

3. Brunei's Export Product Space: Trends and Developments⁶²

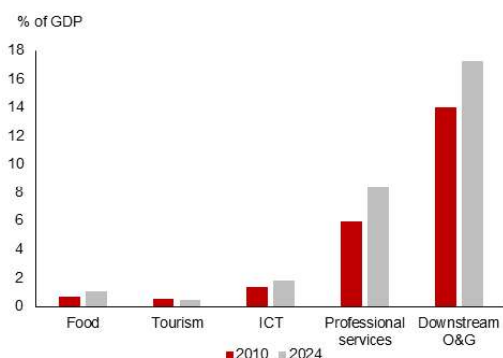
1. Brunei's pursuit of economic diversification is central to its long-term development strategy. Reducing hydrocarbon dependence is not only a fiscal necessity but also crucial for sustained and inclusive growth. To reduce the over-reliance on finite hydrocarbon resources, the government has prioritized structural reforms, aligned with the strategic sectors identified in the Wawasan Brunei 2035 (Brunei Vision 2035). These sectors, which include O&G, food, ICT, services, and tourism, are key to driving the economic transformation. Although non-oil activities have expanded, progress has remained uneven across sectors (Figure A3.1).

2. This study examines Brunei's economic diversification journey through the lens of export product space. Product space is a reflection of the underlying knowledge, skills and technology—that an economy possesses. Economies grow as they enhance production capabilities and the complexity of products, while expanding product scope for economic diversification (Hidalgo and Hausmann 2009; Hausmann et al 2007). This study explores how Brunei's export structure and production capabilities have evolved over time and discusses opportunities for future development. The Selected Issue also identifies policy implications to support Brunei's economic transformation.

Evolution of Export Product Space

3. Brunei's export structure reflects a gradual shift from crude hydrocarbons to higher-value petrochemicals. Although O&G continues to dominate Brunei's exports, the composition of the export basket has evolved with more downstream products being produced. The share of minerals, primarily crude O&G has declined from over 90 percent of total exports to 75 percent in 2023. At the same time, the share of chemical products has increased significantly, reaching around 18 percent in 2023. Conversely, the share of textiles has declined to around 1 percent in 2023, underlining the retreat of less competitive sectors. This shift reflects Brunei's growing capacity to process raw materials and produce more complex goods (Figure A3.2).

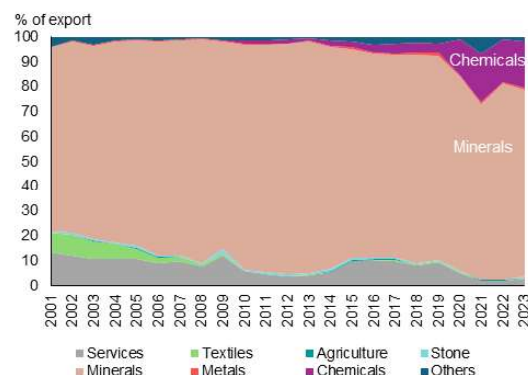
Figure A3.1. Key Industries' Share of GDP



Source: CEIC; AMRO staff calculations

Note: Food include fishery, livestock and poultry, and food products; Tourism is proxied by hotel and air transport services.

Figure A3.2. Brunei's Export Basket



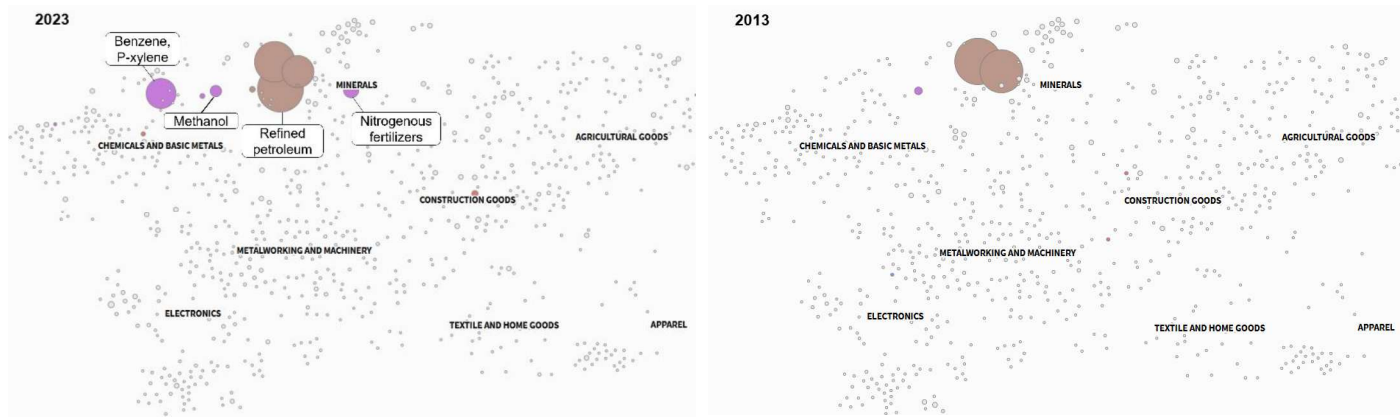
Source: UN Comtrade; AMRO staff calculations

Note: Based on HS sectors. Others include vehicles, electronics, and Miscellaneous.

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4. Brunei's product space map highlights its increasing specialization in hydrocarbons and downstream value chains. The product space⁶³ map reveals that Brunei's strength is primarily centered around the O&G sector and adjacent downstream refinery and petrochemical industries. The brown nodes (representing crude O&G and refined fuels) remain central, while purple nodes (petrochemicals) and have expanded significantly (Figure A3.3). Over the past decade, the expansion of the purple nodes in the product space highlights Brunei's significant progress in building capacity and competitiveness in refined petroleum products. The country has seen notable growth in the fertilizer industry, and is actively exploring the development of additional capabilities, including cyclic hydrocarbons and aromatics. Table A3.1 summarizes the petrochemical products in which Brunei already enjoys notable comparative advantage.

Figure A3.3. Export Product Space of Brunei



Source: Harvard Growth Lab

Note: Each node denotes a product, colored ones represent high exports (products with RCA > 1 for Brunei) while grey nodes represent products with low or no export. The node size is based on Brunei's export. Products that are closer to each other require similar capabilities.

5. Brunei's downstream industries exemplify its strategic pivot toward high-value, technology-driven production. The development of downstream sectors reflects Brunei's successful entry and expansion along the petrochemical value chain with increased domestic value-added. These downstream projects convert Brunei's rich hydrocarbon resources into higher-value petrochemical products. The establishment of Hengyi Industries has been instrumental in this transformation. Hengyi Phase 1 complex (operational since 2019) produces refined fuels and chemical feedstocks (p-xylene, benzene), contributing significantly to export earnings and industrial development (AMRO, 2024). The company's operations have also spurred growth in ancillary sectors like logistics and engineering. Similarly, Brunei Fertilizer Industries (BFI) has, since 2022, successfully leveraged the country's abundant natural gas resources to produce urea fertilizers. This development not only enhances domestic value addition but also positions Brunei as a competitive exporter in global fertilizer markets.

⁶³ The product space depicts the connectedness between products based on the similarities of the know-how required to produce them. Products are linked by their proximity to each other, based on the probability of co-export of both two products (Hausmann et al., 2014).

Table A3.1. Key Petrochemical Products of Brunei with Comparative Advantage

Feedstock	Key Products	Plant/operation year	Main end-use/ application	RCA (HS 4-digit)
Crude oil	Benzene	Hengyi Phase 1 (2019)	Core raw material for plastics, resins and nylon fibres	75 (Cyclic hydrocarbons)
	p-Xylene	Hengyi Phase 1 (2019)	Core raw material for polyester clothing and PET drink bottles	
Natural gas	Methanol	Brunei Methanol Co. (2010, debottlenecked 2021)	Building-block chemical for making plastics, solvents and cleaner fuel additives	12 (Acyclic alcohols)
	Urea	Brunei Fertilizer Industries (2022)	World's most common nitrogen fertilizer	20 (Nitrogenous fertilizers)

Source: Harvard Growth Lab; AMRO staff compilation.

Note: Revealed Comparative Advantage (RCA) indicates a country's relative advantage in exporting a particular product compared to the world market. A value greater than 1 indicates specialization and comparative advantage.

Growth Opportunities

6. Brunei's long-term economic sustainability hinges on expanding its product scope and advancing the complexity of its exports. Countries tend to achieve more resilient growth with diversified, high-complexity export portfolios (Hidalgo and Hausmann, 2009; Tacchella et al, 2013). For Brunei, this may be achieved through two complementary strategies: deepening participation in existing value chains, particularly in petrochemicals, and venturing into new and more complex industries. The former offers immediately opportunities, given Brunei's existing strengths, while the latter requires long-term planning and significant investment.

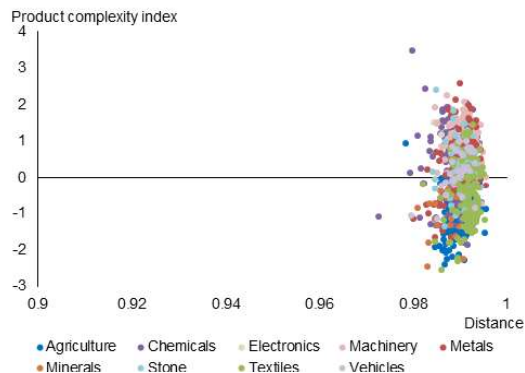
7. Near-term opportunities center on consolidating and extending the existing petrochemical complex. The success of Hengyi and BFI underscores the potential to produce higher value-added products along the downstream industries. The country's strategic location, robust infrastructure, and established partnerships provide a strong foundation to expand the petrochemical value chain. Projects in operation including Hengyi Phase 1 can also supply refined fuel and petrochemical inputs for downstream projects such as PTA/PET and chemical fiber in Phase 2, enabling entry into global packaging and polyester markets. This shows there are further opportunities to diversify into petrochemical products, chemical materials and fibers, and other downstream products. Strategic infrastructure upgrades, such as expanding the Pulau Muara Besar Port to accommodate larger chemical tankers, will further enhance Brunei's export competitiveness.

8. Venturing into new industries remains challenging, and given Brunei's current capabilities, will take time. Entering new industries for economic diversification remains challenging as most high-potential products remain distant from current industrial capabilities, and Brunei should therefore take a long-term approach. Figure A3.4 and A3.5 illustrate the distance and benefits of potential products. Distance measures a location's ability to enter a new product.⁶⁴ Meanwhile, the potential benefits can be measured by two indicators: product complexity (which reflects the knowledge and technology embedded in a product) and opportunity gain (which measures the potential of a product to open pathways to more

⁶⁴ The distance (between 0 to 1) of a potential product indicates the country's existing capabilities to make the product. It is measured by how closely related a product is to its current exports. A closer product with a shorter distance requires similar know-how and capabilities to existing products, a distant product suggests difficulty to enter production.

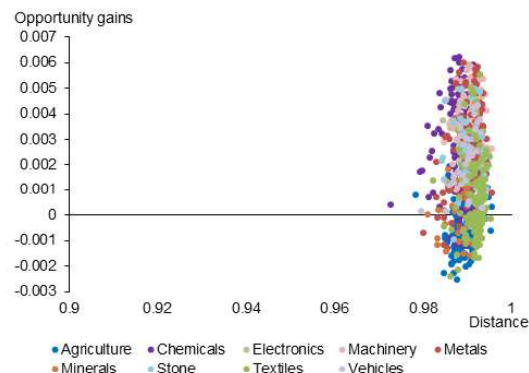
complex goods).⁶⁵ Figure A2.5 and Figure A2.6 show that most of the potential products sit at a distance close to 1 in terms of both product complexity and opportunity gains, reflecting multiple constraints such as gaps in industrial base and infrastructure. Rapid diversification into unrelated sectors remains unrealistic without sustained investments and long-term development.

Figure A3.4. Product Complexity and Distance



Source: Harvard Growth Lab; AMRO staff calculations.
Note: Product complexity index is standardized to have a mean of zero.

Figure A3.5. Opportunity Gain and Distance



Source: Harvard Growth Lab; AMRO staff calculations.

9. Developing new industries in Brunei will require strategic planning and for structural hurdles to be addressed. Diversification beyond hydrocarbons carries strong potential but is held back by: gaps in human capital, limited industrial facilities and capacity, and constraints in logistics and supplier networks. Unlike larger peer economies in ASEAN, Brunei does not enjoy the labor depth or resources required for large-scale manufacturing. However, resource-based niches such as aquaculture and high-value agriculture—demonstrated through offshore fish-farming and seafood processing in Brunei—offer another pragmatic diversification path.

Policy Implications

10. Brunei should continue to prioritize downstream O&G industries while laying the ground for broader diversification. The government's current focus on petrochemicals and fertilizers is well-placed and can be complemented by a medium-term roadmap that sets out phased development plan, identifies potential products, maps critical in infrastructure upgrades, and strengthens supply chains linkages. Continued support for ongoing construction projects (such as Hengyi Phase 2) and the upgrade of existing projects (BFI) will also be critical to sustain momentum. Developing entirely new industries will require a comprehensive, long-term approach that tackles structural constraints. Targeted FDI attraction—coupled with upgraded power, water and digital infrastructure—can offset Brunei's scale disadvantage to some extent. Incentives that reward technology adoption, R&D spending and workforce up-skilling will nurture a resilient local enterprise base and enhance human capital.

⁶⁵ PCI is calculated based on how many other countries can produce the product and the economic complexity of those countries. It captures the amount and sophistication of know-how required to produce a product. The opportunity gain measures potential benefit to a country if it were to move to a particular new product, and it quantifies the contribution of a potential product in terms of opportunities for more complex products.

11. International cooperation and trade integration will be key enablers of diversification. Brunei can fully exploit trade and investment accords—including BIMP-EAGA, RCEP, CPTPP and the BRI economic corridors—to widen market access, attract foreign investors and embed itself in regional value chains. CPTPP accession has already opened Latin-American markets for BFI's urea exports. Similar outreach, combined with e-commerce interoperability and cross-border payment linkages, can help new industries scale faster.

12. In summary, Brunei's economic diversification is advancing, and balanced and inclusive growth will hinge on sustained capability building and targeted policy support. The downstream sector's success demonstrates the benefits of leveraging existing strengths and strategic partnerships. However, expanding into new industries will require sustained effort, patient investment, and policy consistency. Through all of this, Brunei can realize its vision of becoming a resilient, diversified, and future-ready economy.

References

- ASEAN+3 Macroeconomic Research Office. (2024). Brunei Darussalam: 2023 annual consultation report (AMRO Country Report No. ACR/24-07)
- Hidalgo, C. A., & Hausmann, R. (2009). The building blocks of economic complexity. *Proceedings of the national academy of sciences*, 106(26), 10570-10575.
- Hausmann, R., Hidalgo, C. A., Bustos, S., Coscia, M., & Simoes, A. (2014). *The atlas of economic complexity: Mapping paths to prosperity*. Mit Press.
- Hausmann, R., Hwang, J., & Rodrik, D. (2007). What you export matters. *Journal of Economic Growth*, 12(1), 1–25.
- Tacchella, A., Cristelli, M., Caldarelli, G., Gabrielli, A., & Pietronero, L. (2013). Economic complexity: conceptual grounding of a new metrics for global competitiveness. *Journal of Economic Dynamics and Control*, 37(8), 1683-1691.