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PROFIT AND LOSSES OF THE NICKEL DOWNSTREAM PROGRAM FOR THE INDONESIAN ECONOMY

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Abstract

One of the hot and endless discussions is regarding Nickel Downstreaming in Indonesia. one of the parts assesses that the policy of stopping nickel ore exports has an effect on improving the Indonesian economy. Indonesia is one of the ten countries with the largest nickel reserves in the world. Nearly 4 million metric tons of the world's 80 million metric tons of nickel reserves are stored in Indonesia. With 5.74% of the world's total nickel reserves, Indonesia is ranked 6th in the world's largest nickel producer and Indonesia's nickel production increases every year. Indonesia to issue policy Regulation of the Minister of Energy and Mineral Resources Number 11 of 2019 concerning nickel downstreaming. Nickel downstreaming is an act of protectionism or limiting nickel exports in world trade. The purpose of this study is to analyze the reasons why Indonesia has taken protectionist measures against its nickel. This research is qualitative research with a descriptive approach. The Research use research data in the form of secondary data obtained from a number of credible sources such as scientific articles, books, and a number of other sources that are credible and commonly used in research. These data were analyzed using analytical tools with stages of data collection, data selection, data reduction and drawing conclusions.

Keywords: *Nickel, Downstreaming, Exports, Indonesia*

INTRODUCTION

Indonesia is a country that has abundant natural resource potential. Natural resources are anything that comes from nature and has value that can be used to meet human needs. However, the use of these natural resources needs to be managed wisely so that they are not misused by irresponsible parties. In the era of President Joko

Widodo's leadership, the government continues to strive to improve the governance of Indonesia's natural resources. This is done so that Indonesia's natural resources can be used as well as possible for the prosperity of all citizens (BPMI Setpres, 2022).

One of the natural resources that Indonesia has is a nickel. Nickel is used as a raw material needed by many industries, such as the stainless steel, battery, metal alloy and metal plating industries (Fauziyyah, *et. al.,* 2023). Nickel is a metal element that occurs naturally and is most often found in the earth's crust. Nickel commodities are needed by many industries, such as the stainless steel industry, batteries, metal alloys and metal plating. Stainless steel is used in various downstream industrial fields, ranging from household appliances, transportation, to construction. This causes 70% of world nickel to be dominated by nickel production for stainless steel needs (Ministry of Energy and Mineral Resources, 2020). According to Sunariyanto, *et. al.* (2021) The use of nickel can be used as the main raw material for making lithium batteries which are widely used for electric vehicles.

Indonesia is one of the ten countries with the largest nickel reserves in the world. Nearly 4 million metric tons of the world's 80 million metric tons of nickel reserves are stored in Indonesia. With 5.74% of the world's total nickel reserves, Indonesia is ranked 6th in the world's largest nickel producer. Apart from Indonesia, the Philippines is an import target country with the largest nickel production in the world. Philippine nickel production reached 530,000 metric tons. However, nickel ore produced in Indonesia is considered to be of higher quality when compared to the Philippines. Meanwhile, the largest consumption of nickel per year is occupied by Europe and China. As in 2015, around 50% of the world's total nickel consumption was consumed by China, while European nickel consumption reached 20% (Tsirwiyati, 2023).

The distribution of nickel in Indonesia can be found on Sulawesi Island, Maluku and Halmahera Islands, Papua, as well as in Kalimantan. Before the implementation of the ban on raw mineral exports in early 2020, most of the nickel produced in Indonesia was exported in the form of nickel ore, so domestic use was still relatively low. The main consumers of Indonesian nickel products include China, Japan, Europe and the United States (Indonesian Ministry of Trade, 2013).

In the era of President Joko Widodo's leadership, nickel exports in the form of nickel ore were prohibited, this caused the European Union to sue Indonesia to the World Trade Organization (WTO). The export ban is not aimed at inhibiting trade, but aims to utilize nickel resources for the nation's prosperity through the domestic processing chain. The ban on nickel ore exports aims to meet the need for raw materials for smelters in Indonesia. The prohibition policy cannot be postponed because mineral wealth, especially nickel, can run out and cannot be renewed (Wulandari, *et. al*., 2023).

Through the Minister of Energy and Mineral Resources Regulation (Energy and Mineral Resources Government Regulation) Number 11 of 2019 which requires companies to establish smelters (refining), this regulation can of course make nickel ore

processing in Indonesia have better selling value. This regulation is Indonesia's first step in imposing restrictions on world trade. However, the policy implemented by Indonesia has faced challenges in the form of a lawsuit from the European Union as one of the world's largest nickel consumers (Nugroho, 2022). With the policy of banning nickel ore exports implemented by Indonesia, the European Union feels very disadvantaged.

The European Union sued Indonesia at the World Trade Organization (WTO) and ended with the European Union winning the lawsuit against Indonesia. The WTO decided that the Export policy and the Obligation to Process and Refining Nickel Minerals in Indonesia were proven to violate the provisions of WTO Article XI.1 GATT 1994 and could not be justified by Articles The European Union considers that the policy set by Indonesia regarding the ban on nickel exports will damage the global market and harm nickel consuming countries. Apart from that, the European Union will lose out on getting nickel at cheap prices (Radhica, *et. al.,* 2023).

Downstreaming is a process of providing added value to a particular commodity which is actually still in the form of raw materials or raw materials into a product that has been processed through an industrialization system so that the impact that occurs is an increase in profits in the form of an increase in export value for a country (Pribadi, 2020) . The implementation of the downstream policy for nickel commodities itself is basically implemented with Law Number 4 of 2009 concerning Minerals and Coal which encourages the process of managing nickel from raw material form to processed products before being traded to the global market so that it has added value. This policy also states that there is a determination for mining business actors in the mineral and coal sectors to build smelters so that they can process raw materials from mining products into processed products (Sandra, 2021).

The importance of the nickel downstream policy is a form of increasing the export value of Indonesian nickel products in the global market, where this policy is also present to encourage the development of the nickel mining industry from upstream to downstream. One of the processed nickel products studied in this research is Iron and Steel with the Harmonized System Code, where by utilizing nickel as the main raw material, Indonesia is expected to increase the competitiveness of iron and steel products, diversify its export portfolio, and increase the contribution of this sector. on the national economy (Suseno, 2018). According to Khaldun (2024), nickel downstreaming is expected to make a positive contribution to increasing the added value of iron and steel products. Steps such as developing the nickel smelting industry and producing high quality steel are expected to increase the competitiveness of Indonesian products in the global market.

METHODS

Researchers believe that the Nickel Downstream Policy can benefit Indonesia from an economic perspective. Therefore, this research aims to analyze the advantages and disadvantages of the Nickel Downstreaming program policy for the Indonesian economy. This research is qualitative research with a descriptive approach, namely describing the negative and positive impacts of the policy of providing the Nickel Downstreaming program for the Indonesian economy (Fadli, 2021). The data used in this research is secondary data that researchers obtained from books, credible websites, scientific articles, books, and other things that are usually used as data references from researchers (Sugiono, 2011). The data sources were analyzed using the stages of data collection, data selection, data reduction, and drawing conclusions (Rijali, 2018).

RESULT AND DISCUSSION

ADVANTAGES AND DISADVANTAGES OF THE NICKEL HILIRIZATION PROGRAM FOR THE INDONESIAN ECONOMY

Nickel is one of several mineral metals found at the bottom of the earth which has uses, one of which is for making batteries in the form of lithium components with a very high melting point, namely 2,900 degrees Celsius, making this commodity a new favorite in the mining sector for the needs of developing technology that is traded in the world. global market (Syafira *et.al.,* 2023). According to Sutarmin, *et. al.,* (2023) Indonesia is a country that produces base metals which has grown rapidly from 345,000 metric tons (MT) in 2017 to 1.6 million MT in 2022. Indonesia also has 21 million MT of nickel reserves. Indonesia is actively developing its EV battery industry. Apart from being the largest producer of nickel in the world, Indonesia also has reserves of this commodity amounting to 21 million metric tons. The high demand for nickel by importing countries due to the need for nickel as a raw material for certain technologies causes the need for the Indonesian Government to optimally manage these natural resources in order to obtain maximum profit (Annur, 2023).

Nickel is one of the materials needed in the international market. In the current era, nickel is not only important for the goods and services marketing industry, but nickel also has a quite competent role in processing various electrical energy. Flashback to the past or the 20th century. In the world, there is a shortage of electrical power sources, to the point of being confused and having to look for ideas to find ways to make electric power a reality. Like windmills that use traditional tools to produce sufficient electric power, with the era of modernization many countries are flocking to make nickel one of the ideal and flexible producers of electrical energy. In general, nickel producers are quite widely distributed in Indonesia, looking at the era modernization is still quite common for all countries to use nickel as a source of electric power, the sustainability of nickel in the era of modernization is quite profitable for economic

growth in a country, as is now the market for electric motorbikes and electric bicycles which are fully sold in international marketing (Rozaq, 2023).

Indonesia's implementation of the nickel ore export ban policy started with the mining industry in Indonesia, most of which was exploited by foreign companies. In early 2014, the Indonesian government banned the export of raw nickel ore as part of efforts to increase the added value of nickel products and protect Indonesia's limited natural resources (Farhani *et. al.,* 2019). However, Indonesia's nickel inventory totals 21 million metric tons, making Indonesia's nickel inventory the largest in the world. This policy forces foreign producers to build nickel processing facilities (smelters) domestically and process raw nickel ore domestically before being allowed to export (Garside, 2021).

The aim of the policy of implementing a ban on nickel ore exports by Indonesia is Indonesia's efforts to develop downstream industries, so that nickel resources can be processed domestically to produce semi-finished products and finished nickel products (Pasaribu, 2020). However, this policy has had a significant impact on the international steel industry, especially in developed countries such as the European Union and the United States, which depend on imports of raw nickel ore from Indonesia. The European Union alleged that this policy violated international trade agreements and threatened their supply of raw nickel ore (Santoso, *et. al.,* 2023).

In 2019, the European Union sued Indonesia to the World Trade Organization regarding Indonesia's protectionist policy of banning nickel ore exports. The European Union considers that Indonesia's protectionist policy could trigger an increase in global nickel prices, which could harm the European Union's steel industry which is highly dependent on imports of raw nickel ore from Indonesia. This policy also violates free market principles and can trigger a race for protectionist policies among other countries. According to Pasaribu (2020) the lawsuit filed by the European Union focuses on the following five main areas:

1.) Restrictions on nickel exports, including export bans
2.) Domestic processing needs for nickel, iron ore, chromium and coal
3.) Domestic marketing obligations for nickel and coal products
4.) Licensing requirements for nickel exports
5.) Prohibited subsidy schemes

Indonesia then responded to the European Union's lawsuit by defending Indonesia's protectionist policy and claiming that the policy was aimed at increasing the added value of nickel products and protecting limited natural resources. Indonesia also stated that they had given foreign companies an extension of time to build nickel processing facilities (smelters) in Indonesia since this prohibition policy was implemented in 2014 (Sangadji *et al.,* 2020).

The Indonesian government has officially implemented a policy to prohibit the export of low grade nickel ore below 1.7% since 1 Jan 2020 based on Minister of Energy

and Mineral Resources Regulation Number 11 of 2019 concerning Mineral and Coal Mining Businesses (Prakoso *et. al.,* 2022). Indonesia's policy of implementing a ban on nickel ore exports sparked debate about protectionism and international trade policies, as well as its impact on industrial interests and national natural resources. As a country that has the largest nickel reserves in the world, this policy is one of the Indonesian government's efforts to manage its natural resources and increase the added value of domestic nickel products (Andy, 2022). However, this policy also had a significant impact on the international steel industry and raised questions about fairness and balance in international trade. In November 2022, the WTO took a decision in favor of the European Union, stating that Indonesia's protectionist policies violated international trade agreements and gave unfair advantages to steel producers from the European Union. The WTO called on Indonesia to remove this policy and reopen the raw nickel ore export market (Santoso, *et. al*., 2022).

Nickel downstream efforts are a manifestation of the Indonesian Government's efforts to encourage an increase in export value through two forms of implementation, namely the establishment of a smelter to process nickel into processed products for battery raw materials and iron and steel materials. Apart from that, the form of implementation is by prohibiting the export of nickel raw materials which are deemed to have little added value compared to processed products that already have added value. The existence of nickel downstreaming is also considered to be able to have a positive impact on the country's economy, namely in the form of increasing the value of the production supply chain. Downstreaming can save nickel commodities from fluctuations in low export prices (Khaldun, 2024) so that it can improve the economy in Indonesia.

The nickel downstream policy can provide benefits to the country's economy, starting from increasing the value of the production supply chain and then increasing the selling price of processed nickel commodities. Regarding nickel exploration activities, they must continue so that Indonesia can be more independent in producing nickel. Many regions in Indonesia are locations for nickel mining, namely Southeast Sulawesi Province, South Sulawesi Province, North Maluku Province, Papua Province, West Papua Province and Central Sulawesi Province. Among these provinces, one of the largest is Central Sulawesi Province, whose mining location is located in Morowali Regency starting in 2013, then in North Morowali Regency there was also a smelting company that processes nickel into Nickel Pig Iron, which is an alternative to ferronickel as a raw material for making steel. stainless steel which was established in 2019 (Lampe, 2021). Central Sulawesi Province's iron and steel commodities are the main commodities exported by the province with a percentage of 65% in 2022 compared to several other main commodities where every year the development of these commodity exports has increased from 2013 (Central Bureau of Statistics, 2023).

According to Khaldun (2024), the construction of a nickel processing smelter provides optimization for increasing the export value of processed commodity products, such as in the form of iron and steel commodities, because the Indonesian government has attempted to encourage nickel downstream policies through various forms of policy. With the downstream nickel policy, Indonesia can be more independent in utilizing its natural resources and optimize the export potential of value-added products. Apart from that, the nickel downstream policy has had a significant positive impact on increasing exports of Indonesian iron and steel commodities, one of which is increasing the export value of these commodities.

However, if we look at the advantages of the nickel downstream program, of course we can also see the disadvantages of nickel downstream. Nickel downstreaming in Indonesia needs to be re-evaluated. Downstreaming nickel is planned to become renewable energy as raw material for electric vehicle batteries, but the production process is actually unfair and damages the environment (Kusworo, 2024). According to the Climate Rights International Report released on 17 Jan 2024, the PT Indonesia Weda Bay Industrial Park nickel industrial complex in Halmahera, North Maluku, has violated human rights, caused deforestation and air and water pollution. From the start, the community was never involved in planning and analysis of environmental impacts, their land was taken without consent and compensation.

In addition, the nickel industry operates five steam power generating units and will build up to 12 units to power its nickel smelting smelters with a total of 3.78 gigawatts per year for the nickel industry. This off-grid PLTU produces large amounts of greenhouse gases because the coal used is of low quality from Kalimantan. Air pollution was exacerbated by the loss of 5,331 hectares of tropical forest that was cut down in a nickel mining concession in Halmahera. This causes around 2.04 metric tons of greenhouse gases that could previously be absorbed by forests to be released into the air. River and sea ecosystems as a source of livelihood for people are also damaged due to inappropriate waste processing systems. Agricultural irrigation and clean water sources are also polluted by waste, making it increasingly difficult for people to live (Kusworo, 2024).

The implementation of downstream nickel has even led to other negative impacts. Some of these are the emergence of various diseases (especially Acute Respiratory Infections), unresolved traffic jams, chaotic spatial planning due to the rapid migration of large numbers of workers, increasing practices of land and ocean grabbing (seizure of rights to land and sea space) which are affecting farmers and fishermen, increasing economic inequality, and worker exploitation (Kasyifilman, 2024).

The imbalance in economic and ecological aspects also results in various negative impacts such as flooding, damage to marine biota, air pollution, and so on, which ultimately has implications for local communities' difficulty in accessing clean water and air. Apart from that, mining and the nickel industry in Morowali are also filled with rent-

seeking practices, bureaucratic corruption and violence by authorities to advance the interests of mining companies (Kasyifilman, 2024).

Based on the explanation above, this research aims to analyze the advantages and disadvantages of the Nickel Downstreaming Program Policy for the Indonesian economy. The strengths and weaknesses in this research were analyzed using the SWOT method. If there are more strengths and opportunities, it can be concluded that it is profitable. On the other hand, if there are more weaknesses and deficiencies, it can be concluded that it is detrimental.

SWOT Analysis

Table 1

SWOT Analysis

Strenghts	**Weaknesses**	**Oportunities**	**Threats**
Downstreaming has the effect of improving the Indonesian economy	Causes environmental pollution if done excessively	encouraging an increase in export value through two forms of implementation, namely the establishment of a smelter to process nickel into processed products for battery raw materials and iron and steel materials	The European Union's lawsuit against Indonesia at the WTO. That this policy violates international trade agreements and threatens the supply of raw nickel ore.
Prospering indonesia people and creating added value and economic resilience	Causes Acute Respiratory Disease (ISPA)	Opening job opportunities for Indonesian people	

CONCLUSION

Based on the explanation above, several points can be concluded regarding the advantages and disadvantages of the Nickel Downstreaming policy for the Indonesian economy as follows:

1. The Nickel Downstream Policy can have a positive impact on improving the Indonesian economy and increasing employment opportunities for Indonesian citizens

2. The Nickel Downstream Policy is an effort to provide added value to the Nickel commodity before it is traded on the global market. There are two forms of implementation, namely the establishment of a smelter to process nickel into processed products from battery raw materials and iron and steel materials. Apart from that, the form of implementation is by prohibiting the export of nickel raw materials which are considered to have little added value compared to processed products which already have added value. .
3. From the SWOT results carried out by researchers, the Government's policy of downstreaming nickel has more advantages than weaknesses and threats which can be overcome by the role of the government which is able to appeal to the WTO by responding to the European Union's lawsuit by defending Indonesia's protectionist policy and claiming that the policy The aim is to increase the added value of nickel products and protect limited natural resources.

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