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To Comply or To Not Comply: The Case of Indonesia's Nickel Downstreaming at the WTO

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TO COMPLY OR TO NOT COMPLY:

THE CASE OF INDONESIA'S NICKEL DOWNSTREAMING

AT THE WTO



Master's Thesis
International Relations (Global Political Economy)

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ABSTRACT

The world's biggest nickel producer and owner of the largest nickel reserve, Indonesia, has banned the export of its nickel ore two years ahead of schedule in 2020. This action prompted the European Union to file a complaint at the World Trade Organization in November 2019. Two years later, the Panel has ruled in favor of the European Union. Specifically, Indonesia's export prohibition and domestic processing requirement on nickel ore were deemed inconsistent with the prohibition of export prohibitions and restrictions under the purview of Article XI:1 of the General Agreement on Tariffs and Trade. Instead of backing down, Indonesia has now appealed the Panel Report to the Appellate Body. This thesis draws from International Compliance Theory and combines the management approach and enforcement approach. Through descriptive qualitative analysis utilizing primary and secondary resources, it aims to investigate the reasons behind Indonesia's non-compliance. Indonesia's appeal and persistent downstreaming efforts are deeply rooted in its ambition to reach high-income status by 2045, thus shedding light on the political-economic significance of the nickel sector. Lack of clarity on exemptions regarding export restrictions and inactive Appellate Body further provides an opportunity to prolong non-compliance with WTO Ruling.

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LIST OF ABBREVIATIONS

AB	Appellate Body
CoW	Contract of Work
CRM	Critical Raw Material
DPR	Domestic Processing Requirement
DSB	Dispute Settlement Body
DSU	Dispute Settlement Understanding
EU	European Union
EC	European Communities
FeNi	Ferronickel
GATT	General Agreement on Tariffs and Trade
HPAL	High-Pressure Acid Leach
IMF	International Monetary Fund
IUP	<i>Izin Usaha Penambangan</i> or mining business license
IUPK	<i>Izin Usaha Pertambangan Khusus</i> or special mining business license
MEMR	Ministry of Energy and Mineral Resources
MHP	Mixed Hydroxide Precipitate
MSP	Mixed Sulfide Precipitate
MOF	Ministry of Finance
MOT	Ministry of Trade
MPIA	Multi-Party Interim Arbitration Appeal Arrangement
NPI	Nickel Pig Iron
PSNR	Permanent Sovereignty over Natural Resources
RIPIN	<i>Rencana Induk Pembangunan Industri Nasional</i> or National Industrial Development Master Plan
RPJMN	<i>Rencana Pembangunan Jangka Menengah</i> or Medium-Term National Development Plan
RPT	Reasonable Period of Time
US	United States

1. INTRODUCTION

Indonesia is the world's biggest nickel producer and owner of the largest nickel reserve, accounting for 37% of worldwide production and 22% of global reserves (US Geological Survey 2021). With national reserves expected to be depleted in about seven years (Asmarini and Christina 2019), the Indonesian government prohibited the export of nickel ore with a concentration below 1.7% from January 2020. This effectively reinstates a complete ban on nickel ore export.

The nickel ore export ban is part of the country's broader downstreaming strategy which also extends to other mineral resources. The government has imposed an export ban on bauxite this June, with intentions to broaden the restriction to tin and copper in the near future (Cabinet Secretariat 2022).

Indonesia bringing forward the export ban two years earlier than planned prompted the European Union (EU) to file a complaint at the World Trade Organization (WTO) in November 2019. The EU claimed that Indonesia's export ban and domestic processing requirement (DPR) are in violation of the WTO's prohibition of export prohibitions and restrictions contained in Article XI:1 of the General Agreement on Tariffs and Trade (GATT).

The Panel has upheld all of the EU's claims in the EU-Indonesia nickel dispute, officially known as DS 592: Indonesia — Measures Relating to Raw Materials or Indonesia— Raw Materials for short. Simultaneous with the circulation of the Panel Report on November 30, 2022, Executive Vice-President and Commissioner for Trade, Valdis Dombrovskis said that he expects "Indonesia to comply with their WTO obligations and remove these measures immediately" (European Commission 2022).

In response, Indonesia's President Joko "Jokowi" Widodo said, "Because of being sued at the WTO...don't back down," (Widodo 2023).¹ The country has moved to bring the case to the Appellate Body (AB). Indonesia pushes ahead with nickel downstreaming, citing national aspiration to become a developed country through value-added economy.

¹ The speech texts in Indonesian are roughly translated

In this paper, we seek to answer the following question: “*Why do Indonesia’s nickel downstreaming operations continue despite a Panel decision in favor of the EU?*”. Combining the management approach and enforcement approach of International Compliance Theory, I identify three factors driving Indonesia’s noncompliance: 1) the political and economic significance of the nickel sector, 2) lack of legal clarity regarding export restrictions and their exemptions, 3) weak enforcement of the WTO, especially with the AB now inactive.

Methodologically, I conduct a descriptive qualitative analysis of primary sources i.e., WTO case proceedings documents on the nickel dispute, as well as government regulations, official documents, and policy directives from both Indonesia and the EU. This analysis is complemented with secondary sources i.e., journals, books, reports, and articles on nickel downstreaming. Empirical data on trade and investment flows on nickel downstreaming will further enrich it. This study is limited to sources available at the time of writing. Since this case is still ongoing there might be new developments afterwards.

Despite the latest development on the nickel case, the prevailing body of literature is primarily comprised of legal analyses that precede the conclusion of the litigation. Specifically, whether exemptions under Article XI and Article XX of the GATT could apply to the nickel case (Dewi and Azzahra 2022; Krustiyanti et al. 2022; Mitrania, Manotar and Panjaitan 2021; Sugito 2023; Widiatedja 2021). My work thus departs from much of the current Indonesian literature on this topic.

This thesis has two aims. First, by investigating the reasons for the appeal and sustained downstreaming efforts following the adverse Panel Ruling, it fills the gap in the existing literature which is dominated by legal analysis before the outcome of the case. Second, it is hoped to address the gap in the WTO policy sphere regarding the use of export restrictions, especially for resource-rich countries looking to move up the value chain.

The thesis is structured as follows. After this introduction, the second section gives background on the EU-Indonesia nickel case, starting with statistical data on Indonesia’s exports of nickel

ore and stainless steel, followed by a chronological account of the WTO dispute, and culminating with an overview of the Panel Ruling and Indonesia's points of appeal. Next, the third section sets up the analytical framework for my analysis. Using the International Compliance Theory of both the management approach and the enforcement approach, I establish three main reasons why countries do not comply with WTO Rulings: political and economic significance of the disputed sector, lack of legal clarity, and weak enforcement of the WTO. These factors are then observed in the case of Indonesia and shall be discussed in further detail in the subsequent fourth section. In the fifth and final section, I conclude that Indonesia's non-compliance with the Panel Ruling and insistence on continuing nickel downstreaming are firmly rooted in the political-economic significance of the nickel sector, which is pivotal for the country's aspiration to reach high-income status. At the same time, the absence of clear WTO guidelines regarding export-limiting measures for industrial downstreaming, coupled with the absence of authority within the AB, presents an ideal situation for extended non-compliance.

2. BACKGROUND

2.1 Indonesia's Nickel Ore and Stainless Steel Exports

TABLE 1. Indonesia's Exports of Nickel Ore and Concentrates by Destination, 2013-2019 (in US Dollar)²

Year	China	EU-27	Europe	World
2013	1,447,416	26,580	91,283	1,685,248
2014	82,209	1,675	1,675	85,913
2015	0	0	0	0
2016	0	0	0	0
2017	149,972	0	5,218	155, 189
2018	611,883	0	14,339	628,027
2019	1,051,604	0	43,687	1,097,103

Source: Trademap

As can be seen from Table 1, Indonesia's nickel ore before the ban was mostly exported to China and not Europe. With Indonesia being the top producer and owner of the largest nickel reserve, however, and due to the basic principle of supply and demand, a reduction in Indonesia's supply of nickel ore to the global market could contribute to increased prices of raw materials.

Following Indonesia's cessation of nickel ore sales overseas, exports have shifted from nickel ore to intermediate and semi-finished nickel products for the stainless steel industry. According to the Director General of National Export Development of the Ministry of Trade (2020), Indonesia ranked the third largest exporter of stainless steel, competing with China and Belgium, thanks to a significant jump in export performance between 2018 and 2019. Nickel is an important ingredient of Europe's stainless steel. The EU's stainless-steel industry is the second biggest in the world after China (World Steel Association 2022).

² Nickel ore and concentrate product based on code 264000000

Data suggests that Indonesia's restrictive measures have considerably affected other nations' stainless-steel sector. In the latest Global Trade Alert Report, Simon J. Evenett and Johannes Fritz (2023) discover that the rest of the world's stainless-steel exports decreased by 24% two years after the 2014 nickel ore export ban. Furthermore, the rest of the world's exports went down 15% in two years following the 2020 hard ban.

2.2 Nickel Dispute with the European Union at the World Trade Organization

Following Indonesia's announcement to re-impose the export ban on nickel ore two years earlier, starting in 2020, the EU requested consultations on November 22, 2019. This marked the beginning of the legal proceedings with Indonesia at the WTO. The United States, another major steel-manufacturing country later also joined in on the consultations on December 6.

The following measures are cited in the EU's request for consultation with Indonesia: 1) actual prohibition to export; 2) domestic processing requirements for nickel, iron ore, chromium, and coal; 3) domestic marketing obligations for nickel and coal products; 4) export licensing requirements for nickel; and 5) a prohibited subsidy scheme (WTO 2019).

Since consultations did not produce a resolution, the EU requested the establishment of a Panel on January 14, 2021. The Dispute Settlement Body (DSB) established a Panel on February 22, 2021, and the Director-General composed the Panel on April 19, 2021, per EU's request.

DS592: Indonesia — Measures Relating to Raw Materials or Indonesia— Raw Materials for short, concerns the imposition of an export ban on high-grade nickel ore and domestic processing requirement for all nickel ore. The EU requested the Panel to find that the aforementioned measures were inconsistent with Article XI: 1 of the GATT. Overall, the EU argues that Indonesia's requirements illegally restrict access to raw materials and provide an unfair advantage to local producers, thus harmful to the European steel industry.

Indonesia's use of an export ban as an industrial policy instrument has drawn international controversy. Besides backlash from the EU, Indonesia's nickel export ban was also scrutinized by the International Monetary Fund (IMF). In its Country Report on Indonesia, the IMF

criticized the measure for failing to take into account the spillover effects on international trade. The organization recommended that Indonesia phase out the export restrictions and refrain from extending the measures to other commodities (IMF 2023).

2.3 The Panel Ruling and Indonesia's Points of Appeal

On November 30, 2022, the Panel circulated its report to WTO Members. The Panel found that Indonesia's export ban and domestic processing requirement are inconsistent with Article XI: 1, and the measures cannot qualify for exemption under Article XI: 2(a).

Following the Panel ruling in favor of the EU, Indonesia notified the DSB about its intent to appeal the case to the AB. Below are the issues that Indonesia has raised through its appeal on December 8, 2022 (WTO 2022a):

1. The applicability of Article XI:1 of the GATT to the domestic processing requirement and the consistency of that measure with the obligation in Article XI:1;
2. the exemption of the measures at issue from the obligation in Article XI:1 by virtue of Article XI:2(a) of the GATT 1994; and
3. the justification of the measures at issue under Article XX(d) of the GATT in the event that they are inconsistent with the obligation under Article XI:1 of the GATT

3. ANALYTICAL FRAMEWORK

Indonesia's move to appeal the Panel Report can be situated in the context of why states do not comply with international organizations and rules, including the WTO. Within the realm of International Relations, the effects of institutions on state behavior are commonly a neorealism-neoliberalism debate. Recent literature on regime compliance, however, has moved towards International Compliance Theory. It is more comprehensive and interdisciplinary, combining International Relations, International Law, and Global Political Economy.

Of particular importance to my work, the management approach and enforcement approach of International Compliance Theory have been used to examine state compliance with WTO Rulings (Hofmann and Kim 2009; Krishnamurthy 2018; Spilker 2012; Sattler, Spilker and Bernauer 2013). The two are rivals in both theory and practice; as nicely summed up by Raustiala and Victor (1998, 681): "The two schools of thought reflect different visions of how the international system works, the possibilities for governance with international law, and the policy tools that are available and should be used to handle implementation problems."

The management approach first appeared in *International Organization* by Chayes and Chayes (1993), postulates that non-compliance is a result of capacity constraints and treaty ambiguity.³ It is also dubbed as the 'no fault' theory because managers believe that non-compliance is generally inadvertent. States have the propensity to follow international agreements. The evidence is "time and energy . . . [that states devote] to preparing, negotiating, and monitoring treaty obligations" (Chayes and Chayes 1993, 1867). The management theory, thus, does not recommend imposing hard sanctions and instead advocates for capacity building, rule interpretation, and transparency.

Moving on to the enforcement approach, it argues that non-compliance occurs when there is an incentive structure whereby the benefits of shirking outweigh the costs of detection. The

³ Some scholars understand capacity as limited resources, including economic, military, legal and human capital to bring measures that breach the law into compliance (Busch and Reinhardt 2003; Busch, Reinhardt, and Shaffer 2008; Przeworski 1990; Simmons 1998). Others focus on domestic compliance structures i.e., how there are more institutional hurdles in political democracies in bringing measures back to compliance (Allee 2004; Chilton and Brewster 2014; Mansfield, Milner, and Rosendorff 2002; Rickard 2010).

enforcement approach is also known as ‘the political economy of compliance’ and is deeply rooted in game theory and collective action theory. Hence the emphasis on increasing detection through monitoring and making defection costlier through sanctions (Downs, Rocke, and Barsoom, 1996).

Following Tallberg’s (2002) assumption that management and enforcement mechanisms are most effective when combined, the discussion below focuses on three key factors of non-compliance: political-economic significance of the disputed sector, lack of legal clarity, and weak enforcement of the WTO.

3.1 Political and Economic Significance of the Disputed Sector

According to the enforcement approach theory, “disputes that are associated with greater domestic political stakes... are more prone to escalation and harder to solve” (Sattler, Spilker and Bernauer 2013, 881). A formal WTO ruling should put more political pressure on the respondent country to remove trade-restrictive measures.⁴ Non-compliance might cost a country its reputation, making it more difficult to enter into favorable trade or other agreements down the road. When a particularly politically sensitive sector is affected, however, domestic political pressure may be able to counteract negative reputation effects.

In times of trade conflicts, governments are influenced by sector-specific factors (Davis and Shirato 2007). In line with existing literature, political stakes can be discerned from economic sector characteristics. Francois, Horn, and Kaunitz (2008) suggest that the magnitude of domestic political stakes should be seen from the function of the economic importance of the sector for the country. Hofmann and Kim (2009,6) use Gross Domestic Product (GDP) and employment share as a proxy for “the relative political importance of the domestic economic sectors”. Survival-maximizing governments are likely to cause delays in implementing WTO-recommended policies by protecting key economic sectors and ensuring that non-compliance can continue as long as possible.

⁴ Respondent is a common legal term in the WTO that refers to the Member guilty of violating WTO Rules. In contrast, the Member that brings the case against the respondent is known as the complainant.

Often hand-in-hand with the sector's economic contributions are the country's objectives for the sector itself, as seen from trade disputes against China on mineral export restrictions.

In its Twelfth and Thirteenth Five-Year Plans, China identified strategic emerging industries crucial for its shift to an innovation-led economy. The plans subsequently pinpointed essential raw materials, which caused China to limit exports of these materials for domestic industry development. Wu (2017) highlights that in China — Raw Materials II, antimony, magnesium, and tin are key inputs in the new rechargeable battery platform that China was seeking to develop.⁵ Thus, Beijing's non-compliance was part of a broader goal: to advance China's position in the global value chain (Bronckers and Markus 2014; Wu 2017).

3.2 Lack of Legal Clarity

In line with the management approach, the complexity or ambiguity of international regulations may lead governments to inadvertently violate WTO laws. Scholars of this school thus see the WTO dispute settlement mechanism as “information and rule clarification devices” (Sattler, Spilker, and Bernauer 2013, 878). It helps increase compliance by clarifying information and reducing complexity rather than punishing violators. Indeed, the Dispute Settlement Understanding (DSU), established as part of the 1995 Uruguay Round, is exactly the process by which WTO Members can resolve trade disputes.

Panel and AB proceedings, however, might take longer to conclude since parties' submissions are more complex and technical these days. This is because the disputed measures have become more complicated (WTO 2017). In line with the trade obfuscation theory (Kono 2006), the more significant a sector is to domestic politics and economy, the more complex the barriers that are put in place. Hence, this secures an opportunity to extend the use of trade-law-violating measures in the event of a dispute.

In critical raw materials, export restrictions are frequently used. The OECD reports it has increased five times since 2009 because resource-rich countries are capitalizing on the energy transition movement (Kowalski and Legendre 2023).

⁵ China — Export Duties on Certain Raw Materials (DS 508) and China — Duties and other Measures concerning the Exportation of Certain Raw Materials (DS 509).

The use of export restrictions is frowned upon by the free trade regime because they could cause supply shortages and price volatility, thus disrupting international trade. Indeed, Paragraph 1 of Article XI of the GATT ‘General Elimination of Quantitative Restrictions’ states that “no prohibitions or restrictions other than duties, taxes or other charges, whether made effective through quotas, import or export licenses or other measures, shall be instituted or maintained”. (WTO 1994, 1).

There are exemptions, however, under Article XX.⁶ More specific to this type of measure, paragraph 2(a) of Article XI reads: “Export prohibitions or restrictions temporarily applied to prevent or relieve critical shortages of foodstuffs or other products essential to the exporting contracting party” (WTO 1994,1).

Exemptions concerning export prohibitions and restrictions spark the following debate: whether they create a loophole for domestic policy considerations or whether they offer some unintended policy consequences that could be used to remedy market failure such as environmental degradation (Karapinar 2010). Like most scholars on this topic, Srivastava (2023) puts export restrictions on mineral resources within the context of Permanent Sovereignty over Natural Resources (PSNR), which is more aligned with Karapinar’s argument on advancing national interests.⁷ Essentially, trade dispute over mineral resources is a sovereignty issue (Bastida 2020). On one side are the foreign importers and industries that have the right to extract minerals and the extracted resources. On the other are governments of resource-rich countries that have primary ownership over the minerals. They aim to foster the development of their higher-value industries by either processing the minerals domestically or exporting them in higher-value forms rather than raw or unprocessed.

⁶ Article XX of the GATT provides general exceptions

⁷ The concept of PSNR is not mentioned under any WTO laws although it was briefly discussed during The Tokyo Round in 1973-1979 (Switzer 2021).

China—Raw Materials I set a precedent by clarifying that export restrictions go beyond tax, quota, and license (Wu 2021).⁸ Based on India—Autos, Article XI:1 extends to all restrictive measures that have limiting effects, and not just quantitative restrictions.⁹

Moving on to the interpretation of Article XI: 2(a), export restrictive measures can be imposed to prevent or relieve critical shortages of 1) foodstuffs and 2) other products essential to exporting members. In China – Raw Materials, the Panel clarified two things. First, the term ‘other products’ is qualified by the term ‘essential to the exporting member’. Second, that ‘essential’ only applies to other products and not foodstuffs.

China-Raw Materials made the case that essential products can be inputs to an important product or an industry. This expands on the previous interpretation of ‘essential’ in the case of Canada – Ice Cream and Yoghurt whereby the term applies to agricultural production but does not pertain to industrial processing for agricultural products (Wolfrum, Stoll, and Herstermeyer 2010). Furthermore, the AB through China-Raw materials also clarified the meaning of ‘temporarily applied’ and ‘critical shortage’. In Paragraph 330 of the report, the AB stated that a measure applied ‘temporarily’ “is a measure applied in the interim, to provide relief in extraordinary conditions to bridge a passing need. It must be finite, that is, applied for a limited time” (WTO 2012, 145). However, the AB reversed the Panel’s findings by ruling that the term ‘temporarily’ is irrespective of having a fixed time in advance. Regarding ‘critical shortage’, the AB determined in Paragraph 324 that ‘critical shortage’ refers to “those deficiencies in quantity that are crucial, that amount to a situation of decisive importance, or that reach a vitally important or decisive stage, or a turning point” (WTO 2012, 133).

All three elements inform each other. From paragraph 328 of the China Raw Materials AB findings (WTO 2012, 144):

whether a shortage is critical may be informed by how essential a particular product is. In addition, the characteristics of the product as well as factors pertaining to a critical situation, may inform the duration for which a measure can be maintained in order to bridge a passing need in conformity with Article XI:2(a)

⁸ China—Raw Materials I is short for China— Measures Related to the Exportation of Various Raw Materials or (DS 394, DS 395, DS 398)

⁹ India— Autos is short for DS146: India — Measures Affecting the Automotive Sector

3.3 Weak Enforcement of the WTO

Unlike managers who view the WTO dispute settlement process as a means of elucidating trade regulations, enforcers argue that “dispute settlement is considered part of the monitoring and enforcement process” (Sattler, Spilker, and Bernauer 2013, 877). As cooperation deepens, the propensity to act opportunistically and breach the agreement tends to increase.¹⁰ This is why strong enforcement within the WTO is crucial for compliance.

Concerns about the WTO enforcement mechanism are especially relevant these days. Members are becoming less and less inclined to settle in the early stages. Disputes escalate to the Panel and Appellate stages (Mavroidis 2022).

Scholars seem to agree that the WTO as an institution is not capable of effective enforcement by looking at the delayed processes and the nature of retaliatory measures (Horlick 2002; Palmeter and Alexandrov 2002; Shlomo-Agon and Shany 2013). Over time, the duration needed to resolve a WTO dispute through litigation has increased (Brewster 2011). The mean for Panel Proceedings from the establishment of the panel to the circulation of the report is 17.1 months despite the 6-month statutory deadline. The same with appeals: mean of 4.3 compared to 2-3. For RPT, the mean is 9.7 months (Mavroidis 2022; *also see Appendix 1. Lengths of process*).

Horlick (2002) notes that one problem with the WTO is the generous Reasonable Period of Time (RPT) — a period in which the discovered inconsistent measures are not penalized since a losing Member is allotted some time to implement recommendations and rulings of the Dispute Settlement Body (DSB). RPT provides “a free pass for temporary breach...without major consequence” (Wu 2017, 683). The absence of mandatory compensation to offset harm and the inability to impose penalties for damages when the guilty Member meets the RPT deadline results in a remedy gap (Wu 2017).

Once RPT has elapsed is theoretically when the WTO comes to enforce its ruling. Specifically, through suspension of concessions (retaliation). Retaliatory measures are, however, a weak middle ground that suffers from this inherent dilemma: to induce compliance or to rebalance.

¹⁰ This is based on the depth of cooperation hypothesis by Downs, Rocke and Barsoom

Countermeasures intend to maintain reciprocity, but this goes against the *raison d'être* of the institution namely trade liberalization (Palmer and Alexandrov 2002).

In addition, sanctions for non-compliance to GATT correspond not with what the defector gains but what the victim loses. Downs and Locke (1995, 134) seem to imply that this “guarantees that [GATT sanctions] will not function as an effective deterrent”. Considering that retaliation is a form of ‘horizontal enforcement’ (Guzman 2002), whether punishments work also depends on the political and economic power of both the complainants and the respondents (Horne and Cutlip 2002).

Less powerful member states are more likely to swiftly comply with WTO Ruling because they are more sensitive to reputational and material costs. In addition, if the complainant is weaker than the respondent and more dependent on trade with its counterpart, punishment might not be as successful. DS27: European Communities — Regime for the Importation, Sale, and Distribution of Bananas also known as the EC-Bananas III is widely used to illustrate this argument (Mavroidis 2022; Palmer and Alexandrov 2013).¹¹

The WTO authorized retaliatory measures against the European Communities (EC) following the latter’s non-compliance. This also marked the first time that suspension of concessions was used. But Ecuador did not follow through with the implementations because as Mavroidis (2022, 182) points out “had it retaliated, Ecuador would have incurred a substantial cost since a series of goods of European origin that its customers used to procure at low prices would now become more expensive as a result of additional tariffs on them”.

¹¹ The US joined Guatemala, Ecuador, Honduras, and Mexico as complainants in the WTO Dispute against the EC in 1996. Years before, five Latin American banana producing countries: Colombia, Costa Rica, Guatemala, Nicaragua, and Venezuela had challenged the EC at the GATT Panel. Both the WTO Panel and the AB ruled that the banana import regime was discriminatory and inconsistent with the GATT, the WTO agreement on Import Licensing and the GATS. After 15 months of RPT had elapsed, the US and Ecuador retaliated against the EC. The latter sought a compliance panel under Article 21.5 of DSU which later found the EC non-complainant. In the end, Ecuador did not impose sanction. From the Latin complainants, only Ecuador sought authorization to retaliate (Simi and Kaushik 2008)

To sum up, noncompliance stems from a combination of internal and external factors. A country is more likely to disregard WTO Rulings if the disputed sector holds considerable political and economic importance. Moreover, unclear regulations and ineffective enforcement create greater chances for prolonged noncompliance.

4. EMPIRICAL ANALYSIS

4.1 Political and Economic Significance of the Nickel Sector

Indonesia's ambition to become a developed country is a driving force behind its persistent non-compliance with the Panel Ruling, primarily due to the high value of processed nickel for stainless steel and Electric Vehicle (EV) batteries. Additionally, the political-economic significance becomes evident as nickel downstreaming spans numerous laws and involves multiple ministries. Particularly, the continuous Chinese investment in smelters has been fiercely supported by the Coordinating Ministry of Maritime and Investment Affairs.

The advent of nationalist-style policies on minerals is related to the global mining boom in 2003-2013 (Warburton 2017a). There were concerns over the country's minerals being shipped overseas too quickly and for a low price despite large windfall profits. Under this pretext, President Susilo Bambang Yudhoyono's ("SBY") regime introduced the 2009 Mineral and Coal Law (Law No. 4/2009), bringing about a wide mix of policy prescriptions such as divestment requirements for foreign companies, increase in taxes and royalties. And more important to my discussion, are the domestic processing requirement and export prohibition of unprocessed minerals, including nickel ore.

The regulation marks the beginning of Indonesia's experiment with downstream industrial policy. Article 103(1) of Law No. 4/2009, states that holders of mining business license (*Izin Usaha Pertambangan/ IUP*) and special mining business license (*Izin Usaha Pertambangan Khusus/IUPK*) must conduct mineral processing and/or refinery of mining products domestically. By requiring firms to smelt their ore at home, the government was attempting to kick-start a minerals processing industry. This is also bolstered by Article 170 in which companies with Contract of Work (CoW) or mining licenses have 5 years to build processing facilities. It is important to note here that Article 102 and Article 103 do not explicitly dictate export prohibition but would serve as the basis for derivative laws years later as below.

The first full export ban on mineral ore took effect on January 13, 2014, five years after the Mineral and Coal Law through the Ministry of Energy and Mineral Resources (MEMR)

Regulation No. 20/2013. Indonesia did not have sufficient refining capacity for minerals at the time, but the SBY government continued forward with the hard ban (Warburton 2017b). The export ban on nickel remained in place even when MEMR Regulation No. 1/2014 permitted exports of certain minerals subject to compliance with domestic processing requirement and the minister's approval.

Although Indonesia's resource nationalism has a long history that dates back to 2009, nickel downstreaming efforts became more substantial after Jokowi took office. It should be noted, however, that there was some period of relaxation. MEMR Regulation No.1/2014 was revoked by Ministry of Trade (MOT) Regulation No. 1/2017 which allowed the export of low-grade nickel ore with content below 1.7%. Meanwhile, high-grade nickel ore with content above 1.7% could not be sold abroad.

This policy reversal might have to do with Jokowi's administration having to deal with the trade deficit in 2016. Industry observers, however, argue that the relaxation was less about solving budgetary problems and more about bailing out state-owned company PT Aneka Tambang (Antam) (Warburton 2017b). As the largest exporter of the country's nickel ore, the export ban severely impacted the state-owned enterprise reporting IDR 743 billion in losses (equivalent to \$47 million) in 2014. The government provided IDR 7 trillion (equivalent to \$450 million) in funding to increase Antam's output and develop several downstreaming projects.¹²

Under Jokowi's regime, laws and regulations underwent constant renegotiation, revision, and retraction. MEMR Regulation No. 25/2018 states that the export of nickel ore with nickel content less than 1.7% would last until January 11, 2022. Then in 2019, Indonesia announced that the re-imposition of the export ban was moved forward by two years to 2020. This is made official through the issuance of MEMR Regulation No. 11/2019 amending MEMR Regulation No. 25/2018.

Despite changing regulations, what is more important is that starting in 2019, nickel downstreaming efforts have become more substantial, and this correlates with the 2045 Golden

¹² 1 IDR = \$0,000064

Indonesia Vision. Established in 2019, this vision entails the country's aspiration to reach high-income status by 2045.

The Medium-Term National Development Plan (*Rencana Pembangunan Jangka Menengah Nasional/ RPJMN*) for 2020-2024 was designed with this vision in mind. RPJMN is a strategic blueprint that outlines Indonesia's development priorities, strategies, and targets for five years.

For the next five years starting in 2020, economic development is directed towards increasing economic resilience through the management and utilization of economic resources to yield high-value-added goods and services for domestic sales and exports. Two strategies in particular: (1) managing economic resources, and (2) increasing economic value-added. The second one is most relevant to my analysis. The construction of nickel smelters is part of industrialization and downstreaming efforts.

After the less successful Government Regulation No. 23/2010, Indonesia issued Government Regulation No. 1/2017 which stipulates that mining companies should build a smelter or refinery within five years. Domestic processing and the construction of smelters also became part of the export requirements of nickel ore.

Within MEMR Regulation No. 25/2018, Article 17 requires IUP and IUPK for operation holders and IUP for processing holders to first carry out value-added enhancement through processing and/or refining activities per the minimum thresholds of processing and/or refining. For nickel, it is listed in Appendix I of the regulation. According to Article 19, exports are only permitted if minerals have been subjected to the aforementioned minimum limits of processing/purification. Furthermore, the export of nickel ore with less than 1.7% concentration was allowed until January 11, 2022. IUP and IUPK holders are allowed to conduct sales abroad of nickel ore if they have or are in the process of building a purification facility.

TABLE 2. Appendix I of MEMR Regulation No. 25/2018

LIMITATION OF MINIMUM PROCESSING AND PURIFICATION MINING MINERAL METAL COMMODITIES IN THE STATE

Ore or Mineral	Processing		Purification	
	Product	Quality	Product	Quality
Nickel and / or cobalt (process smelting) a. Saprolite; b. Limonite			Nickel mate, metal alloy, metal nickel and metal oxide	a. Ni Mate, Ni $\geq$ 70%; b. Metal FeNi, Ni $\geq$ 8 %; c. Nickel Pig Iron (NPI), 2% $\leq$ Ni <4% , and Fe $\geq$ 75% ; d. Nickel Pig Iron (NPI), Ni $\geq$ 4%; e. Nickel Metal, Ni $\geq$ 93%; and / or f. Nickel Oksida (NiO), Ni $\geq$ 65 %.
Nickel and / or cobalt (process [l]eaching) Limonite			Metal, metal oxide, metal sulfide, mix it up hydroxide/ sulfide precipitate, and hydroxide nickel carbonate	a. Nickel Metal, Ni $\geq$ 93%; b. Mix Hydroxide Precipitate (MHP), Ni $\geq$ 25%; c. Mix Sulfide Precipitate (MSP), Ni $\geq$ 45%; d. Hydroxide Nickel Carbonate (HNC), Ni $\geq$ 40%; e. Nickel Sulphate and Nickel Sulfate Hydrate (NiSO ₄ and NiSO ₄ .xH ₂ O), Ni $\geq$ 20%; f. Cobalt sulfate and Cobalt Sulfate Hydrate (CoSO ₄ and CoSO ₄ .xH ₂ O), Co $\geq$ 19 %; g. Nickel Chloride and Nickel Hydrate Chloride (NiCl ₂ and NiCl ₂ .xH ₂ O), Ni $\geq$ 20%; h. Cobalt Chloride and Cobalt Klorida Hydrate (CoCl ₂ and CoCl ₂ .xH ₂ O), Co $\geq$ 19%; i. Nickel Carbonate (NiCO ₃), Ni $\geq$ 40%; j. Cobalt Carbonate (CoCO ₃), Co $\geq$ 40% Co; k. Nickel Oxide (NiO), Ni $\geq$ 65%; l. Cobalt Oxide (CoO), Co $\geq$ 65%; m. Hydroxide Nickel (Ni(OH) ₂), Ni $\geq$ 50%; n. Cobalt Hydroxide (Co(OH) ₂), Co $\geq$ 50%; o. Sulfide Nickel (NiS), Ni $\geq$ 40%; p. Metal Cobalt, Co $\geq$ 93% ; q. Cobalt Sulfide (CoS), Co $\geq$ 40%; and / or r. Metal Chromium, Cr $\geq$ 99%.

Ore or Mineral	Processing		Purification	
	Product	Quality	Product	Quality
Nickel and / or cobalt (process reduction) a. Saprolite; b. Limonite			Metal alloy	a. FeNi sponge (Sponge FeNi), 2% $\leq$ Ni <4%, and Fe $\geq$ 75%; b. FeNi sponge (Sponge FeNi), Ni $\geq$ 4%; c. Luppen FeNi, 2% $\leq$ Ni <4% and Fe $\geq$ 75%; and / or d. Luppen FeNi, Ni $\geq$ 4%; e. Nugget FeNi, 2% $\leq$ Ni <4%, and Fe $\geq$ 75%; and / or f. Nugget FeNi , Ni $\geq$ 4%.

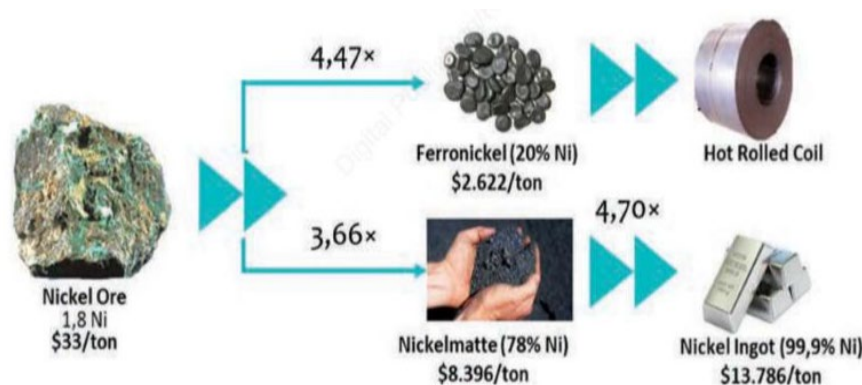
Source: WTO 2022b, 21-22

Then, the government issued MEMR Regulation No. 50/2018 which amended MEMR Regulation No. 25/2018. Article 51 of the legislation states that recommendations to holders of Production Operation IUP and IUPK for processing/and or refining can only be given if they have shown progress in building smelters. More specifically, according to Article 51, companies

should finish the preparation process such as feasibility study, environmental permit, land tenure, and other stages of project preparation like basic design, detailed engineering design, and site preparation by 2018. By 2019, companies should at least have finished with the preparation and begun procurement and construction. By 2020, companies should be done with all of the aforementioned stages. Finally, by 2021, companies should start their processing activities.

In the end, the exportation of all nickel ore was prohibited as of January 1, 2020, under MEMR Regulation No.11/2019 and MOT Regulation No. 96/2019. The purpose is to keep domestic supply to produce value-added nickel products (*For details, see Appendix 2. Scope of Restrictions under Various Laws in Connection to Nickel Ore Exports*). This restriction is also to increase national value added from \$33/ton to \$2,622-8,396/ton for semi-finished products as in Graph 1.

GRAPH 1. Value Added Along the Nickel Chain



Source: Arif 2023, 216

The government has a National Industrial Development Master Plan (*Rencana Induk Pembangunan Industri National/RIPIN*) 2015-2035. The master plan includes 1) vision, mission, and industrial development strategy; 2) targets and stages of industrial development achievements; 3) building national industry; 4) development of industrial resources; 5) development of industrial facilities and infrastructure; 6) industrial empowerment; 7) industrial zoning; and 8) affirmative policy for small and medium industries.

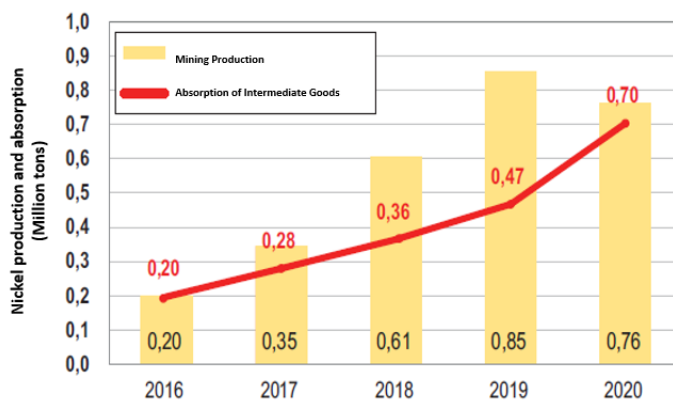
RIPIN sets 10 priority industries for the next twenty years. The development of processing and refining of nickel is part of national industry priorities, specifically under Number 9: Basic Metal Industry and Non-metallic Minerals.

TABLE 3. RIPIN 2015-2035 Target for Nickel Processing and Refining Industry

2015-2019	2019-2024	2024-2030
Nickel hydroxide	Mixed Hydroxide Precipitate (MHP)	Nickel electrolyte
FeNi sponge	Mixed Sulfide Precipitate (MSP)	Nickel sulfate
Luppen FeNi	Nickel metal	Nickel chloride
Nugget FeNi		

Source: Arif 2023, 225; Sugito 2023, 185; and RIPIN

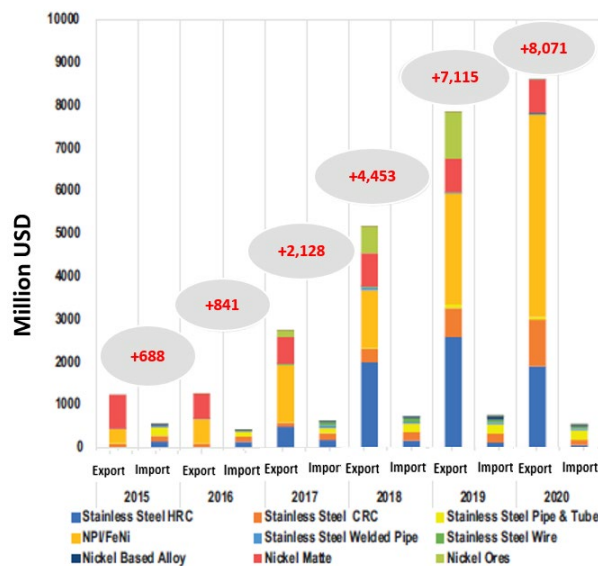
FIGURE 1. Domestic Production and Domestic Absorption of Intermediate Goods (in million tons), 2016-2020



Source: Ministry of Energy and Mineral Resources 2021, 42

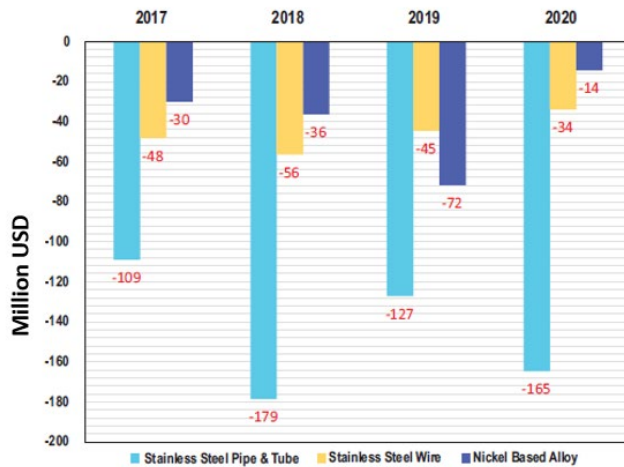
Since nickel value added brings in higher economic benefits, the adoption of trade-restrictive measures on nickel ore and issuance of regulations that encourage the construction of processing and refining facilities are considered to be crucial. Especially because Indonesia's downstream industry was underdeveloped. This can be seen from Figure 1. Between 2016 and 2019, Indonesia lacked domestic absorption for its nickel production. Only in 2020, the gap was diminishing because nickel ore exports could no longer be carried out and instead must be processed domestically.

FIGURE 2. Export-Import Value of Nickel-Based Products (in US Dollar), 2015-2020



Source: Ministry of Energy and Mineral Resources 2021, 48

FIGURE 3. Nickel-Based Products with Negative Value in Trade Balance (in US Dollar), 2017-2020



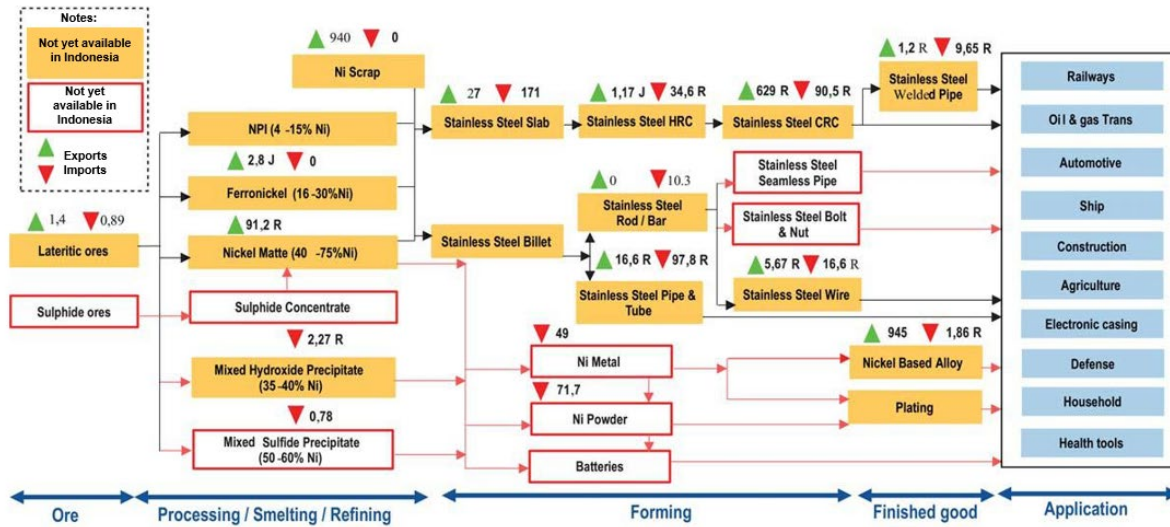
Source: Ministry of Energy and Mineral Resources 2021, 48

Looking at Figure 2, the trade balance for nickel products for five years from 2015 to 2020 was always positive since the export value was greater than the import value. In 2018 and 2019, exports of nickel ore, nickel pig iron (NPI), nickel matte, and HRC stainless steel mainly contributed to the trade surplus. In 2020, all remained the same except for nickel ore which were not sold abroad.

Production, however, has remained limited to intermediate nickel goods. Negative trade value came from products with more value-added namely stainless-steel pipe and tube, stainless steel and wire, and nickel-based alloy as demonstrated in detail in Figure 3. In 2020, these three products recorded a trade deficit of \$213 million.

Looking at Indonesia's trade balance for nickel ore and nickel-based products, some of Indonesia's upstream and intermediate industries have advanced rapidly, but the downstream and manufacturing industries are still underdeveloped. More details on nickel-based products 1) after processing/smelting/refining; 2) after forming; and 3) finished goods as of 2020 are illustrated in Graph 2 and 3.

GRAPH 2. Nickel Product Industrial Chain with Export-Import Balance in 2020 (in tons)

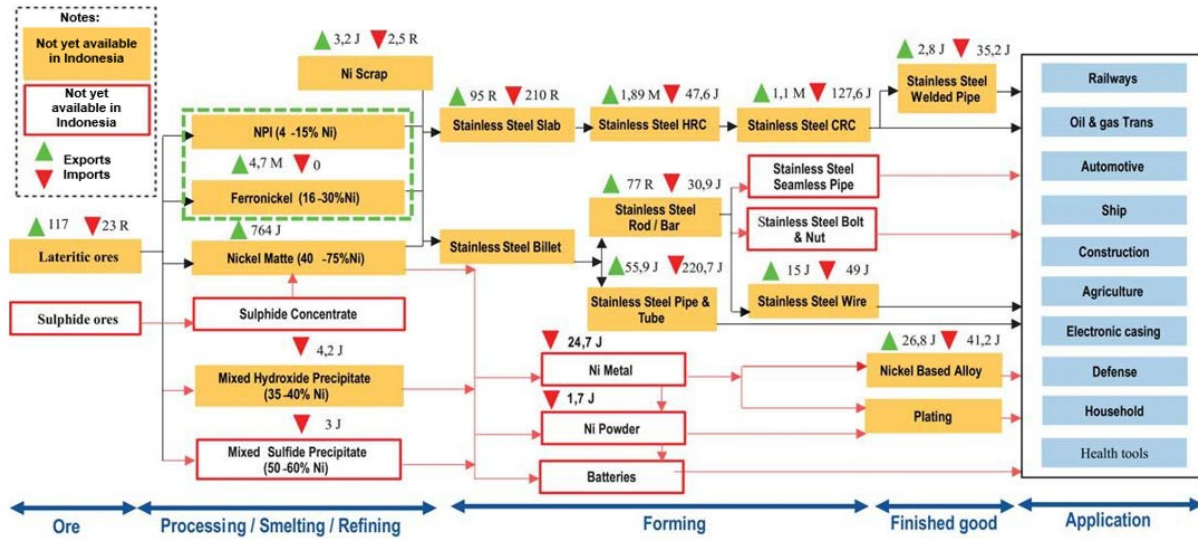


$R = \text{Ribuan (Thousand)}$

$J = \text{Jutaan (Million)}$

Source: Ministry of Energy and Mineral Resources 2021, 46

GRAPH 3. Nickel Product Industrial Chain with Export-Import Balance in 2020 (in US Dollar)

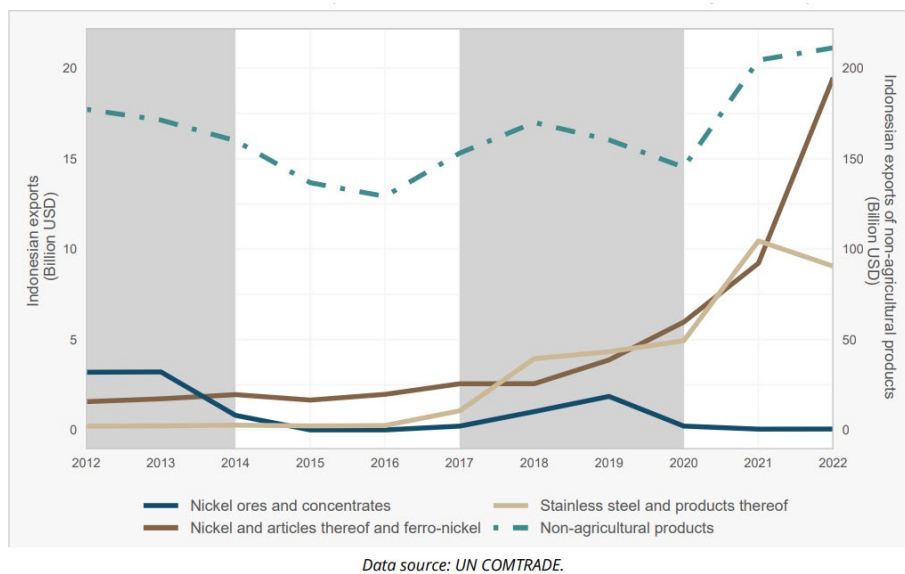


$R = \text{Ribuan (Thousand)}$

$J = \text{Jutaan (Million)}$

Source: Ministry of Energy and Mineral Resources 2021, 47

FIGURE 4. Indonesia's Nickel Exports (in billion US Dollar), 2012-2022



Source: Evenett and Fritz 2023, 26

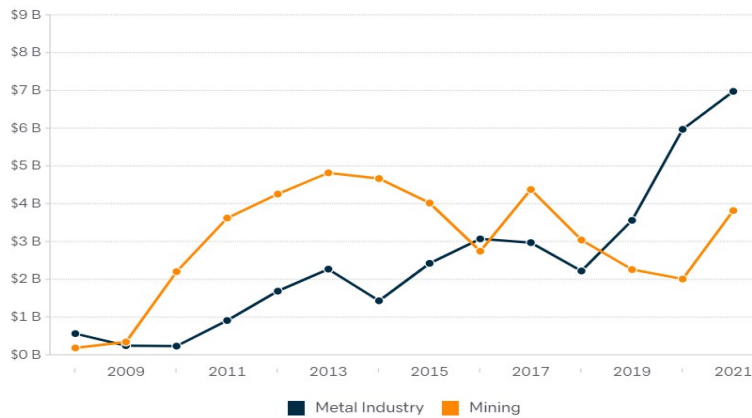
Indonesia's export prohibition on nickel ore and domestic processing requirement has developed the country's intermediate nickel sector and encouraged foreign investment in smelter construction. Looking at Figure 4, Indonesia's stainless-steel exports increased by 112% in 2021 and exports of ferronickel and others went up 55% (Evenett and Fritz 2023). Since 2014, exports of downstream products have grown faster than non-agricultural goods. Concerning the first nickel export ban, the short relaxation period, and the second ban, the growth of exports for downstream products was lesser under the first ban compared to the second. Furthermore, downstream exports continued to rise even when the restriction was partially relaxed from 2014-16.

The government has often used export revenue to illustrate the success of nickel downstreaming. According to Trademap data (2022), the value of nickel and articles thereof (HS75) increased from \$806 thousand to \$5.9 million between 2015-2022.¹³ Even more significant in iron and steel exports (HS72), whereby export value went up from \$1.2 million to \$27.8 million.¹⁴

¹³ Nickel matte falls under Harmonized System (HS) code 750210.

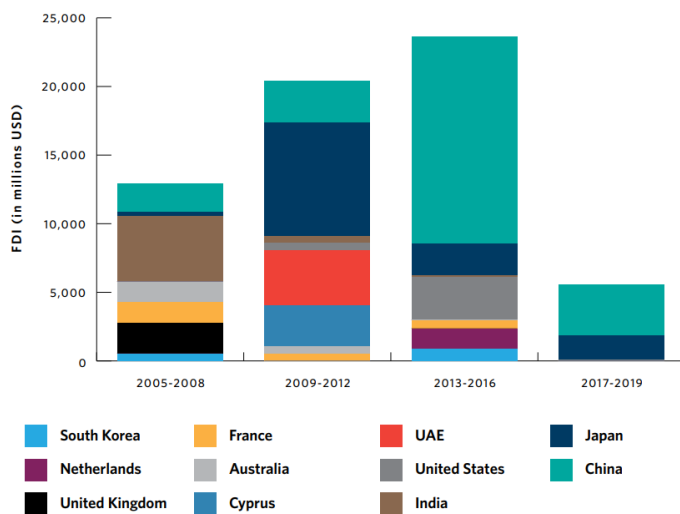
¹⁴ Nickel pig iron (NPI) falls under Harmonized System (HS) code 720299. Ferronickel is classified within HS 7502. It falls under HS 7502, which covers unwrought nickel.

FIGURE 5. Foreign Direct Investment (FDI) to Indonesia's Metal and Mining (in billion US Dollar), 2009-2021



Source: Ministry of Investment, cited in Kim 2023

FIGURE 6. FDI in Mineral Sector (in million US Dollar), 2005-2019

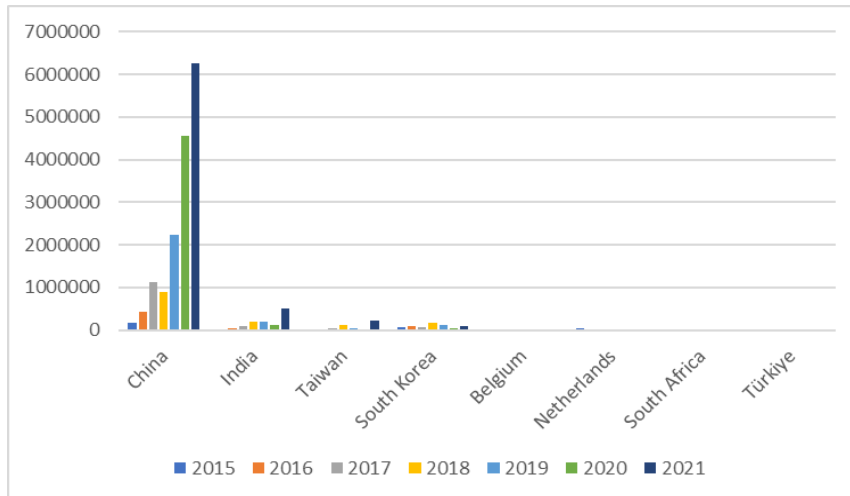


Source: Tritto, 2023 based on data from fDi markets

In addition to increased revenue, the export ban has also led to increased investments in the metal industry. From Figure 5 and Figure 6, Foreign Direct Investment (FDI) in the metal

industry overtook that in mining in 2019 thanks to increased investments from China. With Beijing being dependent on Indonesia's nickel ore, the export ban “essentially forced Chinese companies to invest in Indonesia's smelters to keep hold of their sources of nickel” (Tritto 2023, 1).

FIGURE 7. Indonesia's Ferronickel Exports (in tons), 2015-2021



Source: Trademap

Higher export value is not unexpected with the country shifting from nickel ore to processed nickel exports. To ensure value added at the domestic level, however, economists are more concerned about the role of Chinese investments in Indonesia's nickel downstreaming (Gupta 2023; Patunru 2023).

The Coordinating Ministry for Maritime and Investment Affairs has continued to endorse Chinese investments in Indonesia's smelters. This summer, the media was highly saturated with headlines of critics against Indonesia's nickel downstreaming policy. With intermediate nickel products continuing to be exported to China, economists argue that downstreaming increases Beijing's profit and furthers their industrial policy instead. Observing the latest data from 2021 in Figure 7, 88% of Indonesia's ferronickel was exported to China, valued at \$7,087,354. The Coordinating Ministry for Maritime and Investment Affairs was the most vocal in their response against the critiques, conveying 34 counterpoints on the issue of export revenue, tax revenue, and tax holidays (CNBC Indonesia 2023). The Ministry coordinates among others two bodies that are

spearheading nickel downstreaming: the Ministry of Energy and Mineral Resources and the Investment Coordinating Board.¹⁵

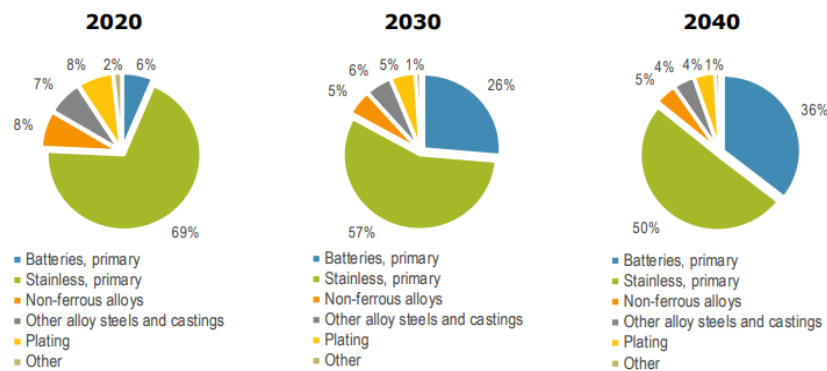
To attract investments, the government provides special tax incentives to investors who build nickel smelters and their derivative industries. Apart from exemption from import duties for imports of capital goods, one of the most important incentives is the provision of tax holiday. Indonesia through the Ministry of Finance (MOF) Regulation No. 35/2018 and then MOF Regulation No. 130/2020 provides a 100% tax holiday facility for investment in pioneer industries (*Projek Strategis Nasional/PSN*) such as nickel processing smelter projects and the stainless-steel industry. The tax holiday period depends on the investment value: 5 years for investments of IDR 500 billion-IDR 1 trillion; 7 years for an investment of IDR 1—5 trillion; 10 years for an investment of IDR 5– 15 trillion; 15 years for an investment of IDR 15–30 trillion and 20 years for investments of more than IDR 30 trillion.

Although nickel downstreaming in Indonesia has had some early success, value-added should shift from intermediate goods to final products. With this in mind, and considering future demand in the nickel sector, Indonesia aspires to become a global electric vehicle and battery manufacturing hub.

Between 2020-2040, the Roskill report as seen in Figure 8 predicts that there will be a six-fold increase in demand for electric batteries. International demand still mostly comes from stainless steel, accounting for 69% in 2020. Though it is likely to remain the largest segment 20 years later, its share is predicted to decrease alongside the potential increase in the demand share for batteries.

¹⁵ To keep in mind that downstreaming is part of Indonesia's RPJMN. This means the issue technically concerns all ministries though some are more involved directly than others.

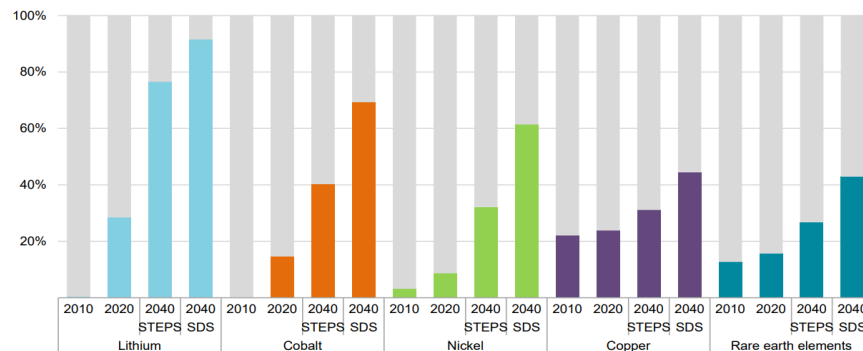
FIGURE 8. Nickel Market Demand Share by First-Use Sector



Source: Fraser et al. 2021, 49

With the move towards clean energy, similarly, the International Energy Agency (IEA 2021), reports that the demand for nickel would grow by 3-5 times compared to 2020.¹⁶ The IEA predicts that the demand for nickel class I (99.8% nickel content) which is used in battery cathode production will grow to 647 kt in 2030 from 80 kt in 2020.

FIGURE 9. Share of Clean Energy Technologies in Total Demand for Selected Minerals by Scenario, 2010-2040



Source: IEA 2021, 7

¹⁶ Demand in 2020 was 8%. By 2040, demand will be 31% under States Policies Scenario (STEPS) based on where the energy system is heading or 61% according to the Sustainable Development Scenario (SDS). The latter is based on the required trajectory to meet Paris Agreement.

Indonesia's processing and refining so far has mostly been focused on nickel class II or stainless-steel supply chain. Observing data on nickel processing and refining companies from Table 4, a large majority of companies that have been operating in 2021 produce class I products such as ferronickel (FeNi) and NPI. Looking at Table 5 and Table 6, we can see that most processing facilities being built in 2021 were still geared towards nickel class II but there was a noticeable increase for hydrometallurgical nickel class I.

TABLE 4. Nickel Processing and Refining Companies with Pyrometallurgical and Hydrometallurgical Technology That Have Been Operating in 2021

No	Name of Company	License type	Ore Input capacity (ton)	Output capacity	
				Type	Capacity (ton)
Pyrometallurgy technology					
1	PT Antam Tbk	IUP	1.868.00	FeNi (20-25%Ni)	125.700
2	PT Bintang Timur Steel	IUI	70.000	NPI (6%Ni)	35.000
3	PT Bukit Smelter Indonesia	IUI, NIB	1.800.000	NPI (10-14%Ni)	150.000
4	PT Cahaya Modern Metal Industri (ESDM)	IUI, IUP OPK, NIB, LKPM	140.000	NPI (10-12%Ni)	35.000
5	PT Cahaya Smelter Indonesia	IUI	1.800.000	NPI (10-14%Ni)	150.000
6	PT Century Metalindo	IUI, IUP OPK	481.000	NPI (12,8%Ni)	24.500
7	PT COR Industri Indonesia	IUI, IUP OPK	856.000	NPI (6-7%Ni)	100.000
8	PT Growth Java Industry	IUI	546.000	NPI (10%Ni)	57.500
9	PT Indonesia Guang Ching Nickel and Stainless Steel	IUI	7.200.000	NPI (10-14%Ni)	600.000
10	PT Hengjaya Nickel Industry	IUI	1.800.000	NPI (10-14%Ni)	150.000
11	PT Huadi Nickel-Alloy Indonesia	IUI	522.000	NPI (12,5%Ni)	42.000
12	PT Indonesia Tsingshan Stainless Steel	IUI, IUP OPK	8.100.000	NPI (10-14%Ni)	675.000
13	PT Megah Surya Pertiwi	IUI, IUP OPK	2.173.500	NPI (10-12%Ni)	240.000
14	PT Obsidian Stainless Steel	IUI	10.800.000	NPI (10-12%Ni)	3.000.000
15	PT Ranger Nickel Industry	IUI, NIB, LKPM	1.800.000	NPI (10-14%Ni)	150.000
16	PT Sulawesi Mining Investment	IUI, IUP OPK	3.000.000	NPI (10-14%Ni)	300.000
17	PT Tsingshan Steel Indonesia	IUI, IUP OPK, NIB, LKPM	1.800.000	NPI (2-4%Ni)	15.000
18	PT Vale Indonesia	IUP	12.970.000	Nickel Matte (78%Ni)	94.300
19	PT Virtue Dragon Nickel Industry	IUI, IUP OPK	10.000.000	NPI (10-12%Ni)	1.000.000
20	PT Wanatara Persada	IUP, NIB, LKPM	2.200.000	NPI (11-13%Ni)	209.650
21	PT Weda Bay Nickel	KK, NIB, LKPM	2.700.000	NPI (10-15%Ni)	300.000
22	PT Yashi Indonesia Investment	NIB	1.800.000	NPI (10-15%Ni)	300.000
23	PT Youshan Nickel Indonesia	NIB	1.050.000	NPI (10-15%Ni)	300.000
24	PT. Indonesia Ruiyu Nickel and Chrome Alloy	Not known	3.600.000	NPI (10-14%Ni)	300.000
25	PT. Lestari Smelter Indonesia	Not known	2.520.000	NPI (10-14%Ni)	300.000
26	PT. Walsin Nickel Industrial Indonesia	Not known	1.260.000	NPI (10-14%Ni)	300.000
27	PT. Bintang Smelter Indonesia - BF	Not known	147.000	NPI (8,5%Ni)	40.000
TOTAL			81.135.500		
Pyrometallurgy technology					
28	PT Gebe Industry Nickel	IUI	1.320.000	MHP	21.601
29	PT Halmahera Persada Lygend	IUP OPK	8.500.000	MHP	365.000
TOTAL			9.820.000		

Source: Ministry of Energy and Mineral Resources 2021, 53

TABLE 5. Nickel Processing and Refining Plants with Pyrometallurgical Technology That Are Being and Will be Built Based on 2021 Data

No	Name of Company	Phase	License type	Ore input capacity (ton)	Output capacity	
					Type	Capacity (ton)
1	PT Andalan Metal Industry	Construction	IUI	1.800.000	NPI (10-15%Ni)	150.000
2	PT Aneka Tambang Niterra Hallim	Construction	IUP OPK	1.427.316	NPI (10-12%Ni)	160.000
3	PT Aneka Tambang (P3FH)	Construction	IUP	1.219.945	FeNi (22%Ni)	64.655
4	PT Ang And Fang Brother	Construction	IUP	1.866.510	NPI (10-12%Ni)	130.508
5	PT Artha Mining Industry	Construction	IUP OPK IUI not yet effective	2.000.000	NPI (10-12%Ni)	200.000
6	PT Arthabumi Sentra Industri	Construction	IUP OPK IUI not yet effective	720.000	NPI (10-12%Ni)	72.000
7	PT Ceria Nugraha Indotama	Construction	IUP	5.636.000	FeNi (22%Ni)	252.728
8	PT Gunbuster Nickel Industry	Construction	NIB	21.600.000	NPI (10-12%Ni)	2.000.000
9	PT Halmahera Jaya Feronikel	Construction	NIB	8.700.000	NPI (10-5%Ni)	870.000
10	PT Heng Tai Yuan Indonesia Steel	Construction	IUP OPK	400.000	NPI (8%Ni)	40.000
11	PT Langit Metal Industry	Construction	NIB, LKPM	3.600.000	NPI (10-15%Ni)	300.000
12	PT Lipe Metal Industry	Construction	NIB, LKPM	3.600.000	NPI (10-15%Ni)	300.000
13	PT Macika Mineral Industri (ESDM)	Construction	IUP OPK, NIB	1.105.056	NPI (10-12%Ni)	93.000
14	PT Mahkota Konawehea (ESDM)	Construction	IUP OPK, NIB	1.343.628	NPI (10-12%Ni)	62.200
15	PT Mapan Asri Sejahtera	Construction	IUP OPK, NIB, LKPM	210.000	NPI (10-12%Ni)	21.531
16	PT Mazinger Nickel Industry	Construction	NIB, LKPM	2.789.000	NPI (10-11%Ni)	240.000
17	PT Perkasa Metal Industry	Construction	NIB, LKPM	1.800.000	NPI (10-15%Ni)	150.000
18	PT Sinar Deli Bantaeng	Construction	IUP OPK	2.400.000	NPI (10-12%Ni)	238.000
19	PT Sulawesi Resources	Construction	IUP, NIB	2.400.000	FeNi (22%Ni)	152.400
20	PT Teka Mining Resources	Construction	IUP OPK, NIB, LKPM	3.000.000	NPI (10-12%Ni)	300.000
21	PT Titan Mineral Utama	Construction	IUI, NIB, LKPM	1.094.000	NPI (10-13%Ni)	120.000
22	PT Wanxiang Nickel Indonesia	Construction	IUP OPK, NIB, LKPM	3.500.000	NPI (10-12%Ni)	351.018
23	Harita Group	Construction	Unknown	12.463.338	NPI (10-5%Ni)	1.300.000
24	PT Huake Nickel Indonesia	Construction	Unknown	3.600.000	NPI (10-15%Ni)	350.000
25	PT Infei Metal Industry	Construction	Unknown	1.800.000	NPI (10-15%Ni)	200.000
26	PT Angle Nickel Industry	Construction	Unknown	3.600.000	NPI (10-15%Ni)	350.000
27	PT Kao Rahai Smelters	Construction	Unknown	1.800.000	NPI (10-15%Ni)	350.000
28	PT Maluku Utara Metal Industry	Construction	Unknown	1.800.000	NPI (10-15%Ni)	200.000
29	PT Jiu Long Metal Industry	Construction	Unknown	1.800.000	NPI (10-15%Ni)	200.000
30	PT Guang Tsing Halmahera Nickel	Construction	Unknown	10.800.000	NPI (10-15%Ni)	1.200.000
31	PT Bahodopi Nickel Smelting Indonesia	Construction	Unknown	6.549.000	NPI (12%Ni)	608.256
32	PT Huadi Nickel Alloy Indonesia Nickel	Construction	Unknown	6.000.000	NPI (12,5%Ni)	500.000
33	PT Sungai Raya Nickel Alloy Indonesia	Construction	Unknown	6.000.000	NPI (10%Ni)	650.000
TOTAL				128.423.793		

Source: Ministry of Energy and Mineral Resources 2021, 54

TABLE 6. Nickel Processing and Refining Plants Using Hydrometallurgical Technology Are Currently Being Built and Will be Built Based on 2021 Data

No	Name of Company	Phase	License type	Ore input capacity (ton)	Output capacity	
					Type	Capacity (ton)
1	PT Huayue Nickel Cobalt	Construction	IUI not yet effective	8.000.000	MHP	160.500
2	PT QMB New Energy Materials	Construction	NIB, LKPM	4.450.000	Nickle Sulfate	136.364
3	PT Smelter Nikel Indonesia	Construction	IUP, IUP OPK, NIB, LKPM	2.401.920	MHP	46.800
4	PT Kolaka Nickel Industry (ESDM)	Construction	NIB, LKPM	5.226.000	MSP	70.800
5	PT Fajar Metal Industry	Construction	Unknown	8.000.000	Nickle Sulfate	272.700
6	PT Teluk Metal Industry	Construction	Unknown	8.000.000	Nickle Sulfate	272.700
7	Harita Group	Construction	Unknown	8.590.000	Nickle Sulfate	246.000
8	PT MBG Nikel Indonesia	Construction	Unknown	1.314.800	MHP	34.700
9	PT Angkasa Jaya Mulia	Planning	Unknown	2.600.000	Nickle Sulfate	140.000
TOTAL				48.582.720		

Source: Ministry of Energy and Mineral Resources 2021, 54

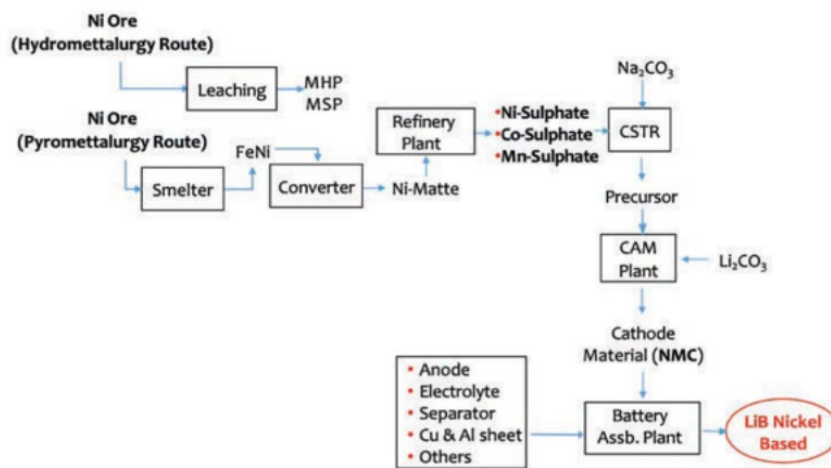
To develop the EV battery sector, talks about limiting smelters for nickel pig iron, and ferronickel have been heard since 2021 (Media Nikel Indonesia 2021). Referring back to RIPIN,

the establishment of smelters that produce Mixed Hydroxide Participate (MHP) and nickel sulfate aligns with RIPIN 2019-2024 and 2024-2030 respectively.

The first High-Pressure Acid Leach (HPAL) project, which is a joint venture between Ningbo Lygend in China and Harita Group in Indonesia started in spring 2021. There are two other plants in operation, six in the feasibility stage, and four under construction (Grace and Cindy 2023).

Since Indonesia is rich in laterite ore, which is a good feedstock for nickel class II products, limonite resources must go through HPAL to become the mixed hydroxide precipitate used in lithium-ion battery cathodes.¹⁷ Graph 4 explains the process of lithium battery production.

GRAPH 4. Production Process for Nickel-Based Lithium Batteries



Source: Tiammar 2021, cited in Arif 2023, 186

Further on the country's plan to produce nickel-based end-product, four Indonesian state-owned enterprises: Pertamina (oil), PLN (electricity), MIND ID (mining holding company), and PT Aneka Tambang (nickel and gold miner) signed an agreement in late March 2021 to form the Indonesian Battery Corporation (IBC). The corporation plans to partner with the top two global

¹⁷ Laterite nickel ore has three layers which are limonite, smectite and saprolite

EV battery producers Contemporary Amperex Technology (CATL) from China and LG Chem from South Korea in joint ventures to create an end-to-end EV battery supply chain.

National strategy is not only limited to EV batteries but also full-fledged EV production. Much like how it was in stainless steel nickel downstreaming, the government has issued regulations to support this goal. Specifically, Government Regulation No. 55/2019 aims for EV vehicles to be produced and deployed in Indonesia. The government targets 40,000 units of EVs in 2025 and 5.7 million in 2035.

In short, Indonesia's non-compliance with the Panel Ruling is driven by the political-economic significance of the nickel sector to Indonesia. The strategy of nickel downstreaming holds crucial importance for the country's ambition to become a developed nation. This drive has led to the implementation of regulatory and policy measures, including ministry initiatives, aimed at reserving nickel ore for domestic processing. Notably, these efforts have been substantially supported by Chinese investments in smelters. This strategy has yielded notable success in producing intermediate goods for stainless steel though there are concerns that China benefits more from this setup. Consequently, Indonesia is currently transitioning towards industrialization aimed at securing higher value addition through the production of electric batteries.

4.2 Lack of Legal Clarity on Export Restrictions Exemptions

In the preceding section, I have established that Indonesia's failure to comply with the WTO Ruling is first driven by internal factors i.e., domestic political and economic concerns related to nickel downstreaming. As we recall, the measures disputed in the EU-Indonesia nickel case are the latter's export prohibition on nickel ore and domestic processing requirement. And the latest is that Indonesia has contested the Panel's interpretations of Article XI:1 and XI:2(a) at the AB. In this section, I discuss how unclear exemptions for export restrictions, drawn from past precedents, justify Indonesia's use of export restrictive measures. Thus, providing an opportunity to appeal and prolong non-compliance.

In general, export restrictions are imposed with economic or non-economic objectives (OECD 2010). Economic objectives include the increase of revenue and promotion of downstream processing industries. Non-economic objectives (social policy) such as environmental protection

or conservation of natural resources, controlling inflationary pressures, and securing domestic supply. Export restrictions come in the form of fiscal, quantity, and administrative measures. Quantitative restrictions or quotas directly impact export volume while fiscal and administrative measures have more of an indirect impact by making export more costly or less feasible (Espa 2015). In Indonesia's case, export restrictions on nickel ore are clearly to promote downstream processing industries.

On Article XI:1, Indonesia only challenges the Panel Ruling on domestic processing requirement,¹⁸ but I am skeptical that this will be overturned by the AB since case precedents establish that the Panel's decision is primarily based on the measure's architecture, design, and revealing structure.

The term "prohibition" is understood as a "legal ban on the trade or importation of a specified commodity", whereas the term "restriction", which is broader than prohibition, is defined as a "thing which restricts someone or something, a limitation on action, a limiting condition or regulation" (Mavroidis 2016, 77). From previous WTO dispute, China-Raw Materials, not every restriction or prohibition will be inconsistent with the WTO; only if the measures "have a limiting effect on the quantity or amount of a product being imported or exported"(Mavroidis 2016, 77).

Indonesia argued that the DPR is an internal requirement and only affects domestic sales and processing of nickel ore. In response, the Panel emphasizes the architecture, design, and the revealing structure of Indonesia's DPR. Specifically, "who the ore can be sold to" (WTO 2022, 50). Because nickel can only be exported after undergoing additional domestic processing, miners of raw and unprocessed nickel materials are only able to sell their ore to domestic refineries. This is where the Panel established the so-called limiting effect on exports.

Indonesia also turned to trade data to show that the DPR did not have a limiting effect on exports.¹⁹ What we have to consider here however, as with Peter Mavroidis' (2016) discussion

¹⁸ Unlike domestic processing requirement, Indonesia does not deny that the export ban on nickel ore is a clear form of export prohibition, therefore in violation of Article XI:1 of the GATT

¹⁹ In the Panel Report, Indonesia argues that exports of unprocessed nickel ore increased five times during the first suspension period (January 12, 2009– January 12, 2014) of the export ban, from 10

on Quantitative Restrictions, in order to determine whether Article XI:1 of the GATT has been violated, the Panel is actually not required to look at the quantitative effect. This is because, from Colombia-Port of Entry and China Raw Materials I, case precedents establish that restrictive measures that fall under the purview of Article XI:1 do not necessarily lead to actual reverse trade flows albeit with some effects on market competition.²⁰ This means complainants are not required to prove actual trade effects. Judgment can thus be made solely on the measure's architecture, design, and revealing structure.

By acknowledging that Indonesia's export ban and DPR breached Article XI:1 of the GATT, there is an opportunity for an exemption under Article XI:2(a). Three conditions have to be observed here: 1) essential; 2) temporarily applied; and 3) prevent or relieve critical shortage. We recall that Article XI: 2 (a) reads: “Export prohibitions or restrictions temporarily applied to prevent or relieve critical shortages of foodstuffs or other products essential to the exporting contracting party” (WTO 1994,1).

Out of all three, I believe Indonesia's appeal regarding 'critical shortage' is the weakest. Case precedents establish that this term cannot be directly equated with a shortage in domestic supply for production purposes. Indonesia said that the Panel erred in its judgment that Indonesia had not established an “imminent critical shortage of nickel ore because future prospective demand was too attenuated” (WTO 2022b, 68). Although there are 48 million tons of probable reserves in 2020 as seen in Table 7, Indonesia argues that only proved reserves can be used to determine critical shortage. Estimates say that they will only last about 6-7 years.²¹

More importantly, however, Indonesia justified the critical shortage by highlighting that low-grade nickel ore of <1.7% concentrate will be of less economic value in the future. And that the proven reserves of high-grade nickel ore should be considered against the backdrop of increasing future demand for high-grade nickel ore in EV batteries. Indonesia interpreted critical shortage as

million wet metric tons in 2009 to 52 million tons in 2013, and more than six times during the second suspension period (January 11, 2017– December 31, 2019), from 4.9 million wet metric tons in 2017 to 30.2 million wet metric tons in 2019.

²⁰Colombia-Port of Entry is short for DS366: Colombia — Indicative Prices and Restrictions on Ports of Entry

²¹ In this Panel Report Indonesia states that proven reserves will last 6 years. In its Press Release that Indonesia also cited in its evidence to the Panel, length of proven reserves is about 7.3 years.

a shortage in supply for domestic downstreaming. This contrasts not only the Panel Ruling but also case precedents which considered critical shortage as a dire situation that marks a turning point but is still solvable through trade measures.

TABLE 7. Evolution of Indonesia's Nickel Ore Reserves

	2012	2013	2014	2015	2016	2017	2018	2019	2020
Probable Reserves of Nickel metal (tons)	19,154,662	18,916,367	18,915,262	46,931,459	44,287,596	39,786,145	39,700,090	54,273,601	48,444,790
Proved Reserves of Nickel metal (tons)	2,548,956	2,631,146	2,463,051	3,940,845	4,277,095	22,563,738	37,021,667	17,716,023	20,949,290

Source: WTO 2022b, 63

Moving on to the other two elements, there is more room for appeal on 'essential' and 'temporarily applied'. Starting first with the former, China—Raw Materials set a precedent by highlighting that the definition of the term also encompasses inputs for downstream industries. The Panel, in this case, concluded that a product may be 'essential' within the meaning of Article XI:2(a) when it is 'important' or 'necessary' or 'indispensable to a particular member', which was then also echoed by the Appellate Body.

In the Panel Report, Indonesia mentioned three reasons as to why it considered nickel as essential; one of them is its plan to develop EV battery production. Indonesia also provided data on employment and revenue of nickel mining, stainless steel, and EV batteries — sectors whereby Indonesia considers nickel to be essential. Contribution to GDP, state revenue, and direct and indirect employment in EV battery production are mere estimates considering that the industry at the time of the measure had not been built yet.²²

The fact that the battery sector is not yet well-established weakens Indonesia's argument on nickel being 'essential'. Because of this, the Panel determined that nickel is not essential to

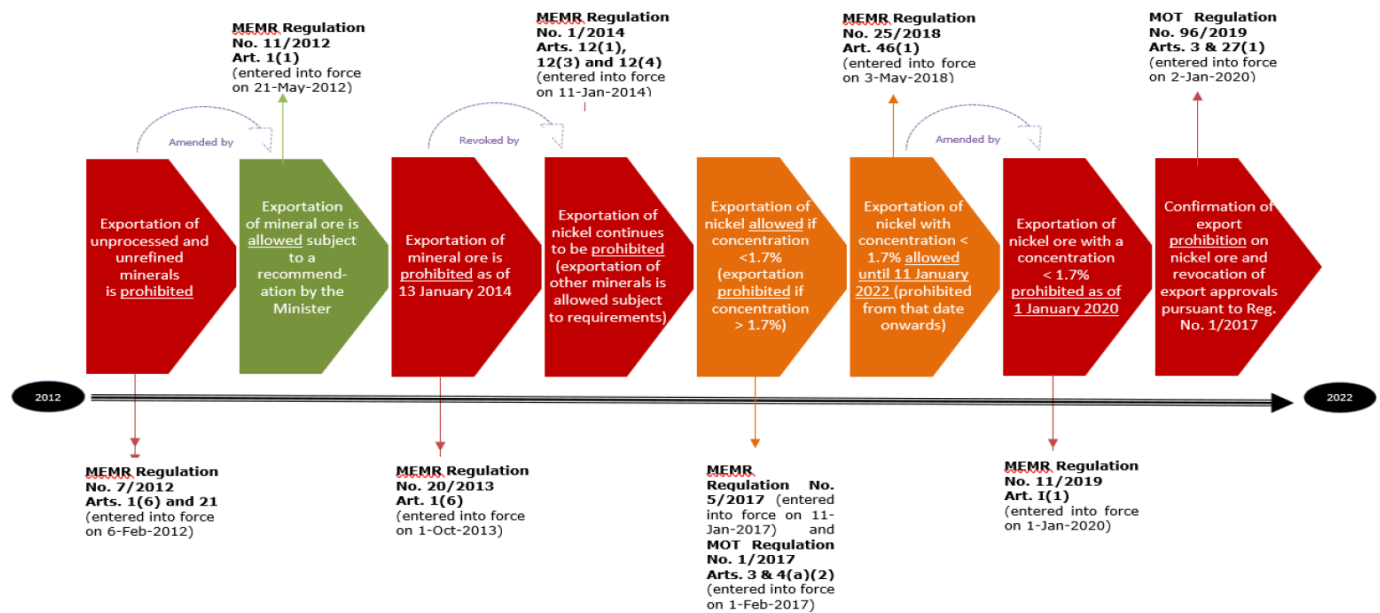
²² Nickel mining carried the most significant share of GDP, government revenue and total employment while stainless steel represented a minor share of those three components.

Indonesia's downstreaming. Indeed, the Panel mentioned in the report that "unlike the situation of bauxite in China, however, nickel ore is not already an input to important downstream industries in Indonesia" (WTO 2022b, 58).

Moving on to 'temporary applied', the AB Ruling from China— Raw Materials establishes that temporary application does not always need to have a predetermined time. Indonesia said that the Panel erred in its judgment that Indonesia's measures were not temporarily applied, and the Panel expected them to last 'an indefinite period'. Although the Panel noted that there was a period of relaxation, given that the restrictive measures would remain in place until technology becomes available, and given the limited potential of HPAL capacity in the near future, the Panel concluded that Indonesia's measures are not temporarily applied.

This is despite Indonesia's estimate that the measures would "remain in place until economically useful nickel reserves are sufficient to meet demand of the domestic processing industry, estimated at 292.4 million wmt by 2026" and the intention not to "maintain the measures until the reserves of nickel ore are depleted, but rather constantly reassesses the measures as well as the level of reserves" (WTO 2022b, 62). Contrary to the Panel Ruling, AB Ruling in China— Raw Materials set that temporary measures are not always bound by a predetermined duration, a factor that could potentially support Indonesia's argument. This aspect, however, was left unaddressed in this particular case and should be part of Indonesia's defense.

FIGURE 10. Timeline of Indonesia's Export Ban, 2012-2022



Source: WTO 2022b, 60

Overall, Indonesia and the Panel have differing views on the limiting effects of domestic processing requirement on nickel ore exports with the former focusing on trade effects while the latter on the architecture, design, and revealing structure of the measure. More divisive, though, is exemption based on the principles of ‘temporarily applied’, ‘essential’, and ‘critical shortage’. Indonesia has appealed on all three but the first two carry more legal ambiguity, thus useful for appeal and extending non-compliance.

4.3 Inactive Appellate Body, Pending Proceedings, and Unilateral Enforcement

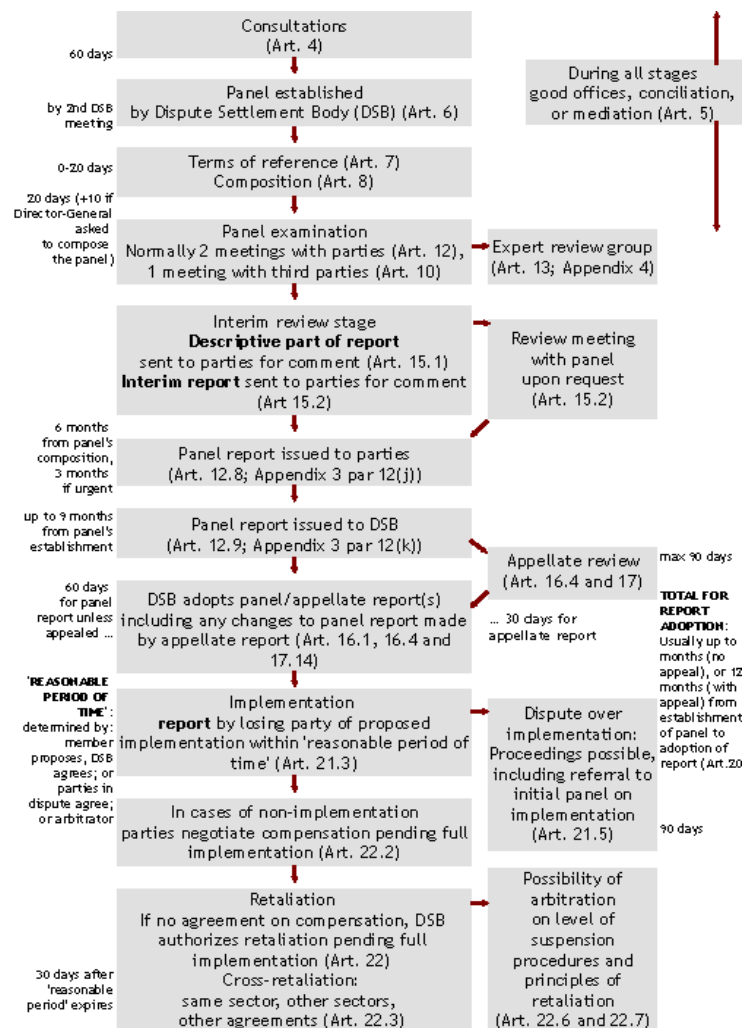
During business as usual, problems with inducing compliance endogenous to the WTO as an institution relate to falling behind the schedule allotted in each dispute settlement proceeding. This is also prolonged by the Reasonable Period of Time (RPT) and the interplay between the economic size of the complainant and the respondent, as well as trade relations between both parties. With the AB nonexistent, the EU-Indonesia nickel dispute enters uncharted territory as the case has not and cannot even proceed to Appellate Review. In addition, resorting to alternative dispute settlement mechanisms and unilateral retaliatory measures in the absence of a working AB further leads to the disillusionment of the WTO.

The WTO has long been criticized for the length of its dispute settlement process, and often not enforcing its deadlines. According to Horlick (2002, 367):

assuming charitably, that the losing Member finds out on the day the AB decision is released that it has been acting inconsistently with a WTO Agreement, it has already spent at least fifteen months in the state of inconsistency, but probably more since it would be unlikely for a Member to request consultations on the first day of existence of an inconsistent measure.

Within the WTO, the AB has the last word on determining whether a certain measure violates international trade law. From Graph 5, based on the flow of the dispute settlement process, the case moves toward implementation under RPT after the Appellate Report is adopted by the DSB. The Appellate Review takes place after the Panel Report is issued to the DSB but before the report is adopted. In general, the WTO adjudication has seven stages: 1) consultations, 2) panel proceedings, 3) Appellate Body proceedings, 4) implementation within a Reasonable Period of Time (RPT), 5) Compliance Panel/Appellate Body, 6) suspension of concession or retaliation and 7) post retaliation.

GRAPH 5. Flow Chart of the Dispute Settlement Process



Source: WTO no date

Under the DSU, a panel report will be adopted by the DSB unless it is appealed, in which case it goes to the AB. The AB Report goes to the DSB and is thus adopted unless there is a consensus against the adoption and presumably any major objector can defeat that negative consensus. If so, the previous procedures are reversed, and an Appellate Report comes into force.

Should the losing member fail to bring its measure into conformity with its WTO obligations within the RPT, the other party could move towards retaliation (suspension of concessions).

This, as with Article 3.7 is the “final and most serious consequence a non-implementing Member faces in the WTO dispute settlement system” and the outcome which the WTO tends to advise

against. In the case of the Indonesia-EU nickel dispute, however, case proceedings have stopped after the Panel Ruling.

Since 2016 the US has kept blocking the appointment and reappointment of members, eventually leading to the AB officially becoming inactive at the end of 2019. According to Article 17.1 of the DSU, the AB is composed of seven judges who serve a term of 4 years (renewable once) and work in rotation. All WTO members can nominate a judge, but the appointment relies on a consensus system which is why US persistent blocking has resulted in the low number of judges. The US grievance is centered on the criticism that members nominated to appeals before may continue to serve on them after their terms have expired, as permitted by Article 15 of the Appellate Body Working Procedure.

Only three members are required to preside over a case and to make a quorum, but this also created a domino effect whereby there is a large backlog of complex cases, and judges need more than 90 days to review a case. This makes the dispute settlement process overall much longer (Gantz 2018). The last Appellate Report was signed on June 9, 2020, by one judge whose mandate had expired in 2018, and the other two on December 10, 2019. The last man standing was a judge from China whose mandate ran through November 30, 2020.

As of December 8, 2022, Indonesia has exercised its rights by appealing this case to the AB. Article 16.4 of the DSU makes it clear that parties of the dispute, both the 'winning' and the 'losing' Member are entitled to appeal the Panel Report. Furthermore, it is not usual that parties might appeal only certain parts of the Panel Report that they disagree with. For instance, the interpretations of certain elements of a specific GATT Article cited in the dispute.

Given the non-operational status of the AB, Indonesia's decision to appeal the Panel Report is, as Peter Mavroidis (2022) suggests, 'appealing into the void.' Consequently, during this period, DS592 is considered an 'abandoned case.'

Both Indonesia and the EU in their official communication to the WTO acknowledge the uncertainty that the AB crisis has caused to case proceedings moving forward. In its appeal notification, Indonesia states the following:

As there are no Appellate Body Members to compose a Division to hear Indonesia's appeal at this time, Indonesia awaits further instructions from the Division, once composed, on any further steps to be taken by Indonesia in this appeal (WTO 2022a, 1).

In response, the EU writes the following: “Given the Appellate Body remains non-operational, the European Union considers that all subsequent procedural deadlines set out in the Appellate Body's Working Procedures are properly to be considered as *suspended*” (WTO 2022c, 1, emphasis added).

In light of the deadlock at the AB, the EU led the establishment of a temporary appellate mechanism known as the Multi-Party Interim Arbitration Appeal Arrangement (MPIA). Any member can join the agreement with prior notification to the DSB. According to the WTO Plurilaterals website (2023), parties that have utilized this mechanism include Australia, Colombia, Iceland, Nicaragua, Ukraine, Benin, Costa Rica, Japan, Norway, Uruguay, Brazil, Ecuador, Macao, China, Pakistan, Canada, European Union, Mexico, Peru, China, Guatemala, Montenegro, Singapore, Chile, Hong Kong, China, New Zealand, Switzerland.

The MPIA is based on Article 25 of the DSU regarding alternative means of dispute settlement for expeditious arbitration. When a case involving two MPIA parties comes before the WTO, the parties should jointly notify the DSB. In addition to outlining the steps the parties plan to take in this regard, they should also declare their formal intention to use MPIA procedures to settle the dispute should it go to the appellate stage. Novelties of the MPIA include having a pool of ten arbitrators with three randomly selected to preside over a case (WTO Plurilaterals 2023). This is different from the AB.

Despite the EU's urging, Indonesia is not part of the MPIA. Official statements always point to Indonesia making use of the WTO's appeal mechanism.

Outside the realm of the WTO and the MPIA, the EU is implementing its own countermeasures against Indonesia. As of July 07, 2023, the EU has in turn launched a public consultation with stakeholders affected by the export ban on the possible use of Enforcement Regulation.

According to the latest report by the European Commission (2023), the consultation period ended in early September and the result could determine the EU's next move which might come in the form of countermeasures such as imposition of duties or quantitative restrictions on imports or exports. But before this consultation even took place, the EU already implemented trade defense instruments against Indonesia's exports of intermediate steel products.

EU trade defense instruments are to protect domestic producers and create a level playing field. They include: 1) anti-dumping measures which protect domestic industry from lower-priced imported goods, and 2) countervailing measures which target goods that benefit from subsidy by the government in the origin. The General Court of the EU approves of EU trade defense measures despite them not being in line with WTO rules and rulings.²³ In 2021, the EU imposed anti-dumping duties on Indonesia's steel cold-rolled flat products, followed by countervailing duties of 10.2% - 20.2% the next year (European Commission 2022; Reuters 2023). In an interview with Reuters, a Senior Official from the Ministry of Trade, Djatmiko Bris Witjaksono stated that exports to the EU decreased to around \$229 million after the anti-dumping duty came into force (Reuters 2023).

In response, Indonesia has taken the EU to the WTO on this matter — DS 616: European Union — Countervailing and Anti-Dumping Duties on Stainless Steel Cold-Rolled Flat Products from Indonesia. In its request for consultation, Indonesia referenced the following EU documents which imposed countervailing and anti-dumping measures on stainless steel cold-rolled flat products: Commission Implementing Regulation (EU) 2022/433 of 15 March 2022 amending Implementing Regulation (EU) 2021/2012, Commission Implementing Regulation (EU) 2021/2012 of 17 November 2021; and Commission Implementing Regulation (EU) 2021/854 of 27 May 2021 (WTO)

The use of trade defense instruments is according to Victor Crochet (2022), a tool for extractionism. Access to raw materials has long been a priority of the EU, grounded in its trade

²³ Anti-dumping and countervailing measures go against Article VI of the GATT, as well as the Agreement on Implementation of Article VI of the General Agreement on Tariffs and Trade (Anti-Dumping Agreement) and the Subsidy Countervailing Measures (SCM) Agreement.

and regulatory policy. It is also certainly not new; the European Commission's 2008 Raw Materials Initiative recommends trade defense instruments in the face of "any distortion in the cost of raw materials resulting from dual pricing practices or other mechanisms in operation in the exporting country" (European Commission 2008, 7). What can be said, however, is that trade defense practice has gotten stronger over the years (Crochet 2022; Crochet and Zhou 2023). Europe's green transition has become the key driving factor; the EU's Fifth List of 34 Critical Raw Materials is used in a variety of clean and digital technologies (Müller et al. 2023; Reisch 2022).²⁴ Nickel, alongside copper, is included in the list under 'Strategic Raw Materials' despite not meeting Critical Raw Material (CRM) thresholds.

TABLE 8. List of Critical Raw Materials and Strategic Raw Materials by the EU as of 2023

2023 Critical Raw Materials (<i>Strategic Raw Materials in italics</i>)			
aluminium/bauxite	coking coal	<i>lithium</i>	phosphorus
antimony	feldspar	LREE	scandium
arsenic	fluorspar	<i>magnesium</i>	<i>silicon metal</i>
baryte	<i>gallium</i>	<i>manganese</i>	strontium
beryllium	<i>germanium</i>	<i>natural graphite</i>	tantalum
<i>bismuth</i>	hafnium	niobium	<i>titanium metal</i>
<i>boron/borate</i>	helium	PGM	<i>tungsten</i>
<i>cobalt</i>	<i>HREE</i>	phosphate rock	vanadium
		<i>copper*</i>	<i>nickel*</i>

* Copper and Nickel do not meet the CRM thresholds, but are included as SRMs.

Source: Grohol and Veeh 2023, 20

EU's MPIA and trade defense measures certainly undermine the WTO whose enforcement power at the time of the AB crisis has gone from weak to non-existent. Measures taken by the EU to protect its domestic steel industries are met with litigation by Indonesia, risking tensions to continue to escalate. In the longer term, retaliatory tit-for-tat measures might culminate in a trade war that could very likely also spread to other commodities, especially considering that the EU and Indonesia have other ongoing WTO disputes i.e., palm oil.²⁵

²⁴ Müller et al and Reisch discussed the Fourth List of Critical Raw Materials from 2020. Per 2023, the number has increased from 30 to 34. https://single-market-economy.ec.europa.eu/sectors/raw-materials/areas-specific-interest/critical-raw-materials_en

²⁵ The cases on palm oil include: DS593: European Union-Certain Measures Concerning Palm Oil and Oil Palm Crop-Based Biofuels and DS 618: European Union-Countervailing duties on imports of biodiesel from Indonesia.

5. CONCLUSION

This study reveals that Indonesia's decision to appeal the Panel Ruling and the continued pursuit of nickel downstreaming is first motivated by the political-economic significance of the nickel sector, an internal factor. Additionally, external factors i.e., the absence of clear legal guidelines regarding exemptions on export restrictions at the WTO, coupled with an inactive AB provide an opportunity for prolonged non-compliance. This aligns with the management approach and enforcement approach of International Compliance Theory.

First, non-compliance occurs because nickel is politically and economically significant to Indonesia. Nickel downstreaming is integral to the country's ambition to become a developed nation by 2045. The imposition of an export ban on nickel ore and domestic processing requirement has led to a shift in production from raw materials to intermediate products in the nickel supply chain. Furthermore, it has spurred Chinese investments specifically directed toward establishing smelters for the nickel II stainless-steel supply chains. The rise of green technology, however, is changing global demand from stainless steel to electric batteries. Consequently, Indonesia is shifting its strategy, capitalizing on an even greater economic opportunity in class I high-grade nickel industry for electric batteries and vehicles.

Second, non-compliance continues due to unclear rules on export restrictions and their exemptions, as evidenced in Indonesia's appeal against the Panel Report. Comparing the three conditions for exemptions, there is some room for interpretation for 'essential' and 'temporary'. China-Raw Materials case provides a reference to the WTO's position in which downstreaming inputs are deemed essential. There remain some uncertainties on this, however, with Indonesia's EV batteries industry only just beginning. In addition, though Indonesia's export prohibition and domestic processing requirement do not have a clear end term, WTO precedents allow measures to not have a fixed end time.

Third, non-compliance is prolonged by the crisis at the AB because the US has consistently obstructed the nomination and renewal of judges, creating a power vacuum that hampers the body's functioning. Case proceedings are consequently halted in the meantime despite Indonesia's appeal. While the EU has set up the MPIA as a means to resolve trade disputes while

the AB remains inactive, Indonesia has not shown any interest in joining. In the absence of a functioning AB, the EU has turned to more robust trade defense measures of anti-dumping and countervailing duties against Indonesia's steel products. The creation of an alternative dispute settlement mechanism and the use of unilateral retaliatory measures undermines the WTO.

Although Indonesia's nickel industry has been successful in the short term at growing intermediate sectors and drawing in foreign investments, further research is needed to fully understand the industry's long-term effects, employment potential, and environmental implications. Taking advantage of business opportunities while addressing social and environmental issues will be crucial to the success of Indonesia's industrial strategy.

In the face of geopolitical challenges, Indonesia needs to manage trade relations carefully and set environmental standards to establish itself as a global hub for battery and electric vehicle production.

As the global push for clean energy technologies intensifies, countries endowed with vast mineral resources will be more inclined to shift from mere mineral extraction to downstream processing. Domestic interest in moving up the value chain will be significant, and consequently, the WTO, often criticized for being less supportive of its less developed Members should be able to address the policy gap on export restrictions for this particular reason. Failing to do so could result in an upsurge of WTO disputes between developed and developing countries. And the latter struggling or even deliberately opting not to comply with international trade law as they look to build their downstream industry.

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APPENDIX

APPENDIX 1. Lengths of Process (in months)

Stages		Statutory deadline	Mean
Consultations	From the date of request for consultation to the establishment of panel	2	8.1
Panel proceedings	From the establishment of panel to circulation of the panel report	6	17.1
Appeals	From the date of the Notice of Appeal until the date of the circulation of the Appellate Body	2-3	4.3
RPT, Bilateral agreement	Total length of agreed period between parties of RPT during which implementation must occur		9.7
RPT, Determination	The deadline that the Arbitrator must respect counting from the date of adoption of recommendations	3	5.1
RPT, Arbitration Award	The average RPT awarded by the arbitrator in the awards circulated		11.5
Compliance panel	From the date of the request to establish a first compliance panel until the date of circulation of the Compliance Panel Report	3	13.2
AB compliance	From the date of the first Notice of Appeal until the date of circulation of the Appellate Body compliance report	3	5.4
Article 22.6 Award	Deadline for Arbitrator to issue award counting from the end of RPT	2	8.3

Source: Mavroidis 2022, 153

APPENDIX 2. Scope of Restrictions under Various Laws in Connection to Nickel Ore Exports

Regulation	Provision	Scope of the restriction
MEMR Regulation No. 7/2012	Article 1 No. 6, and Article 21	Prohibition on the export of unprocessed and unrefined minerals.
MEMR Regulation No. 11/2012	Article 1 No. 1, amending MEMR Regulation No. 7/2012 by inserting a new Article 21A into MEMR Regulation No. 7/2012	Allows for the export of mineral ore subject to a "recommendation" by the minister.
MEMR Regulation No. 20/2013	Article I, amending Article 21A of MEMR Regulation No. 7/2012	Allows for the export of mineral ore until 12 January 2014, subject to obtaining an approval by the minister of trade. Approval granted if the mining permit holders submitted a plan concerning the domestic processing and/or refining of minerals. Complete prohibition on export of mineral ore as of 13 January 2014.
MEMR Regulation No. 1/2014	Article 12(1), (3) and (4) ²⁰¹	Allows for the export of certain minerals subject to compliance with DPR and approval by the minister. Any export of nickel was however specifically excluded from this possibility.
MOT Regulation No. 1/2017	Article 3, 4(a)(2), and Appendices III and IV	Unprocessed and unrefined mining products were subject to an export prohibition, unless they were mentioned in Appendix III to the Regulation. Appendix III mentions ore with a concentration of less than 1.7 % Nickel. Such ore could therefore be exported, subject to several strict conditions and notably to the condition that the exporter had built (or was building) a purifying facility. Ore with a nickel content above 1.7 % (high-value ore) however could not be exported.
MEMR Regulation No. 25/2018	Article 46(1), (2) and 50(1)	Export of ore with a nickel content of less than 1.7 % could only occur until 11 January 2022. Such exports were furthermore subject to the condition that the exporters had built (or was building) a purification facility and to approval by the minister.
MEMR Regulation No. 11/2019	Article I(1), amending MEMR Regulation No. 25/2018 by deleting the relevant reference in Article 46(1) of MEMR Regulation No. 25/2018, and Articles I(2) and II	Revokes the possibility to export low-quality ore (with a nickel content of less than 1.7%) As from the entry into force of this regulation, prior ministerial approvals for export of ore with nickel content of less than 1.7 % became invalid. It results in a total prohibition of exports of nickel ore as of 1 January 2020.
MOT Regulation No. 96/2019	Articles 3 and 27(1)	Exports of raw material or ore mentioned in Appendix IV to the Regulation is prohibited. Nickel ore is specifically mentioned in this appendix. Export approvals issued on the basis of Regulation 1/2017 become invalid.

Source: WTO 2022b, 44