



INDONESIA

Analysis of Indonesian Automobile & Scooter Market Development Under U.S. Tariff Policy

Introduction

Since President Trump took office in the United States, new tariff policies have been introduced successively, leading to a tariff rate of automotive and scooter related products exported to the U.S. that generally exceeds 20% for most countries. Although ASEAN countries, after multiple negotiations in August, have reduced tariffs to levels close to that of Indonesia, this also indicates the U.S. recognition of the potential niche and strength of the Indonesian industry. Indonesia is among the first ASEAN countries to have reached an agreement with the U.S. and was the first to obtain a relatively preferential tariff rate of 19%. Indonesia possesses abundant raw material resources, a large domestic market, and low labor costs, demonstrating potential for export expansion and attracting foreign investment. This advantage might influence U.S. import procurement and supply chain arrangements, making Indonesian mid-low grade auto part and scooter price competitive.

This attractiveness draws multinational car manufacturers to redirect orders and invest in Indonesia. Additionally, Indonesia holds advantages in steel and aluminum supply and labor costs, actively promotes upgrade of the automobile and scooter industry, and develops new energy vehicles. Therefore, if Indonesia effectively leverages tariff and cost advantages, it has the opportunity to become a new emerging export base for automobiles and scooters.

Table 1. Major Countries from Which the U.S. Imported Automobiles and Scooters Globally from 2020 to 2024 (Unit: USD 100 Million; %)

| Ranking | Import Sources | 2020 | 2021 | 2022 | 2023 | 2024 | 2024 Share | CAGR |
|--------------------------|----------------|--------|--------|--------|--------|--------|------------|--------|
| 1 | Mexico | 299.4 | 298.1 | 366.5 | 450.4 | 500.1 | 22.4% | 13.7% |
| 2 | Japan | 334.4 | 340.7 | 343.9 | 416.7 | 416.6 | 18.6% | 5.7% |
| 3 | S. Korea | 165.5 | 177.6 | 222.2 | 312.6 | 380.2 | 17.0% | 23.1% |
| 4 | Canada | 296.4 | 255.7 | 265.3 | 350.3 | 285.3 | 12.8% | -0.9% |
| 5 | Germany | 127.2 | 155.7 | 197.8 | 240.6 | 258.8 | 11.6% | 19.4% |
| 6 | UK | 63.4 | 69.0 | 64.7 | 65.9 | 98.2 | 4.4% | 11.6% |
| 7 | Slovakia | 39.0 | 36.7 | 47.3 | 65.2 | 63.1 | 2.8% | 12.8% |
| 8 | China | 26.1 | 28.4 | 38.9 | 36.1 | 47.8 | 2.1% | 16.4% |
| 9 | Italy | 34.1 | 32.0 | 38.4 | 53.8 | 42.4 | 1.9% | 5.6% |
| 10 | Sweden | 24.6 | 30.0 | 34.0 | 39.6 | 39.7 | 1.8% | 12.8% |
| 11 | South Africa | 5.4 | 7.8 | 13.5 | 17.5 | 21.6 | 1.0% | 41.2% |
| 12 | Austria | 15.5 | 20.1 | 18.6 | 24.6 | 21.3 | 1.0% | 8.3% |
| 13 | Hungary | 10.5 | 10.8 | 12.3 | 17.7 | 17.7 | 0.8% | 14.0% |
| 14 | Belgium | 11.5 | 12.5 | 17.7 | 24.3 | 13.7 | 0.6% | 4.4% |
| 15 | Thailand | 4.4 | 6.7 | 7.9 | 6.6 | 9.0 | 0.4% | 19.9% |
| 16 | France | 1.2 | 1.3 | 1.7 | 2.5 | 6.2 | 0.3% | 51.3% |
| 17 | Taiwan | 3.4 | 5.6 | 7.1 | 4.8 | 3.1 | 0.1% | -2.1% |
| 18 | Vietnam | 1.2 | 2.4 | 3.6 | 2.1 | 2.1 | 0.1% | 14.3% |
| 19 | Finland | 3.6 | 10.1 | 14.2 | 0.9 | 1.8 | 0.1% | -15.4% |
| 20 | Spain | 1.9 | 1.4 | 1.5 | 2.5 | 1.8 | 0.1% | -0.9% |
| Sum of Top 20 | | 1468.5 | 1502.7 | 1717.0 | 2134.8 | 2230.6 | 99.8% | 11.0% |
| Sum of Other Countries | | 16.6 | 14.6 | 17.8 | 10.7 | 4.3 | 0.2% | -28.7% |
| U.S. Total Global Import | | 1485.1 | 1517.3 | 1734.8 | 2145.5 | 2234.9 | 100.0% | 10.8% |

U.S. Automobile and Scooter Import Market Analysis

Major Countries from Which the U.S. Imports Automobiles and Scooters Globally

Table 1 illustrates major countries from which the U.S. imported automobiles and scooters globally from 2020 to 2024. **In the last five years, the U.S. automobile and scooter imports increased to 223.5 billion USD, with a compound annual growth**



rate (CAGR) of 10.8%. Among these, Mexico ranked first at 50.01 billion USD, benefiting from proximity to the U.S. market and supply chain clustering, accounting for 22.4% of the total. **Japan and South Korea ranked second and third, with shares of 18.6% and 17.0%, respectively.** South Korea's CAGR reached as high as 23.1%, showing its aggressive gain in the U.S. automotive parts market. Neighboring country Canada ranked fourth; however, some of its market share has been replaced by competitors. Although China accounted for only 2.1%, its CAGR of 16.4% shows there were short-term U.S. demand for Chinese products. The countries that the U.S. imported from were concentrated in North America and East Asia, showing a pattern of "regional concentration + diversification across emerging markets."

Analysis by Category of Automobiles and Scooters Imported Globally by the U.S.

Table 2 shows the the top 10 categories of automobiles and scooters imported by the U.S. globally from 2020 to 2024. In recent years, the U.S. import has centered on passenger cars, with the main category being small passenger cars with engine displacements of 1,500cc and 3,000cc (HS code 870323), accounting for 94.09 billion USD or 42.1%. Next is passenger cars above 3,000cc (870324), at 31.49 billion USD or 14.1%. Electric passenger vehicles (870380) have grown rapidly to 23.02 billion USD, with a remarkable CAGR of 90.1%. Overall, **U.S. automobile and scooter imports were dominated by large passenger cars and the high growth of electric vehicles, highlighting that electrification and high value-added vehicles are firmly positioned as the future mainstream in the U.S.** Although U.S. steel and aluminum tariffs have not included complete vehicles in the taxation scope, steel products and automotive fasteners are already included, thus still impacting the automobile and scooter supply chain.

| Table 2. Top 10 Categories of Automobiles and Scooters Imported by the U.S. Globally from 2020 to 2024 | | | | | | | | |
|--|--|--------|--------|--------|--------|--------|------------|-------|
| (Unit: USD 100 Million; %) | | | | | | | | |
| HS Code | Product | 2020 | 2021 | 2022 | 2023 | 2024 | 2024 Share | CAGR |
| 870323 | (Automobile) Passenger cars and station wagons (engine displacement of 1500cc to 3000cc) | 816.3 | 762.3 | 837.8 | 974.9 | 940.9 | 42.1% | 3.6% |
| 870324 | (Automobile) Passenger cars and station wagons (engine displacement of over 3000cc) | 301.4 | 335.9 | 345.6 | 381.0 | 314.9 | 14.1% | 1.1% |
| 870340 | (Automobile) Passenger motor vehicles (internal combustion engine and electric motor) | 80.7 | 101.8 | 107.3 | 178.0 | 292.4 | 13.1% | 38.0% |
| 870322 | (Automobile) Passenger cars and station wagons (engine displacement of 1000cc to 1500cc) | 182.6 | 147.3 | 189.6 | 252.7 | 283.6 | 12.7% | 11.6% |
| 870380 | (Automobile) Passenger electric vehicles | 17.6 | 53.6 | 107.2 | 190.0 | 230.2 | 10.3% | 90.1% |
| 870360 | (Automobile) Passenger motor vehicles (internal combustion engine and electric motor) | 25.1 | 37.4 | 42.5 | 67.4 | 84.5 | 3.8% | 35.4% |
| 870310 | (Automobile) Snow travel vehicles | 12.4 | 17.4 | 26.4 | 33.8 | 23.8 | 1.1% | 17.8% |
| 870321 | (Automobile) Passenger cars and station wagons (engine displacement of less than 1000cc) | 17.3 | 20.7 | 21.0 | 18.5 | 16.6 | 0.7% | -1.0% |
| 871160 | (Scooter) Light scooters equipped with auxiliary engines (electric) | 11.1 | 13.1 | 19.7 | 15.3 | 12.4 | 0.6% | 2.8% |
| 871150 | (Scooter) Internal combustion engine motorcycles (engine displacement of over 800cc) | 6.4 | 8.8 | 12.0 | 10.3 | 10.0 | 0.4% | 11.9% |
| Sum of Top 10 | | 1470.9 | 1498.3 | 1709.1 | 2121.9 | 2209.4 | 98.9% | 10.7% |
| Sum of Other Countries | | 14.2 | 19.0 | 25.8 | 23.6 | 25.6 | 1.1% | 15.9% |
| U.S. Total Global Import | | 1485.1 | 1517.3 | 1734.8 | 2145.5 | 2234.9 | 100.0% | 10.8% |

Major Countries from Which Indonesia Imports Automobiles and Scooters Globally

Table 3 shows the major countries from which Indonesia imported automobiles and scooters globally from 2020 to 2024. **In the past five years, Indonesia's imports of these products increased to 2.73 billion USD, with a CAGR as high as 42.3%, indicating rapid expansion of Indonesian domestic market demand.** During 2024, Indonesia's imports of automobiles and scooters from China surged significantly to 800 million USD, with a CAGR close to 200%, signaling that China is now leading the local Indonesian supply-demand market. China has become the largest supplier with a 29.3% market share. Although Japan, formerly the top supplier, experienced a CAGR of 34.5%, it was surpassed by China in 2024 but still holds a 27.8% market share. Germany and Thailand grew to 300 million USD and 230 million USD respectively, reflecting European and Southeast Asian influence on high-end vehicle models and components. Other rapidly growing countries included India (39.2%), South Korea (77.7%), and Vietnam (56.8%). Overall, Indonesia's sources for automobile and scooter imports were gradually concentrating on China, Japan, Germany, and others, indicating the formation of a regional supply chain cooperation, with more intense future competition expected.

| Table 3. Major Countries from Which Indonesia Imported Automobiles and Scooters Globally from 2020 to 2024 | | | | | | | | |
|--|----------------|------|------|------|------|------|------------|--------|
| (Unit: USD 100 million; %) | | | | | | | | |
| Ranking | Import Sources | 2020 | 2021 | 2022 | 2023 | 2024 | 2024 Share | CAGR |
| 1 | China | 0.1 | 0.1 | 0.9 | 1.2 | 8.0 | 29.3% | 198.8% |
| 2 | Japan | 2.3 | 2.8 | 4.8 | 6.3 | 7.6 | 27.8% | 34.5% |

| Ranking | Import Sources | 2020 | 2021 | 2022 | 2023 | 2024 | 2024 Share | CAGR |
|---------------------------------|----------------|------|------|------|------|------|------------|-------|
| 3 | Germany | 0.8 | 0.9 | 1.4 | 4.1 | 3.0 | 11.1% | 38.7% |
| 4 | Thailand | 1.5 | 1.2 | 1.5 | 2.6 | 2.3 | 8.5% | 12.4% |
| 5 | India | 0.5 | 0.8 | 1.0 | 1.3 | 1.9 | 6.9% | 39.2% |
| 6 | S. Korea | 0.2 | 1.1 | 2.1 | 4.7 | 1.8 | 6.4% | 77.7% |
| 7 | Vietnam | 0.3 | 0.5 | 1.0 | 1.0 | 1.7 | 6.4% | 56.8% |
| 8 | UK | 0.2 | 0.2 | 0.4 | 0.6 | 0.3 | 1.0% | 11.4% |
| 9 | Italy | 0.1 | 0.1 | 0.2 | 0.2 | 0.1 | 0.5% | 20.1% |
| 10 | USA | 0.1 | 0.1 | 0.3 | 0.4 | 0.1 | 0.5% | 4.7% |
| Sum of Top 10 | | 6.0 | 7.8 | 13.7 | 22.3 | 26.8 | 98.4% | 45.4% |
| Sum of Other Countries | | 0.7 | 0.2 | 0.4 | 0.5 | 0.4 | 1.6% | -9.4% |
| Indonesia's Total Global Import | | 6.7 | 8.1 | 14.1 | 22.7 | 27.3 | 100.0% | 42.3% |

Table 4 is the top 10 categories of automobiles and scooters imported by Indonesia globally from 2020 to 2024. Among the product categories, **passenger electric vehicles (HS code 870380) sharply increased from 10 million USD to 1.04 billion USD, with a CAGR as high as 254.1%, becoming the largest import category** and accounting for 37.9% of total imports. This growth was closely related to the Indonesian government's favorable policies for the electric vehicle industry, including tax incentives and exemptions on the import of electric vehicle materials and machinery, as well as tax-free periods. **The second largest import category was internal combustion engine vehicles, indicating that there remained a fundamental demand for fuel vehicles, but growth rates for most fuel vehicles slowed or even declined. This reflects a market shift gradually moving toward new energy vehicles,** indicating Indonesia's import market transition from traditional fuel vehicles to being centered around electric vehicles, reflecting changes in policy orientation and consumer behavior that have transformed the industry.

Table 4. Top 10 Categories of Automobiles and Scooters Imported by Indonesia Globally from 2020 to 2024

(Unit: USD 100 Million; %)

| HS Code | Product | 2020 | 2021 | 2022 | 2023 | 2024 | 2024 Share | CAGR |
|---------------------------------|--|------|------|------|------|------|------------|--------|
| 870380 | [Automobile] Passenger electric vehicles | 0.1 | 0.3 | 1.9 | 5.3 | 10.4 | 37.9% | 254.1% |
| 870340 | [Automobile] Passenger motor vehicles (internal combustion engine and electric motor) | 0.3 | 0.6 | 0.5 | 2.4 | 5.8 | 21.2% | 114.1% |
| 870323 | [Automobile] Passenger cars and station wagons (engine displacement of 1500cc to 3000cc) | 3.3 | 3.5 | 5.6 | 6.9 | 4.6 | 16.9% | 9.0% |
| 870322 | [Automobile] Passenger cars and station wagons (engine displacement of 1000cc to 1500cc) | 1.6 | 1.4 | 1.7 | 2.2 | 2.6 | 9.4% | 12.5% |
| 871120 | [Scooter] Internal combustion engine scooters (engine displacement between 50cc and 250cc) | 0.4 | 0.6 | 1.2 | 1.1 | 0.9 | 3.4% | 27.1% |
| 870333 | [Automobile] Other vehicles (engine displacement of over 2500cc) | 0.1 | 0.1 | 0.2 | 1.0 | 0.9 | 3.2% | 72.8% |
| 870332 | [Automobile] Other vehicles (engine displacement between 1500cc and 2500cc) | 0.2 | 0.8 | 1.1 | 1.5 | 0.9 | 3.2% | 45.8% |
| 870324 | [Automobile] Passenger cars and station wagons (engine displacement of over 3000cc) | 0.5 | 0.3 | 1.1 | 0.8 | 0.5 | 1.7% | 1.2% |
| 871160 | [Scooter] Light scooters equipped with auxiliary engines (electric) | 0.0 | 0.0 | 0.2 | 0.4 | 0.3 | 1.0% | 56.0% |
| 870321 | [Automobile] Passenger cars and station wagons (engine displacement of less than 1000cc) | 0.1 | 0.2 | 0.4 | 0.5 | 0.2 | 0.7% | 13.1% |
| Sum of Top 10 | | 6.5 | 7.9 | 13.8 | 22.2 | 26.9 | 98.7% | 42.8% |
| Sum of Other Countries | | 0.2 | 0.2 | 0.3 | 0.5 | 0.4 | 1.3% | 18.2% |
| Indonesia's Total Global Import | | 6.7 | 8.1 | 14.1 | 22.7 | 27.3 | 100.0% | 42.3% |

Major Countries to Which Indonesia Exports Automobiles and Scooters Globally

Table 5 shows major countries to which Indonesia exported automobiles and scooters globally from 2020 to 2024. **In recent years, Indonesia's automobile and scooter exports increased to 7.2 billion USD, with a CAGR of 15.5%. The main export destinations were Southeast Asia, the Middle East, and Latin America. The Philippines was Indonesia's largest export market, with exports totaling 2.2 billion USD, accounting for 30.6% of the total and a CAGR of 12.3%. Vietnam and Saudi Arabia accounted for 15.6% and 12.2%, respectively,** with growth rates of 13.8% and 18.5%. The top three export destinations reflect Indonesia's enhanced competitiveness in the ASEAN and Middle Eastern markets. Mexico and the UAE have grown rapidly in recent years, both with CAGRs exceeding 40%, with exports to Mexico exceeding 500 million USD, highlighting cross-regional expansion potential. It is also noteworthy that although exports to Latin American countries like Chile and Peru were not large in volume, their CAGR showed significant growth.



Table 5. Major Countries to Which Indonesia Exports Automobiles and Scooters Globally from 2020 to 2024

(Unit: USD 100 million; %)

| Ranking | Export Sources | 2020 | 2021 | 2022 | 2023 | 2024 | 2024 Share | CAGR |
|---------------------------------|----------------|------|------|------|------|------|------------|--------|
| 1 | Philippines | 13.8 | 15.5 | 22.3 | 22.7 | 22.0 | 30.6% | 12.3% |
| 2 | Vietnam | 6.7 | 7.2 | 11.3 | 5.7 | 11.3 | 15.6% | 13.8% |
| 3 | Saudi Arabia | 4.4 | 5.9 | 7.8 | 7.7 | 8.7 | 12.2% | 18.5% |
| 4 | Mexico | 1.4 | 1.9 | 3.2 | 6.6 | 5.8 | 8.1% | 44.0% |
| 5 | UAE | 0.8 | 1.6 | 2.6 | 3.5 | 3.4 | 4.7% | 42.5% |
| 6 | Thailand | 3.6 | 3.2 | 5.1 | 5.6 | 1.8 | 2.5% | -15.7% |
| 7 | Chile | 0.2 | 0.7 | 1.0 | 1.2 | 1.3 | 1.8% | 57.8% |
| 8 | Peru | 0.6 | 1.1 | 1.6 | 1.5 | 1.2 | 1.7% | 21.4% |
| 9 | Kuwait | 0.4 | 0.4 | 0.7 | 1.6 | 1.0 | 1.4% | 25.3% |
| 10 | Japan | 1.6 | 2.1 | 2.1 | 2.6 | 1.0 | 1.4% | -12.1% |
| Sum of Top 10 | | 35.3 | 42.4 | 61.9 | 64.1 | 63.8 | 79.9% | 16.0% |
| Sum of Other Countries | | 5.2 | 7.0 | 9.0 | 8.9 | 8.1 | 20.1% | 12.0% |
| Indonesia's Total Global Export | | 40.4 | 49.4 | 71.0 | 72.9 | 72.0 | 100.0% | 15.5% |

Table 6 is the top 10 automobile and scooter categories exported by Indonesia globally from 2020 to 2024. Small passenger cars with engine displacements between 1000cc and 1500cc (HS code 870322) and small passenger cars between 1500cc and 3000cc (870323) took up most of Indonesia's export. In 2024, exports of these two categories reached 3.81 billion USD and 1.04 billion USD respectively, accounting together for nearly 70% of total exports, indicating that mid-sized and mainstream car models were the pillars of Indonesia's exports. Low displacement scooters (HS code 871120) also maintained a scale of 990 million USD, accounting for 13.8%. Notably, electric vehicles and emerging car models were rapidly entering the market. Although electric vehicles (HS codes 870380 and 870390) were not yet among the top 10 export products, their CAGR reached 463.8% and 62.7% respectively, demonstrating the growing potential of new energy vehicle exports. While Indonesia's main export strength remains traditional fuel vehicles, it is clearly moving toward new energy vehicles and higher value-added products.

Table 6. Top 10 Automobile and Scooter Categories Exported by Indonesia Globally from 2020 to 2024

(Unit: USD 100 Million; %)

| HS Code | Product | 2020 | 2021 | 2022 | 2023 | 2024 | 2024 Share | CAGR |
|---------------------------------|--|------|------|------|------|------|------------|--------|
| 870322 | (Automobile) Other vehicles (engine displacement between 1500cc and 2500cc) | 13.4 | 15.9 | 21.4 | 32.1 | 38.1 | 53.0% | 29.8% |
| 870323 | (Automobile) Passenger cars and station wagons (engine displacement 1500cc to 3000cc) | 11.7 | 14.6 | 28.5 | 18.3 | 10.4 | 14.5% | -2.9% |
| 871120 | (Scooter) Internal combustion engine scooters (engine displacement between 50cc and 250cc) | 12.2 | 14.4 | 13.3 | 9.6 | 9.9 | 13.8% | -5.0% |
| 870321 | (Automobile) Passenger cars and station wagons (engine displacement of less than 1000cc) | 1.7 | 3.1 | 5.1 | 5.5 | 4.6 | 6.4% | 27.9% |
| 870340 | (Automobile) Passenger motor vehicles (internal combustion engine and electric motor) | 0.0 | 0.0 | 0.5 | 1.6 | 3.7 | 5.2% | 463.8% |
| 871130 | (Scooter) Internal combustion engine scooters (engine displacement between 250cc and 500cc) | 1.2 | 1.4 | 1.8 | 2.0 | 1.3 | 1.8% | 1.7% |
| 870333 | (Automobile) Other vehicles (engine displacement of over 2500cc) | 0.0 | 0.0 | 0.0 | 1.2 | 1.3 | 1.7% | 383.4% |
| 870332 | (Automobile) Other vehicles (engine displacement between 1500cc and 2500cc) | 0.0 | 0.0 | 0.0 | 0.9 | 1.0 | 1.4% | 173.9% |
| 870324 | (Automobile) Passenger cars and station wagons (engine displacement of over 3000cc) | 0.0 | 0.0 | 0.0 | 0.9 | 0.8 | 1.1% | 144.5% |
| 871140 | (Scooter) Internal combustion engine scooters (engine displacement between 500cc and 800cc) | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 | 0.5% | 616.5% |
| Sum of Top 10 | | 40.3 | 49.3 | 70.6 | 72.2 | 71.5 | 99.4% | 15.4% |
| Sum of Other Countries | | 0.1 | 0.1 | 0.3 | 0.7 | 0.5 | 0.6% | 37.1% |
| Indonesia's Total Global Export | | 40.4 | 49.4 | 71.0 | 72.9 | 72.0 | 100.0% | 15.5% |



Impact Analysis of U.S. Tariffs on the Indonesian and Competing Countries' Supply and Demand in Automobile and Scooter Markets

- (1) **Comparison of Global Market and U.S. Import Structure:** Indonesia's automobiles and scooters currently hold a low market share in the U.S. (exports to the U.S. are only about 97 million USD, less than 1.0%), but Indonesia exhibits high growth potential with a global export CAGR of 42.3%.
- (2) **Comparison of Tariffs between Indonesia and Competing Countries:** U.S. tariffs on Japanese automobiles and scooters have been reduced from 27.5% to 15%; U.S. tariffs on South Korean automobiles and scooters are set at 15%; ASEAN countries such as Malaysia and Thailand have tariffs at 19%, and Vietnam at 20%. Most automobile and scooter parts excluding complete vehicles (steel, aluminum fasteners, or products) are subjected to a 50% tariff under the U.S. Section 232 steel and aluminum measures. Since countries return to similar tariff bases, Indonesia's competitiveness in the U.S. market depends on fundamental industrial factors such as mineral resources, location, costs, capacity, technology, and regulations.
- (3) **Analysis of Indonesia's Export Categories:** Indonesia's main exports are cars with engine displacements of 1000cc to 3000cc and low-displacement scooters, which together account for more than 80%. This shows Indonesia's mass production and cost advantages in mid-to-low-tier automobiles and scooters, matching demand in the U.S. mass market. Although Indonesia's new energy vehicle export value is small, its growth rate is significant, aligning with U.S. electrification policies.
- (4) **Change of Export Market Landscape:** Indonesia's automobile and scooter exports to Mexico and UAE have CAGR exceeding 40%, showing competitiveness in cross-regional markets. Indonesia can focus mass-produced mid-to-small displacement automobiles and scooters on U.S. entry-level vehicles and the immigrant market with lower purchasing power, becoming a price-competitive source.
- (5) **Indonesia's Investment in the Electric Vehicle Market and Foreign Manufacturers' Local Investments:** The Indonesian government has established the state-owned Indonesia Battery Corporation (IBC), with cooperation talks involving China, Japan, and South Korea. The company vertically integrates mining, nickel smelting, battery precursor and cell production, acting as a holding company managing the battery industry. Japanese manufacturers (Toyota, Honda) and South Korean manufacturers (Samsung, Hyundai, LG) have invested in Indonesia's automobile or electric vehicle market.
- (6) **Potential Supply Chain Shifts:** Foreign automobile and scooter manufacturers may consider using Indonesia as an export base by shifting part of their production lines there, leveraging Indonesia's nickel resources, growing steel and aluminum capacity, low labor costs, and ASEAN hinterland advantages. Combined with U.S. new energy vehicle policies and foreign investment pace, this could upgrade local industries to become a global emerging supply base.
- (7) **Challenges and Limitations:** Since Indonesia still relies on imported components, lacks advanced technology and brand influence, it will be difficult in the short term to replace existing suppliers on a large scale. Infrastructure and logistics efficiency need improvement, but Indonesia has opportunities for breakthroughs in some markets. ■

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