TRANSFORMING THE INSTITUTIONAL AND GOVERNANCE FRAMEWORKS OF INDONESIA'S DOWNSTREAMING POLICY

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Abstract:

Background: Despite the significant benefits generated by Indonesia's downstreaming strategy, including a substantial increase in exports and investments, there remains considerable potential for further refinement. The implementation of this policy is hindered by ineffective coordination among various ministries and stakeholders.
Purpose: This paper seeks to address the existing governance and institutional challenges that obstruct effective policy execution through an integrative literature review and comparative analysis.
Finding/Result: Drawing insights from the successful industrial policies of China, South Korea, and the United States, this research found the existing discrepancy in the institutional and governance arrangements between Indonesia's downstreaming policy and the best practice from other countries which accentuate the necessity for vigorous reforms.
Conclusion: This research offers novel insights into the discourse on downstreaming policy by examining its institutional design and governance frameworks.
Originality: The paper provides practical recommendations aimed at enhancing the institutional design and governance of downstreaming, thereby aligning the policy more closely with its stated objectives.

Keywords: institutional policy, downstreaming industry, industrial policy, governance, coordination agency

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INTRODUCTION

Indonesia is currently striving to revitalise its manufacturing industry and foster structural transformation through the resource-based industrialization strategy or commonly referred to as "downstreaming". This policy has generated a wide array of economic impact. In 2019, the export of nickel ore amounted to US$ 1 billion, in 2023 the export of nickel-derived products increased exponentially and reached US$ 33 billion (ITC, 2024). Investment realisation in the base metal industry, a major nickel processing industry, also grew almost fourfold between 2018 and 2022 (Ministry of Investment of Indonesia, 2023).

Notwithstanding these apparent successes, the implementation of downstreaming still presents many opportunities for further improvement. An impediment that prevents downstreaming from reaching its utmost potential lies in its institutional arrangements and governance, with overlapping responsibilities and conflicting policy positions among ministries leading to suboptimal outcomes. For instance, one ministry may actively promote the nickel downstreaming agenda towards electric vehicle battery production, while other ministries may implement policies that undermine such objectives. This is evident in the substantial export of low value-added nickel intermediary products such as nickel pig iron (NPI) or ferro nickel which in 2023 constituted 45% of Indonesia's nickel-derived products (ITC, 2024). This situation was the result of misalignment of policies between different ministries. Some ministries are committed to advancing downstreaming in order to capture higher value-added segments, including the manufacturing of electric vehicle (EV) batteries, while discouraging the export of lower value-added nickel derivatives. On the other hand, some other ministries exhibit no reservations in enabling the export of these lower value-added nickel-derived products by refraining from imposing export tariffs. Consequently, many investors lack sufficient incentives to invest additional resources into the production of higher value-added goods.

The incongruence between different stakeholders and the absence of an effective coordinator risk jeopardizing the future of the downstreaming agenda. With the status quo, the initial success of downstreaming may not be sustained, and its progress may plateau. The export will continue to be dominated by low value-added nickel derivatives, and the investment in the sector will continue to be heavily reliant on foreign companies with limited spillover to domestic enterprises. Revamping the institutional framework and governance of downstreaming is therefore imperative.

Against this backdrop, this paper aims to dissect case studies in East Asia that demonstrate the effective implementation of industrial policy with solid institutional arrangements and governance. Indonesia's downstreaming policy will be examined against the best practices from these other countries. Finally, the paper also aims to present practical recommendations to refurbish downstreaming's institutional arrangements and governance to strengthen the efficacy of the policy's implementation.

There have been several studies that focus on Indonesia's downstreaming policy. For instance, the IMF (2023) analyzed the policy and inferred that it yields certain risks, which, among others, include potential loss of government revenue, misallocation of resources, and rent-seeking practices. Moreover, the IMF also warned about the potential international repercussions of Indonesia's export ban policy to support downstreaming may engender retaliatory measures from its trading partners.

Patunru (2023) highlighted that the value added from downstreaming policy requires further scrutiny. He contended that because the nickel downstream industry is capital intensive and is dominated by foreign investors, then the lion's share of the value added would be enjoyed by foreign investors instead of the local community.

The studies cited above demonstrate the fact that there is a gap in the existing literature with regard to the institutional and governance arrangement of downstreaming. The past studies on downstreaming tend to concentrate on the policy choice and the alleged implications of the policy, which often end with the implication that the policy should be abrogated altogether.

This paper seeks to address the literature gap by offering novel insights into the downstreaming policy's institutional and governance frameworks which many studies on downstreaming tend to gloss over. Therefore, the theoretical contribution of this paper is to enrich the existing discourse by providing new perspectives into the blindspot of downstreaming's literature, namely its institutional and governance frameworks. Moreover, the paper also seeks to offer practical contributions, which are concrete recommendations on how to improve downstreaming's institutional framework and governance.

METHODS

This paper uses secondary data and the integrative literature review and comparative analysis method to explore potential institutional design and governance alternatives to enhance Indonesian downstreaming policy implementation.

Due to the limited nature of industrial and downstreaming policy literature in Indonesia, the integrative literature method is appropriate for developing the conceptual model of the policy governance alternative. Sources in the integrative literature method include books, academic journals, Indonesian regulations, reports, and various economic indicators, which align with Knopf's (2006) study that suggests the relevant analysis could be developed from various sources. This method also provides an overview of the existing literature while also employing a critical review of the topic, which helps in expanding the concept of the theoretical model (Snyder, 2019).

According to Toracco (2016) one of the key steps of integrative literature review includes the process of arranging the conceptual structure. In this research, the conceptual structure could derive from the core concept of industrial policy's institutional arrangement, the best practices of industrial policy, extracting the lessons learned from Indonesia's past attempts in industrial policy, and finally the proposed downstreaming institutional and governance design in Indonesia in Figure 1.

Comparative analyses are utilized in this study, as Berg-Schlosser (2015) noted that it is useful for identifying and comparing systematic similarities and differences between observed phenomena to develop and test hypotheses and theories regarding relationships between different variables. The comparison that is used in this study includes the descriptive qualitative comparison of Indonesia and several key benchmark countries in terms of institutional arrangements and governance. The comparative analysis will then be harnessed as a foundation to formulate recommendations in revamping Indonesia's institutional framework and governance in the downstreaming policy implementation.

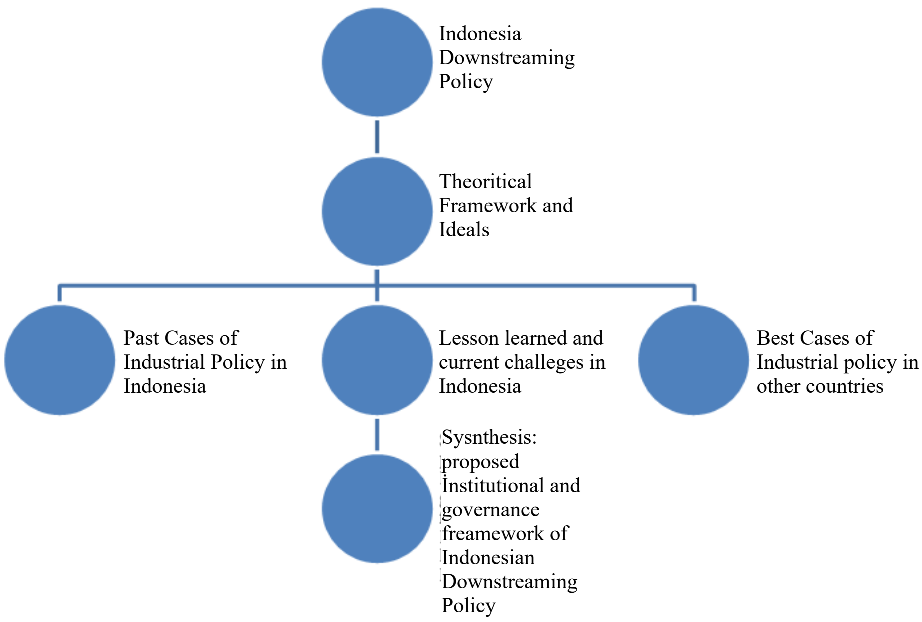

Figure 1. Research framework

RESULTS

The Theory and Best Practice of Industrial Policy Institutional Design

In economic literature, Indonesia's downstreaming strategy is classified as an industrial policy, a term that denotes government's proactive intervention to promote a country's structural transformation. Industrial policy remains contentious, due to the perceived rent-seeking practices it risks creating as well as other challenges. To that end, a number of experts have set forth the guidelines for industrial policy, institutional arrangements, and governance.

According to Chang (2002), several institutional conditions are essential for successful industrial policy. Firstly, there must be intensive coordination between state institutions and the business sector, ensuring constant information exchange between both parties. To that end the presence of intermediary institutions to connect the state and business sectors is crucial. For instance, Japan employed deliberation councils to bridge the public and private sectors, while South Korea held monthly export promotion meetings to bring bureaucrats and business leaders together. Furthermore, institutions responsible to promoting industrialization must be able to control the flow of resources effectively. Best practices in this regard include directing capital from government-linked financial institutions and leveraging state-owned enterprises (SOEs) to promote industrial development.

Rodrik (2004) highlighted several critical elements for effective institutional and governance design for industrial policies namely:

- High-level political support is essential. Leaders at the highest levels of government should give clear mandate to the policy-executing agency which then needs to coordinate relevant stakeholders and oversee the implementation.
- Effective coordination between the government and the private sector is important. Government requires continuous information exchange and feedback to develop industrial policies.
- The government should have embedded autonomy. The government needs to embed itself in the dynamics of the private sector because the government has limited information on the market mechanism and cannot unilaterally pick winners. Nevertheless, the government's close communication with the private sector cannot make it subservient to the whims of the companies that may balk at the goal of diversification and transformation.

Industrial policy often operates in a highly uncertain landscape. According to Rodrik & Stantcheva (2021), policies to promote industrialization require an experimental governance approach where objectives can evolve and adapt to contextual changes to mitigate the uncertainty. This is because industrialization depends on numerous decision-making factors, including investment, technology selection, and business organization, whose outcomes are not known beforehand (ex-ante). Therefore, continuous interaction between government and business actors is necessary, beginning with the establishment of initial interim goals and continuous iterative reviews and refinement. Rodrik & Sabel (2020) also emphasized the importance of policy evaluation in industrial policy governance. Effective industrial policy governance requires agreements between the government and the private sector that at least include regular joint review of targets, procedures for determining project continuity, and mechanisms for resolving disagreements. This model encourages application of conditionalities for the private sector as well as public-private information exchange, enabling each party to develop ideas from agreed objectives while enhancing both parties' capabilities and trust. Collaboration between government and business players in pursuit of industrialization can involve the government setting ambitious targets and conditionalities that would nudge the business community to create plans to achieve those targets. Penalties can be imposed when business players fail to report according to procedures or consistently fail to meet targets without showing earnest efforts. Conversely, rewards and incentives can be given to companies that manage to meet the agreed-upon targets.

China and South Korea offer valuable insights into the institutional and governance design of industrial policy that have enabled these nations to achieve technological advancements and economic development. In China, the role of the National Development and Reform Commission (NDRC) cannot be overstated in shaping China's economic development. It is responsible for planning national development strategies, monitoring macroeconomic performance, formulating industrial policies, and allocating resources, positioning it as a central actor in China's economic development policy framework (Gore, 2011; Li, 2024). The NDRC has effectively coordinated industrial and climate change policies, contributing to the success of China's electric vehicle (EV) industry (Song et al. 2023). China's success in the EV industry is partially attributed to the ability of the NDRC in enforcing conditionalities within the industrial policy framework, including linking subsidies and tax credits to local content requirements, production targets, and mandatory technology transfer (Bradsher, 2011; García-Herrero & Schindowski, 2024; Wang & Cai, 2024).

A similar set of institutions that promote industrial policy could also be found in South Korea. The Economic Planning Board (EPB), launched in 1961, was originally a merger of four bureaus (Overall Planning, Budget, Statistics, and Material Resources Mobilization), which connected the function of the four bureaus into a single entity (KDI, 2013). In his book, Studwell (2013) compared the EPB to similar coordinating institutions in other rapidly developing East Asian countries such as MITI in Japan and NDRC in China, and noted that EPB is one of the most powerful bureaucracies among those institutions. He further explained that the EPB set out the ambitious export led policy that propelled substantial investment in heavy and chemical industry (HCI). The package offered to business players that participated in the HCI investment includes subsidies and cheap credit tied with conditionalities such as export performance (Studwell, 2013). These incentives and coordinated programs led by EPB would eventually make South Korea a global force in steel and shipbuilding, and eventually in automakers and electronics, even defying the early World Bank report that warned about the ambitious plan of the EPB.

Several factors contributed to the success of the EPB. One key element was its ability to ensure policy coherence across different sectors. Kim (1992) highlighted the extensive authority of the EPB, which allowed it to successfully implement Korea's planning policies by prioritizing export promotion and coordinating efforts across various ministries and government agencies. This authority enabled the EPB to command a broad range of resources, thereby enhancing policy coherence, facilitating resource mobilization, and ensuring the flexibility needed to maintain export competitiveness. Another critical factor was the EPB's role in managing the relationship between the government and the business community. The EPB organised forums that brought together government agencies and private sector representatives, effectively navigating bottlenecks, potential conflicts of interest and balancing financial and industrial needs to maintain macroeconomic stability (Kim, 1992). This ability to align diverse interests was instrumental in the successful implementation of South Korea's economic strategies.

The summary of the above theoretical foundation and best practices for industrial policy's institutional and governance frameworks may be found in the Table 1. The explanation emphasizes the importance of a robust institutional framework and governance to enable the successful implementation of industrial policy. For instance, South Korean industrial policy would probably have failed in the absence of EPB as the main orchestrator behind cross-ministry policy coherence. The subsequent section will reinforce this point by elucidating Indonesia's failed foray into industrial policy, primarily because the government neglected the institutional and governance dimension of the policy.

Turning Setbacks Into Comebacks: Lessons Learned from Indonesia's Past Industrial Policy

An example of industrial policy in Indonesia that offers instructive insight into the importance of having stellar institutions and governance is the so-called national car program as envisaged through Presidential Instruction No. 2/1996. PT Timor Putra Nasional (Timor) was the only company to participate in the program, which was designed as a joint venture between Timor and the South Korean automaker KIA (Hynd et al. 2023). In February 1997, Timor began constructing an assembly plant in West Java, targeting an annual production of 50,000 cars.

Timor received substantial support from government policies. Tai (2014) notes that Indonesian banks were directed to lend approximately USD 690 million to the company. Additionally, Hynd et al. (2023) highlight that Timor benefited from tax exemptions, free import tariffs, and exclusive government procurement contracts intended to boost sales. Despite these extensive policy supports, Timor failed to achieve significant commercial success, with sales remaining below expectations. Tai (2014) further explains that even after Timor's bankruptcy, Indonesia continued to rely on imported car parts, indicating a failure in achieving effective knowledge transfer. The Asian Financial

Crisis exacerbated Timor's situation, coinciding with the fall of the Soeharto regime.

The Asian Financial Crisis wrought havoc to the national car program, but it was beset with several governance problems from the beginning which led to its eventual demise. The government initially sought to have some semblance of conditionalities, as the presidential instruction made clear that the national car company will only receive various incentives from the government if it meets several criteria including attaining maximum level of domestic contents or components. Nevertheless, Timor ended up receiving a plethora of government's largesse without actually meeting the conditions. Timor did have a plan to increase its local content, but by the time it received myriad government support, it practically still imported KIA cars from South Korea then rebadged it with the Timor logo.

Timor was eventually scathed by lack of competition. Although the national car program was open to all firms to participate, the government explicitly prioritised Timor. The lack of competition and the government's failure to encourage competition among firms did not compel Timor to continuously improve its competitiveness. Timor failed to produce high-quality cars and compete globally. This case highlights the importance of industrial policy being governed by competition to bring out the best in firms. Timor should have faced competition from other domestic firms instead of being the sole beneficiary of government support.

In terms of conditionalities and competition, Indonesia could learn from South Korea and China. South Korea's automotive industrial policy featured domestic competition between Hyundai, Daewoo, and KIA. Additionally, the South Korean government imposed conditionalities tied to export performance. Firms that failed to meet government's requirements were subjected to sanctions and exclusion from policy benefits. Similarly, in China's electric vehicle development, firms like BYD, SAIC, and NIO, competed against each other, with subsidies and funding allocated based on conditionalities. The summary of factors behind the failure of Indonesia's national car program may be seen in the Table 2.

After scrutinising the best practises of institutional arrangement of other countries and examining Indonesia's track record, then a comparative analysis could be done. The summary of the comparative analysis can be seen in Table 3.

Table 1. Key institutional design: summary of theories and best practices

Source	Description
Theories	
Chang (2002)	Government and business coordinates in exchanges of informations
Rodrik (2004)	Requiring political support from top leadership and embedded autonomy
Rodrik & Stancheva (2021), Rodrik & Sabel (2020)	Policies are evaluated and corrected in an iterative and experimental governance approach
Institutional best practices	
Gore (2011), Li (2024)	NDRC plays an important role in Chinese industrial policy and development
Kim (1992), KDI (2013), Studwell (2013)	EPB was critical to South Korea's successful industrialization
Governance best practices	
Studwell (2013)	Subsidies in South Korea was tied to export performance.
Bradsher (2011); García-Herrero & Schindowski (2024), Wang & Chai (2024)	Industrial policy was linked to conditionalities such as local content requirement, technological transfer, and production

Table 2. Summary of factors leading to the failure of Indonesia's national car program

The failure of industrial policy on timor
- Conditionalities were inadequately enforced
- Lack of competition
- Insufficient consultation with private sectors

Table 3. Comparison of industrial policy's institutions in China, South Korea, and Indonesia

Characteristics	China and South Korea	Indonesia
Industrial Policy Institution granted highest mandate from the leader of the country	NDRC in China and EPB in South Korea have the mandate from the highest leadership to carry out industrial policy	No specific institution has been mandated by the President to coy coordinate downstreaming policy
Coordinating agency's Authority	NDRC in China and EPB in South Korea are given the authority to coordinate multiple agencies	Coordination among government ministries and between the government and the private sector is inadequate
Capacity to mobilize resources	NDRC in China and EPB in South Korea have the capacity to channel resources to strategic sectors	There is no coordinating agency with authority to mobilize resources

The Challenges of Indonesian downstreaming's Institutional Arrangements and Governance

In terms of the institutional design, there are several key impediments that undermine the effective implementation of the downstreaming strategy, as follows:

1. There is no authorised institution to coordinate the collaborative efforts of various government agencies in reaching downstreaming objectives. As a multi-dimensional policy, downstreaming necessitates the synergy of numerous ministries and agencies with diverse policy portfolios. The absence of a central coordinator endowed with higher authority than the individual line ministries risks the development and adoption of contradictory regulations across different governmental bodies (Datta et al. 2011), potentially undermining the achievement of downstreaming objectives. This challenge is particularly evident in the realms of trade policy, as previously discussed.
2. The existing framework for public-private consultation in support of the downstreaming agenda is insufficiently developed. Although the Indonesian government occasionally engages with private sector representatives, including business associations, there is no formalised, institutional platform for the public-private consultations. Even the president has acknowledged that communication between the government and the private sector falls short of optimal (Sekretariat Kabinet Republik Indonesia, 2022).
3. There is a lack of a definitive mandate from the highest levels of leadership to a designated agency responsible for coordinating the implementation of the downstreaming agenda. The president on many occasions has reiterated the importance of downstreaming as a key priority for his administration, but he has not specifically instructed one institution that could oversee and coordinate the implementation of the policy.
4. There is a notable deficiency in authority to effectively mobilise government resources across ministries in pursuit of downstreaming agenda objectives. While coordinating various stakeholders to agree upon and execute a unified policy agenda remains crucial, equally vital is the capacity to allocate fiscal resources across ministries (Datta et al. 2011). Achieving success in downstreaming demands a range of resources, including infrastructure development, incentive provision, and financial support. Without the authority to mobilise these resources, the coordinating agency will struggle to effectively advance the downstreaming agenda.

In addition to the institutional design shortcomings, Indonesian downstreaming policy is also vexed by governance drawbacks including the following:

1. Indonesia's nickel downstreaming policy has not yet fully embraced an outcome-oriented approach. While the government has identified electric vehicle battery manufacturing as the ultimate goal of its nickel downstreaming efforts, existing policies often fail to support this objective. For example, current trade policies enables the production of lower-end nickel-derived products (Kumparan, 2023). The lack of stringent constraints on the export of lower value-added nickel derivatives results in insufficient incentives for investors to advance nickel processing into electric vehicle battery manufacturing within Indonesia.
2. The downstreaming strategy's governance remains rigid with low probability of adapting to the evolving landscape. A number of Indonesian government's policies to support the downstreaming agenda have not succeeded, but instead of refining them, the government continues to go down the same path.

This for instance is evident in the financing policy that has clearly proven to be insufficient and even detrimental to the goal of empowering domestic enterprises in the downstream industry, but the existing policy still remains. The government, including the president, has acknowledged that the financing status quo in the country has failed to steer the necessary capital to downstreaming industry (Sekretariat Kabinet Republik Indonesia, 2023). Nevertheless, there has not been a major policy change to address the situation.

3. Indonesia's downstreaming policy has not sufficiently enforced the conditionalities necessary to incentivize stakeholders in the pursuit of its objectives. While some conditionalities are established, such as prerequisites for receiving incentives like tax holidays for investors, many others are inadequately implemented. For example, regarding the exemption of luxury VAT for electric vehicles (EVs), the government initially stipulated that this incentive would apply exclusively to domestically manufactured EVs. However, the government later relaxed these conditions, permitting incentives for imported EVs as well. Although this situation may reflect a form of iterative policymaking, the absence of additional incentives for EV manufacturers that have already established operations in the country highlights the inadequacy of the current conditionalities approach. This inconsistency sends a problematic message to the private sector: that the government may change requirements without consequence, leading stakeholders to believe they can remain passive and that conditions will be adjusted to suit their preferences in Table 4.

Overhauling Downstreaming Policy's Institutional Design

In order to address the aforementioned challenges of the downstreaming policy's institutional design, revamping the institutional frameworks becomes crucial. Based on the theoretical foundation as well as best practices in East Asian context, this paper proposes the establishment of a downstreaming coordinating agency that meets the following feature as explicated in Table 5.

Table 4. Summary of institutional and governance challenges

Institutional Challenges	Governance Challenges
No authorised institution to coordinate government agencies.	Indonesia's nickel downstreaming policy lacks an outcome-oriented approach
Insufficient public and private consultation framework.	The downstreaming strategy's governance is rigid and unlikely to adapt to changes.
Lack of clear mandate from top leadership to a designated agency responsible for the coordination.	Insufficient enforcement of conditionalities in incentivizing stakeholders.
Deficiency in authority to mobilize government resources across ministries.	

Table 5. Proposals to overhaul downstreaming policy's institutional design

Current Condition	Proposed Features of Coordinating Agency	Proposed Features Explanation
No specific institution has been mandated by the President to coordinate downstreaming policy	Clear mandate with accountability from the highest leadership to the coordinating agency	Issuance of Presidential Regulation to explicitly designate the coordinating agency as the orchestrator of downstreaming
Coordination among government ministries and between the government and the private sector is inadequate	Authority to coordinate the government and the private sector	Endowing the coordinating agency with the authority to coordinate ministries, business associations, and other relevant stakeholders
The authority to mobilise resources for downstreaming is not fully integrated	Authority to control and mobilise resources	Empowering the coordinating agency with the authority to mobilise resources to support downstreaming

With the proposed features as highlighted above, downstreaming's coordinating agency could perform similarly with institutions that played pivotal roles during the rapid economic growth in East Asia, such as South Korea's Economic Planning Board (EPB), Japan's Ministry of International Trade and Industry (MITI), and China's National Development and Reform Commission (NDRC).

First, in order for the coordination agency to function effectively, it must receive a clear mandate from the highest political authority, namely the President. The mandate is essential because it would enable the agency to steer, plan, direct, and coordinate efforts across all relevant ministries to ensure the successful implementation of Indonesia's downstreaming agenda. Drawing from the example of the National Development and Reform Commission (NDRC) of China, where the head holds a position slightly above other ministers (Li, 2024), the leader of the Coordination Agency could similarly be positioned to wield significant influence over economic policy decisions. Currently, no institution has been officially tasked with these responsibilities. Given the strong commitment of the President-elect to advancing the downstreaming policy (Prabowo, 2024), it is crucial to not only establish the coordinating agency but to endow it with a robust mandate.

The leadership of the Coordination Agency is crucial to ensure that all relevant ministries work in a unified and coherent manner, rather than operate independently and potentially undermine each other's efforts. Effective policy coherence among ministries is necessary to address coordination failures that could obstruct the objectives of the policy (Mazzucato, 2018). Currently, there are instances of inconsistency among Indonesia's ministries in executing downstreaming policies. With that being said, the Coordination Agency must be endowed with the authority and capacity to coordinate across various technical ministries and agencies involved in downstreaming and industrialization. The agency's authority is expected to dismantle the silos within ministries and agencies that obstruct downstreaming and industrialization efforts, thereby preventing potential coordination failures.

Figure 2 presents the proposed management structure of the Coordination Agency, which would be vested with the responsibility and authority to coordinate various ministries related to trade, investment, industry, state-owned enterprises (SOE), finance, research, planning, labour, and the environment. Additionally, the Coordination Agency would be equipped to collaborate with research centres, private sector entities, and an advisory and evaluation committee. The Coordination Agency will also set up a five year development plan for downstreaming and industrialization, and finalise several policies to achieve the objectives of the plan.

For the Indonesian government to effectively support industrial development through its downstreaming policies, it is essential to have a thorough understanding of the challenges faced by the business community. Therefore, public-private coordination is crucial to identify bottlenecks and barriers to business operations, enabling more precise and effective government interventions. To facilitate this coordination, the Coordinating Agency should establish official consultation platforms between the government and business community such as communication forums or sectoral roundtables which would foster more intensive dialogue with business actors and thereby promote solutions to address bottlenecks that business players experience. The institutionalised cross-stakeholders coordination platform would also serve to encourage investment in sectors that are also aligned with the government mission.

Additionally, to effectively implement downstreaming and industrial policies, the Coordinating Agency must take on a comprehensive planning and budgeting role in addition to coordination. The planning and budgeting role is highly important, since it constitutes one of the most critical parts of the roles of the government. This was also highlighted by Chang (2002), which emphasised the need for institutional capability to control the flow of resources effectively. In the planning stage, the coordinating agency needs to foster agreements on the priority downstreaming sectors that could send signals to investors where government support will be concentrated including in terms of government's resources allocation. By fulfilling this role, the Coordinating Agency is expected to operate as both a coordinator and a prime mover of downstreaming with its budgetary power.

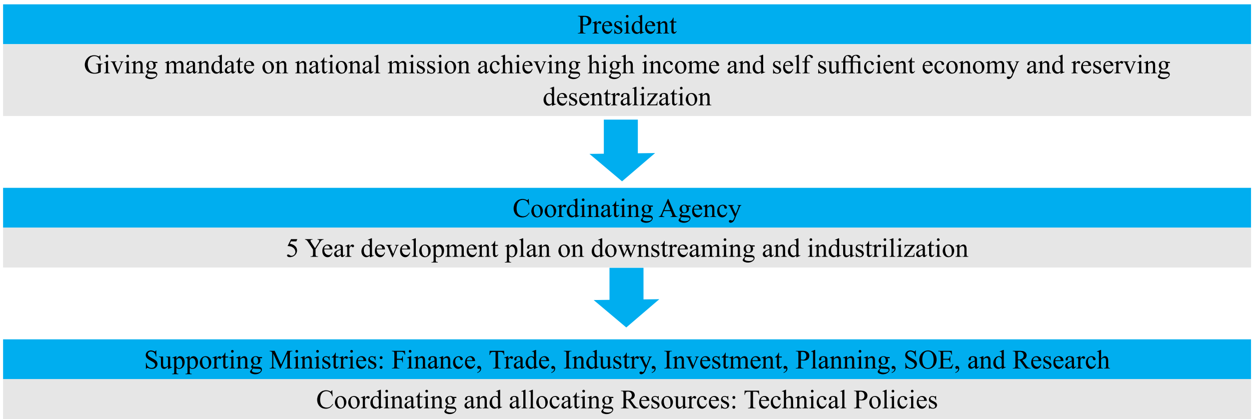

Figure 2. The coordinating agency management structure

Revamping Governance of Downstreaming Policy

In addition to improving the institutional arrangements, the government needs to enhance the governance of the downstreaming policy. Table 6 encapsulates the summary of the governance reforms that the government needs to consider to improve the efficacy of downstreaming policy.

Many scholars have highlighted the lack of clear objectives in Indonesia's industrial policy, pointing to ambiguities in prioritising sectors (Kim & Sumner, 2021; Puspitawati, 2021). Therefore, having clear objectives is of utmost importance for the downstreaming agenda. The government arguably does have several goals for the downstreaming including, for instance, the development of EV battery manufacturing. However, these goals often remain vague and do not come with measurable and quantifiable targets. To that end, the first priority of downstreaming's governance reforms is formulating clear and calculable targets.

Once clearer goals have been set, the governance reforms should ensure that the downstreaming policy becomes more outcome-oriented. It means that all of the government's decisions across ministries need to contribute to the attainment of the agreed upon targets. Every major decision needs to be assessed whether it helps or hinders the achievement of the targets. Decisions that do not help or even undermine the achievement of targets need to be modified or revoked. As an illustration, with this kind of governance, the government would not be overly permissive to the export of NPI because doing so would jeopardise the development of EV battery manufacturing industry. Another example pertains to the incentive policy, aligning with global minimum text agreement may inadvertently make investment in the downstream industry less attractive. An outcome-driven policy making would ensure that policies that could undercut our investment competitiveness are not adopted.

The future development of downstreaming policy should also impose conditionalities to mitigate the risk of moral hazard (Mazzucato & Rodrik, 2023). Indonesia has already demonstrated success in applying conditionalities, such as the presidential regulation No. 79/2023, which requires foreign automotive firms to produce domestically to qualify for import tariff exemptions. Such conditionalities could be expanded to other policies, particularly those aimed at supporting domestic manufacturing. For instance, the government could provide subsidies or other support to the Indonesia Battery Corporation (IBC), contingent upon meeting specific production targets.

The implementation of industrial policy is inherently challenging and requires a governance framework that is both experimental and iterative (Rodrik & Sabel, 2020). This necessitates active coordination to facilitate information exchange between the government, business actors, and other stakeholders. The proposed coordinating agency should design mechanisms, such as monthly meetings, to address business challenges and find solutions. If businesses face regulatory bottlenecks or if the technology being developed is misaligned with market needs, the government should intervene, provide support, or redirect efforts. If the industry remains uncompetitive within the required timeframe, the government may need to reassess its strategy and consider abandoning unproductive ventures.

On The Same Page: Downstreaming Coordination Agency in Action

The Figure 3 illustrates the important role of the coordinating agency as proposed in the previous sections in order to enable a more effective implementation of the downstreaming strategy. The chart particularly highlights the financing policy aspect of downstreaming. This particular area is critical because there are major financial impediments staving off the entry of domestic enterprises into higher value-added segments of the downstreaming ecosystem. To that end, financing support for domestic enterprises is needed, including in the form of preferential loans or loan guarantees.

Providing financial support to selected domestic enterprises entering the downstreaming industry presents a considerable challenge that necessitates effective coordination among several key stakeholders, including the Ministry of Industry, the Ministry of Finance, the Ministry of State-Owned Enterprises, and the Ministry of Investment. In addition to government entities, business associations play a crucial role in the successful execution of this policy. Each stakeholder has distinct portfolios and responsibilities, as illustrated in the chart above, all of which are essential for the effective implementation of the downstreaming initiative. This collaborative approach will be pivotal in ensuring that financing mechanisms are not only accessible but also aligned with the overarching goals of the downstreaming strategy.

In the absence of a dedicated coordinator, stakeholders may lack the motivation to diligently fulfill their responsibilities, potentially leading to decisions that undermine the roles of other entities. For example, the Ministry of State-Owned Enterprises may withhold financing support through state-owned banks for domestic enterprises vetted by the Ministry of Industry, or the Ministry of Industry might prioritize financing recipients based on criteria that do not reflect merit. This scenario underscores the pressing need for an effective coordinating agency to facilitate collaboration among stakeholders.

The coordinating agency's involvement is essential throughout all stages of policy implementation. Initially, during the policy planning phase, it must engage all government ministries and business associations to establish a consensus on measurable and quantifiable policy objectives. For instance, one objective could be to finance five new domestic entrants into the electric vehicle (EV) battery manufacturing industry within one year. These enterprises should achieve a minimum of 10% market share within three years and initiate exports to international markets by the fifth year.

Once the policy objectives are finalized, the coordinating agency should ensure that all stakeholders fulfill their designated roles effectively. It must verify that the Ministry of Industry identifies the most competitive domestic companies for financing support, that the Ministries of State-Owned Enterprises and Finance direct state-owned banks to offer preferential loans, and that the Ministry of Investment guarantees the companies secure all necessary business permits and resources.

Table 6. Summary of proposals to improve indonesia's nickel downstreaming governance

Current Condition	Proposal	Proposal Explanation
Downstreaming policy is not fully directed to achieve strategic objectives	Outcomes-oriented policy design	Having measurable objectives that guide all downstreaming-related policy
Conditionalities remain insufficient	Policy with conditionalities	Enforcing conditionalities including for domestic investors to enter high value-added downstreaming industry
Downstreaming still lacks agility in adapting to evolving conditions	Experimental and iterative governance	Downstreaming needs to exhibit more versatility in adapting to new situations

Sources: Inspired by Mazzucato (2021) and Rodrik and Sabel (2020)

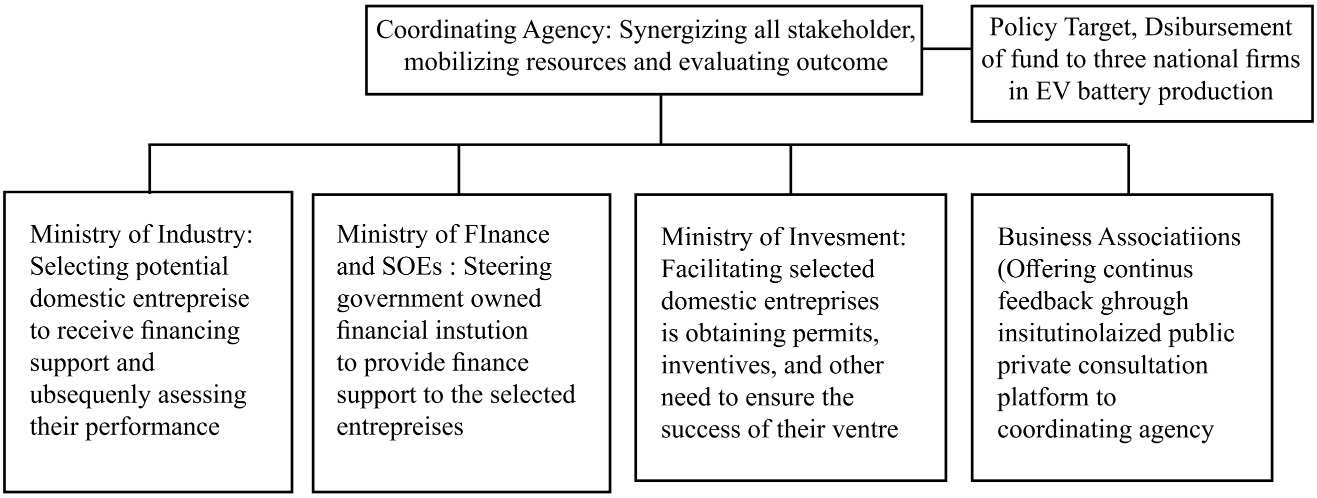

Figure 3. Practical illustration of the coordinating agency's role in synergizing financing policy to support downstreaming agenda

Finally, the presence of the coordinating agency is critical during the policy evaluation phase. Following policy implementation, comprehensive monitoring is necessary to assess its effectiveness. The coordinating agency should convene periodic evaluation meetings to measure progress, evaluate company performance, identify bottlenecks, and determine subsequent actions. These actions may include discontinuing support for companies that demonstrate consistent uncompetitiveness or refining the policy if defects in its formulation are identified. Importantly, engaging business associations during the evaluation process will provide impartial perspectives and constructive suggestions on the progress of the policy, enhancing its overall effectiveness.

Figure 4 depicts the transformation of institutional and governance structures. Prior to the transformation, the dots representing government agencies are scattered, each pursuing different objectives. Following the institutional transformation, which includes a clear mandate and the authority to coordinate and mobilize resources, the designated coordinating agency is empowered to align the efforts of various government bodies towards a common objective, thereby reducing coordination failures. For this transformation to succeed, governance reforms in the downstreaming implementation are also essential. These reforms should include adopting an outcome-oriented policy approach, enforcing conditions tied to incentives, implementing iterative and experimental methods, and enhancing public participation.

Managerial Implications

The findings, as well as the recommendations on the institutional and governance framework of downstreaming policy have strong managerial implications. This paper emphasizes the notion that in terms of public policy, the policy choice is not the only important matter, what is equally important is the management of the policy implementation. As Lynn and Robichau (2013) explained, the outcome of a policy not only depends on the policy structures, but it also depends on the management process. This suggests that a managerial intervention is as important as reforming the policy structure to ensure the optimal policy outcome. For instance, in terms of financing policy to support downstreaming, the policy to channel credit to downstream industry poses serious risk of mismanagement and corruption in the absence of vigorous management.

Krogh and Triantafillou (2024) explained that the concept of New Public Governance (NPG) has gained traction as the term that defines the need for collaborative governance to support public-private partnerships. Moreover, they also note that as the NPG application in governance has gradually increased, one of the most important factors to ensure the successful public-private partnership is the publicly mandated networks, which are defined as deliberately designed institutional frameworks that coordinate public actors with a unified purpose.

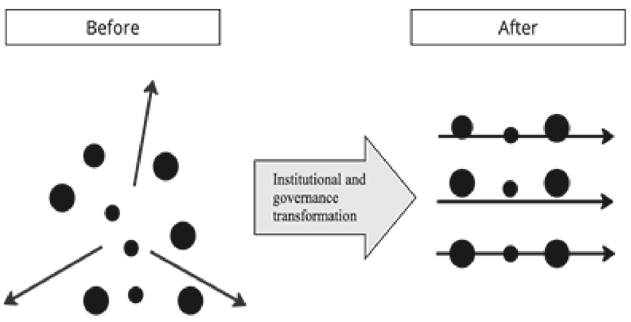

Figure 4. Illustration of institutional and governance transformation in Indonesia as proposed by authors

The concept of NPG and the Krogh and Triantafillou explanation exactly align with the proposed coordination agency that emphasizes the need for collaboration between the public and private sectors with the purpose of improving downstreaming policy's effectiveness. This suggests that the implication of the coordination agency in the realm of public management should be a positive one, as it also aligns with other governance concepts that seek a similar outcome.

The case of South Korea's EPB also shed light on how the institutional arrangement that emphasizes mandate from the highest leadership and policy coherence is important to support economic development. This is also in line with Linda et al.'s (2024) findings that in Indonesia, the most important way to reduce corruption is through the highest leadership commitment, which therefore signifies that an institution with the mandate from the highest level of leadership could enhance managerial capability that is necessary to deliver optimal policy outcomes.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Indonesian downstreaming policy has yielded several positive outcomes, including increased investment and export. However, it has not yet lived up to its full potential. For instance, this is evident from the fact that a substantial share of nickel processing remains concentrated on low value-added nickel derivatives, and the financial support for domestic enterprises within the industry remains inadequate. The subpar status quo is inexorably linked to the imperfections in the downstreaming's institutional design and governance. This predicament is, among others, evident from the policy misalignment between different ministries that undermines the endeavors to attain downstreaming's ultimate objective, namely fundamental structural transformation. For instance, the absence of cohesive policy coordination brought about a trade policy that enabled and encouraged the export of low value-added nickel products such as NPI, which simultaneously discouraged the advance of downstreaming towards EV battery manufacturing. In short, reforming downstreaming's institutional frameworks and governance is imperative to achieving its intended goals.

Against the need for reforms, this research proposes the establishment of a downstreaming coordinating agency capable of directing policy planning , guiding policy implementation, and managing policy evaluation. This agency would function similarly to key institutions responsible for the rapid economic growth seen in East Asian countries, such as the Economic Planning Board (EPB) in South Korea, and the National Development and Reform Commission (NDRC) in China. In order to function optimally, the coordinating agency should receive a formal mandate from the president, possess the authority to coordinate effectively with government agencies and business associations, and be endowed with the capability to mobilize resources to support the success of downstreaming.

In addition to the institutional reform, this paper also set forth a set of governance overhauls for downstreaming. Downstreaming policy in the future needs to have measurable targets and become more outcome-driven. Prior to adoption, any decision made by a ministry must be evaluated to determine whether it facilitates or impedes the achievement of downstreaming objectives. Furthermore, the coordinating agency should establish conditional frameworks that reward firms for meeting their targets and impose sanctions on those that fail to do so. To effectively implement downstreaming policy, the agency should embrace an experimental or iterative governance model, which allows for flexibility and adaptability in the face of policy or project failures, thereby enabling shifts toward more promising areas. Additionally, the design of policy should include public engagement to build trust and ensure that the policy garners widespread legitimate support.

Recommendations

The findings of this paper expand and The findings of this paper expand and enrich the existing literature on downstreaming, which until now has largely overlooked the institutional framework and governance of the policy. While the paper does highlight several positive impacts of downstreaming, the paper concurs with a number of previous studies that identified the shortcomings and the risk of the policy. Nevertheless, this paper differs from previous studies. Instead of positing that the downstreaming policy needs to be discarded altogether due to the risks it carries, the paper instead formulates concrete measures to make the institutional arrangement and governance aspect of the policy better, which in turn could mitigate the aforementioned risks and improve the effectiveness of the downstreaming policy implementation.

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