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ANALYSIS OF INDONESIA'S ECONOMIC DEPENDENCE ON JAPAN IN THE AUTOMOTIVE SECTOR: A CASE STUDY OF IMPORTS OF CAR RAW MATERIALS AND ENGINE COMPONENTS FOR THE PERIOD 2021–2024

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Abstract

This study aims to analyse Indonesia's economic dependence on Japan in the automotive sector, particularly regarding the import of automotive raw materials in the form of engine components during the 2021–2024 period. Japan's dominant role as the main supplier of automotive components and one of Indonesia's largest investors indicates an asymmetric economic relationship that may lead to structural dependence. This research employs a qualitative approach using a descriptive-analytical case study design. Data were collected through library research from Statistics Indonesia (BPS), the Ministry of Industry, the Association of Indonesian Automotive Industries (GAIKINDO), the Indonesia–Japan Economic Partnership Agreement (IJEPA), and other relevant academic literature. Data were analysed through data reduction, data presentation, and the drawing of conclusions based on Dependency Theory. The findings reveal that Indonesia continues to experience a high level of structural dependence on Japan in the automotive sector. This dependence is driven by the dominance of Japanese automotive investment, limited domestic technological capability and industrial capacity, and the consistently high import ratio of engine components, which exceeds 40 per cent. Furthermore, the implementation of the IJEPA and the Domestic Component Level (TKDN) policy has not significantly reduced dependence on core automotive components, as technology transfer has not been effectively realised. The study concludes that Indonesia remains trapped in an 'assembly trap', where high levels of vehicle assembly continue to rely heavily on imported engine components from Japan. Therefore, strengthening technology transfer, increasing investment in research and development (R&D), and diversifying strategic partners are essential to achieving a more independent national automotive industry.

Keywords: economic dependence, automotive sector & car raw materials

INTRODUCTION

Indonesia is one of the developing countries that maintains close economic ties with Japan, particularly in the automotive sector. Bilateral relations between Indonesia and Japan have spanned several decades and continue to develop significantly, particularly in the fields of trade and investment. The automotive sector is one of the strategic sectors that contributes significantly to national economic growth, in terms of production, employment and exports. However, behind these positive contributions lie fundamental issues regarding Indonesia's dependence on Japan, particularly in terms of imports of automotive raw materials and engine components. This dependence gives rise to various economic implications that require in-depth analysis, particularly in the context of global dynamics and the challenges of national industrialisation.

Generally speaking, a country's economic dependence on another country in a particular sector can give rise to structural vulnerabilities. This dependence can affect national economic stability, particularly when there are policy changes in partner countries or disruptions to global supply chains. However, the national automotive industry still faces various challenges, such as dependence on imported components, low levels of technological mastery, and competitiveness that is not yet on a par with other countries in the region (Waranggani et al., 2024). In the Indonesian context, the automotive sector is one of the sectors most heavily influenced by Japanese economic policies and dynamics, given that Japan is one of the main investors and the largest supplier of automotive components in Indonesia. According to data from the Indonesian Ministry of Industry (2022), more than 70 per cent of the engine components and automotive raw materials used in Indonesia originate from Japan, either through direct imports or via joint-venture companies operating in Indonesia; and data from the Central Statistics Agency/Observatory of Economic Complexity (BPS/OEC) which indicates that Japan accounted for 40 per cent of imports of parts under HS codes 8701–8705 in 2023.

Estimated value of automotive component imports from Japan has seen a significant surge in recent years. In 2021, the import value reached US$245 million for HS heading 870899, which covers other unspecified motor vehicle parts. In 2022, the value of imports surged to US$1.30 billion, an increase of around 430 per cent compared with the previous year, driven by post-pandemic recovery and increased automotive production, with components under HS codes 8701–8705 dominating. In 2023, the estimated value of imports is projected to rise further to US$1.47 billion, representing a 13 per cent increase from 2022, with powertrain and electrical vehicle components dominating the market. It is estimated that in 2024, the value of imports will exceed US$1.50 billion, representing a 2 per cent to 5 per cent increase from 2023, covering components for both conventional and electric vehicles. The government has also indicated that total automotive investment for 2024 will be around US$2.06 billion, with Japan as the main investor, highlighting the correlation between investment and automotive component imports.

The figure of 430 per cent (2022) illustrates a very substantial increase because the 2021 data used was a subset of HS 870899 (±US$245 million), whereas the 2022–2023 figures use the broader scope of HS 8701–8705; therefore, in your academic writing, you must clarify that the categories differ and explain the calculation methodology.

The figure of +13 per cent (2023) and the projection of +2–5 per cent (2024) reflect moderate growth in imports of parts and accessories from Japan, in line with OEC data and government statements regarding increased investment and automotive production capacity in Indonesia.

The trend observed from 2021 to 2024 indicates that Japan remains a key trading partner in the automotive industry, particularly regarding imports of raw materials for engine components. However, behind the industry's progress and increased investment lie serious obstacles in the form of high dependence on Japanese imported components, as well as a lack of technological expertise and production capacity for local raw materials. This situation has shaped the structure of Indonesia's automotive industry, which tends to function more as a consumer and assembler of Japanese products than as an independent manufacturer, particularly regarding car engine components. The

implementation of *the* Indonesia–Japan *Economic Partnership Agreement* (IJEPA) has brought about significant changes in the automotive sector through investment incentives, technology transfer and expanded access to export markets. The presence of Japanese automotive companies such as Toyota, Honda, Suzuki and Mitsubishi has long been the backbone of the automotive industry in Indonesia (Yulida Avivi, 2020) . Through the IJEPA, relations between Indonesia and Japan extend beyond trade to include capacity building

production, technology transfer and human resource development (Wati et al., 2023) . This agreement provides various incentives and facilitation measures, including reduced import duties, easier market access and enhanced technical cooperation. President Joko Widodo's (Jokowi) leadership has brought a new spirit to the development of the national industrial sector, including the automotive sector (Pangestu, FJ., 2025) .

Cooperation between Japan and Indonesia in the automotive sector has been ongoing since 1970, marked by the presence of Japanese Sole Brand Agents (ATPMs) in Indonesia. The existence of these ATPMs is supported by Ministry of Industry Decree No. 428/1987. An ATPM is a national company appointed by the brand-owning manufacturer to exclusively import, market, distribute and provide after-sales services within a specific region.

In the business world, the agency system implies a legal relationship between an agent and a principal, whereby the agent acts on behalf of the principal in conducting transactions with third parties. The agent is granted specific authority by the principal, and any actions taken beyond the scope of that authority remain the responsibility of the principal.

An agent is essentially a company that represents the principal. The goods sold remain in the principal's name until the sales process and delivery to the consumer are complete. The principal is usually a parent company, whether foreign or domestic, which manufactures industrial or capital goods under its own brand. This parent company is also entitled to appoint agents in Indonesia in accordance with the regulations applicable to that company.

Decision of the Minister of Industry of the Republic of Indonesia No. 295/M/SK/7/1982, which is available at , governs the provisions relating to exclusive agency. Decision of the Minister of Industry of the Republic of Indonesia No. 116/M/SK/6/1993, which amends the Minister of Industry's

Decree No. 428/M/SK/12/1987 regarding the simplification of recognition provisions and the reduction of recognition for sole agency rights for motor vehicles and heavy machinery, as well as sole agency rights for electronic and electrical appliances for domestic use.

Cooperation between Indonesia and Japan in the automotive sector is growing due to the public's high level of interest in four-wheeled vehicles. This is evident from data for 2019, when the Indonesian Automotive Industry Association (GAIKINDO) recorded car sales of 942,462 units. This figure indicates that Indonesia possesses a highly promising automotive market, thereby attracting the attention of various Authorised Dealers (ATPMs). Amidst the resulting competition, each ATPM strives to attract consumers by launching various new car models. Automotive manufacturers from Japan, China, Europe and the United States are also continuously increasing their production capacity in line with their factories' capabilities to meet their annual marketing targets.

Previous research on Indonesia–Japan economic relations and the automotive industry has generally focused on historical aspects, the implementation of the IJEPA, or macro-level analysis of *the Global Value Chain* (GVC) structure; consequently, it has not quantitatively examined the reliance on imports of *engine components* from Japan during the post-pandemic period of 2021–2024. Technical reports and industry surveys (JICA, 2021), as well as regional *Global Value Chain (*GVC) analyses, provide important data and context regarding the role of Japanese suppliers and the structure of value added; however, they do not map imports in detail by HS code for engine components or measure the extent of Indonesia's dependence on Japanese suppliers over the 2021–2024 period. Consequently, there remains a research gap in the form of a lack of time-series studies and *HS-code* mapping that integrate trade data, local production capacity, and Local Content Level (TKDN) indicators for specific engine components.

Research on the dynamics of Indonesia's automotive industry has extensively discussed Japan's role in shaping the national production structure; however, the majority of the literature still focuses on macro-level and historical analyses without specifically evaluating dependence on engine component imports during the 2021–2024 period. For example, the study by highlights

Japan's dominance in Indonesia's automotive industry, but the analysis focuses solely on politico-economic relations and industrialisation strategies without mapping import data by engine component category. Similarly, Wardoyo's study ' ' emphasises the strength of Japanese investment since the New Order era and how this dominance has shaped the national industrial structure; however, as it is primarily historical in nature, it does not provide an analysis of dependence on engine component imports in the post-2020 period.

Furthermore, industry reports such as **Indonesia's Automotive* Industry* emphasise that around half of Indonesia's automotive component imports originate from Japan; however, this report does not provide an empirical analysis of the most critical types of engine components. Consequently, there remains a research gap in the form of the absence of any study that systematically maps Indonesia's level of dependence on imports of engine components from Japan during the most recent period of 2021–2024.

The novelty of this research lies in its focus on the post-pandemic period, examining the dynamics of dependence on and imports of automotive raw materials following the COVID-19 pandemic—a period that marked a turning point in the industry's resilience, global logistics shifts, and supply chain disruptions. Most previous studies have only analysed trends up to 2019–2020 and have not systematically examined the impact of global economic shocks, technological changes, or the local industry's policy responses in the post-pandemic period. Whilst much of the literature discusses the automotive industry's dependence in general, this study narrows its focus to engine components as *a core production capability* and high-tech area, rather than simply entire *Completely Built Up/Completely Knocked Down* (CBU/CKD) vehicles. The analysis assesses potential limitations in technology transfer, the challenges of component substitution, and the role of Japanese technology in specific engine parts, rather than merely the assembly aspect. The study explicitly highlights the relevance of increasing *local content*, import substitution strategies, the ' ' policy *for Electric Vehicles* (EVs), the transition to *green technology and Industry* 4.0, and how Japan remains a key partner for engine technology innovation in Indonesia. The research brings together international political economy, technology transfer, *supply chain* research, and

industrial policy perspectives, utilising secondary data and analyses of current policies from ministries and industry associations.

METHODOLOGY

This study employs a qualitative approach using a descriptive-analytical case study design to analyse Indonesia's economic dependence on Japan regarding imports of raw materials for automotive engine components during the period 2021–2024. The descriptive approach was chosen because this study aims to systematically describe how trade policies between Indonesia and Japan influence the level of Indonesia's economic dependence on Japan for imports of automotive engine components during the period 2021–2024. This approach does not aim to test hypotheses or identify statistical cause-and-effect relationships, but rather to provide a comprehensive understanding of the phenomenon under study through the interpretation of various data and documents relevant to the research.

The research was conducted virtually via *library research* in digital libraries such as the National Library of the Republic of Indonesia, the websites of the Central Statistics Agency (BPS) and the Ministry of Trade, and international academic databases. This study utilised *the library research* method*;* consequently*,* no direct data collection was carried out in the field.

This study utilised secondary data as its primary source, as it was conducted using *the library research* method. Secondary data was selected because the study aimed to analyse Indonesia's economic dependence on Japan in the automotive sector through a case study of imports of automotive raw materials, specifically engine components, during the period 2021–2024.

Data analysis follows the Miles and Huberman model: data reduction (selection and categorisation of import data for 2021–2024), data presentation (dependence trend matrices such as import-export ratios), and drawing conclusions with source triangulation verification. This technique integrates dependency theory to measure the asymmetry of the Indonesia–Japan relationship in the automotive sector. Source triangulation (BPS, journals, industry reports) ensures the validity of the findings regarding dependency on imports of engine component raw materials.

In this study, data analysis techniques were employed to analyse the phenomenon of Indonesia's economic dependence on Japan in the automotive

sector through a case study of imports of automotive raw materials in the form of engine components during the period 2021–2024. The analysis was conducted using various statistical data, official government documents, reports from international organisations, scientific journals, and other literature relevant to the research focus.

RESULTS AND DISCUSSION

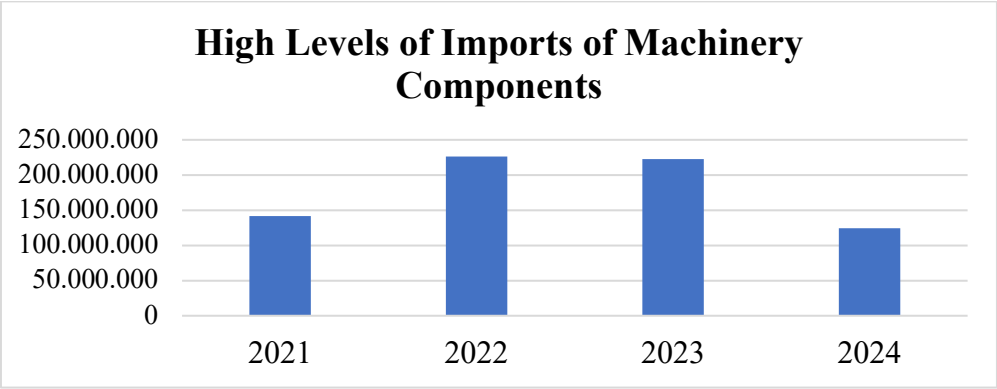
Causes of Dependence

In this study, there are four main factors causing Indonesia's economic dependence on Japan in the automotive sector. Firstly, the high volume of engine component imports, which are a crucial requirement in the national automotive production line. Secondly, the dominance of Japanese investment in the automotive sector, which has injected capital and established a manufacturing ecosystem heavily reliant on Japanese principals. Thirdly, there are limitations in local technology and production capacity when it comes to manufacturing high-precision components that meet Japanese specification standards, thereby forcing a reliance on overseas supplies. Fourthly, the post-pandemic structure of the global supply chain ties national production efficiency to the stability of logistics and supplies from Japan, thereby reinforcing structural dependence during the period under study.

High Imports of Engine Components

Indonesia's high dependence on imports of engine components, particularly from Japan, stems from a gap in the mastery of precision manufacturing technology. In the automotive industry, engines are components of extremely high technical complexity, requiring specialised metallurgical and casting standards that have not yet been fully mastered by the local industry. Japan, through its automotive giants, has built an integrated global supply chain ecosystem over decades, meaning that the quality standards of the components they produce have become a global benchmark that local component suppliers find difficult to match in the short term (Djamika, 2025).

Figure 1. High Levels of Automotive Component Imports, 2021–2024



Source: Indonesian Automotive Industry Association (GAIKINDO), 2025

Based on data obtained from the Indonesian Automotive Industry Association (GAIKINDO), there were significant fluctuations in the import figures for engine components in Indonesia during the period from 2021 to 2024. In 2021, the import volume stood at 141,749,532, before surging sharply in 2022 to peak at over 226,309,901. This figure remained high in 2023 at 222,932,035, before eventually experiencing a fairly drastic decline in 2024 to 123,941,845, falling below the 2021 level.

The high import figures observed between 2022 and 2023 were driven by several key factors within the automotive industry. Firstly, there was an urgent need to meet the post-pandemic surge in demand for motor vehicles, which forced manufacturers to increase their assembly capacity, thereby requiring a large supply of engine components. Due to the industry's continued heavy reliance on precision manufacturing technology, the domestic sector has not yet been able to meet these needs independently, making imports the primary solution to maintain the smooth running of production lines.

Japanese Investment Dominance in the Automotive Sector

The Indonesian economy relies heavily on foreign investment. The government plays a crucial role in facilitating the inflow of investment into Indonesia. The government is positioning Indonesia as a hub for the automotive industry in South-East Asia by increasing its production capacity. To achieve this, the Indonesian government has also streamlined the licensing process for foreign investors wishing to establish factories and invest in Indonesia (Negara and Hidayat 2021). Provisions regarding licensing and facilities for foreign direct investment are set out in Regulation No. 5 of 2019 of the Investment

Coordinating Board (BKPM) (BKPM RI 2019). Foreign investors who invest in Indonesia are also subject to taxation. Meanwhile, a tax allowance is a tax relief based on the amount of investment in specific business sectors. The tax allowance itself provides a net reduction of 30 per cent (Fiscal Policy Agency, Ministry of Finance of the Republic of Indonesia 2017).

Table 2. Japanese Investment Figures for 2024

No	Period	Investment Amount (Thousands of US Dollars)
1	Quarter 1	1,032,268.6
2	Quarter 2	588,573.8
3	Quarter 3	708,565.7
4	Quarter 4	799,218.8
Total		3,128,626.9

Source: Ministry of Investment/BKPM, 2025

Japan's absolute dominance of foreign direct investment (FDI) in Indonesia's automotive sector throughout the period 2021–2024 is a manifestation of its robust economic hegemony. From an EPI perspective, large-scale capital investment is never neutral; capital brings with it the political interests of the home country, which seek to influence the internal dynamics of the host country (Cox, 1987). By controlling more than 90 per cent of the four-wheeled vehicle market share in Indonesia through majority shareholdings in authorised single-brand distributors (ATPMs), Japanese economic actors have succeeded in building unrivalled bargaining power vis-à-vis domestic policymakers. The interests of Japanese actors in this regard are to secure Indonesia's massive domestic market as both a market for their products and an instrument for long-term capital accumulation. This dominance of capital creates a structural 'lock-in' mechanism. The Indonesian government is often faced with an acute dilemma of dependency: on the one hand, it wishes to enforce stricter regulations regarding technology transfer; on the other, it faces a pragmatic urgency to maintain the stability of economic growth, tax revenue, and the employment of hundreds of thousands of local workers whose livelihoods depend on this Japanese manufacturing ecosystem (Wade, 1990).

Limitations of Local Technology and Production

As with the automotive industry structure in other countries, the structure of the automotive supply chain in Indonesia essentially begins with the

procurement of raw materials from suppliers and extends through to the distribution of goods to consumers. In detail, the automotive supply chain comprises various tiers, ranging from suppliers of raw materials and components, through vehicle assemblers, to the final distribution of vehicles to end consumers. Each level plays its own distinct role (Purwani and Nurcholis 2015). The growth in sales of four-wheeled vehicles in Indonesia has been driven by rising domestic demand, compelling automotive companies to source raw materials in order to produce cars. Quite a few automotive companies remain dependent on imports of automotive components from abroad, even though Indonesia is already capable of producing and even exporting automotive components. This is evident in the fact that the highest surge in car component imports from Japan occurred in 2019, with the total number of imported components reaching 129,611,227 units. According to data from Gaikindo, Honda was the driving force behind the surge in imports that year. The components imported by PT Honda Prospect Motor are to be fitted to the CR-V, Jazz, Brio, Mobilio, HR-V and BR-V models, as well as other spare parts. The surge in component imports in 2019 exemplifies the impact of the policy to exempt Japanese goods from import duties at a rate of 0 per cent through the USDFS scheme, as stipulated in Article 2(1) of Minister of Finance Regulation No. 31 of 2017 (BPK RI 2017).

To reduce its reliance on imports, Indonesia is striving to develop a domestic supply of automotive components. On 25 October 2015, the Japanese textile company PT. Dynic Textile Prestige officially opened its first factory in Indonesia. The factory is located in the Greenland International Industrial Centre, Cikarang, West Java. It was officially opened by Saleh Husin, who was Minister of Industry at the time. Saleh explained that this was the first non-woven textile factory in Indonesia to supply the automotive industry, specifically Toyota, Nissan and Honda. PT. Dynic Textile Prestige will produce headliners, seatback carpets, sun visors, boot liners and cargo nets (Aini 2015).

One of the local companies also acting as a supplier of automotive components is PT Indonesia Asahan Aluminium (Inalum), which is willing to supply raw materials for wheel rims to Toyota. TMMIN and Inalum agreed to sign a cooperation agreement in 2019. Representatives from Inalum explained that this partnership forms part of the Indonesian Government's plan to reduce reliance on imported automotive components. Inalum will supply Aluminium

Foundry Alloy to be used for the wheel rims of the Toyota Innova, Toyota Fortuner and Toyota Sienta (Ray 2019).

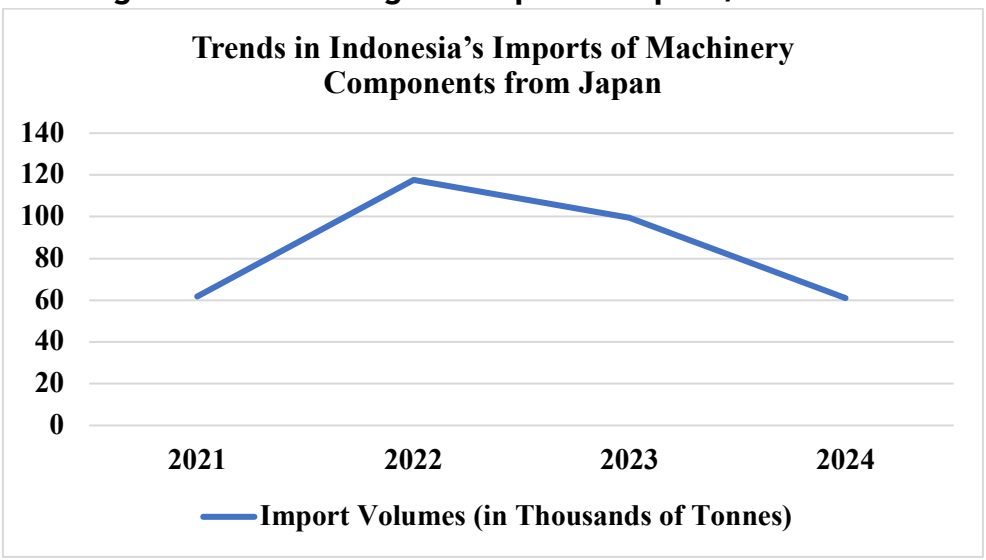
Analysis of Indonesia's Economic Dependence on Japan

An analysis of Indonesia's economic dependence on Japan highlights Japan's strategic position as the primary supplier of machinery components to the national manufacturing industry. This phenomenon is quantified by Indonesia's import dependency ratio on Japan, which exceeds 40 per cent. This structure of dependency is not only measured by trade volume but is also understood through trends in machinery component imports during the 2021–2024 period, which serve as an indicator of the stability of the domestic automotive supply chain. Furthermore, the dynamics of this economic relationship are significantly influenced by bilateral policies, such as the IJEPA (*Indonesia-Japan Economic Partnership Agreement*), as well as various national industrialisation efforts aimed at balancing this dependence through increased industrial self-reliance.

Trends in Engine Component Imports 2021–2024

Indonesia's economic dependence in the automotive sector requires a strong empirical foundation through regular monitoring of foreign trade volumes. In this context, the volume of engine component imports, measured in weight (thousands of tonnes), serves as a key indicator for gauging the operational interdependence of domestic assembly plants on supplies from principal countries. Based on official data released by the Ministry of Finance of the Republic of Indonesia through the Directorate General of Customs and Excise (2025), the procurement of engine components from Japan throughout the period from 2021 to 2024 did not follow a linear trend, but rather exhibited a highly dynamic pattern and experienced quite sharp fluctuations. These dynamics reflect how the national automotive industry has responded to the economic recovery phase, market stimulus policies, and the dynamics of the global supply chain.

Figure 3. Trends in Engine Component Imports, 2021–2024



Source: Ministry of Finance (Directorate General of Customs and Excise), 2025

Based on the data above, the trend in imports of engine components from Japan to Indonesia shows quite sharp fluctuations during the period from 2021 to 2024. In 2021, the import volume stood at around 60,000 tonnes. This figure then saw a significant increase in 2022, peaking at over 100,000 tonnes.

After reaching this peak in 2022, the import trend began to show a downward trajectory in 2023. This decline continued consistently through to 2024, when import levels returned to around 60,000 tonnes, equivalent to the starting point in 2021.

Overall, the pattern illustrated shows that Indonesia's reliance on imports of engine components from Japan experienced a temporary increase over the course of one year before eventually returning to a low level by the end of the observation period. These dynamics indicate changes in the supply chain or the national automotive industry's strategy that influenced the volume of imports from Japan over that four-year period.

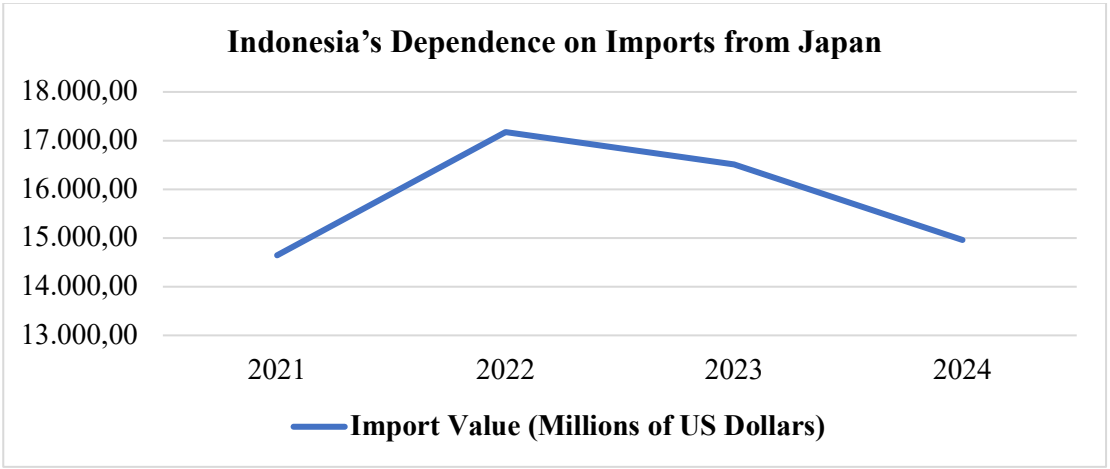
The steady and generally rising trend in engine component imports throughout the 2021–2024 period demonstrates the success of Japanese corporate actors' strategies in maintaining the status quo. From an EPI perspective, this static trade pattern—characterised by a 'core exporting high-tech, periphery assembling' model—is not a market coincidence, but rather the result of the construction of the international production regime (Cox, 1987).

Japanese automotive MNCs, with the support of economic diplomacy from Japan's Ministry of Economy, Trade and Industry (METI), have a vested interest in ensuring that Indonesia continues to function as a predictable market and a compliant assembly base. They systematically held back the localisation of crucial components, citing a lack of economies of scale or the inability of local suppliers to meet strict global quality standards.

Indonesia's Import Dependency Ratio on Japan

Economic dependence is not limited to an analysis of the physical volume of commodities; it must also be gauged through the monetary value of imports, which reflects the degree of domestic financial dependence on foreign supplies. In this context, an assessment of trends in the total value of imports serves as a crucial indicator for measuring macroeconomic stability and the level of vulnerability of the national manufacturing sector to the economic dynamics of trading partners. These fluctuations in monetary value represent the extent to which domestic capital flows out to finance upstream component requirements, whilst also reflecting the effectiveness of the government's import substitution policies during the relevant period.

Figure 4. Indonesia's Import Dependency Ratio on Japan



Source: Central Statistics Agency, 2026

Based on the data above, the trend in the value of Indonesia's imports from Japan shows a fluctuating pattern during the period from 2021 to 2024. In 2021, the value of imports stood at 14,644.3 million US$. This figure then increased in 2022, peaking at 17,175.6 million US$.

Entering 2023, the value of imports from Japan began to show a downward trend, falling to 16,516.9 million US$. This downward trend continued into 2024, when the value of imports stood at 14,964.9 million US$. This decline indicates a shift in the structure of Indonesia's import requirements, which may be influenced by the diversification of trading partners.

Although the value of imports from Japan has declined, data on Indonesia's import trends with Japan show that, overall, the value of imports from Asia continues to demonstrate significant growth, particularly when compared with other countries such as China, whose import value reached 72,729.1 million US$ in 2024. This comparison underscores that whilst Japan remains a significant trading partner, its dominant position within Indonesia's import structure is gradually shifting towards other countries in the Asian region.

Data showing that the ratio of Indonesia's dependence on Japanese imports of machinery components has exceeded 40 per cent is a critical indicator of asymmetric interdependence. Keohane and Nye (2011) explain that when one country is heavily reliant on a single source of supply from another country, that country faces a very high level of vulnerability and sensitivity. For Japan, this ratio serves as a lever of power. Controlling more than 40 per cent of upstream supply grants Tokyo a dominant political bargaining position to pressure Jakarta against implementing unilateral policies that harm the interests of Japanese MNCs, such as the aggressive imposition of carbon taxes or the forced acceleration of the transition to purely battery-powered electric vehicles (EVs).

Japan's Role as a Leading Supplier of Engine Components

Japan's role as the main supplier of engine components in Indonesia's automotive industry is inextricably linked to a long history of Foreign Direct Investment (FDI) and the formation of *global value chains* dating back to the 1970s. Historically, Japanese automotive manufacturers such as Toyota, Honda and Mitsubishi have established Indonesia as one of their key production and assembly bases in South-East Asia. Nevertheless, vehicle production in Indonesia is still characterised by final assembly, with high-tech and precision components—particularly engine blocks and transmission systems—still being imported on a massive scale from their countries of origin (Aswicahyono et al.,

2020). This dominance places Japan in a central position in underpinning the operational sustainability of the domestic automotive industry, given that the availability of these core components is an absolute prerequisite for production lines.

In the context of international trade, this dependence creates a strong pattern of vertical integration between parent companies in Japan and their subsidiaries or local partners in Indonesia. According to a report by the Central Statistics Agency (BPS, 2023), Japan consistently ranks first as the country of origin for imports of spare parts and accessories for four-wheeled motor vehicles. This high volume of imports is driven by the technology protection policies implemented by Japanese principals. They tend to retain the production of high value-added core components in their home country to safeguard technological secrets and maintain precise quality standards, whilst *low-tech* components are localised in the host country (Okamoto & Sjöholm, 2021). Consequently, Japan retains full control over the supply of engine components, which directly affects the Local Content Level (TKDN) of vehicles assembled in Indonesia.

Indonesia's Level of Economic Dependence on Japan in the Automotive Sector

The automotive industry has long been a mainstay of the global economy, serving as a barometer of the health of the manufacturing sector and technological innovation. In Indonesia, this sector is not merely a large market, but also a strategic production base in South-East Asia. Since its inception, the national automotive industry has gone through various phases, from simple assembly to becoming an export-oriented production hub. However, market dynamics continue to demand transformation, driven by global trends such as electrification, vehicle connectivity and automation. To compete in an increasingly fierce global arena, Indonesia's automotive industry must be capable not only of assembling finished products but also of producing components of a quality and efficiency on a par with international standards. The success of the vehicle industry is heavily dependent on the strength and depth of its supporting component supply chain, a fact that places parts manufacturers in a crucial position (Kurniawan, 2025).

The extent of Indonesia's economic dependence on Japan in the automotive sector reflects a deeply entrenched and structural pattern of

asymmetrical relations. Japan's dominance is evident not only in *its market share* of four-wheeled vehicles, which consistently exceeds 90 per cent, but also in the integration of the upstream supply chain, which positions Japanese principals as the primary suppliers of high-tech core components (Aswicahyono et al., 2020). The massive investments made by Japanese multinational companies over several decades have locked the domestic manufacturing ecosystem into their technical standards. Consequently, the dynamics of national automotive production are highly sensitive to global corporate policies decided in Tokyo, underscoring Indonesia's position on the periphery of *the global* automotive *value chain* (Okamoto & Sjöholm, 2021).

Table 3. Total Sales of the Top 5 Automotive Brands in Indonesia 2021–2024

No	Brand	Year			
		2021	2022	2023	2024
1	Toyota	295,768	331,410	336,777	288,982
2	Daihatsu	164,908	202,665	188,000	163,032
3	Honda	91,122	131,280	138,967	94,742
4	Mitsubishi	107,605	99,051	77,416	72,217
5	Suzuki	91,793	90,408	81,057	66,809

Source: Indonesian Automotive Industry Association (GAIKINDO), 2025

According to data released by *the Indonesian Automotive Industry Association* (GAIKINDO), out of a total of 865,723 units sold in the Indonesian car *wholesale* market throughout 2024, eight of the ten best-selling car brands were from Japan. Toyota led this dominance with a market share of 33.4 per cent (288,982 units), followed by Daihatsu with 18.8 per cent (163,032 units), and Honda with 12.8 per cent (94,742 units) (Arifin, 2025). This absolute dominance of the assembly and sales market creates *a* strong *pull effect* on the upstream supply chain, where the operations of these assembly plants are heavily dependent on the supply of standardised spare parts from Japanese principals.

Quantitatively, the key indicator of this high level of dependence is clearly reflected in the structure of capital goods and raw material imports within the automotive sector. According to the annual report of the Central Statistics Agency (BPS, 2023), the commodity groups comprising precision engine components, transmission systems and key automotive electronic

devices are dominated by supplies from Japan. The vertical integration model adopted by Japanese manufacturers has created an exclusive domestic supply network (keiretsu), in which local *tier-1* component manufacturers are generally joint ventures that still rely on shipments of semi-finished components from their home country (Yoshimatsu, 2022). This has meant that growth in car production volumes in Indonesia has always been directly proportional to the increase in the trade deficit for specialised spare parts, limiting the domestic industry's ability to break free from its dependence on imports.

The long-term impact of this high economic dependence is the emergence of an *'assembly trap'* that hinders self-reliant national industrialisation. Government efforts to raise the Domestic Component Level (TKDN) often face significant obstacles, as production localisation has so far only extended to chassis, exterior and interior components, which have relatively low added value and technology intensity (Ministry of Industry of the Republic of Indonesia, 2022). Meanwhile, core value engineering (*'know-why'*) and research and development (*R&D*) for engines remain centralised in Japan (Prasetyo & Zuhdi, 2021). In the face of the transition to the era of electric vehicles and global diversification, this structural dependence calls for radical policy reform so that Indonesia's bargaining position shifts from being merely a market and assembly base to becoming an independent producer of high-value components.

The structural dependence of Indonesia's automotive industry on supplies from Japan is driven by a combination of several fundamental factors. Firstly, the high volume of imports of engine components, particularly those classified under HS tariff headings 8407 and 8408. These *internal combustion engine* components form the heart of motor vehicle production. The high volume of imports under these HS codes indicates that the manufacturing process in Indonesia remains focused on the final *assembly* stage, whilst the production of high value-added and precision-technology components remains centralised in the principal country of origin (Aswicahyono et al., 2020). Japanese corporate actors have a rational interest in ensuring that intellectual property rights (IPR) and cutting-edge manufacturing processes remain in Tokyo, whilst Indonesia merely carries out final *assembly*. Furthermore, the dominance of Japanese Foreign Direct Investment (FDI) creates a policy 'lock-in' mechanism. By controlling a massive market share, Japanese actors have succeeded in building bargaining power that compels the Indonesian

government to act accommodatively in order to prevent the risk of foreign capital flight (Cox, 1987).

Secondly, the dominance of Japanese investment in the automotive sector. The long history of Japanese Foreign Direct Investment (FDI) in Indonesia has shaped a vertically integrated industrial ecosystem. Japanese multinational companies have created keiretsu networks (closed supply chains) that require the use of spare parts meeting the specifications and quality standards set by the parent company in Tokyo (Yoshimatsu, 2022). This capital dominance directly '*locks* in' the technological preferences of manufacturers in Indonesia, ensuring they continue to use components from suppliers affiliated with Japan. Within the *keiretsu* system (Japan's closed business network), manufacturing affiliates are obliged to source components from internal suppliers to meet quality standards, which systematically stifles opportunities for local Indonesian vendors to move up the value chain (Hatch & Yamamura, 1996). When global supply chain disruptions occurred in the wake of the pandemic, Indonesia's vulnerability was laid bare; domestic production ground to a halt momentarily when supplies from Japan were disrupted, proving that the rhythm of the national economy is heavily dictated by corporate headquarters in Japan (Keohane & Nye, 2011).

Thirdly, limitations in local technology and production. Although the government continues to promote localisation, second- and third-tier Small and Medium-sized Enterprises (SMEs) in Indonesia still face massive *barriers to entry*. Limited capital for Research and Development (R&D), a lack of mastery of core technologies (*know-how*), and an inability to achieve economies of scale make it difficult for local suppliers to substitute precision machine components (Prasetyo & Zuhdi, 2021). Fourth, the dynamics of the global supply chain in the post-pandemic era. The economic recovery phase (2021–2022) triggered a surge in domestic vehicle demand (*pent-up demand*). Given that the capacity of the local components industry had not yet fully recovered from the disruption to global supply chains, manufacturers in Indonesia were forced to drastically increase import volumes from Japan to ensure production continuity (Negara & Negara, 2021).

The above contributing factors are clearly reflected in empirical trade data. Firstly, the trend in engine component imports for 2021–2024 shows a significant escalation. As public purchasing power recovered post-COVID-19

and with the introduction of the Luxury Goods Sales Tax (PPnBM) stimulus, car assembly volumes surged, which automatically triggered *a* 'pull-effect' leading to increased imports of CKD (*Completely Knocked Down*) engines and *engine parts* from Japan (Ministry of Industry of the Republic of Indonesia, 2023).

The researchers concluded that these contributing factors constitute a form of modern technological imperialism. The high level of imports and the dominance of Japanese investment have triggered a state of 'regulatory capture', in which national automotive policy is subtly dictated to facilitate the business interests of Japanese MNCs. Limitations on local capacity are deliberately maintained through the illusion of a high TKDN (Local Content) requirement, which in reality only localises low-value components such as plastics and bodywork, whilst the 'heart' of the vehicle remains monopolised by Japanese principals.

Secondly, Indonesia's import dependency ratio on Japan stands at over 40 per cent. A ratio exceeding this psychological threshold is an indicator of serious economic vulnerability. In international trade theory, such a high concentration of imports from a single trading partner places Indonesia in an asymmetrical position. Even a minor disruption to Japanese export regulations or logistical disruptions in East Asian waters would directly paralyse the national automotive production lines (Okamoto & Sjöholm, 2021). This underscores Japan's role as the primary supplier of engine components for which there are virtually no competitive substitutes in the short term. An analysis of economic indicators for the 2021–2024 period shows a static trend in component imports, with a tendency to maintain *the status quo*. Indonesia's import dependency ratio on Japan, which remains consistently above 40 per cent, places the country in a position of extremely high *vulnerability*. For Japanese state actors, this ratio constitutes *a lever* of power. This dominance enables Tokyo to pressure Jakarta against adopting unilateral policies that harm the interests of Japanese MNCs, such as a forced and radical transition to purely *electric vehicles* (EVs), which could potentially spell the end for their conventional internal combustion engine factories (Ravenhill, 2020).

Fourthly, in terms of policy impact, the interaction between *the Indonesia–Japan Economic Partnership Agreement* (IJEPA) and national industrialisation efforts has yielded paradoxical results. On the one hand, the IJEPA has succeeded in facilitating investment flows; on the other hand, the reduction in import tariffs has actually facilitated the entry of engine

components from Japan, thereby undermining the competitiveness of locally produced components that are still in their infancy (Yulianingrum, 2022). Government efforts through the Local Content Requirement (TKDN) regulations are often only effective for *body*, interior and chassis components, but still hit a dead end when faced with patent regulations and engine block technology that is strictly protected by Japanese principals.

Institutional frameworks such as *the Indonesia–Japan Economic Partnership Agreement* (IJEPA) are frequently promoted as strategic partnerships. However, from a structuralist perspective, asymmetrical free trade agreements actually legitimise existing inequalities (Chang, 2002). Japan's interests in the IJEPA are highly pragmatic, seeking tariff reductions for its high-value-added manufactured goods. Conversely, Indonesia's efforts at national industrialisation through Local Content Requirements (TKDN) regulations have proved fragile, as the state has frequently had to compromise by relaxing these rules in order to maintain the inflow of Japanese investment into the country.

Based on these research findings, the researchers concluded that a dependency ratio of over 40 per cent places the sovereignty of Indonesia's automotive industry on a knife-edge, undermining the claim that Indonesia has become an 'automotive giant' in ASEAN. The researchers view the IJEPA as serving more as a red carpet for the exploitation of the domestic market than as a catalyst for technology transfer. This agreement strips away the tariff protection instruments that the state could otherwise use to protect *its* nascent local component industry.

CONCLUSION

Based on the overall analysis outlined above, it can be concluded that the level of Indonesia's economic dependence on Japan in the automotive sector—particularly regarding imports of engine components (HS tariff headings 8407 and 8408)—for the period 2021–2024 is characterised by a high degree of structural dependence. This dependence stems from the historical dominance of investment by Japanese multinational companies, which have established a closed supply chain ecosystem in Indonesia. This situation is exacerbated by the limited technological capabilities, capital, and Research and Development (R&D) capacity of domestic Small and Medium-sized Enterprises (SMEs), which are not yet capable of producing high-precision components. Furthermore, the dynamics of post-pandemic economic recovery

have also forced the national assembly industry to continue relying heavily on imports from Japan in order to meet a surge in market demand that local suppliers are unable to meet.

An import dependency ratio that has consistently remained above 40 per cent reinforces Japan's absolute position as the principal and as yet irreplaceable supplier. The policy interaction between *the Indonesia-Japan Economic Partnership Agreement* (IJEPA) and national industrialisation efforts through the Local Content Requirement (TKDN) regulations has proven to have a paradoxical effect. Although both instruments have succeeded in increasing the volume of investment and domestic vehicle assembly, their implementation has failed to break the chain of dependence on upstream components. The import tariff concessions under the IJEPA have actually made sourcing engines from Japan more efficient than producing them locally, whilst the TKDN policy has only managed to address components with medium to low added value (such as interiors and chassis) without being able to penetrate the protection of core technology (*know-how*) in engines.

In conclusion, this trade relationship has placed Indonesia in an '*assembly trap*', where high car production figures are directly proportional to the widening trade deficit in vehicle components. Without radical policy interventions—such as the enforcement of *deep-tech* technology transfer, the provision of aggressive incentives for R&D into local components, and the diversification of strategic partners—Indonesia will remain stuck in a peripheral position within the global automotive value chain. The sustainability of this flagship national manufacturing industry will remain vulnerable and be entirely dictated by the policies of the principal corporations in Japan.

REFERENCE

Amin, S. (1976). *Unequal development: An essay on the social formations of peripheral capitalism*. Monthly Review Press.

Arifin, R. (2025, 12 Januari). 10 Merek mobil terlaris di Indonesia 2024: 1 asal China, 8 dari Jepang, BYD masuk?. *DetikOto*. https://oto.detik.com/mobil/d-7728556/10-merek-mobil-terlaris-di-indonesia-2024-1-asal-china-8-dari-jepang-byd-masuk

Aswicahyono, H., Basri, M. C., & Hill, H. (2000). How not to industrialize? Indonesia's automotive industry. *Bulletin of Indonesian Economic Studies*, 36(1), 209–241.

Avivi, Y., & Siagian, M. (2020). Kepentingan Indonesia dalam kerja sama bilateral dengan Jepang studi kasus: Indonesia-Japan Economic Partnership Agreement (IJEPA). *Paradigma POLISTAAT: Jurnal Ilmu Sosial dan Ilmu Politik*, 3(1), 49–61. https://www.journal.unpas.ac.id/index.php/paradigmapolistaat/issue/view/201

Badan Kebijakan Fiskal Kemenkeu RI. (2017). *Warta fiskal: Insentif fiskal (Edisi II)*. https://fiskal.kemenkeu.go.id/files/warta-fiskal/file/edisi_ii_2017.pdf

Badan Pusat Statistik. (2023a). *Statistik perdagangan luar negeri Indonesia: Impor*. Badan Pusat Statistik Republik Indonesia.

Badan Pusat Statistik. (2023b). *Statistik perdagangan luar negeri: Impor komponen otomotif per negara*. Badan Pusat Statistik Republik Indonesia.

Badan Pusat Statistik. (2024). *Statistik perdagangan luar negeri Indonesia: Impor*. Badan Pusat Statistik Republik Indonesia.

BKPM RI. (2019). *Peraturan Badan Koordinasi Penanaman Modal Republik Indonesia Nomor 5 Tahun 2019*. https://peraturan.go.id/files/bn821-2019.pdf

BPK RI. (2017). *Peraturan Menteri Keuangan Republik Indonesia Nomor 31/PMK.010/2017*. https://peraturan.bpk.go.id/Download/103558/PMK%20Nomor%2031%20Tahun%202017.pdf

Chang, H.-J. (2002). *Kicking away the ladder: Development strategy in historical perspective*. Anthem Press.

CNBC Indonesia. (2019, 25 Juni). Penjualan mobil LCGC anjlok, taksi online penyebabnya? *CNBC Indonesia*. https://www.cnbcindonesia.com/news/20190625142655-4-80514/penjualan-mobil-lcgc-anjlok-taksi-online-penyebabnya

Cox, R. W. (1987). *Production, power, and world order: Social forces in the making of history*. Columbia University Press.

Dent, C. M. (2003). Networking the region? The emergence and impact of Asia-Pacific bilateral free trade agreement projects. *The Pacific Review*, 16(1), 1–28.

Gabungan Industri Kendaraan Bermotor Indonesia. (2021). *Bagaimana nasib mobil LCGC di masa datang?* https://www.gaikindo.or.id/bagaimana-nasib-mobil-lcgc-di-masa-datang/

Hatch, W., & Yamamura, K. (1996). *Asia in Japan's embrace: Building a regional production alliance*. Cambridge University Press.

Hidayat, A. M. N., & Purwono, A. (2021). Pengaruh penerapan Indonesia-Japan Economy Partnership Agreement (IJEPA) terhadap peningkatan investasi sektor industri manufaktur Jepang di Indonesia tahun 2008-2018. *Kajian Hubungan Internasional*, 1(1). https://doi.org/10.31942/khi.2021.1.1.6457

Hill, H. (1996). *The Indonesian economy since 1966: Southeast Asia's emerging giant*. Cambridge University Press.

International Energy Agency [IEA]. (2023). *Global EV outlook 2023: Catching up with climate ambitions*. IEA Publishing.

Jakarta Post. (2016, 21 Januari). Toyota Agya best-selling low-cost green car: Association. *The Jakarta Post*. https://www.thejakartapost.com/news/2016/01/21/toyota-agya-bestselling-low-cost-green-car-association.html

Japan International Cooperation Agency [JICA]. (2021, Mei). *Data collection survey on automotive industry development in the Republic of Indonesia: Final report*. JICA.

Kementerian Perindustrian Republik Indonesia. (2022a). *Rencana induk pembangunan industri nasional 2015-2035*. Kementerian Perindustrian.

Kementerian Perindustrian Republik Indonesia. (2022b). *Siaran pers: Menperin dorong peningkatan lokalisasi dan ekspor industri otomotif*. Kementerian Perindustrian.

Kementerian Perindustrian Republik Indonesia. (2023). *Laporan kinerja industri otomotif nasional pasca pandemi*. Kementerian Perindustrian.

Keohane, R. O., & Nye, J. S. (2011). *Power and interdependence* (4th ed.). Longman.

Kurniawan, D. (2025). *PT Musashi Auto Parts Indonesia: Strategi manufaktur komponen presisi dan peran kunci dalam rantai pasok otomotif nasional*. Afdan Rojabi Publisher.

Negara, S. D., & Hidayat, A. S. (2021). Indonesia's automotive industry: Recent trends and challenges. *Journal of Southeast Asian Economies*, 38(2), 166–186. https://doi.org/10.1355/ae38-2b

Negara, S. D., & Negara, S. (2021). Indonesia's automotive industry recovery and global supply chain vulnerabilities. *Journal of Southeast Asian Economies*, 38(3), 210–228.

Nugroho, R. C. A. N. (2019). The development of domestic automotive industry: The role of Indonesian government to compete the Japanese automotive industry. *Mediasi: Journal of International Relations*, 2(1).

Okamoto, Y., & Sjöholm, F. (2021). The Indonesian automotive industry: Upgrading and integration in global value chains. *Journal of the Asia Pacific Economy*, 26(4), 678–698.

Pangestu, F. J., & N., R. (2025). Pengaruh penjualan mobil listrik terhadap keuangan perusahaan dalam bidang otomotif: Electric car sales impact on corporate finance in automotive sector. *Jurnal Ekonomi Dan Bisnis Indonesia*, 10(1), 9–12.

Prasetyo, A., & Zuhdi, U. (2021). Analisis ketergantungan industri otomotif Indonesia terhadap pasokan bahan baku dan komponen impor. *Jurnal Ekonomi dan Pembangunan*, 29(1), 45–60.

Purwani, T., & Nurcholis, L. (2015). Pengembangan konsep bilateral symmetry untuk meningkatkan kinerja rantai pasokan melalui kualitas sinergi pada industri komponen otomotif di Indonesia. *Jurnal Aplikasi Manajemen*, 13(4), 581–596. https://jurnaljam.ub.ac.id/index.php/jam/article/view/809

Ravenhill, J. (2020). International political economy and the global economic crisis. Dalam J. Ravenhill (Ed.), *Global political economy* (6th ed.). Oxford University Press.

Ray. (2019). Inalum pasok bahan baku pelek mobil Toyota. *CNN Indonesia*. https://www.cnnindonesia.com/otomotif/20190215102839-579-369527/inalum-pasok-bahan-baku-pelek-mobil-toyota

Waranggani, I. A., & Darmastuti, S. (2024). Kerja sama keuangan antara Indonesia dan Jepang melalui local currency settlement di sektor perdagangan pada periode 2020-2023. *Jurnal MADANI: Ilmu Pengetahuan, Teknologi, Dan Humaniora*, 7(1), 33–47.

Wardoyo, S. (2025). Driving development: Japanese automotive investment and industrial transformation in Indonesia's New Order era, 1967-1998. *LITE: Jurnal Bahasa, Sastra, Dan Budaya*, 21(1), 14–27.

Wati, A. E., Puteri, I., Lazuardi, M., Maksum, M., & V. T. (2023). Pengaruh perjanjian Indonesia-Japan Economic Partnership Agreement (IJEPA) terhadap pangsa pasar produk Indonesia di Jepang. *Jurnal Economina*, 2(1).

Yoshimatsu, H. (2022). Japan's economic statecraft in Southeast Asia: The automotive industry and economic partnership agreements. *Asian Survey*, 62(3), 481–505.

Yulianingrum, A. (2022). *Ketergantungan industri mobil nasional Indonesia melalui program alih teknologi Indonesia-Japan Economic Partnership Agreement (IJEPA)* [Skripsi Sarjana, Universitas Lampung]. Repositori Universitas Lampung.