the electronics and component industries. The electronics and components industry is an industry from the other seven industries that are negative and significant to the FMD 2011 variable, as shown in the chart below, where PMK 253 and 254/PMK.04/2011 apply from April 2012, the enactment of tightening rules regarding the procedure for providing KITE facilities can be seen through the graph where there is a downward trend in export foreign exchange. However, it is necessary to study further regarding the relaxation rules for the provision of KITE facilities which began in 2013 and were renewed again in 2018 did not show a very significant increase. There was only one major surge in 2014 where PMK 176 and 177/PMK.04/2013 came into effect. This is in accordance with the results of the study where the seven types of industries are positive and significantly very elastic on the 2013 FMD variable.

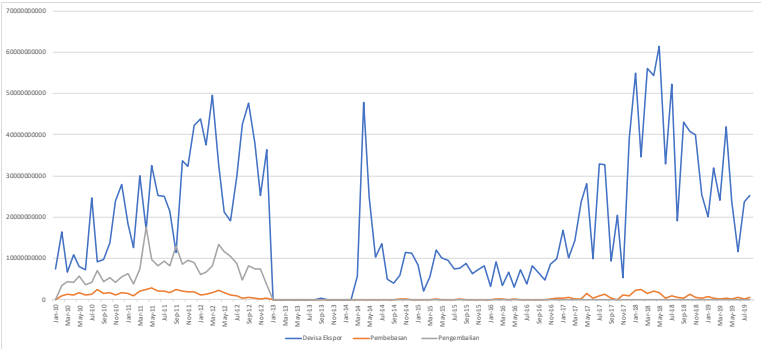


Figure 5. Export Foreign Exchange Value of the Electronics and Components Industry

Source: Directorate of Customs and Excise Information (processed)

The motor vehicle industry and its components are elastic to policy changes in 2013 where there is a relaxation of rules from the government. This means that the change in policy to relaxation has a sensitive effect on the increase in foreign exchange exports of the motor vehicle and component industry. One of the companies that use the Exemption KITE facility, namely Honda, prefers to use the exemption KITE facility because, for exporting countries, Honda motor vehicle spare parts are only produced in Japan and Indonesia. This has an impact on the high production volume for export, so the exemption scheme is very appropriate when compared to the return scheme which affects the company's cash flow. For cars such as the Isuzu Traga, as stated in the finance.detik.com also enjoy the exemption KITE facility. This is one of the supporting factors for the government so that the company can export the first car unit to the Philippines. With the exemption of import duties through the KITE facility and the ease of relaxation rules for the use of the KITE facility, it is hoped that it can continue to improve the export performance of the motor vehicle industry in Indonesia. Because the motor vehicle industry is one of the five manufacturing sectors that have received priority government development in entering the industrial era 4.0.

The chemical and pharmaceutical industry is elastic to policy changes in 2013 because it has a value of more than 1 and the provision of import duty clearances, as well as policy changes in 2013 positively and significantly affect the export foreign exchange of the chemical and pharmaceutical industry. It is known that the national chemical and pharmaceutical industry, 95% of its raw material needs come from imports. As quoted in bisnis.tempo.com the import value of medicinal raw materials every year reaches US$2.5 billion to US$2.7 billion with the largest import value of raw materials coming from China reaching 60%, followed by India and other countries. This certainly makes the types of chemical and pharmaceutical industries more advantageous using the exemption facility scheme, where the exemption of import duties can help reduce production costs so that it can help increase production volume and export value. However, it is necessary to develop types of industries to support raw materials for the development of the chemical and pharmaceutical industry so that in the future the manufacturing industry in Indonesia will not always depend on raw materials from abroad.

The metal industry is positive and significant with an exemption coefficient of 0.158 and a return coefficient of 0.0895 with a confidence level of 99%. The variable of policy change in 2013 is also positive and significant with a confidence level of 95%. It can be explained that if there is an increase of 1% in the exemption variable, then the value of export foreign exchange increases by 0.158%. If there is an increase of 1% in the return variable, then the foreign exchange value of exports of the metal industry and goods from metals increases by 0.0895%. If there is a 1% change in the 2013 FMD variable, namely in the form of a change in policy towards relaxation, then the foreign exchange value of exports of the metal industry and goods from metals will increase by 3.778 with a confidence level of 95%. In this case, the degree of elasticity for the type of metal industry and goods from metals is inelastic for exemption and return facilities because the value is less than one, and for policy changes in 2011, 2013 and 2018 elastic because it obtains more than one value. This means that the increase in foreign exchange exports from the metal industry and goods from metals is sensitive to the policy changes that occur. Where for the policy of relaxation, the value of export foreign exchange will increase while the policy towards tightening export foreign exchange will decrease.

From table 4.4, it is found that of the seven types of industries studied, there is not a single industry that is sensitive to the provision of KITE facilities in the form of import duty refunds. This is because for each company to think very carefully about how to manage their cash flow. Because for the use of the import duty refund facility, each company is required to pay in advance the amount of import duty on the import of raw materials for their production. Meanwhile, companies do not need to pay import duties and taxes in the context of importing raw materials they import.

CONCLUSION

This study aimed to examine the impact of the Import Facility for Export Purposes (Kemudahan Impor Tujuan Ekspor [KITE]) on the export foreign exchange earnings of Indonesia's manufacturing industry and to identify the industrial sectors most responsive to KITE policies. The study utilized secondary data covering the period from 2005 to 2019, obtained from the Directorate of Customs Facilities, the Directorate of Customs and Excise Information, the Directorate General of Customs and Excise, and Statistics Indonesia.

The findings demonstrated that KITE facilities had a positive and statistically significant effect on export foreign exchange earnings. These facilities were provided through import duty exemptions and refunds. Furthermore, the analysis indicated that regulatory changes aimed at relaxing KITE requirements positively affected export foreign exchange earnings.

The manufacturing sectors exhibiting an elastic response to import duty exemptions included plastic products, food and beverages, and textiles. However, none of the sectors demonstrated an elastic response to the import duty refund scheme. Regarding regulatory tightening, the electronics and basic metals and fabricated metal products industries exhibited elastic responses. Following the regulatory relaxation introduced in 2013, elastic responses were observed in the electronics, motor vehicle, chemical and pharmaceutical, basic metals and fabricated metal products, food and beverage, and textile industries. Meanwhile, the regulatory relaxation introduced in 2018 resulted in elastic responses in the electronics and basic metals and fabricated metal products industries.

This study was limited to examining the impact of KITE facilities on export foreign exchange earnings using monthly data from 2005 to 2019. Although the analysis focused on export performance, KITE facilities may also influence employment generation in Indonesia's manufacturing industry. Therefore, future research should investigate the effects of KITE facilities on employment and labor absorption. Furthermore, subsequent studies could incorporate other trade facilitation schemes, including Bonded Logistics Centers, Bonded Zones, and Free Trade Zones, to provide a comparative assessment of their effectiveness and identify the policies best suited to supporting the competitiveness and development of Indonesia's manufacturing industry.

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CONFLICT OF INTEREST

The authors declare that this study was conducted without any commercial or financial relationships that could be interpreted as a potential conflict of interest.

AUTHORS' CONTRIBUTIONS

Tantri Sunaryo: research conceptualization, methodology design, experiment execution, data collection, data analysis, manuscript drafting, and manuscript revision. Khoirunurrofik: research supervision, validation of research results, provision of scientific input, and manuscript review and revision. All authors have read and approved the final version of the manuscript.

STATEMENT ON THE USE OF GENERATIVE ARTIFICIAL INTELLIGENCE

The authors declare that generative artificial intelligence (AI) was used in the preparation of this manuscript to help improve linguistic clarity, correct grammar, and refine the writing structure. Generative AI was not used to generate, manipulate, or analyze research data. The entire content of the manuscript has been reviewed and verified by the author(s). The author(s) are fully responsible for the accuracy, integrity, and final content of the manuscript.

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