
THE SOCIOECONOMIC SITUATION SURROUNDING THE AUTOMOBILE INDUSTRY

1 Introduction

The year 2018 saw expanded trade friction between the U.S. and its trading partners under President Trump's America first policies. For the President, who is demanding major corrective majors from the nations that have a trade surplus with the U.S., it was a year to implement protective trade policies rather than promote global benefits from free trade as he sought to meet his commitments toward the middle-class voters constituting his support base for the presidential election. Since its largest trade deficit is with China, the U.S. particularly increased pressure on that country by not only imposing tariffs to redress the trade imbalance, but also prohibiting specific Chinese companies from entering the U.S. market on grounds of security. China took countermeasures such as applying retaliatory tariffs on imports from the U.S., but has also been seeking a breakthrough in negotiations with the U.S. A close watch will be kept on the actions of both countries. As with China, the U.S. is aggressively demanding a redressing of the trade imbalance represented by Japan's trade surplus with the U.S. The Japanese automobile industry is highly dependent on the US market, and President Trump's policies will significantly influence the management strategies of Japanese automakers.

Maintaining or expanding free trade is essential for the development of both the Japanese and global economies amid the ongoing tensions between the U.S. and its trading partners. In 2018, Japan reconciled various interests within its borders and with its trading partners to conclude two free-trade agreements. One is the Trans-Pacific Partnership (TPP) and the other is the Japan-EU Economic Partnership Agreement (Japan-EU EPA). Both are comprehensive trade agreements covering not just the trade of goods, but also services and intellectual property. Tariffs will be gradually reduced or eliminated immediately after the agreements take effect, and com-

mon rules have been set to promote free trade in a broad range of fields. The TPP took effect on December 30, 2018, and the Japan-EU EPA came into force on February 1, 2019. Japan started participating in the economic activities of each of those two strong economic regions as a member of each agreement.

2 Political and Economic Situation

2.1. The Global Economy (Table 1)

Tariff increases by the U.S. and China in October caused a sharp drop in the Dow average at one point because of concerns over the uncertainty over the future of the U.S. economy stemming from the rising prices of imports from China and sluggish exports to that country. This led to a decline in global stock prices. Growing apprehension over capital outflow from emerging markets worsened the global economy more than initially predicted.

The price of crude oil, which was at the 60-dollar level

Table 1. Real GDP Growth Rates in Major Countries (%)

	2016	2017	2018 estimate	2019 forecast
World	3.2	3.8	3.7	3.5
Major developed nations	1.7	2.4	2.3	2.0
U.S.	1.5	2.2	2.9	2.5
Eurozone	1.8	2.4	1.8	1.6
Germany	1.9	2.5	1.5	1.3
France	1.2	2.3	1.5	1.5
Italy	0.9	1.6	1.0	0.6
UK	1.9	1.8	1.4	1.5
Japan	0.9	1.9	0.9	1.1
Developing nations	4.4	4.7	4.6	4.5
Russia	-0.2	1.5	1.7	1.6
China	6.7	6.9	6.5	6.3
Thailand	3.3	3.9	4.6	3.9
Indonesia	5.0	5.1	5.1	5.1
India	7.1	6.7	7.3	7.5
Brazil	-3.5	1.1	1.3	2.5
Saudi Arabia	1.7	-0.9	2.3	1.8

Source: IMF World Economic Outlook, revised forecast, January 2019

in early 2018, surged to the 76-dollar level because oil-producing countries acted in concert to reduce oil production. However, it had dropped to the 51-dollar level by year-end due to concerns over an economic slowdown triggered U.S.-China trade friction and increased oil production in countries other than the usual oil-producing countries. In emerging countries such as China and India, the demand for crude oil is likely to continue to increase over 2019. The ongoing reduction in crude oil production in the oil-producing countries is being countered crude oil production in other countries, flexibly adjusted to match the demand for shale oil in particular. This is causing uncertainty over the rise in crude oil price expected by the oil-producing countries.

2.1.1. The U.S.

The ruling Republican party, led by President Trump won a majority in the Senate but suffered a massive defeat in the House of Representatives in the November midterm election. Conventionally, the ruling party is at a disadvantage in the midterm election. Additionally, coverage of scandals involving the President and his way of managing the government raised concerns, keeping approval ratings at around 44%. The Democrats who oppose the policies of the Trump administration therefore won a majority in the House or Representatives and, after the election, submitted a budget that did not include funds for the wall the President had promised to build on the U.S.-Mexican border. The President refused to sign the bill, forcing some government agencies to shut down, an example of concerns over the conflict between the parties bringing government administration to a halt.

Although the FRB raised interest rates four times as tax cuts and deregulation brought about favorable domestic economy in 2018, the subsequent projection of a slowdown for the U.S. economy prompted FRB chairman Jerome Powell to state that decisions on when and how often to raise interest rates in 2019 would be made carefully.

Meanwhile, the labor shortage following economic recovery was intensified by tightened-up immigration clearance, such as checking work visas to crack down on unlawful immigration, resulting in wage increases. This is good news for workers who only saw minimal increases for many years, but the higher labor costs are becoming a cause for concern about the U.S. economy.

2.1.2. Europe

Immigrants were initially welcomed by European peo-

ple on humanitarian grounds, but anti-immigration public sentiment is rising as the unrelentingly high unemployment rate, particularly among the youth, has been spreading to the middle class, triggering fears that the local communities built over the years will be undermined. In European countries, right wing parties promoting nationalism are gaining ground, and current administrations are being forced to change their policies to tighten immigration restrictions.

With the late March 2019 Brexit deadline approaching, the draft withdrawal agreement between the U.K. and EU was rejected by the U.K. Parliament, making a no-deal Brexit more likely. Japanese and other foreign companies with subsidiaries in the U.K. are concerned about the impact losing various privileges in the EU will have on their operations after Brexit, and head office functions are being relocated from the U.K. to continental Europe at an accelerated pace. Manufacturing industries are foreseeing the reinstatement of tariffs and customs in the EU and have started to take precautionary measures such as securing inventory items. Some manufacturing industries have stated that uncertainty over the future has led them to review how they allocate their manufacturing operations in the EU, reduce production in the U.K., or even leave the country, prompting concerns on how the U.K. economy will be affected.

In France, the Macron administration, in which citizens had high expectations, reduced the number of government employees and instituted tax reforms to promote financial restoration. Among these reforms, raising the fuel tax imposed a tax burden on low-income earners, while lowering corporate taxes to strengthen economic power in the free economy and other policies perceived as friendly to the rich, spurred distrust of the administration that escalated into large-scale demonstrations and protests. The approval rating of the Macron administration dropped, and the economic reforms imposing a large burden have entered a difficult phase.

In Germany, the leader of the EU economy, the Merkel administration seemed to be stable in the continuing favorable economy thanks to weak Euro. However, public anxiety built up over the policy to actively accept immigrants, and the middle-of-the-road party led by Chancellor Merkel suffered a crushing defeat in the municipal election in her constituency, allowing the anti-immigration right wing party to gain considerable ground. Following that defeat, Chancellor Merkel announced she

would step down as chancellor when her term expires in 2021. In conjunction with the current battle for power within the coalition government, this makes a weakening of Germany's centripetal force in the EU inevitable. The German economy was affected by exhaust gas issues that undermined the automotive industry. Sluggish exports and domestic consumption due to higher prices resulted in a GDP stagnant growth rate. In 2019, uncertainty over Brexit and an economic slowdown in China, one of the major export destinations for Germany, are among the factors causing concerns about an economic downturn.

The Italian economy, the fourth largest in the EU, is exhibiting a moderate recovery. Two populist parties that ran campaigns espousing public spending formed a coalition after the March general election. The budget for 2019 presented by the new administration, initially rejected by an EU Commission apprehensive about an expanding budget deficit, was later modified and approved. However, there are growing concern that facing problems such as government debt and bad loans, in addition to the longstanding Italian issues of low growth and productivity, is being avoided.

2. 1. 3. China

The Chinese economy, which has been expanding, was limited to a low level of 6.5% growth in 2018, prompting worries about potential effects on the global economy. China's export industries have powered the Chinese economy in their role as factories for the world. However, the increased pressure resulting from President Trump setting the redressing of the US-China trade imbalance as his main policy, and the attendant concerns about an economic slowdown led the Chinese government to adopt a monetary easing policy in spite of anxiety about excess debts. At the same time, the domestic economy rapidly grew thanks to exports and investments in infrastructure. Many people, especially in urban areas, have joined the middle class and enjoyed increased purchasing power. Economic activities by the Chinese have also expanded rapidly, with Japan also benefiting from a rise in the number of tourists from China. The Chinese government is promoting new industries that are internationally competitive and of high value to foster further economic growth. One example is the development, through public-private partnerships, of the 5G next-generation communication standard that will become mainstream in communication devices forming the

core of international electronic trading. However, a shadow is being cast as fears of further trade frictions are slowly becoming reality.

Infrastructure building, which has been the driver of the domestic economy, has been expanding outside the country with active investments in Southeast Asia and Africa, where a lack of funding has held back infrastructure development, providing support to the Chinese economy. However, that economy could also potentially become hindered by those investments due to the worries about profitability plaguing not a few projects and the anxiety over expanding vested rights in the recipient countries.

2. 1. 4. Emerging Markets

Following the commitment made by President Trump to renegotiate NAFTA, Mexico reached a new agreement with the U.S. and, along with Canada, concluded the new USMCA treaty. The U.S. conditions for eliminating tariffs in the high-profile automotive trade included expanding the local procurement ratio from 62.5% to 75%, a wage clause, and restrictions on volume. Although Mexican automakers still benefited from zero tariffs, they have had to adjust to the new agreement.

Overcoming the US raise in interest rates, the economic slowdown in China, the weak rupee triggered by financial outflow aimed at avoiding the risks associated with the U.S.-China trade war, and credit insecurity, the Indian economy exhibited a GDP growth rate of 7.3% for 2018 and continues to grow at a rapid pace. Nevertheless, promoting further economic activity involves many challenges, including a power grid subject to frequent blackouts, underdeveloped transportation and other infrastructures, and a social order deteriorated by corruption and discrimination. Confidence in the reforms implemented in India by the Modi administration will be tested in the 2019 general election, and the results could potentially provoke unrest.

Thailand, where many Japanese companies operate, had a GDP growth rate of 4.9% for 2018 and is doing well mainly in exports. At the same time, the country remains caught in the middle income trap due to its labor-intensive industrial structure, raising concerns about the decline in its national power due to increasing labor costs and a declining youth population. In 2015 the Thai government therefore set up an initiative called Thailand 4.0 that aims to boost the country's economy through a transition to an advanced industrial structure. The Society of

Automotive Engineers of Japan is helping to nurture engineers to achieve that goal.

Middle Eastern countries, which supply 90% of the crude oil used in Japan, are in locked in constant conflict for hegemony that stems from economic, religious, and domestic circumstances. This is causing uncertainty about a stable energy supply for the future. Stable oil and natural gas prices are crucial for the Middle Eastern countries, whose finances rely largely on exporting those resources. In 2018, the major oil-producing countries collaborated to reduce crude oil production in an effort to raise the price of crude oil, but its price dropped by the end of the year. Amid deepening conflict in the Middle East, uncertainty about crude oil price movements make it impossible to predict whether the oil-producing countries will continue to collaborate.

2.2. The Japanese economy

In Japan, the real economic growth rate in 2018 was 0.9%. Although lower than the 2017 rate, it reflects the slow growth of the economy on the strength of personal spending, capital investment, and exports. The consumer price index was 1% (general index), remaining below the target value of 2% set by the Bank of Japan. From 2018 to 2019, successive increases in the price of groceries, daily supplies, and various services, reflecting the higher raw material costs in and outside Japan as well as the rising labor and logistics costs due to the domestic labor shortage, were announced. With respect to the labor shortage, the overall unemployment rate is fluctuating

around the low level of 2.5% and the average job opening ratio exceeds 2.0, while the employment rates for new university graduates and new high school graduates hit their highest level at 98% and 98.1%, respectively. However, the disparity in job opening ratio between industries poses a problem, and the revised Immigration Control and Refugee Recognition Act, aimed at accepting more foreign workers, was established to reduce that disparity.

The labor population in Japan will decrease further in the future if the current situation remains unchanged. Hence, the government is playing a leading role in promoting work-style reforms to maintain and strengthen Japanese economic power in the international community. The undeniably growing labor shortage is fostering a change of mindset not only in managers but also in workers themselves, spurring hope that the ideals the work style reforms try to achieve will take hold sooner than expected.

3 Current State of the Automotive Industry

3.1. Inside Japan (Table 2)

Sales of new vehicles in Japan in 2018 reached 5.27 million vehicles, an increase of 0.7% compared to 2017. Specifically, sales of passenger vehicles were 2.9 million vehicles, a decrease of 1.6%, while sales of light-duty vehicles were 1.31 million vehicles, a large decrease of 5.9% from the previous year. Sales of imported vehicles increased

Table 2 Sales Trends in the Japanese Automobile Market

Unit: 1,000 vehicles

	2013		2014		2015		2016		2017		2018	
	Volume	Compared to previous year	Volume	Compared to previous year	Volume	Compared to previous year	Volume	Compared to previous year	Volume	Compared to previous year	Volume	Compared to previous year
Total	5,376	100.0%	5,563	103.5%	5,047	90.7%	4,970	98.5%	5,234	105.3%	5,272	100.7%
Vehicle registrations	3,263	96.0%	3,290	100.8%	3,150	95.7%	3,245	103.0%	3,391	104.5%	3,348	98.7%
Passenger vehicles	2,872	95.0%	2,860	99.6%	2,704	94.5%	2,801	103.6%	2,943	105.1%	2,895	98.4%
Ordinary trucks	1,399	99.0%	1,438	102.8%	1,355	94.2%	1,490	110.0%	1,548	103.9%	1,583	102.3%
Light-duty trucks	1,473	92.0%	1,423	96.6%	1,350	94.9%	1,311	97.1%	1,395	106.4%	1,313	94.1%
Trucks	379	104.0%	418	110.3%	432	103.3%	428	99.1%	432	100.9%	439	101.6%
Ordinary trucks	143	105.0%	165	115.4%	173	104.8%	173	100.0%	176	101.7%	180	102.3%
Light-duty trucks	236	104.0%	253	107.2%	260	102.8%	255	98.1%	256	100.4%	259	101.2%
Buses	11	94.0%	12	109.1%	13	108.3%	15	115.4%	16	106.7%	14	87.5%
Mini-vehicles	2,113	107.0%	2,273	107.6%	1,896	83.4%	1,725	91.0%	1,843	106.8%	1,924	104.4%
Passenger vehicles	1,690	109.0%	1,839	108.8%	1,511	82.2%	1,345	89.0%	1,443	107.3%	1,496	103.7%
Trucks	423	100.0%	434	102.6%	385	88.7%	380	98.7%	400	105.3%	428	107.0%

Source: Japan Automobile Manufacturers Association (JAMA)

Table 3 Sales Trends in the Overseas Automobile Market

Unit: 1,000 vehicles

	2014		2015		2016		2017		2018	
	Volume	Compared to previous year	Volume	Compared to previous year	Volume	Compared to previous year	Volume	Compared to previous year	Volume	Compared to previous year
North America	19,902	106.1%	21,186	106.5%	21,487	101.4%	21,196	98.6%	21,165	99.9%
Europe	18,357	101.2%	19,004	103.5%	19,997	105.2%	20,723	103.6%	20,687	99.8%
China	23,489	106.8%	24,565	104.6%	27,939	113.7%	28,941	103.6%	28,039	96.9%
Japan	5,563	103.5%	5,047	90.7%	4,970	98.5%	5,234	105.3%	5,272	100.7%
Asia	8,657	97.9%	9,047	104.5%	9,370	103.6%	9,872	105.4%	10,504	106.4%
Oceania	1,241	99.3%	1,290	103.9%	1,325	102.7%	1,349	101.8%	1,315	97.5%
South Africa, Egypt	958	113.6%	896	93.5%	771	86.0%	781	101.3%	748	95.8%
South America	4,489	85.9%	3,495	77.9%	3,092	88.5%	3,503	113.3%	3,683	105.1%
Total	82,635	102.8%	84,530	102.3%	88,952	105.2%	91,599	103.0%	91,414	99.8%

Source: FOURIN's Monthly Report on the Global Automotive Industry

from the previous year by 1.1% to 0.31 million vehicles, their second highest level. Sales of mini-vehicles in 2018 did not reach the 2014 peak sales of 2.27 million vehicles, but at 1.92 million vehicles they increased by 4.4% compared to 2017. More mini-vehicles are equipped with driving support functions, and models with a wide cabin space, in particular, are very popular despite prices similar to those of registered vehicles.

Terms related to autonomous driving have been used to describe the vehicles equipped with driving support functions that have become remarkably widespread. To avoid misunderstandings, the Ministry of Land, Infrastructure, Transport and Tourism has defined currently commercially available Levels 1 and 2 vehicles as driving support vehicles, and requested that manufacturers and dealers explain the limits of the functions to ensure they are correctly understood by users.

Sales of environmentally friendly vehicles, including electric and plug-in hybrid vehicles, were 52 thousand vehicles, a decrease of 7.6% from 2017. The market share of environmentally friendly vehicles remained about 1%, reflecting slower propagation compared to the 2.1% share observed outside Japan. The key to achieving more widespread use of such vehicles lies in going beyond simply reducing CO₂ emissions and offering users greater value that encompasses convenience as a matter of course while maintaining a reasonable price point.

3.2. Outside Japan (Table 3)

3.2.1. The U.S.

The number of new vehicles sold in 2018 increased slightly to 17.66 million vehicles, virtually unchanged from 2017, and only a 0.7% increase. Sales rose steadily, with negative factors such as the leveling off of replacement demand after the 2008 financial crisis, higher auto

loan interest rates following the FRB interest rates raises, higher oil prices (that dropped by year's end), and the arrival of end-of-lease vehicles on the used car market, probably compensated by the positive factors of improved consumer sentiment resulting from stable employment as well as the wage increases due to tax cuts and the labor shortage.

A change was also observed in the type of vehicles sold. The proportion of sales of sport utility vehicles (SUVs) and pickup trucks, vehicles generally favored by Americans, increased as people were more willing to spend and President Trump eased fuel economy regulations. In contrast, sedans offering excellent fuel efficiency did not sell well. Accordingly, U.S. manufacturers have been increasing the production of the more profitable SUVs and pickup trucks, and limiting the variety of models sold through measures such as scaling down the production of sedans or closing plants.

3.2.2. Europe

The number of new vehicles sold in Europe in 2018 decreased slightly to 17.87 million vehicles, virtually unchanged from 2017, and only a 0.2% decrease. There was a distinct difference in sales between the five major European countries. Sales decreased by 0.2%, 3.0%, and 6.8%, respectively, in Germany, Italy and the U.K., but increased by 2.9% and 7.0%, respectively, in France and Spain.

The deterioration of consumer sentiment is attributed to political confusion and various domestic problems slowing down the economy following the coming into power of a populist party coalition after the general election in Italy, and to the economic slowdown and weak pound resulting from stalled negotiations to withdraw from the EU in the U.K.

In terms of the ratio by type of fuel in Europe, sales increased to 57% for gasoline vehicles, dropped to 36% for diesel vehicles, and reached 7% for environmentally friendly vehicles such as electric, hybrid, and plug-in hybrid vehicles, an increase of 0.2 million vehicles over 2017.

Demand for SUVs was high, accounting for 3.6% of vehicles sold in 2018, an increase compared to 2017. Compact SUVs proved especially popular, exhibiting sales of 2.3 million vehicles (14.7% of the passenger vehicle total).

Sales of new passenger cars in Russia rose to 1.8 million vehicles, a 12.8% increase over 2017. The Russian new vehicle market, where sales hit a record 2.93 million vehicles in 2012, had been in a slump because of factors such as the drop of crude oil prices, economic sanctions by the U.S., and the devaluation of the ruble. However, rising crude oil prices and the recovery of the ruble suppressed the increase in vehicle prices and raised real wages, shifting the Russian market toward an upward trend.

3.2.3. China

Sales of new vehicles in China were 28.04 million vehicles in 2018, a 3.1% decrease compared to 2017. The decrease is seen as a sign of change in a Chinese market that had been consistently expanding. Sales in China were on track to exceed those of the previous year until end of the first half of 2018, before tariffs were raised by the U.S. and China due to their trade friction. The drop in sales appears to be a consequence of anxiety over the future and customers holding back on purchasing due to reduced wealth. In the long term, factors such as economic policies that accommodate a slowdown in growth through structural economic reforms, low productivity in the coal, steel, and other sectors, the elimination of out-of-date and environmentally unfriendly production facilities, capital investments and infrastructure development reaching a plateau within China, and the weakening of China's position as the world's factory due to rising labor costs are expected to fuel uncertainty.

To foster China's automotive industry and address environmental issues, the Chinese government is promoting the use of new energy vehicles (electric and plug-in hybrid vehicles). Sales of such vehicles are expanding thanks to subsidies as well as to restrictions on the issuance of license plates and access to urban areas. In 2019, the government will implement a policy that requires a fixed rate of new energy vehicle production relative to

the number of produced and imported vehicles, making further expansion of the new energy vehicle market likely.

3.2.4. Emerging Markets

The number of new vehicles sold in Mexico dropped to 1.46 million vehicles, dropping for a second consecutive year and a decrease of 7.0% from 2017. The decrease in sales of passenger cars (a 10.0% drop) is particularly significant. The renegotiation of NAFTA with President Trump caused the peso to fall against the dollar. Bank rates were raised to suppress inflation, leading to higher loan rates and discouraging consumers from buying passenger cars, which are often purchased with a loan. This presumably made consumers reluctant to purchase new passenger cars.

In India, sales of new vehicle were 4.4 million vehicles, an increase of 9.5% over 2017 attributed not only to the robust Indian economy, but also to the rebound following consumer pullback from buying in anticipation of the effective tax reduction resulting from the introduction of the GST (an integration of national commodity taxes and state value-added taxes) in the previous year. To address serious air pollution, India had set a target that electric vehicles account for 100% of new vehicles sold in the country in 2030. However, that target has been revised to a more realistic figure of 40%. Nevertheless, the current state of the infrastructure in India and political wrangling suggest that more twists and turns await.

In ASEAN countries, 1.04 million vehicles were sold in Thailand. The coup d'état in 2014 and the passing away of the king in 2016 led to an economic slowdown and a continuing slump in consumption. However, economic stimulus measures implemented by the Thai government in 2018, and the launch of new models, increased sales by 20.0% compared 2017. Indonesia, with a population of 200 million people, continues to enjoy steady growth, and sales of new vehicle reached 1.15 million vehicles, an increase of 6.6% from 2017. In the Philippines, sales of new vehicles dropped to 0.36 million vehicles, a 16% decrease from 2017, in reaction to that year's tax reform (increased commodity tax on vehicles). Sales of new vehicles in Vietnam, where the economy is growing rapidly, rose to 0.28 million vehicles, which is a 107.2% increase from 2014 reflecting the expansion of the market. Moreover, the country's largest conglomerate is now producing vehicles domestically, aiming to make this a catalyst for further economic development.

Table 4 Trends in the Number of Automobiles Produced in Japan

Unit: 1,000 vehicles

	2013		2014		2015		2016		2017		2018	
	Volume	Compared to previous year	Volume	Compared to previous year	Volume	Compared to previous year	Volume	Compared to previous year	Volume	Compared to previous year	Volume	Compared to previous year
Total	9,630	97.0%	9,775	101.5%	9,278	94.9%	9,205	99.2%	9,691	105.3%	9,729	100.4%
Vehicle registrations	7,520	95.0%	7,481	99.5%	7,355	98.3%	7,563	102.8%	7,795	103.1%	7,797	100.0%
Passenger vehicles	6,507	94.0%	6,509	100.0%	6,300	96.8%	6,610	104.9%	6,863	103.8%	6,860	100.0%
Ordinary trucks	4,618	99.0%	4,658	100.9%	4,744	101.8%	5,000	105.4%	5,147	102.9%	5,255	102.1%
Light-duty trucks	1,889	84.0%	1,751	92.7%	1,556	88.9%	1,610	103.5%	1,716	106.6%	1,605	93.5%
Trucks	881	103.0%	933	105.9%	917	98.3%	823	89.7%	808	98.2%	824	102.0%
Ordinary trucks	580	99.0%	605	104.3%	587	97.0%	506	86.2%	516	102.0%	518	100.4%
Light-duty trucks	301	109.0%	328	109.0%	331	100.9%	317	95.8%	293	92.4%	306	104.4%
Buses	133	109.0%	140	105.3%	138	98.6%	130	94.2%	123	94.6%	113	91.9%
Mini-vehicles	2,110	104.0%	2,293	108.7%	1,923	83.9%	1,642	85.4%	1,896	115.5%	1,931	101.8%
Passenger vehicles	1,683	104.0%	1,868	111.0%	1,531	82.0%	1,264	82.6%	1,484	117.4%	1,498	100.9%
Trucks	428	105.0%	425	99.3%	392	92.2%	378	96.4%	411	108.7%	433	105.4%

Source: Japan Automobile Manufacturers Association (JAMA)

Table 5 Trends in Domestic and Overseas Production by Japanese Automobile Manufacturers

Unit: 1,000 vehicles

	2000		2005		2010		2015		2017		2018	
	Volume	Proportion	Volume	Proportion	Volume	Proportion	Volume	Proportion	Volume	Proportion	Volume	Proportion
Domestic production	10,141	61.7%	10,800	50.5%	9,629	42.2%	9,278	33.9%	9,691	32.9%	9,729	32.8%
Overseas production	6,288	38.3%	10,606	49.5%	13,182	57.8%	18,095	66.1%	19,741	67.1%	19,965	67.2%
Total	16,429	100.0%	21,406	100.0%	22,811	100.0%	27,373	100.0%	29,432	100.0%	29,694	100.0%

Source: Japan Automobile Manufacturers Association (JAMA)

3. 2. 5. Other Markets

Sales of new vehicles in Brazil reached 2.57 million vehicles, an increase of 14.6% from 2017, but below the peak sales of 3.8 million vehicle in 2013. Brazil is still in an economic downturn caused by low resource prices, delayed social structural reforms, political instability, and the decreased value of the real against the dollar. Argentina, Brazil's neighbor and main trading partner, faces a plunge of the peso due to the bank rate rise in the U.S. and the risk of sovereign default. This further economic downturn in Argentina is also dragging down the Brazilian economy. In contrast, Chile's economic recovery encouraged consumers to buy, so bringing sales of new vehicles to a record high of 0.43 million vehicles, a 14.7% increase from 2017.

In South Africa, the largest automotive market on the African continent, sales of new vehicles were 0.54 million vehicles in 2018, a 2.4% decrease from 2018. Sales of new vehicles in other major African countries remained low level due to a variety of reasons that include stagnant domestic economies, weak currencies, political instability, and low resource prices. Africa is drawing attention as a

prospective market, but also faces many fundamental problems in terms of factors necessary to expand economic activity. There is concern that Africa may continue to be swayed by world economic trends.

3. 3. Production (Tables 4 and 5)

Vehicle production by Japanese manufacturers in Japan in 2018 flattened out substantially, while production outside Japan expanded, reflecting the steady improvement established in their market competitiveness despite the slowdown in the growth of the global automotive market. The automotive industry is capital intensive, and supported by a wide variety associated sectors that supply components and enormous manufacturing facilities. Since expectations for the contribution of the industry to local economies are high, regional governments looking for local production in their regions are actively enticing the industry there by offering preferential policies and other incentives.

In the Japanese market, sales of vehicles are anticipated to slow down as the population declines and securing a sufficient labor force for the automotive industry becomes more difficult. Therefore, the continued expansion

of local production for local consumption that is adapted to local needs and encompasses development, without insisting on production in Japan, is expected.

4 Issues of the Automotive Industry in Japan

The advent of automobiles, which enabled long-distance travel in a short time, led to immediate recognition of their convenience by citizens whose means of transportation had been limited. They were first used by the high-income class, and spread throughout society as a whole as wages rose and manufacturing innovations by Ford made them cheaper.

In the postwar era, Japan promoted the spread of automobiles to obtain a financial source for infrastructure construction from taxes on automobiles and fuel, as well as for the economic benefits of automobile manufacturing. Enhanced automotive productivity, higher wages, and greater convenience provided by infrastructure development led to the present social structure centered on the use of automobiles.

Automobiles spread rapidly in Japan and other developed countries, and used cars resulting from replacement demand enabled their propagation to people previously unable to afford automobiles, particularly in emerging countries. Accordingly, it can be said that the global economic structure is based on automobiles. If the economy continues to expand, the demand for automobiles will rise unless alternative means of transportation (with operating costs equal to or lower than that of automobiles) appear.

A future in which economic activity is globally stimulated by automobiles has drawn the attention of giant U.S. IT corporations. If the networks controlled by IT corporations become very large, they will be able to monopolize the application of the data in those vast networks to create fresh innovations, giving them an edge against competitors and allowing them to make enormous profits. Advanced IT (hardware and software) and an expanded communication infrastructure allows a massive amount of information to be communicated through networks. Now every part of the world is connected to the networks, laying the groundwork for automobiles to serve as mobile network terminals.

Operational information from individual automobiles, which includes trip details, automobile states, and image data, is continuously collected from on-board devices. Al-

though that information can be shared to collectively manage and process many existing investigated items, there are also concerns over user resistance to having driving information collected from their vehicles, as well as over legal constraints on personal information.

For these reasons, automakers and the automotive industry are not very eager to use such information even though they are considering the technical feasibility of doing so. This is because automakers firmly believe that they produce automobiles for users, including society as a whole, and that operating an automobile should not limit the user's freedom. Consequently, their use of technologies for autonomous driving, IoT, and AI for automobiles is based on user-oriented operation.

However, for the giant IT corporations that take a broad view of economic activity, are intimately familiar with the importance of information, and make use of it, driving information from automobiles is a form of economic activity. The IT giants therefore exclusively collect such information without hesitation, and treat it as indispensable to business success (leading wealth to concentrate in the U.S.). With an eye toward building future-oriented information gathering networks, the IT corporations can be expected to attempt to build a business model that monopolize profits using advanced electronic devices only they can supply to enable autonomous driving by serving as both network terminals and an operations system that handles core operations. They will then be able to use the operational information exclusively collected via those devices to offer their network-based lifework and create new value.

As the pace of such moves by IT corporations accelerates, the Japanese automotive industry defined by the manufacturing of automobiles may be at a turning point that will determine whether it plays a central role in building vast networks, controlling and managing the large data of information from those networks, and introducing new innovations using the information from automobiles that shoulder day-to-day global economic activities, or whether it will remain only a manufacturing industry centered on the manufacturing of automobiles.

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