



Policy Brief: Economic Assessment of Import Duty on Electronically-Transmitted Products



Indonesia's government has imposed tariff on electronically-transmitted products, or intangible digital products (IDP) at 0 % rate as of 2018 – with potential increase of the duty at any time. Indonesia's IT sector is relatively undeveloped – making Indonesia a net importer for IT goods and services (including IDP). Preliminary findings from our research shows that the tariff may harm the economy – especially for SMEs and tech startups. Retaliatory measures may be imposed by trading partners and can further harm the economy.

1. Background

A McKinsey study (Das, Gryseels, Sudhir, & Tan, 2016; McKinsey & Company, 2018) suggests that, by 2025, Indonesia digital economy transaction value could be around USD 150 billion or equivalent to 10% of Indonesia's GDP. Based on UNCTAD (2019) estimation, today online global imports or electronic transmission is around US\$ 139 Billion. It is estimated that 33% of digitizable imported products are printed matter, 29% are software, 19% are media and video.

The debate over how electronic transmission is treated has been going on since the beginning of 1990. There is no clear agreement on whether electronic transmission is treated as goods, services or intellectual property. In 1998, WTO conducted a two-year moratorium on custom duties on electronic transmission.

In 2018, the Government of Indonesia issued the PMK 17/2018 concerning the Establishment of the Classification System for Goods and the Imposition of Tariffs on Imported Goods. Based on this regulation, electronic transmission in Indonesia is the subject of custom duty, it means that the Government of Indonesia can impose certain tariffs on a number of digital commodities (that are classified). At present, the tariff set by the Government is still zero, but it can be changed according to the need and interests of Government of Indonesia.

PMK 17/2018 created a new HS code, Chapter 99, which is described as Software and Other Digital Products Transmitted Electronically. There are five (5) product classifications. First, operating system software, second application software, third multimedia (audio, video, or audio visual), fourth supporting or driver data, including design for machinery systems, and fifth other software and digital products.

Indonesia Government plans to implement the rules through three stages. First, self-assessment by corporations, secondly partnering with service providers such as cellular providers and payment consolidators, and third, tracking flows of money and digital footprint. Until now there are no detailed plans about the technical implementation of this policy.

Digital goods have a different ownership structure than tangible physical goods. In tangible physical products, there is a 'transfer of ownership' of the goods, from the seller to the buyer upon completion of transaction. As for Intangible digital products, there is no transfer of ownership upon transaction. Digital goods transaction only permits the buyers of digital goods to use the product for a specific period of time, but the transaction does not grant the buyers the 'right to own' digital goods as digital goods are mostly protected by Intellectual Property rights and the IP holder will remain the owner of digital goods. The owner of the digital goods (intellectual property owner) will grant the 'right to use' digital products to the buyer for a specific period of time, and there is no transfer of ownership in digital goods, as the nature of transactions are 'subscription' based.

There are at least three direct impact from the imposition of tariffs, especially for the MSME sector. First, if the tariff is still zero, this policy will create high administrative and compliance costs for businesses and consumers of digital goods. Second, if the tariff has been set above zero, the tariff will be an additional cost, especially for businesses that use imported digital products as production inputs. At present, a number of MSMEs in the digital sector still rely on imports of digital goods as one of the production inputs. The imposition of tariffs will increase the production costs of Indonesia's local MSMEs which in turn will reduce their competitiveness. A number of MSMEs stated that they consumed intangible goods, especially for office support software.

Third, the possibility of retaliation from trading partner countries. If Indonesia applies import duty, then Indonesia's trading partners may potentially apply the same tariff to other Indonesia products. This will weaken the competitiveness of Indonesian products that have export potential.

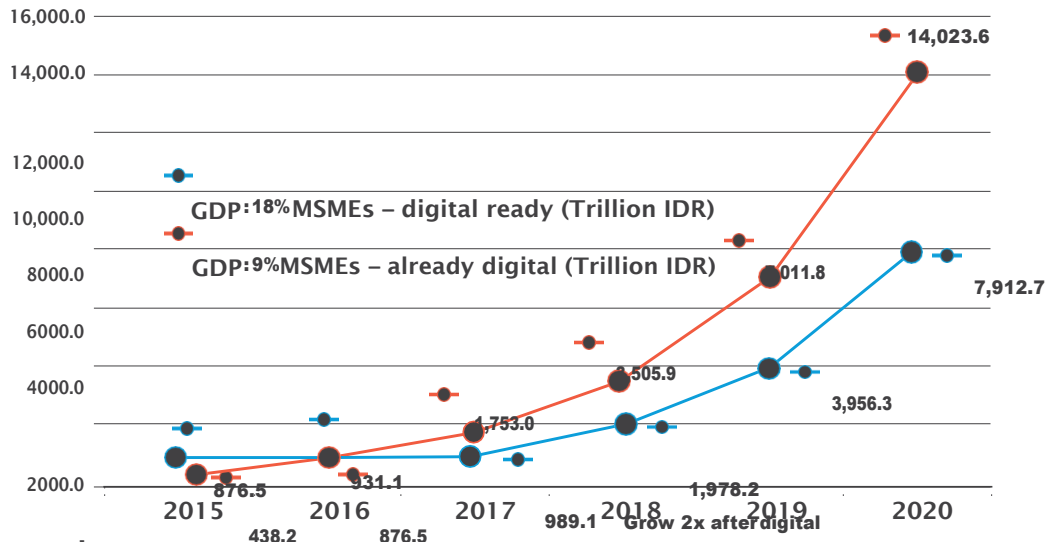
2. Impact of Tariff on Indonesia MSME

In 2017 Government of Indonesia launched "Go-Digital" campaign with the intention to build digital-technology based economy in the country through 4 main goals:

- Digitalize 8 million MSME (Indonesia has 56,5 million MSME and approx.30% are reliant on digital technology)
- Incubate 1000 Digital-based Start-ups
- Digitalize 1 million farmers and fishermen
- Increase broadband access to 187 municipalities

Indonesia Ministry of MSME and Ministry of ICT recorded that MSME with higher participation in digital technology is likely to grow double and is more competitive internationally, while World Bank research projected that boosting MSME digital engagement would increase Indonesia’s annual economic growth by 2%.

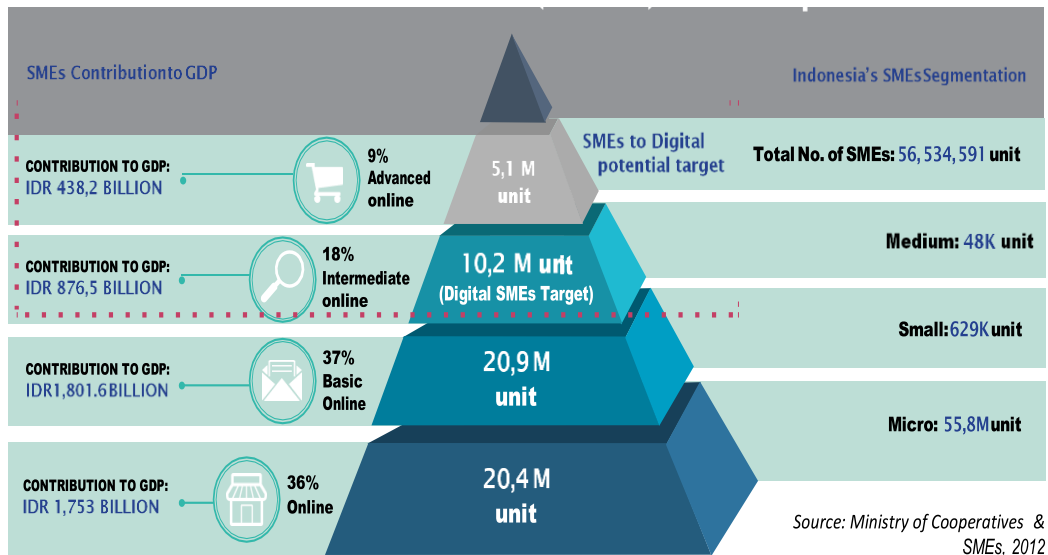
Figure 1. Projections of Indonesian Digital-Based MSMEs



Source: Indonesia Central Statistical Agency/BPS (2015)

Indonesia MSME is now starting to depend on online commerce. Based on a survey conducted by the Ministry of SMEs, 9% of MSME Indonesia depends on advanced online services, 18% on intermediate online services and 37% on basic online. It is estimated that the proportion of online trade and digitalization in the MSME in Indonesia will increase. With the goals set above to be achieved by 2020, the imposition of tariff on digital goods such as operating system, application software, audio visual, supporting driver data for machinery system, would only increase import cost and hamper achievement of the above goals.

Figure 2. MSMEs Landscape in Indonesia



3. Impact of Tariff on Indonesia Manufacturing Sector

One of classifications of digital goods as stated in PMK 17 is Operating system and supporting driver data which play vital role in manufacturing process and industrial automation to manage and operate machinery and equipment in production facilities and factories. Industrial automation utilizes digital operating system to help increase productivity, efficiency, delivery systems.

Digital goods is widely used in the manufacturing process and industries of pharmaceuticals, chemicals, food and beverages, electrical and electronics industry and automotive industry for cost efficiency and higher quality production output.

The Government of Indonesia has developed a roadmap in making Indonesia Industry 4.0 with 5 sectors named as priority sectors : food and drinks, textile, automotive, electronics, and chemicals. These five sectors are envisaged to boost the country's exports in the future and cause a thriving role of the manufacturing sector towards Indonesia's gross domestic product (GDP).

Manufacturing industry is targeted to contribute between 21-26 percent to the nation's GDP by 2030. Imposition of tariff on digital goods will inevitably hurt manufacturing industry and the industrial automation and will prevent the objective of Making Indonesia Industry 4.0

4. Impact of Tariff on Indonesia Economy

Indonesia Services Dialogue conducts research to calculate the impact of the imposition of tariffs on intangible goods on Indonesia economy. The research was conducted using two methods, first the I / O method for measuring the magnitude of the digital sector on the economy, the second Computed General Equilibrium method for calculating the impact of tariffs on the national economy and the potential retaliation of trading partner countries.

In this research, the input-output method is used to analyze the linkages between sectors and key sectors and multiplier analysis. Analysis of inter-sectoral linkages and key sectors is conducted to see which sectors have strong links with other sectors, both upstream and downstream, and to identify which sectors are key. Meanwhile, multiplier analysis is performed to see which sectors have high multiplier in output, household income, and value added.

The CGE model of a national economy is a system of equality that reflects the behavior of all economic actors, namely the behavior of consumers and producers, as well as the market clearing conditions of goods and services in the economy. In this research, the CGE model using several scenarios to calculate the potential impact of applying import tariffs on the creative sector on the Indonesian economy. In general, the import tariffs simulated in this study include 3 percent tariffs, 5 percent tariffs, and 10 percent tariffs. The import tariff is further assumed to be applied to each creative sector and the entire creative sector concurrently. The intended creative sector covers the visual communication design sector (DESAIN), the application and game developer sector (APPGAME), the animation and video film sector (FILM), and the music sector (MUSIK).

4.1 Magnitude

On account of the input-output processing results, the backward and forward linkage index of each sector is formed. From these results, the researcher accordingly identifies which sectors that can be classified as key sectors. Key sectors are sectors that possess strong backward and forward linkages. This insinuates that both indices, Total Forward Linkage Index (ITFL) and Total Backward Linkage Index (ITBL), must have values exceeding 1.

Table 1. 10 Sectors with the Highest Value-Added Multiplier

No	Sector Name	Value Added Multipliers
1	Music	1.007898647
2	Publishing	1.004268505
3	Advertising	1.003651137
4	Fashion	1.002034778

5	Application and Game Developer	1.000563213
6	Film and Animation and Video	1.000286369
7	Educational Services	1.000280116
8	Performing Arts	1.000164118
9	Financial Intermediary Services	1.00008866
10	Visual communication design	1.000086827

Table 1 shows 10 sectors with the highest value-added multiplier. It is obvious that 6 of the 10 sectors are those with linkage to intangible digital goods. This means that the sectors of intangible digital goods are those which are able to provide a significant increase in the economic value added. Value added is defined as the difference in value between an industry's output (consisting of sales or revenue and other operating income, commodity taxes, and inventory changes) and intermediate input costs (including energy, raw materials, semi-finished goods, and services purchased from all sources). Value added describes what happens when a commercial company processes a product by increasing its value (and also its price) and by adding extra processes to its manufacturing phase or by providing additional services. Intangible digital goods sectors are the ones that produce goods with high value added.

4.2 Potential Impact of Investment Diversion or Retaliation from Digital Economy Taxation

To explore the potential impacts, particularly on fiscal, Investment diversion or retaliation might occur if digital economic tax is applied, the researcher employs the analytical framework used by Lee-makiyama (2018). However, in conducting the analysis, the researcher encounters several obstacles, including the unavailability of complete data related to digital services in Indonesia and trading partners and the absence of regulations pertaining to the digital economy taxation rate. Therefore, with such limitation, the object of analysis becomes the import and export of machinery and electronics. Both items are chosen because the researcher consider them having close linkage with the intangible digital goods sector. Furthermore, due to the absence of tax rate regulations for digital economy, the researcher will apply several scenarios of tax rate, that is 3%, 5%, and 10%.

Almost 40% of Indonesia's machinery and electronic goods are imported from China. Together with Japan, China partakes around 52% of Indonesia's imports of machinery and electronics. In 2017, Indonesia recorded imports of machinery and electronic goods from around the world worth USD36.38 billion of which USD14.3 billion were from China.

In exploring the potential fiscal impacts (on state revenue), we assume retaliatory measures would be imposed by Indonesia's trading partners after the tariff introduction¹. However, due to data limitation, we use the trade value of machinery and electronic goods trade as substitute for IDP trade. There are three scenarios of tariff rate imposition under this analytical framework: 3%, 5%, and 10% - and three scenarios of retaliations:

1. Scenarios when trading partners set tariffs only on exports of machinery, electronic goods;
2. Scenarios when China and Japan (as Indonesia's largest trade partners for machinery & electronic goods) set tariffs only on the types of goods with the largest export value;
3. Scenarios when China and Japan (as Indonesia's largest trade partners for machinery & electronic goods) set tariffs on all Indonesian exports, regardless of the type of goods.

Table 2. Potential Tax Payments (Retaliation Effect) from Exports of Machinery and Electronics

Spending*	Scenario		
	3%	5%	10%
Potential tax payments to China	0.01	0.02	0.05
Potential tax payments to Singapore	0.08	0.13	0.25
Potential tax payments to Japan	0.06	0.10	0.20
Potential tax payments to all over the world	0.43	0.72	1.43

**) in USD billion*

Spending*	Scenario		
	3%	5%	10%
Potential tax payments to China	0.21	0.35	0.71
Potential tax payments to Singapore	1.08	1.80	3.60
Potential tax payments to Japan	0.85	1.41	2.82
Potential tax payments to all over the world	6.07	10.12	20.24

****) in IDR trillion. Assumed rate: USD 1 = IDR 14128.48*

Table 2 reveals the potential tax to be paid if trading partners retaliate. If we compare this with the potential tax revenue that will be gained, the potential for tax payments will not generate a significant amount. The potential for tax payments is always smaller than the potential for tax revenue. On average, the potential for tax payments is only

¹ This report used the analytical framework used by Lee-makiyama (2018)

equivalent to 39% of the potential tax revenue. The difference between the potential revenue and the potential payment is quite large, namely Rp9.35 trillion to Rp31.16 trillion. Fiscally, increasing the level of tariffs looks quite beneficial. However, the potential side effects might outweigh the fiscal benefit and may potentially hurt Indonesia export in long run.

4.3 CGE Calculation Results

In general, the impact of implementing import tariffs in the long run tends to have the same pattern in the four macroeconomic variables analyzed. When viewed in terms of magnitude and implementation of import tariff policies in the single sector alone, the biggest impact will occur if import tariffs are imposed to the APPGAME sector for all variables, be it GDP, household income, labor, or government spending. The magnitude of the impact differs only slightly from the scenario of applying import tariffs to the four creative sectors.

The implementation of import tariffs is predicted to have a very insignificant impact and have a negative effect on GDP in the short term. The biggest impact is predicted to occur if an import tariff of ten percent is imposed in the four creative sectors which gives an impact of -0.0018 percent. At the meantime, if compared to the application of import tariffs in each sector, import tariffs in the APPGAME sector of ten percent are predicted to result in a corrected GDP of -0.0014 percent or more than six times compared to the negative impact arising from the application of import tariffs in the FILM sector.

Table 3. Macroeconomic Impacts in the Short Term

	Short Run			
	GDP	HH Income	Labor	Govt
Application of 3 percent import tariff				
DESAIN	- 0.000037%	- 0.000048%	- 0.000071%	0.000456%
APPGAME	- 0.000429%	- 0.000496%	- 0.000848%	0.003295%
FILM	- 0.000067%	- 0.000110%	- 0.000138%	0.000196%
MUSIK	- 0.000027%	- 0.000079%	- 0.000099%	0.000701%
All creative sectors	- 0.000560%	- 0.000733%	- 0.001157%	0.004649%
Application of 5 percent import tariff				
DESAIN	- 0.000061%	- 0.000081%	- 0.000119%	0.000743%

APPGAME	- 0.000710%	- 0.000828%	- 0.001403%	- 0.005282%
FILM	- 0.000114%	- 0.000182%	- 0.000228%	- 0.000313%
MUSIK	- 0.000046%	- 0.000133%	- 0.000165%	- 0.001133%
All creative sectors	- 0.000930%	- 0.001224%	- 0.001915%	- 0.007472%
Application of 10 percent import tariff				
DESAIN	- 0.000124%	- 0.000164%	- 0.000239%	- 0.001409%
APPGAME	- 0.001401%	- 0.001661%	- 0.002752%	- 0.009604%
FILM	- 0.000220%	- 0.000358%	- 0.000446%	- 0.000559%
MUSIK	- 0.000095%	- 0.000266%	- 0.000327%	- 0.002105%
All creative sectors	- 0.001839%	- 0.002450%	- 0.003765%	- 0.013684%
Tax policies and import tariffs in the IT sector				
IT sector	0.003641%	0.003439%	0.005178%	0.002115%

Household income is predicted to have a distinctly inconsiderable impact, but the negative sign signifies a decline in people's welfare if import tariffs on the creative sector are imposed. If the Government decides to impose import tariffs on the four creative sectors by ten percent, public income is expected to decrease by -0.0024 percent. Individually, the application of import tariffs in the APPGAME sector is predicted to have an impact of four times greater than the impact of the application of import tariffs in the FILM sector or almost ten times greater than the impact of the application of import tariffs on the DESAIN sector on household income.

The impact of applying import tariffs on the creative sector on employment has a very small magnitude, in line with the two macro variables mentioned earlier. If applied to the single sector, the imposition of import tariffs in the APPGAME sector will have the greatest impact compared to the enactment of import tariffs in other creative sectors, which is more than six-fold compared to the import tariff application in the FILM sector. However, the greatest possible impact is only -0.0037 when import tariffs are applied to the four creative sectors by ten percent.

Table 4. Summary of Potential Fiscal Losses (in Trillion IDR)

In Trillion (IDR)	Potential Fiscal Losses ¹	Potential Fiscal Losses ²	Potential Fiscal Losses ³
3%	6,07	6,31	17,55
5%	10,12	10,52	29,26
10%	20,24	21,05	58,51

Source: ISD calculation

The application of import tariffs will have a positive impact on government revenues even though the amount is relatively small. That is because the application of import tariffs in the creative sector will certainly create a new source of revenue for the government. However, the government needs to be careful because in the short term the impact of implementing import tariffs on the creative sector is negative (albeit the insignificant amount) on GDP, household income, and employment as well. The government should consider following a follow-up policy if the government decides to impose the import tariff.

By sector, the simulation results show that the most-affected sectors are not completely the same in the short term. Table 3 displays the impact of imposing import tariffs on the creative sector to the sector itself and the three other sectors that experience the greatest negative impact in terms of output. This is to provide information for the government in formulating a follow-up policy that might be issued to minimize or eliminate the negative effects of the implementation of import tariffs. In general, the identified sectors that will receive the greatest negative impacts will hinge on the creative sector, which is subject to import tariffs.

5. Conclusions

Following the results of the research and analysis, the following conclusions are drawn:

1. **The implementation of import tariffs is predicted to have a negative effect on GDP, household income, and employment.** Both the GDP and Household income will be impacted negatively by the tariff, and the total economic loss outweighs the economic gain in the form of government revenue.
2. In the short-term period, the **5 sectors most severely impacted by the tariff imposition** (worst case scenario of 10% tariff rate for all creative industry sectors) are: **Paper & Paper Products industry; Chemical industry; Trade sector; Transportation & Communication sector; and Food & Beverages sector.** These five sectors will experience the largest reduction in the output level.

3. **MSME and Digital start-ups that are reliant on digital goods is projected to be severely impacted** as they also use digital goods as production inputs for exports. Raised import cost of digital goods is predicted to negatively affect the competitiveness of SME to export.
4. **Digital Goods Tariff may also hamper domestic IT suppliers' innovation in creating local apps and softwares.**
5. **Household income is relatively more sensitive to the imposition import tariffs in APPGAME (application and game developer) sector** in both short-run and long-run periods – as compared to tariff on design, film industry, and music industry sectors.
6. **Imposition of tariff on digital goods will also hurt the Government's objective** in making Indonesia Industry 4.0 that is digital technology based.

6. Recommendations

1. (Imported) Digital goods are used as production inputs by corporations: manufacturers, start-ups and MSMEs. Hence, Tariff / import duties shall not be applied as it may limit supply of digital goods needed by the market.
2. Removing tariff may not necessarily mean the loss of potential government revenue as there are other instruments that may be more appropriate to use such as VAT that is more of common practice. Furthermore, removal of tariffs can be compensated by the increase in industry's growth that are likely to arise from a more competitive trade cost, thus contribute to higher income tax.
3. Government need to engage and educate MSME re: corporate tax for MSME to better understand corporate income tax structure and be tax compliant.