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Conference Paper

DOWNSTREAMING TOWARDS INDONESIA EMAS

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Abstract.
Indonesia is aspiring to be high income by 2045, which required to escape the middle-income trap, which involves strategic transformation of economy. This paper examines the core driving forces behind the transformation, focusing on productivity improvement, diversifying capital formation, and downstream industrialization. Through the method of qualitative content analysis, the paper learns from best practices and successful transitions in countries, for example China and Malaysia. This paper emphasized priority to pursue enterprise productivity, strong and strategic sectoral development, and institutional coherence. The paper conclude that a robust base for economic growth in the longer term is sustainable downstreaming, export competitive, human capital development and policy consistency. The study articulates a “Make in Indonesia” strategy to drive industrialization that will enable Indonesia to shift towards advanced manufacturing and transform into a cost-effective manufacturing base so that the country does not become mired in a middle-income trap.

Keywords: downstream industrialization; middle-income trap; natural resource strategy

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Introduction

Indonesia desires to achieve high-income status in 2045 (1). Realizing this aspiration demands that we ensure that the economic conditions are well understood, that the middle-income trap risks are recognized and that the strategic shifts required to underpin sustainable and inclusive growth are made (2). A major element of this change process is the elevation of national productivity, the development of various types of capital, and the exploitation of natural resource wealth through downstreaming and industrialization (3,4). Learning from the world experiences, for example China and Malaysia success stories, can extract more ideas that guide Indonesia for the future (3,4). This article examines what would be the prerequisites of Indonesia to avoid middle-income trap, and how the downstreaming, industrialization, and energy security could be the long arm of prosperity.

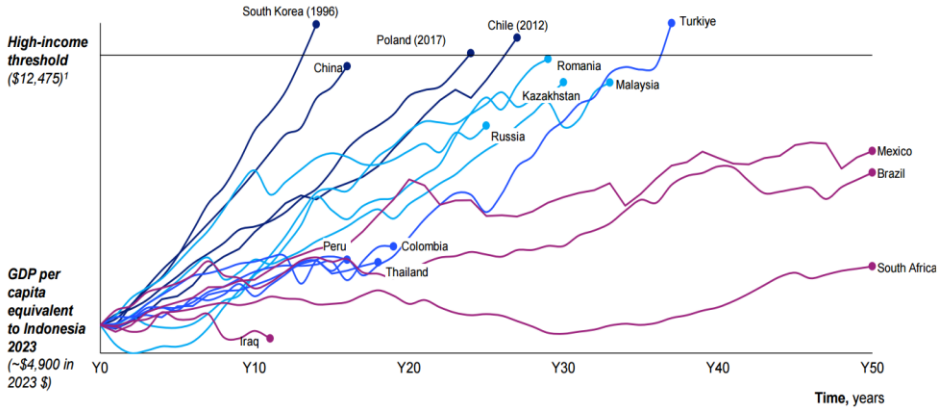

Figure 1. GDP per Capita and Time to Reach High-Income Status
Source: Tan (2025)

Literature Review

Theoretical Studies

The middle-income trap refers to a situation in which a country that has reached middle-income status finds difficulty to move to higher income status because growth in productivity and in the value added content of products plateaus (5,6). Historically, some countries have lingered at this level for decades. But some, like Chile, Poland, Korea and China, have managed to become high income in the span of 14 to 27 years. These famous examples do lend credibility to the idea that under certain circumstances the needle of economic progress can move quickly.

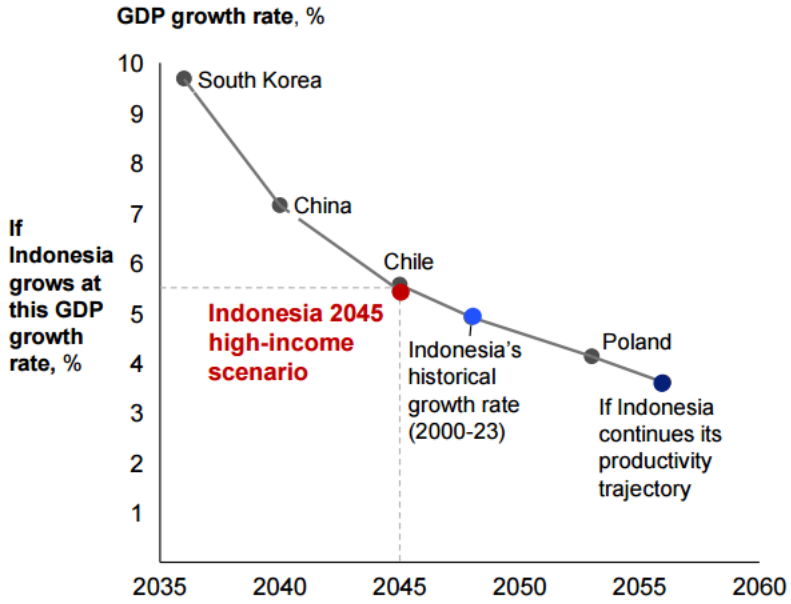

Figure 2. Year Reaching High-Income Status based on Benchmarks
Source: Tan (2025)

Prominent theories stress the importance of productivity-led growth instead of growth driven solely by factor inputs (7). Productivity growth contributes 80%–90% per cent of growth in high-income economies. Indonesia exhibits a 50%–50% or a 60%–40% split of productivity to input-driven growth. Hence any path to high-income status requires a quantum leap in productivity at the firm and national levels.

Another basis is the accumulation of wealth. To grow in a sustainable way, a company needs more than financial capital (8). Sustainable progression also requires social capital, institutional capital, infrastructural capital, and entrepreneurial capital (9). These five types of capital reinforce each other to drive a virtuous circle of innovation, enterprise expansion and competitiveness.

Empirical Studies

Benchmarking analysis covering the past 20-30 years showed that high income status transition had been successful in a number of economies (10). These countries consistently showed very high productivity growth and thoughtful capital goods programs and effective industrial policies. The analysis ruled out long-established high-income countries and zeroed in on what accounted for the leap in recent decades.

In China, the aluminium industry is an example of long term sustainable downstream strategy (11). Once a modest player in 2000, today China is the world's largest producer and consumer of

aluminium. The success was not only due to the development of smelters, but also the focusing of investment in strategic areas like the automotive and aerospace sectors, in which aluminium is utilized in high value-added services. China was also favoured by significant investments in human capital, technological development, and national industrial champions.

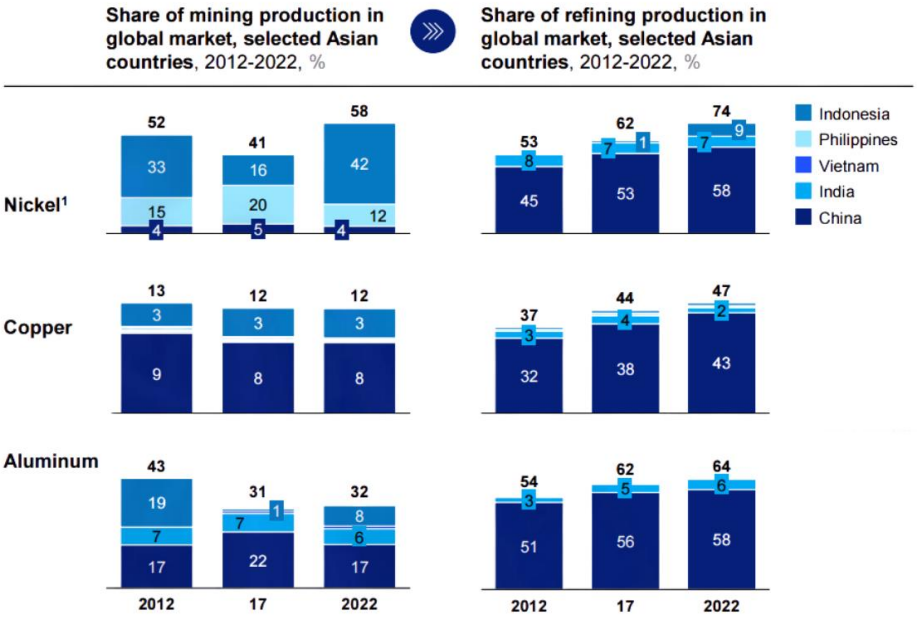

Figure 3. Shift towards Downstreaming Across Emerging Countries
Source: Tan (2025)

Malaysia provides another example (3,4,12). Although Malaysia is one of the world's biggest tin producers, the country did not engage in direct tin downstreaming. Instead, Malaysia chose to focus on consumer electronics and semiconductor. Over 20-30 years, Malaysia succeeded in wooing leading multinationals, developed free trade zones and established a strong semiconductor back-end ecosystem. Thus, tin graduated from being an object of export in the form of ingots to a valuable product like tin solder and tin plate, thus successfully implemented was backword integration from the strategic industries.

Methods

The article applies the qualitative content analysis methodology for making inferences about discourses that necessarily are both replicable and valid (13,14). The paper examines the recipes for economic development, productivity paradigms, and narratives of industrial policy in the context of Indonesia's quest for escaping the middle-income trap and become a high-income country by 2045. Primary sources include benchmarking reports, institutional reports, policy presentations,

and empirical country studies that are China and Malaysia over the last 20–30 years. The criterion for selection is based on the relevance to productivity transformation, capital accumulation, downstream industrialization, and national competitiveness, and emphasize on Indonesia's comparative advantage in natural resources, and the structural change needed to optimally harness them. The unit of analysis is state sponsored plans, enterprise productivity and capital formation instruments in financial, human, institutional, infrastructural and entrepreneurial dimensions. The paper consolidates credible evidence from policy documents, international benchmarks and documented best practices that have led to successful economic transitions.

Results and Discussion

The evidence suggests that it is both feasible, but infrequent, to make the transition to high income status over two to three decades (6,15). What successful cases have in common is a focus on productivity, and a multiform capital accumulation process. For Indonesia, there is a message here. Productivity will have to be raised substantially both at the level of nations and at the level of individual businesses (3,4). Enterprises are the vessels of productive expansion, so long as they are offered sufficient capital and conducive institutions. The transformation will call for integrated strategies to deepen all five forms of capital.

Indonesia possesses a unique starting point, that is a world-class portfolio of natural resources (16). However, without effective management and strategic downstreaming, these resources risk would become a curse rather than a blessing. Global trends show increasing movement toward downstreaming and value-added control, even among resource-poor countries (3,4). Hence, Indonesia must accelerate downstreaming efforts to maintain competitiveness.

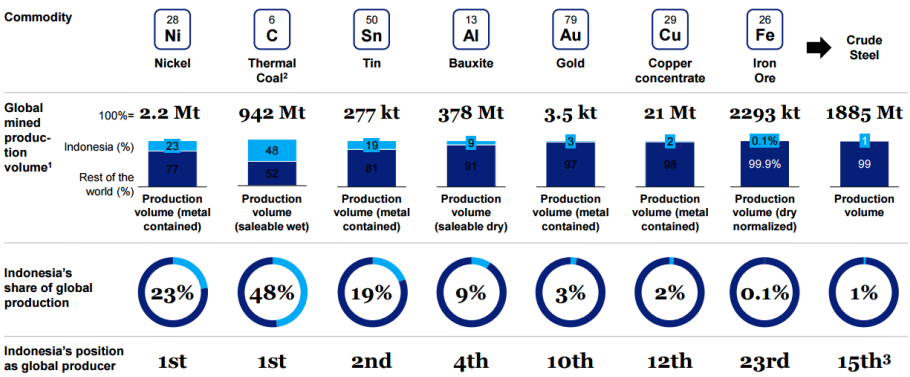

Figure 4. Indonesia's Portofolio of Natural Resources
Source: Tan (2025)

The national strategy, “Make in Indonesia” provides a road map to industrialization (17,18). The strategy is an approach that will not focus exclusively on domestic demand, but also on competitive exports. In a successful case, Indonesia would have identified some strategic sectors, for example EVs, consumer electronics, or automotive, driving backwards integration that pulls upstream industries into deeper integration. Design and manufacture of products that are competitive internationally will induce larger downstreaming in minerals and natural resources in general, however, be compared to other manufacturing locations by investors (3,4). Policy consistency, coordination and effective implementation will be crucial, according to the report. Furthermore, cultivating human resources to supply necessary skills of key industries is also useful on the long run of industrial competitiveness.

Conclusion

To escape the middle-income trap and be a high-income country by 2045, Indonesia has the potential but would need to act quickly. The route is through massive productivity, capital accumulation and strategic management of natural resources via downstreaming and industrialisation. Experiences from China and Malaysia illustrate that success does not depend merely on the abundance of resources but rather on a well-defined long-term vision that incorporates human capital, technology, infrastructure, and institutional capacity. Indonesia is suggested to start following a “Make in Indonesia” approach to create competitive industries from which local resources can demand and attract global investment. Sustainable downstream industry and industrialization can indeed be a harbinger of Indonesia’s economic transformation, not only short-term gains, but lasting prosperity over the next 20 to 30 years.

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