

USING STATE-OWNED ENTERPRISES TO REINDUSTRIALIZE HIGH-TECHNOLOGIES INDUSTRIES

Path Dependence of Indonesia High Technologies Industries
and Contemporary Reindustrialization Efforts





Author

Alifian Arrazi

Editor

M. Perdana Karim

Designer & Layouter

Semeion Bintang Ridho Aunillah



Introduction

As written by Arturo Escobar in *Encountering Development*, development is seen as a discourse produced to create growth for third-world countries.¹ As one of the main logics in development that often emerges, classic economic literature such as WW Rostow's growth theory suggests that if the economy wants to 'take off', development must be based on high consumption that can be created by industrialization.² Already present in Western countries, third-world countries began implementing industrialization to replicate the development trajectory to be considered developed nations.

As one of the crucial industrial branches, the high-tech industry is said to be one of the transformational drivers of national growth. Beyond its economic contribution, the presence of the high-tech industry is said to be capable of creating a scientific ecosystem and a society based on scientific logic.³ Therefore, the high-tech industrialization agenda is often proposed as a long-term development plan in a nation's regime. However, crafting a high-tech industry is not easy. The high-tech ecosystem itself has various prerequisites for its presence. Starting from the need for capital, the readiness for human resources, and access to potential markets that can buy industrial products. Often, these factors are absent in the industrialization process in developing countries.

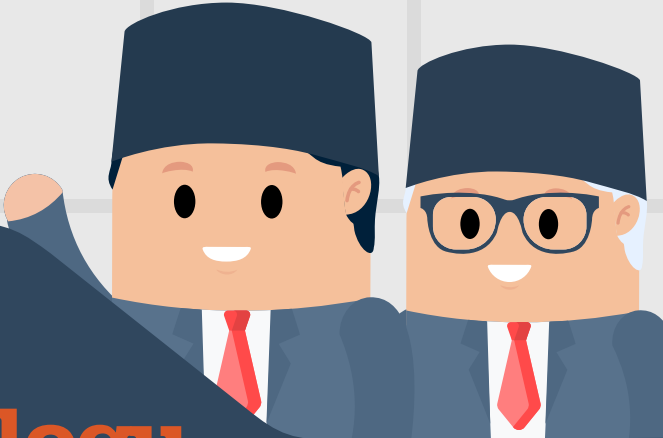
¹ Escobar, Arturo. 2011. *Encountering development: The making and unmaking of the Third World*. Vol. 1. Princeton University Press.

² Rostow, Walt Whitman, and Walt Whitman Rostow. 1990. *The stages of economic growth: A non-communist manifesto*. Cambridge university press.

³ Lall, Sanjaya. 1992. Technological capabilities and industrialization. *World development* 20 (2). Elsevier: 165–186.

This paper will discuss the historical trajectory and path dependence of the high-tech industry in Indonesia, focusing on the early formation of some high-tech companies in Indonesia. In short, the high-tech industry in Indonesia emerged after the early Soekarno era after the nationalization of technology companies and was structurally designed during the Soeharto presidency. However, after the Asia financial crisis, the high-tech industry in Indonesia was in a state of limbo due to the state capital restriction to produce high-technology industries. Furthermore, this paper will also try to analyze the contemporary reindustrialization effort in Indonesia. As Indonesia's high-tech industry collapsed after 1998, currently, there were state efforts that try to carry out reindustrialization activities in the high-tech aspect. By looking at the various strategies carried out by current and previous administrations, this paper hopes to contribute to analyzing the variation of policies taken by cross-regime governments in developing or initiating a resurgence effort in establishing a high-tech industry.





Power, Technology, and Development:

The History of Indonesia's High Technological Industries

The presence of high technology industry in Indonesia can be traced back to the early formation of the country. Dutch companies in Indonesia, eventually nationalized after the early independence period, indicated the state's efforts to use technology-based companies, such as shipping companies (Koninklijke Paketvaart Maatschappij) and basic industry companies (NV De Unie), for the benefit of the national interests.⁴ However, massive industrialization only occurred during the New Order era. During their approximately 30 years in power, the New Order attempted to transform the country's economic structure by emphasizing industrialization and modernization. Following the experiences of East Asian countries such as Japan and Korea, who had earlier experience in industrialization, Indonesia was one of several countries in the region whose leaders believed that economic development needed to be achieved through a transformational-industrial approach.

⁴ Historia.id. 2016. Inilah Bidang-bidang Usaha yang Dinasionalisasi. *Historia - Majalah Sejarah Populer Pertama di Indonesia*. Available at <<https://historia.id/ekonomi/articles/inilah-bidang-bidang-usaha-yang-dinasionalisasi-6joz>>. Accessed 3 April 2023.

Specifically, the state's role in high technology sector industrialization began in 1976 when Soeharto and Habibie began institutionalizing technological production. Through the combination and business process alignment of the Ministry of Research and Technology (Kemristek); the Agency for the Assessment and Application of Technology (BPPT); and the Agency for Strategic Industry Planning (BPIS), which Habibie and Soeharto directly controlled, the state aims to create high technology products by linking technological research and industrial production. With the synergy between technological research institutions owned by the government (BPPT, BATAN, LIPI, BPS, and PUSPITEK) and state-owned companies operating in the high technology sector (IPTN, PAL, PINDAD, Krakatau Steel, Dahana, Inti, LEN, and INKA), the government create a link and match of high tech industries between the research produced and the products of strategic industries organization (consolidated within the Strategic Industry Planning Agency [BPIS]).⁵

With the massive financing provided by the New Order regime for the development of high-technology industries, the growth of this industry rose exponentially. Since the state capital had a tremendous surplus from oil production in the oil boom period (the 1980s), sponsoring the development of high-technology industries was not a problem. Ultimately, there were some works from the high-technology industrialization process in Indonesia. One of the most famous results of Indonesia's high-tech industry was the work of the Indonesian Aerospace Company (IPTN), which in 1995 had a track record of producing the CN-235 aircraft (collaborating with the Spanish aircraft industry (CASA). At that time, IPTN even had orders from several countries, such as Thailand, to produce the high-tech product.⁶ It reached a point where IPTN was entrusted to become an Airbus supplier for aeronautical component production.

⁵ Bishry, Rony M., and Murman Hidayat. 1998. "The Role of BPPT in Indonesia's Technological Development ". *Hill, H./Thee, KW (Hg.): Indonesia's technological challenge*: 171–184.

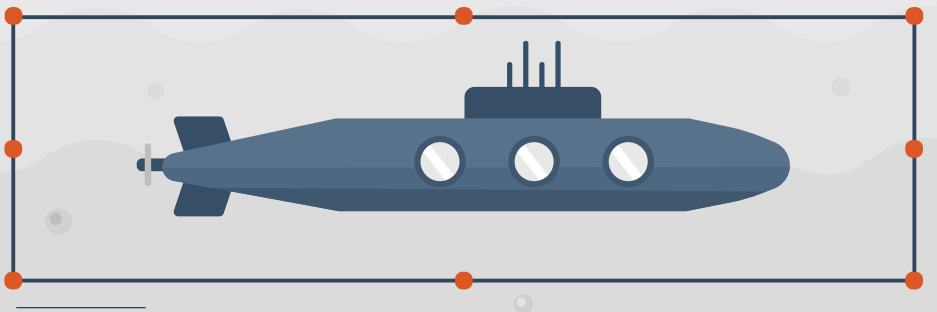
⁶ Historia.id. 2016. Inilah Bidang-bidang Usaha yang Dinasionalisasi. *Historia - Majalah Sejarah Populer Pertama di Indonesia*. Available at <<https://historia.id/ekonomi/articles/inilah-bidang-bidang-usaha-yang-dinasionalisasi-6jozl>>. Accessed 3 April 2023.





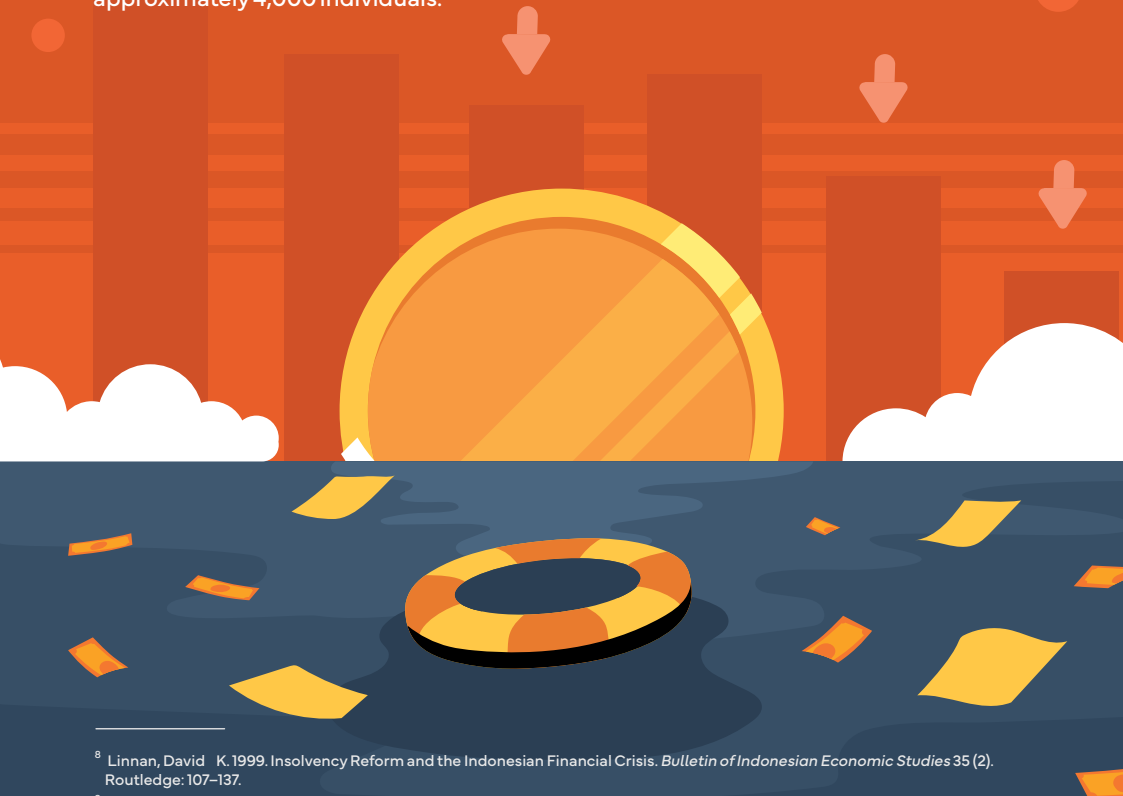
Figure 1. CN-235 Aircraft by the IPTN
Source: Wikipedia

Beyond effort in high-tech aeronautical industries, at that time, PT PAL, a shipyard company, could even produce 1,200-ton submarines and 2,500-ton tanker ships, where the production of these ships required the adoption of high technology. In 1995, during its heyday, the high technology industry in Indonesia employed up to 42,360 workers.⁷ These various technological advancements explain that the high-technology industry in Indonesia once had an excellent track record in both the national and global arenas.



⁷ Amir, Sulfikar. 2007b. Symbolic power in a technocratic regime: The reign of BJ Habibie in New Order Indonesia. *Sojourn: Journal of Social Issues in Southeast Asia*, 22 (1). ISEAS–Yusof Ishak Institute: 83–106.

Unfortunately, the decline of Indonesia's strategic industries began when the Asia financial crisis struck. Due to the limited fiscal space and economic liberalization deals with international financial institutions for capital restructuring plans, there was a cessation of financing for high-technology industries in Indonesia.⁸ With an unstable industrial structure, the reduction of financing resulted in the discontinuation of strategic technology projects. For example, the IPTN (now PT DI) project to create the R80 aircraft had to be postponed - it has not been realized to this day - due to funding difficulties.⁹ In addition, even some high-tech state-owned industries have laid off their workers due to their inability to provide remuneration. One example of the decline of strategic industries can be seen in the case of IPTN workers, which numbered around 13,000 individuals but has now decreased to approximately 4,000 individuals.¹⁰



⁸ Linnan, David K. 1999. Insolvency Reform and the Indonesian Financial Crisis. *Bulletin of Indonesian Economic Studies* 35 (2). Routledge: 107–137.

⁹ Indonesia, C. N. N. 2022. Mengenal Pesawat R80, Proyek Habibie yang Disetop Pemerintah. *teknologi*. Available at <<https://www.cnnindonesia.com/teknologi/20200603191656-199-509605/mengenal-pesawat-r80-proyek-habibie-yang-disetop-pemerintah>>. Accessed 20 June 2022.

¹⁰ Amir, Sulfikar. 2007a. Nationalist rhetoric and technological development: The Indonesian aircraft industry in the New Order regime. *Technology in Society* 29 (3). Elsevier: 283–293.

Reindustrialization High Tech Industries in Indonesia: An Effort



After the post-Asia financial crisis era, several data indicate that Indonesia has experienced de-industrialization, where the share of manufacturing industries has declined in the overall economy.¹¹ For example, data from the Competitive Industrial Production Index, which measures the performance of industrial indicators from a government, shows that Indonesia's industrialization peaked in the first half of the 1990s and continued to decline.¹² Even in the 2000s to 2010s, with the economy's focus on commodities and extractive industries, some experts thought that Indonesia would enter a premature de-industrialization country that discontinued an industrialization effort.¹³ However, not without effort to resurgence, almost every regime after the Asia financial crisis tries to make industrialization one of their economic strategies. From establishing Special Economic Zones to creating Investment-Friendly Laws, multiple efforts were undertaken by the previous administration to restore industrial production. However, like some developing countries with abundant natural resources, Indonesia's economy could still rely on natural resources when there were high commodity prices in the global market.¹⁴

Nevertheless, with the decline in commodity prices after 2014, the Indonesian government needs to rethink its approach to development besides relying on extractive commodities. Therefore, the demand to include

¹¹ Kim, Kyunghoon, and Andrew Sumner. 2019. *De-industrialization, re-industrialization, and the resurgence of state capitalism: The case of Indonesia*. 2019/87. WIDER Working Paper.

¹² Ibid.

¹³ Nayyar, Gaurav, Marcio Cruz, and Linghui Zhu. 2021. Does premature deindustrialization matter? The role of manufacturing versus services in development. *Journal of Globalization and Development* 12 (1). De Gruyter: 63–102.

¹⁴ Wihardja, Maria Monica. 2016. The effect of the commodity boom on Indonesia's macroeconomic fundamentals and industrial development. *International Organisations Research Journal* 11 (1): 39–54.

industrialization as a policy agenda becomes crucial. Unlike previous regimes that were not too focused on building industries, one of the strategies pursued by the post-2014 government was to reintroduce industrialization, especially high technology, back into the policy agenda through a new vehicle: state-owned enterprises.

In discussing industrialization, some writings explain that little attention is given to SOEs in bringing industrialization back to domestic policy space. The lack of discussion about the role of SOEs in bringing industrialization is also shaped due to the idea that usually high-tech industries are created either via government institutions or private companies.¹⁵ However, with their unique nature, SOEs (often work as a government hand but have private governance) are central actors in promoting and initiating high-tech industrialization in emerging economies. The following section will trace the strategies of SOEs in emerging countries, Indonesia, to reindustrialize the high-tech comma sectors.

¹⁵ Kim, Kyunghoon, and Andy Sumner. 2021. Bringing state-owned entities back into the industrial policy debate: The case of Indonesia. *Structural Change and Economic Dynamics* 59. Elsevier: 496–509; Kim, Kyunghoon, Andy Sumner, and Arief Anshory Yusuf. 2018. *Is structural transformation-led economic growth immiserising or inclusive? The case of Indonesia*

Variation of States Strategy Using State-Owned Enterprise's to Reindustrialize

Regarding business processes, the post-2014 reindustrialization efforts in Indonesia differ from the high-tech industrialization process during the New Order (before Asia financial crisis era). With the dissolution of BPIS (industrial consolidation state agency) in 2002, the consolidation of high-tech industries began to disintegrate. In addition, the weakening fiscal funds towards BPPT, which is at the forefront of research and high-tech industry prototype production, has caused stagnation in high-tech production and innovation. BPPT has been merged into an institution overseeing all national research called the National Research and Innovation Agency (BRIN). Therefore, the high-tech production process has been returned to state-owned enterprises (SOEs) specialising in high-tech subsidiaries without direct involvement with research institutions like BPPT. Regardless of the relationship between research and high-tech production, the post-2014 government, through SOEs, still attempts to reindustrialize through various stages.

Firstly, high-tech reindustrialization in Indonesian SOEs occurs due to state capital participation (Penyertaan Modal Negara) through the APBN scheme or SOE bank loans to the national high-tech industry. As a capital-intensive industry, high-tech sectors require significant



funding for their operations. Since high-tech industries need large funds for research, prototyping, and building factories to produce technologies, there is a relatively high risk of failure in the high-tech technologies sector. As a result, in the post-2014 era, several high-tech industries in Indonesia are again financially supported by the government to reinforce their production. For example, PT INKA, during the post-2014 era, experienced a significant increase in the capital where there were several capital injections: Rp. 1 trillion from state money (APBN [2017]); Rp 1.19 trillion from Mandiri SOE bank (2017); and up to Rp 4.05 trillion from the BNI SOE bank consortium (2018).¹⁶ However, capital injection in Indonesia's high-tech industry is not given easily. The presence of supervisory institutions, such as The Audit Board of The Republic of Indonesia (BPK), the Corruption Eradication Commission (KPK), and The People's Representative Council of the Republic of Indonesia (DPR) in the post-Asia financial crisis regime, are several formal institutions that oversees capital injections into high-tech SOEs. This differs from the New Order era, where capital injections into high-tech industries were carried out without clear accountability. This phenomenon indicates that the capital strengthening of the high-tech industry is also interspersed with institutional supervision, whose mechanisms were newly introduced after the New Order regime.

¹⁶ Tempo. 2018. Bank Mandiri dan SMI Kucurkan Rp 1,69 Triliun ke PT INKA - Bisnis Tempo.co. *Tempo*. Available at <<http://bisnis.tempo.co/read/881026/bank-mandiri-dan-smi-kucurkan-rp-169-triliun-ke-pt-inka>>. Accessed 20 June 2022.

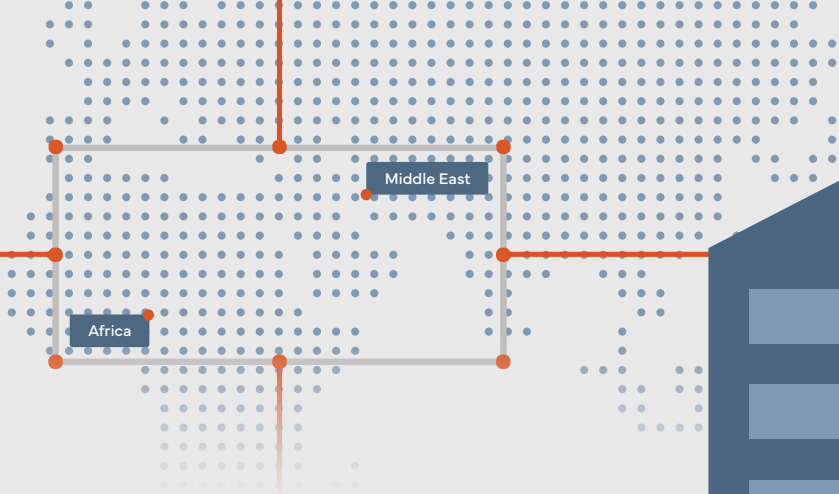


Secondly, domestic infrastructure development concessions also encourage the reindustrialization of high-tech industries. Since the Asia financial crisis, the slowing down of infrastructure development, and the process of enabling infrastructure development, have been attempted by multiple administrations in developing countries such as Indonesia. With the policy of reducing and eliminating energy subsidies, the post-2014 government have sufficient fiscal space for building infrastructure development projects. Due to the massive infrastructure development policy that the post-2014 administration carries out, high-tech SOEs now also receive concessions to work on some of these infrastructure development projects. For example, PT INKA is trusted to make trains for LRT Palembang and Jakarta. In addition, PT LEN also received a concession to become the signalling system maker in Makassar - Pare-Pare train line.¹⁷ This encourages the high-tech industry in Indonesia to thrive again by having participated in national infrastructure projects. In contrast to the post-2014 government's condition, the New Order government seems to rarely use high-tech industries as a tool to support infrastructure development. Several political-economic studies have explained that the pattern of infrastructure development concessions in the New Order regime tended to be used as a tool for a rent-seeking mechanism.¹⁸

¹⁷ PT LEN. 2022. Len Bangun Jaringan Jalur Kereta Api Pertama di Sulawesi | PT Len Industri (Persero). Available at <<https://www.len.co.id/len-bangun-jaringan-jalur-kereta-api-pertama-di-sulawesi/>>. Accessed 20 June 2022.

¹⁸ Kuncoro, Ari. 2006. Corruption and business uncertainty in Indonesia. *ASEAN economic bulletin*. JSTOR: 11–30.

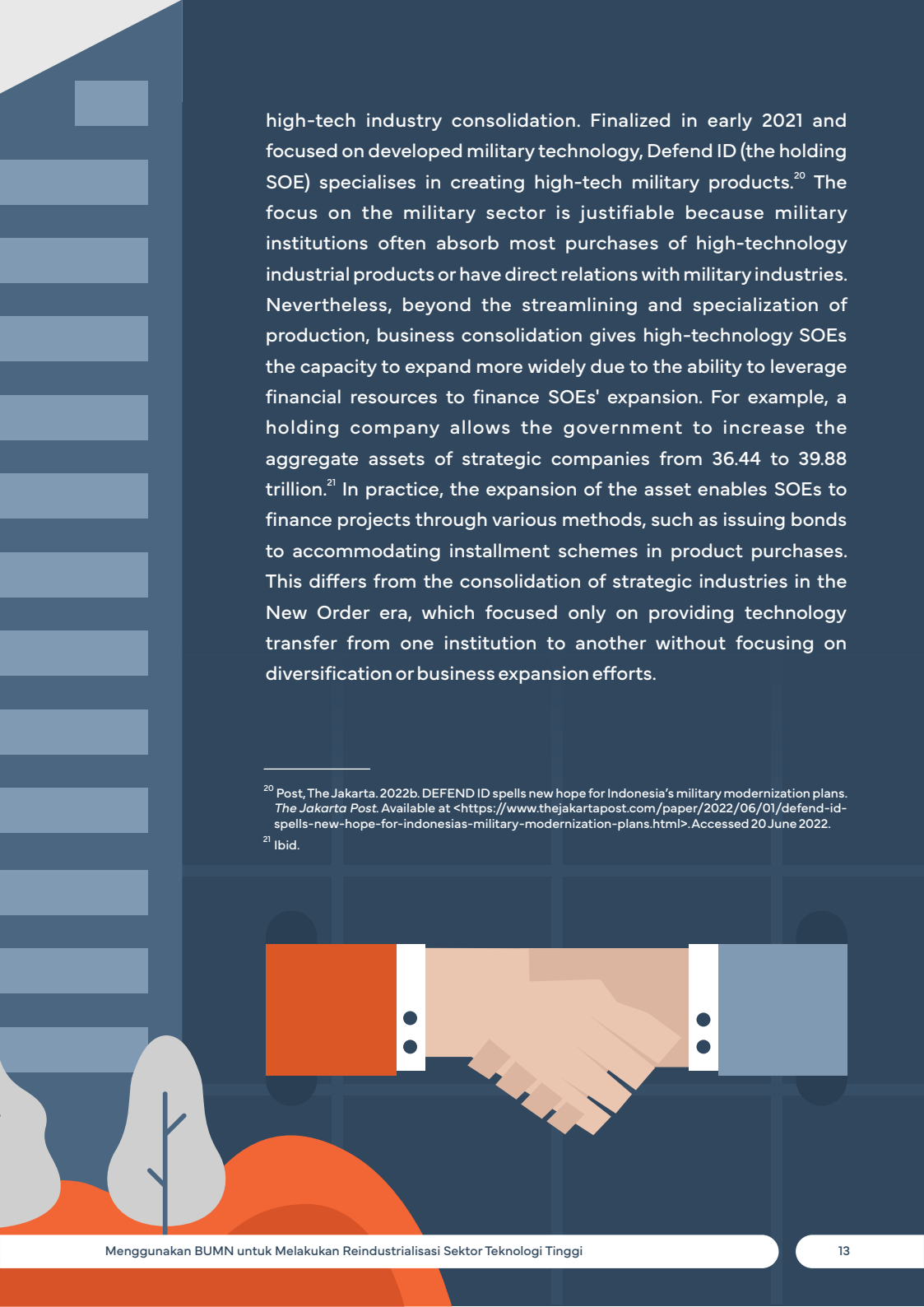




Thirdly, the high-tech reindustrialization of the country's strategic industries is also driven by SOE exploration of non-traditional markets. More specifically, non-traditional markets in Africa, the Middle East, and Southeast Asia. For example, in 2018, PT DI ordered one CN 235 aircraft from Senegal.¹⁹ However, one significant difference between SOEs exports to non-traditional markets in the new order and post-Asia financial crisis is the presence of credit financing supported by the Ministry of Finance using the Indonesian Export Financing Institution (LPEI) instrument through the National Interest Account (NIA) scheme. In short, countries that purchase high technology are allowed to pay in installments. This differs from the record of SOE exports in high-technology industries during the New Order era, which failed to provide export financing schemes, making it difficult to purchase high-technology industrial products.

Finally, the resurgence of high technology reindustrialization in SOEs also occurs due to the push from SOEs' business consolidation. The formation of a high-technology SOE holding company entrusted to PT LEN in 2018 highlights the case of

¹⁹ Post, The Jakarta. 2022a. Aircraft maker PT DI receives orders from Senegal, Côte d'Ivoire. *The Jakarta Post*. Available at <<https://www.thejakartapost.com/news/2018/11/13/aircraft-maker-pt-di-receives-orders-from-senegal-cte-divoire.html>>. Accessed 20 June 2022.



high-tech industry consolidation. Finalized in early 2021 and focused on developed military technology, Defend ID (the holding SOE) specialises in creating high-tech military products.²⁰ The focus on the military sector is justifiable because military institutions often absorb most purchases of high-technology industrial products or have direct relations with military industries. Nevertheless, beyond the streamlining and specialization of production, business consolidation gives high-technology SOEs the capacity to expand more widely due to the ability to leverage financial resources to finance SOEs' expansion. For example, a holding company allows the government to increase the aggregate assets of strategic companies from 36.44 to 39.88 trillion.²¹ In practice, the expansion of the asset enables SOEs to finance projects through various methods, such as issuing bonds to accommodating installment schemes in product purchases. This differs from the consolidation of strategic industries in the New Order era, which focused only on providing technology transfer from one institution to another without focusing on diversification or business expansion efforts.

²⁰ Post, The Jakarta. 2022b. DEFEND ID spells new hope for Indonesia's military modernization plans. *The Jakarta Post*. Available at <<https://www.thejakartapost.com/paper/2022/06/01/defend-id-spells-new-hope-for-indonesias-military-modernization-plans.html>>. Accessed 20 June 2022.

²¹ Ibid.

Conclusion

This writing discusses the historical trajectory of Indonesia's high-tech industry, focusing on how some high-tech companies have established themselves and thrived in a developing country. First, using the case of Indonesia, we can examine the presence of nationalized state-owned companies at the beginning of independence, followed by the process of aligning the work patterns of the Ministry of Research and Technology (Kemenristek); the Agency for the Assessment and Application of Technology (BPPT); and the Strategic Industry Planning Agency (BPIS) have created a synergy between technology research affairs under government research institutions (BPPT, BATAN, LIPI, BPS, and PUSPITEK) and state corporation institutions that operate in the high-tech sector (IPTN, PAL, PINDAD, Krakatau Steel, Dahana, Inti, LEN, and INKA) that is consolidated under the umbrella of BPIS.

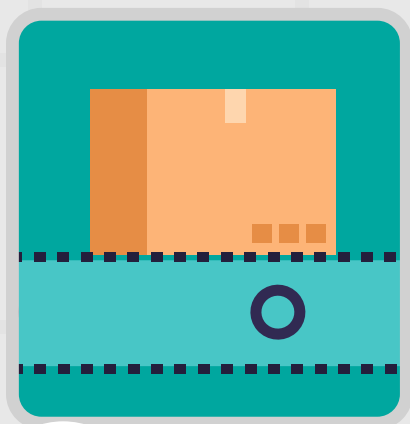
Unfortunately, Indonesia's strategic industry began to decline when the Asia financial crisis caused a halt in financing for high-tech industries in Indonesia. With an unstable industrial structure, the reduction in financing resulted in the cessation of strategic technology projects. Furthermore, after the Asia financial crisis, the high-tech and manufacturing industries received little attention from the government. The presence of natural resource blessings allowed Indonesia's economic growth to rely on commodities and extractive sectors rather than high-tech industrialization. However, after 2014, with the decline in global commodity prices, the Indonesian government began to place industrial policy as one of the policies in domestic space affairs.

A stylized illustration on the left side of the page shows a rocket launching upwards. The rocket is orange with a white nose cone and a green and yellow tail. Below the rocket, there is a grey city skyline with several buildings of different heights. The background is a dark blue gradient with some white and light blue clouds at the bottom. The text is positioned to the right of the illustration.

As one of the strategies, the Indonesian government, after 2014, utilized state-owned enterprises (BUMN) instruments to revive the previously stagnant high-tech industry in Indonesia. There are several strategies taken. First, high-tech technology reindustrialization in Indonesian BUMN can occur due to state capital participation (PMN) through the APBN scheme or SOEs bank loans to the state's high-tech industry. However, unlike the financing landscape in the New Order era, which did not have strict supervision, granting capital to high-tech industries sponsored by the state is now supervised by institutions such as the BPK, KPK, and DPR. Second, by granting concessions for domestic infrastructure development to high-tech SOE industries, the government also encourages high-tech reindustrialization. This policy differs from the New Order era, where the government rarely grants concessions to SOEs to build domestic infrastructure. Third, reindustrialization is also driven by the exploration of non-traditional markets, specifically in African, Middle Eastern, and Southeast Asian countries. With the help of financing institutions, non-traditional markets can now purchase high-tech products with relatively soft financing schemes. This was not present during the high-tech industry era in the New Order. Fourth, consolidating BUMN business in strategic industries also helps revive Indonesia's high-tech industry. With business consolidation, financial bargaining power and technology transfer aimed at expanding business can occur. In the New Order era, the coalition of BUMN under one umbrella called BPIS did not focus much on financial bargaining power as a tool for business expansion.

Reference

- ¹ Escobar, Arturo. 2011. *Encountering development: The making and unmaking of the Third World*. Vol. 1. Princeton University Press.
- ² Rostow, Walt Whitman, and Walt Whitman Rostow. 1990. *The stages of economic growth: A non-communist manifesto*. Cambridge university press.
- ³ Lall, Sanjaya. 1992. Technological capabilities and industrialization. *World development* 20 (2). Elsevier: 165–186.
- ⁴ Historia.id. 2016. Inilah Bidang-bidang Usaha yang Dinasionalisasi. *Historia - Majalah Sejarah Populer Pertama di Indonesia*. Available at <<https://historia.id/ekonomi/articles/inilah-bidang-bidang-usaha-yang-dinasionalisasi-6jozl>>. Accessed 3 April 2023.
- ⁵ Bishry, Rony M., and Murman Hidayat. 1998. "The Role of BPPT in Indonesia's Technological Development ". *Hill, H./Thee, KW (Hg.): Indonesia's technological challenge*: 171–184.
- ⁶ Historia.id. 2016. Inilah Bidang-bidang Usaha yang Dinasionalisasi. *Historia - Majalah Sejarah Populer Pertama di Indonesia*. Available at <<https://historia.id/ekonomi/articles/inilah-bidang-bidang-usaha-yang-dinasionalisasi-6jozl>>. Accessed 3 April 2023.
- ⁷ Amir, Sulfikar. 2007b. Symbolic power in a technocratic regime: The reign of BJ Habibie in New Order Indonesia. *Sojourn: Journal of Social Issues in Southeast Asia* 22 (1). ISEAS–Yusof Ishak Institute: 83–106.
- ⁸ Linnan, David K. 1999. Insolvency Reform and the Indonesian Financial Crisis. *Bulletin of Indonesian Economic Studies* 35 (2). Routledge: 107–137.
- ⁹ Indonesia, C. N. N. 2022. Mengenal Pesawat R80, Proyek Habibie yang Disetop Pemerintah. *teknologi*. Available at <<https://www.cnnindonesia.com/teknologi/20200603191656-199-509605/mengenal-pesawat-r80-proyek-habibie-yang-disetop-pemerintah>>. Accessed 20 June 2022.
- ¹⁰ Amir, Sulfikar. 2007a. Nationalist rhetoric and technological development: The Indonesian aircraft industry in the New Order regime. *Technology in Society* 29 (3). Elsevier: 283–293.
- ¹¹ Kim, Kyunghoon, and Andrew Sumner. 2019. *De-industrialization, re-industrialization, and the resurgence of state capitalism: The case of Indonesia*. 2019/87. WIDER Working Paper.
- ¹² Ibid.
- ¹³ Nayyar, Gaurav, Marcio Cruz, and Linghui Zhu. 2021. Does premature deindustrialization matter? The role of manufacturing versus services in development. *Journal of Globalization and Development* 12 (1). De Gruyter: 63–102.
- ¹⁴ Wihardja, Maria Monica. 2016. The effect of the commodity boom on Indonesia's macroeconomic fundamentals and industrial development. *International Organisations Research Journal* 11 (1): 39–54.
- ¹⁵ Kim, Kyunghoon, and Andy Sumner. 2021. Bringing state-owned entities back into the industrial policy debate: The case of Indonesia. *Structural Change and Economic Dynamics* 59. Elsevier: 496–509; Kim, Kyunghoon, Andy Sumner, and Arief Anshory Yusuf. 2018. *Is structural transformation-led economic growth immiserising or inclusive? The case of Indonesia*
- ¹⁶ Tempo. 2018. Bank Mandiri dan SMI Kucurkan Rp 1,69 Triliun ke PT INKA - Bisnis Tempo.co. *Tempo*. Available at <<http://bisnis.tempo.co/read/881026/bank-mandiri-dan-smi-kucurkan-rp-169-triliun-ke-pt-inka>>. Accessed 20 June 2022.
- ¹⁷ PT LEN. 2022. Len Bangun Jaringan Jalur Kereta Api Pertama di Sulawesi | PT Len Industri (Persero). Available at <<https://www.len.co.id/len-bangun-jaringan-jalur-kereta-api-pertama-di-sulawesi/>>. Accessed 20 June 2022.
- ¹⁸ Kuncoro, Ari. 2006. Corruption and business uncertainty in Indonesia. *ASEAN economic bulletin*. JSTOR: 11–30.
- ¹⁹ Post, The Jakarta. 2022a. Aircraft maker PT DI receives orders from Senegal, Côte d'Ivoire. *The Jakarta Post*. Available at <<https://www.thejakartapost.com/news/2018/11/13/aircraft-maker-pt-di-receives-orders-from-senegal-cte-divoire.html>>. Accessed 20 June 2022.
- ²⁰ Post, The Jakarta. 2022b. DEFEND ID spells new hope for Indonesia's military modernization plans. *The Jakarta Post*. Available at <<https://www.thejakartapost.com/paper/2022/06/01/defend-id-spells-new-hope-for-indonesias-military-modernization-plans.html>>. Accessed 20 June 2022.
- ²¹ Ibid.





Center for Digital Society

Fakultas Ilmu Sosial dan Ilmu Politik
Universitas Gadjah Mada
Gedung BC Lt. 2, Ruang BC 201-203
Jalan Socio Yustisia 1
Bulaksumur, Yogyakarta, 55281, Indonesia

Telepon : (0274) 563362, Ext. 116
Email : cfds.fisipol@ugm.ac.id
Situs web : cfds.fisipol.ugm.ac.id



facebook.com/cfdsugm



[Center for Digital Society \(CfDS\)](https://www.linkedin.com/company/Center-for-Digital-Society-(CfDS))



[cfds_ugm](https://www.instagram.com/cfds_ugm)



[@cfds_ugm](https://wa.me/cfds_ugm)



[@cfds_ugm](https://twitter.com/cfds_ugm)



[CfDS UGM](https://www.youtube.com/CfDS-UGM)