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THE LATEST DEVELOPMENT IN JAPANESE AUTOMOBILE INDUSTRY AND SOME SUGGESTIONS FOR DEVELOPING COUNTRIES[1/]

by

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The Latest Development In Japanese Automobile Industry and Some Suggestions For Developing Countries

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I. National Economic Significance Of Automotive Industry In Japan

Although the Japanese automobile industry started considerably later than that of the advanced western nations and had only a history of little over thirty years since its adoption of a mass production system, it has nevertheless attained the world's second highest production of motor vehicles since 1967. Moreover the production of motorcycles has continued to hold the first place in the world. The output of the Japanese automobile industry including that of auto parts and bodies today amounts to as much as ¥2,365,000 million ($6,570 million) a year: a huge new industry well comparable to such as iron and steel, petrochemical and power industries. For Japan it has the following national economic significance:

(1) Importance As An Integrated Industry

Since over ten thousands of parts are required to assemble an automobile, the automobile industry employes many parts suppliers and maintains a close relationship with a number of correlated industries. Its extensive relationship includes various industries such as iron and steel, tire, bearing, battery, glass, fiber, paint, oil, plastic, nonferrous metal, etc.

The automobile industry, in a sense, constitutes a pyramid with auto makers occupying its pinnacle in their role of a complete assemblage while the correlated enterprises of parts manufacturers form its broad base. Consequently correlated

industries must have a high level of technology for the production of quality automobiles. The development of the automobile industry, in this sense, furthers the advancement and development of parts makers, the general machine industry, and a host of correlated manufacturers as well as the iron and steel industry, and thus contributes to the nation's economic and industrial development.

(2) Importance As Viewed From Employment

If the objectives of economic policy of a nation are the realization of full employment, the promotion of the income level and the advancement of the people's livelihood, the automobile industry can be considered to be an effective means to attain the economic policy since it provides the greatest potential for employment. With regard to the persons currently employed in the automobile industry in Japan, those working directly for automobile production number 120,000; parts production 290,000; body production 50,000, totaling 460,000 workers. This figure is close to 480,000 persons working in the iron and steel industry and 490,000 in the chemical industry.

In addition to the above figures, those employed by automobile and parts dealers and services number 540,000. In automobile passenger transportations such as hired cars, taxis and busses 580,000 are engaged and in the trucking business are 500,000, making for a total of 1,080,000 employees in the field of motor transportation alone. Furthermore, the automobile industry is creating such fringe jobs as road construction,

gas stations and garages. In the Japanese manufacturing industries, automobile and parts makers alone have an employment ratio of 5.9% as compared to 4.5% in the United States, indicating almost the same level.

(3) Importance As An Export Industry

Exports form another important aspect of the automobile industry in contributing to a nation's economy.

Japan's total exports in fiscal 1966 amounted to $10,000 million, of which the automobile exports (four and two wheel vehicles and parts) were $600 million, or 6% of the total. In fiscal 1968, the automobile exports are expected to reach the $1,100 million mark out of a total export volume of $13,500 million, indicating prospects for reaching an 8% share by automobile exports in overall Japanese exports. In this way, automobile exports have become increasingly important year after year.

Besides iron and steel, vessels and home electric appliance (television sets, radio receivers, etc.), automobiles are now playing a leading role in the export of Japan's heavy industry products.

II. Development of Automobile Industry in Japan

(1) Production

a. Expansion of Production

The production of motor vehicles in Japan has shown a phenomenal advance in the past few years and attained in 1967 a level of 3,146,000 four-wheelers, surpassing West Germany and gaining the world's second place after the U.S. (Japan's auto output in 1968 was 4,089,000 vehicles.) This volume is about 17 times as large as that ten years ago in 1957, and over 3 times that of five years ago in 1962. As to the growth rate of the leading western nations during the same 5-year period, the United States registered 10%, West Germany 5%, Britain 16%, France 31% and Italy 63%.

With regard to the production growth in terms of the types of vehicles, passenger cars came out on top with a five-fold increase in five years, followed by motor trucks and busses with an increase of about 2.5 times.

b. Characteristics of Production Structure

As explained above, the automobile output in Japan has been steadily expanding, but it has a unique production structure not seen in advanced western nations.

The first characteristic is that the production centers on motor trucks and the output ratio of passenger cars is small. During 1967 the output of trucks and busses numbered 1,760,000 with an output ratio of 56.3% as against 1,375,000 passenger cars with a ratio of 43.7%, that is less than half the total

auto output. This presents a striking contrast to Western countries where the annual production of passenger cars occupies more than 80% of the total output. This is because the motor truck industry was given priority in Japan during the prewar and postwar rehabilitation periods as a means to develop the automobile industry, and passenger car manufacturing was developed on the basis of a stabilized motor truck industry. This was made possible by a sudden increase in the demand for trucks for freight traffic caused by a fast postwar economic growth.* One thing to be noted here is that Japan has recently seen an increasing production of station wagon type commercial cars, which according to the law are placed in the same category as motor trucks. This shows up in a smaller passenger car output ratio in the statistics.

As to the second characteristic, it must be mentioned that there has been a comparatively large output of midget-size vehicles with a displacement of 360 cc and under. In 1967 their output ratio rose as high as 25.9% with a population of 815,000 vehicles (283,000 passenger cars and 532,000 trucks.) The 360 cc class midget vehicles are being produced only on a limited scale in Europe, and together with 3-wheeled vehicles, they are certainly among the most unique products in Japan. The reasons for their development in Japan are, besides low price, low maintenance cost and convenience for door-to-door

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* Japan's case may help to decide whether passenger cars or motor trucks should be given priority for the development of the automobile industry in developing countries.

delivery by medium and small businesses and for small trips, special privileges such as tax, vehicle inspection, parking restriction, tolls, etc. that are denied to larger displacement vehicles. Their existence is highly significant in that they are expanding the basis of Japan's motorization.

(2) Exports

a. Expansion of Exports

Japanese automobile exports in 1958 were 10,000 vehicles, but they have shown rapid yearly expansion, with exports of about 100,000 in 1963, 250,000 in 1966, and 360,000 in 1967. With a further growth of passenger car exports in 1968 the figure reached a level of 610,000.

Until about 1960, a majority of Japanese automobile exports were motor trucks and busses, and it was not until 1963 that the passenger car exports at long last reached the full 30,000 mark and they have quickly expanded ever after. In 1965, the passenger car exports for the first time surpassed commercial car exports and obtained a majority position. Since then passenger cars exports showed a large expansion year after year, gradually coming to be the nucleus of exports. The weight of passenger car export in the total automobile export in 1968 reached 65%, which is expected to advance further in the future.

The nucleus of export passenger cars, classified by size, is formed by those having a displacement of between 1,000 cc and 1,600 cc, and trucks those with a load capacity ranging from 1 to 2 tons occupy more than 70%.

Automobile exposts to Southeast Asia, classified according to regions, occupied 50% of the total exports until about 1964, which, together with exports to the developing countries in the Middle East, Africa and Central and South America, came close to 90%. Since 1966, however, a continuing export expansion has been directed toward the U.S. and the advanced European nations which promised a far larger demand. The exports to the North American region in 1968 registered 34%, increasing to 45% if the European region is added.

The main reasons for this rapid expansion of Japan's auto exports are the technological renovation aimed at better quality and performance achieved by the untiring efforts of the automotive circles as well as lower prices made possible through mass production.

Japanese Diesel motor trucks are especially reputed for their performance. Passenger cars have also rapidly attained the international level over the past few years, and it may not be too much to say that they are comparable to foreign cars. Especially noteworthy are what is called people's cars with 1000 cc class engines, some of which are better than foreign cars of the world level as a result of the latest technological development.

b. Export Ratio

In 1967 Japan became the fourth automobile exporter in the world after West Germany, France and Britain. Though the ratio of export to output has been increasing every year, it was

11.5% in 1967, which is considered to be still low when compared to the nations mentioned.

The following table shows the export ratio of each country. West Germany is in the lead with 58.9% (passenger cars 59.3%); France 41.6% (passenger cars 42.7%); Britain 32.9% (passenger cars 32.4%), all showing high ratios.

1967 Automobile Export Ratios of Major Countries

(thousands)

	Passenger Cars	Commercial Vehicles	Total
West Germany			
Output	2,295	186	2,482
Exports	1,362	101	1,463
%	(59.3)	(54.1)	(58.9)
France			
Output	1,776	233	2,009
Exports	749	85	835
%	(42.2)	(36.7)	(41.6)
Britain			
Output	1,552	385	1,937
Exports	502	135	637
%	(32.4)	(35.1)	(32.9)
Japan			
Output	1,375	1,770	3,146
Exports	233	138	362
%	(16.2)	(7.8)	(11.5)

c. Knocked-down Export

There are two types of automobile exports -- the finished vehicle exports and the knocked-down exports. Most of those exported to North America and Europe are finished vehicles.

In developing countries, plans for the development of their economies have been carried out after World War II, and in an effort to advance their industrialization policies, these countries are positively striving for induction of foreign capitals through the enforcement of industry promotion laws, etc. And there are many cases of preferential treatment regarding tax and customs given to foreign or joint enterprises engaged in local production. Especially, in accordance with their policies for the development of the automobile industry, they encourage KD imports and also stipulate or encourage the use of domestic parts.

Local assembly plants are run by Japanese automobile makers in 8 countries in Southeast Asia, 2 in the Mid East and Africa, 8 in Central and South America, 2 in Oceania, 1 in Europe and 1 in North America, totalling 22 countries.

The types of vehicles being assembled are mostly passenger cars of the class under 2,000 cc and motor trucks, but depending on the demand of particular countries large Diesel trucks or Jeep type all-wheel-driven vehicles are assembled.

(3) Development of Motor Truck Manufacturing

As described above, the automobile industry in Japan has developed with motor trucks as its nucleus. Viewing the development of the truck industry from the types of vehicles, it can be seen that until about 1957, small three-wheelers and large trucks were the principal types of production vehicles, but since 1958 the emphasis has shifted to small four-wheel

trucks, and with the addition of midget-size four-wheelers (360 cc and under), they have become the mainstay of the growth of truck production. A comparison of the share of the types of trucks produced between 1954 and 1967 shows that small-size three wheelers sharply dropped from 65% to 1%, large trucks from 21% to 10%, while small-size four-wheel trucks jumped from 12% to 58%, and newcomer midget-size trucks gained 30%.*

The demand for large-size motor trucks had almost run its course, and their production since 1960 appears to have hit the ceiling. However, in terms of their quality, their size has been getting larger in parallel with a general trend toward long-distance trucking, and at the same time, Diesel motor trucks are garnering a larger share from the economic standpoint.

On the other hand, in the field of small-size motor trucks, small three-wheelers had at one time suddenly become popular because of their convenience and moderate prices. However, they later surrendered their position to mass-produced small four-wheel trucks of good quality and performance.

Now, with regard to midget-size motor trucks of the class of 360 cc or under, midget three-wheelers had made a phenomenal increase in their production within a very short period, reaching 190,000 in 1960, but later dropped fast, and their place was occupied by midget four-wheelers. Their production

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*Small-size means vehicles with displacement between 2,000 cc and 361 cc.
Midget-size means vehicles with displacement of 360 cc and under.

in 1960 was 40,000 vehicles but shot up to 400,000 in 1965, a tenfold increase.

Generally speaking, it may be asid that the Japanese motor truck industry will keep moving for some time centering on the production of small-size four-wheelers and midget-size four-wheel motor trucks.

(4) Establishment of Passenger Car Industry

By means of technical tieups with foreign enterprises during the latter 1950's as well as through its own efforts at development, the passenger car industry succeeded in overcoming its lagging technical level, developed a series of new products, achieved a smooth increase in production, and has lately become the driving force for the growth of the entire automotive industry.

In considering the growth of passenger cars in Japan, the first thing to note is its relationship with motor truck manufacturing. The automobile industries in the U.S. and Europe have developed centering on passenger car production and the production of trucks has been more or less subordinated or their production has been taken care of by specialized truck makers. Quite contrary to this, the passenger car production in Japan has been subordinated to that of motor trucks. These circumstances in Japan are seen in the following facts: (1) the development of productivity and engineering techniques of passenger cars has been based on that of motor trucks; (2) in the early stage of passenger car production,

the production equipment for trucks was used in common, and a cut in production cost was sought through a common use of parts for small-size trucks; (3) the most important point is that full-fledged passenger car production was established on the basis of capital accumulation by the motor truck industry.

However, the production techniques for passenger cars are intrinsically different from those for motor trucks. Consequently, it is a matter of course that along with an expansion of the passenger car market, a separation between passenger car and truck production is felt necessary in such areas as design, production and sales. Such moves have already appeared since 1960 in form of the separation of designing departments and the construction of plants exclusively for passenger car production, etc.

Historically speaking, the major share of the passenger car demand in Japan had until recently come from transportation business and from various business establishments including manufacturers and trading firms. Until the latter half of the 1950's, business use such as for taxis constituted their main demand, but since then it has shifted to the exclusive use at business establishments. In other words, Japan's passenger car industry in its early stage had an opportunity to establish its own mass production system because of the demand as capital goods.

However, an increasing income resulting from the economic growth has rapidly been expanding the passenger car market for private ownership as consumer goods, and since 1964 the

passenger car demand for private ownership has surpassed that for business use and is expanding faster than that for use by business establishments. (In 1964, the demand for private ownership was 22%, for transportation business 18%, for use by business establishments 60%, and in 1967 the figures were 39%, 9%, and 52% respectively.) This trend has been reflected in the share of their production in terms of displacement. Since 1963 the share of small-size passenger cars in the class of 361 - 1,000 cc and 1,000 - 1,500 cc has been expanding, while the share for medium-size passenger cars in the class of 1,500 - 2,000 cc has fast been decreasing. These phenomena explain that the passenger car demand, which had so far been limited to a certain high income bracket, began rapidly to expand among people of the middle and lower income class.

Midget-size four-wheel passenger cars (360 cc and under) made their appearance in 1958 as the first passenger cars in Japan catering exclusively to private ownership. Due to some more improvements necessary for high speed performance, durability, price, etc., their growth of production continued to be comparatively slow. But with the introduction of new products they have shown a large increase in the past one or two years.

In the light of the recent fast rise in the general income level together with marked efforts for the development of the 800 - 1,500 cc class passenger cars catering to private ownership, it is quite clear that the Japanese passenger car industry will in the near future enter into the pattern of the advanced nations where automobile production centers around passenger cars for the general public.

III. Some Suggestions for the Development of Automobile Industry

(1) Selection of Appropriate Vehicular Types

It requires careful studies for a developing country to choose the types of vehicles most suitable for the establishment and development of its automobile industry. Before choosing among various kind of vehicles such as passenger cars or motor trucks, large-size or small-size vehicles, a comprehensive judgement is necessary with respect to such essential factors as the prospect of future domestic demand, the standard of its technology and its ability for equipment investment.

The automobile industry in Japan at first gave priority to the production of motor trucks. When this reached a stage of full development, passenger car production started. Even the types of passenger cars have been shifting from the medium-size for business and office uses to small-size cars for private ownership as mentioned above. The selection of automobile types by the Japanese automobile makers is considered to have been appropriate. Therefore, these experiences by the Japanese automobile industry may prove to be of some help to a developing nation in formulating policies concerning its future automobile industry.

(2) Production Systems and Technical Induction

For a developing country aiming at establishing and developing its own automobile industry, it may be difficult to set up from the very beginning a thorough process of automobile

production. Therefore, it may be wise to start off with a simple assembly plant as a transitory stage, then gradually increase the rate of domestic contents. In the meantime it may be preferable to introduce technology and necessary guidance through technical tieups with foreign automobile makers.

The following is the way Japanese automobile makers induced the know-how concerning passenger car production.

Some of the major technical introductions by Japanese automobile makers are: The technical tieups concerning passenger car manufacturing took place from the end of 1952 to 1953 between Nissan Motor Co. and Austin, Isuzu Motors Limited and Roots Group, Hino Motors, Ltd. and Renault, while the technical tieup regarding production of Jeeps took place between Mitsubishi Heavy Industries, Ltd. and Willys.

During World War II and even for a few years after the end of the war, Japan was prohibited to produce passenger cars. This technological vacuum was so great that when their production restriction was completely lifted their quality and performance were considerably inferior to those of imported cars and their production cost by far the higher than that today. This was not simply attributable to an inferior technical level of Japanese automobile makers. The passenger car production at the time found itself under unfavorable environment where the technological standard of correlated industries such as iron and steel, materials, parts, etc., was similarly low. In 1950, however, the automobile makers, helped by Japan's economic recovery, launched their equipment modernization and rationalization, and became

ready to go into a full-scale passenger car production, when a plan was made to introduce techniques for production of some of the best passenger cars manufactured by advanced West European nations--especially medium and small size cars fitting the conditions in Japan.

Those technical tieups in their early stage were in the form of the knocked-down system in which almost all the unit parts including engines were imported for car assemblage. But the imported parts were gradually replaced with domestically produced ones in accordance with the schedule. In this way Nissan Motor Co. achieved complete domestic production of cars in 1956 followed by Isuzu and Hino Motors in 1957 and 1958 respectively. Even though these Japanese automobile makers had enough experience and technology of their own for motor truck manufacturing, it still took four to six years for them to attain complete domestic production of passenger cars by means of technical induction.

As to automobile parts, technical introductions concerning the production of essential parts became noticeable since around 1952. At the time, the majority of suppliers were either small-scale enterprises or extremely small ones and their level of business operation was very low in addition to their lagging technical productivity with respect to their equipments, processing, production management, etc. Consequently the quality and durability of parts were considerably uneven and their reliability limited. Such special parts as tires were produced

by large enterprises, some of which had been operating since before World War II, but electric and engine parts posed many problems of their own.

Some of these problems regarding quality and performance were solved by the automobile makers in the course of process of producing their tieup cars, while others were solved through independent technical or capital tieups with specialized foreign parts makers.

(3) Rational Production Capacity

The mass production system is indispensable to automobile makers. However, it is difficult to generalize a rational production scale necessary for securing effective production. The following table shows the result of studies on rational production scales by some experts of the advanced countries:

Production Capacity and Its Economy In Automobile Industry

Researcher	The Most Rational Production Condition
George Romney (U.S.A.) President, American Motors Corp.	Assembly line .... 62.5 vehicles per hour 180,000 - 220,000 vehicles per year (one shift) 360,000 - 440,000 " " " (two shifts)
George Paine (U.S.A.)	300,000 - 600,000 vehicles per year (About 50% higher than that of Romney; slightly high at 150,000 level; considerably high at 60,000 level; uneconomical below 60,000 level)
C.E. Edwards (U.S.A.)	200,000 vehicles per year (one shift) 400,000 " " " (two shifts)
C. McShea (U.K.) A. Silverstone (U.K.)	Assembly 60,000 - 100,000 per year (not confined to a single model) Engines 500,000 per year (two shifts) Press 1,000,000 per year (Body panel 4,000 per day)

From "Automobile Engineering"

From these studies it can be seen that generally the minimum scale for a rational annual production is at about 300,000 vehicles. However, the real problem to consider in connection with an establishment of a mass production plant on a minimum rational production scale is whether there are prospects for enough demand to meet. When planning establishment of an automobile industry, enough attention must always be given to the advantage of mass production system. But in reality it is desirable for a developing country to arrange so that the production be launched on a realistic scale based on the volume of demand, while at the same time giving due consideration to the possibility of future expansion.

(4) Plant Equipment and Capital Requirement

The amount of equipment capital necessary for setting up an automobile plant differs greatly, even if the equipment is enactly the same, depending on the country, timing and various other conditions. Consequently it is doubtful how useful it is to show here examples of concrete figures in this respect. Against the background of such uncertainty, an example of a mean value based on the facts in Japan for the past few years is suggested here assuming that it might give an idea to the planners of developing countries on the layout of necessary equipment capital.

- Construction Capital For A Passenger Car Plant -

Site for plant: 700,000 to 1,200,000 m^2

Construction period: 2, 3 years

Capacity at the time of completion: About 10,000 cars per month (one shift)

Construction funds: About ₩30,000 million (about $83 million)

NOTE: Cost of land not included. The figures are based on those in 1960.

In the above plan, the factors to be considered are: (1) the Japanese automobile makers depend for a considerable portion of their parts production on suppliers, which therefore is not included in this amount, and (2) this figure does not contain certain construction works which are not directly connected with production.

Below is a table, given for reference, on the list of machine equipment needed for automobile plant construction, and the ratio of each group of machine equipment to the total machinery equipment funds:

Category of Machinery Equipment	Ratio of Equipment Funds
Machine tools	70%
Metal working machines	12
Casting equipment	2
Heat treatment equipment	3
Painting equipment	1
Plating equipment	--
Electric equipment	3
Conveyance equipment	3
Welding equipment	1
Others	5
T O T A L	100%

(This is a trial balance on a model plant prepared by the Japanese Ministry of International Trade and Industry)

(5) Automobile Parts and Correlated Industries

As described above, the automobile industry is a typical all-embracing enterprise in close relationship with correlated industries, which in turn can be divided into the following three categories:

Automobile parts industry

Material industry

Machine equipment industry

a. The automobile parts industries include: (i) a manufacturers' group specializing in tires, batteries, bearings, springs; (ii) a group producing such finished parts as electric parts, lamps, instruments, bolts and nuts, valves, pistons, radiators, rubber parts, plastic parts, seat upholstery, etc.; (iii) a simple processing group in charge of metal working, pressing, plating, etc.; and (iv) a body maker group. These are the major groups constituting the base in the pyramid of the automobile industry.

b. The material industry includes: (i) iron and steel makers which supply hard steel plates for frames, body steel sheet for deep drawing, high quality special steel for gears and shafts, etc., (ii) nonferrous metal makers supplying brass for radiators, lead for batteries, etc., (iii) various other makers turning out rubber for tires, window plates, paint, synthetic resins, textiles, wood, etc.

c. The machine equipment industry supplies such products as machine tools, measuring instruments and testing machines, and

must possess a high level of technology on the basis of machine engineering.

Materials, parts and machines supplied by these correlated industries are indispensable to automobile production. Moreover, for the production of quality vehicles, these supplies must be superior in terms of techniques, quantity and cost. In a country presently in the stage of development, it may not be easy to bring these factors up at once to the international standard. For instance, a passenger car requires a greater amount of cold roll steel plates than a motor truck, but in order to meet this requirement it is necessary to introduce strip mill --a technical renovation in iron and steel industry. At the same time, superior special steel and a high standard of metallurgical technology are needed to improve high-speed performance and durability of automobiles. Plastics have come to be used abundantly in recent years so as to reduce a car's weight or bring down the cost. This, too, requires technical progress in chemical industry.

Consequently, parallel with an effort for the development of the automobile industry and for the domestic production of automobile parts, it is necessary to consider the development of the correlated and auto parts enterprises.

In the case of Japan, such correlated industries as iron and steel or rubber have now developed sufficiently to supply automobile makers with materials which are both qualitatively and quantitatively satisfactory. On the other hand, some

categories of suppliers possess adequate techniques and production ability prerequisite to specialized makers. Generally speaking, however, many Japanese suppliers are medium and small enterprises and many of them are not necessarily adequate in terms of production equipment and technical levels.

60% to 70% of the cost of Japanese automobiles are said to be accounted for by automobile parts supplied by the parts makers. Among automotive workers, the supplier employees number 290,000 as against 120,000 working for automobile makers--indicating an extremely important role of parts enterprises in the automotive business. Therefore, it is imperative, for the development of the Japanese automobile industry, that both the technical level and the productivity of parts makers be improved.

Automobile makers have strengthened the cooperative ties with essential parts makers through their positive guidance in the sphere of technology, financing and management. In view of the important role of suppliers in the Japanese machine industry, the Government has also taken necessary measures for the promotion of their technical development, standardization and rationalization especially by means of laws.

Remarkable improvement thus brought about in the parts manufacturing played an important role in the rapid development of Japan's automobile industry, while there still remain various problems to be solved in this field.

As mentioned above, the correlated materials and the parts necessary for the automobile industry show a great variety.

Some of them may be produced domestically comparatively soon, while others are not. It is advisable that developing countries will choose a comparatively limited number of automobile parts for local production at the beginning and concentrate their efforts to it, leaving other items imported from foreign makers for the time being. Pragmatic approach as to the ratio of domestic contents may prove to be a success in the long run.

(6) Automobile Distribution System

When automobiles are produced under a mass production system, a corresponding distribution system for mass sales is necessary. When a developing nation is to go ahead with the domestic production of automobiles, it is wise to make thorough preparations in advance for their distribution.

Japanese automobile dealers, while serving as a distribution system, are working for dissemination of commodity knowledge, maintenance services and offer market information in addition to playing the role of commodity distribution media. Thus placing themselves between the users and maker, they fulfil their function of maintaining trust in each other.

Moreover, the dealers in Japan take care of services which go with automobile sales such as instalment loans; credit investigations, credit guarantees, vehicle registration and inspection, taxation, etc.

The consumer credit can be viewed as the mainstay of mass sales, and in this sense, it is necessary to consolidate the instalment selling system. For that purpose attention should be

given to such matters as sales fund financing system, credit investigation, credit guarantee institution and the stabilization of instalment terms. Consequently it becomes necessary to establish a sales loan corporation, credit investigation organs and credit guarantee facilities, which are now under consideration.

STATISTICS

Table 1 Comparative Scale of Automotive Industry and Other Main Industries

Industry	1961 Number of Establishments	1961 Number of Employees	1961 Production Value (A) (in million yen)	1966 Number of Establishments	1966 Number of Employees	1966 Production Value (B) (in million yen)	B / A %
Automotive	5,649	310,127	1,147,200	8,636	455,641	2,365,200	206.2
Automobile	63	85,151	726,800	33	116,606	1,294,600	178.1
Bodies	240	30,412	68,100	319	46,406	201,200	295.4
Parts	5,346	194,564	352,300	8,284	292,629	869,400	246.8
Heavy Electrical Equipment	4,575	284,279	652,100	5,969	281,375	794,000	121.8
Household Electrical Equipment	1,136	77,387	227,600	1,717	89,695	362,900	159.4
Shipbuilding	3,345	151,637	384,300	3,480	152,237	720,900	187.6
Steel	5,554	477,256	2,176,400	6,438	485,104	3,052,100	140.2
Blast Furnaces	12	122,327	731,400	19	148,178	1,201,400	164.3
Chemical	7,444	463,169	1,736,300	7,222	489,212	3,197,900	184.2
All Manufacturing Industries	491,750	8,751,001	19,405,500	594,832	10,291,578	32,445,400	167.2

Source: CENSUS OF MANUFACTURES

Table 2 Automobile Production by Main Producing Countries, 1957 - 1967

	Japan*		United States		West Germany		United Kingdom		France		Italy	
	Units (10^3)	Inc. %	Units 10^3	Inc. %	Units 10^3	Inc. %	Units 10^3	Inc. %	Units 10^3	Inc. %	Units 10^3	Inc. %
1957	182	63.8	7,220	4.4	1,212	12.6	1,149	14.4	928	12.2	351	12.1
1958	188	3.3	5,121	-29.1	1,495	23.3	1,364	18.7	1,128	21.6	404	14.8
1959	263	39.9	6,724	31.3	1,717	15.0	1,560	14.4	1,283	13.7	501	24.0
1960	482	83.3	7,905	17.6	2,055	19.5	1,811	16.1	1,369	6.7	645	28.7
1961	814	68.9	6,653	-15.8	2,148	4.5	1,464	-19.2	1,244	-9.2	759	17.7
1962	991	21.7	8,197	23.2	2,357	9.7	1,675	14.4	1,536	23.5	947	24.8
1963	1,284	29.6	9,109	11.1	2,668	13.2	2,012	20.1	1,737	13.1	1,181	24.7
1964	1,702	32.6	9,308	2.2	2,910	9.1	2,332	15.9	1,616	-7.0	1,090	-7.7
1965	1,876	10.2	11,138	19.6	2,976	2.3	2,177	- 6.7	1,642	1.6	1,176	7.8
1966	2,286	21.9	10,396	- 6.7	3,051	2.5	2,042	- 6.2	2,025	23.3	1,366	16.2
1967	3,146	37.6	9,024	-13.4	2,482	-18.6	1,937	- 5.2	2,010	-0.7	1,543	12.9

Note: * does not include 3-wheeled vehicles.

Inc. % represents a ratio of increase over each preceding year.

Table 3 Main Countries' Production of Cars, Trucks and Buses during 1967

('000)

	Japan		United States		West Germany		United Kingdom		France		Italy	
	Units	%	Units	%	Units	%	Units	%	Units	%	Units	%
Cars	1,375.7	43.7	7,412.6	82.1	2,295.7	92.5	1,552.0	80.1	1,776.5	88.4	1,439.2	93.3
Trucks & Buses	1,770.8	56.3	1,611.1	17.9	186.6	7.5	385.1	19.9	233.2	11.6	103.5	6.7
Total	3,146.5	100.0	9,023.7	100.0	2,482.3	100.0	1,937.1	100.0	2,009.7	100.0	1,542.7	100.0

Table 4 Japan's Automobile Production

a) Summary, 1946 - 1968

Year	Passenger Cars			Trucks				Buses	Grand Total	3-wheeled Trucks		
	Standard & Small	Midget	Total	Standard	Small	Midget	Total			Small	Midget	Total
1946				14,178	736		14,914	7	14,921	2,692		2,692
1947	110		110	9,522	1,584		11,106	104	11,320	7,432		7,432
1948	381		381	15,649	3,562		19,211	775	20,367	16,852		16,852
1949	1,070		1,070	17,712	7,848		25,560	2,070	28,700	26,727		26,727
1950	1,594		1,594	17,576	8,925		26,501	3,502	31,597	35,413	85	35,498
1951	3,611		3,611	22,633	8,184		30,817	4,062	38,490	43,782	20	43,802
1952	4,743	94	4,837	19,595	10,365		29,960	4,169	38,966	62,224	-	62,224
1953	8,685	104	8,789	24,490	11,657		36,147	4,842	49,778	96,084	1,400	97,484
1954	14,350	122	14,472	31,767	18,085		49,852	5,749	70,073	96,876	1,205	98,101
1955	20,220	48	20,268	22,352	21,505		43,857	4,807	68,932	87,248	656	87,904
1956	31,968	88	32,056	29,433	43,424	101	72,958	6,052	111,066	103,926	1,483	105,409
1957	47,045	76	47,121	46,352	80,083	385	126,820	8,036	181,977	111,352	3,585	114,937
1958	50,039	604	50,643	39,265	90,303	498	130,066	7,594	188,303	84,875	14,002	98,877
1959	73,487	5,111	78,598	46,594	129,417	1,474	177,485	6,731	262,814	74,803	83,239	158,042
1960	128,984	36,110	165,094	83,709	182,789	41,522	308,020	8,437	481,551	87,057	190,975	278,032
1961	195,930	53,578	249,508	107,405	262,753	183,232	553,390	10,981	813,879	86,222	138,373	224,595
1962	210,849	57,935	268,784	104,968	345,780	259,968	710,716	11,206	990,706	68,600	75,567	144,167
1963	330,058	77,772	407,830	97,996	450,902	313,883	862,781	12,920	1,283,531	51,305	65,885	117,190
1964	497,306	82,354	579,660	115,726	633,938	359,478	1,109,142	13,673	1,702,475	37,794	42,254	80,048
1965	602,169	94,007	696,176	114,747	647,176	398,167	1,160,090	19,348	1,875,614	21,910	21,034	42,944
1966	757,795	119,861	877,656	135,349	780,883	471,626	1,387,858	20,885	2,286,399	18,666	14,698	33,364
1967	1,093,219	282,536	1,375,755	184,982	1,026,193	532,193	1,743,368	27,363	3,146,486	17,401	9,052	26,453
1968	1,574,065	481,757	2,055,821	214,605	1,169,163	607,639	1,991,407	38,598	4,085,826	14,310	6,984	21,794

Table 4 Japan's Automobile Production (Cont'd)

b) Annual Increase of Production, 1946 - 1968

Year	Passenger Cars			Trucks				Buses	Grand Total	3-wheeled Trucks		
	Standard & Small	Midget	Total	Standard	Small	Midget	Total			Small	Midget	Total
	%	%	%	%	%	%	%	%	%	%	%	%
1946												
1947				-32.8	115.2		-25.5		-24.1	176.1		176.1
1948	246.4		246.4	64.3	124.9		73.0	645.2	79.9	126.7		126.7
1949	180.8		180.8	13.2	120.3		33.0	167.1	40.9	58.6		58.6
1950	49.0		49.0	-0.8	13.7		2.7	69.2	10.1	32.5		32.8
1951	126.5		126.5	28.8	-8.3		16.3	16.0	21.8	23.6	-76.5	23.4
1952	213.5		34.0	-13.4	26.6		-2.8	2.6	1.2	42.1	-	42.1
1953	83.1	10.6	81.7	25.0	12.5		20.7	16.1	27.7	54.4	-	57.6
1954	65.2	17.3	64.7	29.7	55.1		37.9	18.7	40.8	0.8	-13.9	0.7
1955	40.9	-60.7	40.0	-29.6	13.9		-12.0	-16.4	-1.6	-9.9	-45.6	-10.4
1956	58.1	83.3	58.2	31.7	101.9		66.4	25.9	61.1	19.1	126.1	19.9
1957	47.2	-13.6	47.0	57.5	84.4	281.2	73.8	32.8	63.8	7.1	141.7	9.0
1958	6.4	694.7	97.5	-15.3	12.8	29.4	2.6	-5.5	3.5	-23.8	290.6	-14.0
1959	46.9	746.2	55.2	18.7	43.3	196.0	36.5	-11.4	39.6	-11.9	494.5	59.8
1960	75.5	606.5	110.0	79.9	41.2	181.7	73.5	25.3	83.2	16.4	129.4	75.9
1961	51.9	48.4	55.1	28.3	43.7	341.4	79.7	30.2	69.0	-1.0	-27.5	-19.2
1962	97.6	8.1	7.7	-2.3	31.6	41.9	28.4	2.0	21.7	-20.4	-45.4	-35.8
1963	56.5	34.2	51.7	-6.6	30.4	20.7	21.4	15.3	29.6	-25.2	-12.8	-18.7
1964	50.7	5.9	42.1	18.1	40.6	14.5	28.5	5.8	32.6	-26.3	-35.9	-31.7
1965	21.1	14.1	20.1	-0.8		10.8			10.2	-42.0	-40.2	-46.4
1966	25.8	27.5	26.1	18.0	20.7	18.4	19.6	07.9	21.9	-14.8	-30.1	-22.3
1967	44.3	135.7	56.8	36.7	31.4	12.8	25.6	31.0	37.6	-6.8	-39.0	-20.7
1968	44.0	70.5	49.4	16.0	13.9	14.2	14.2	41.1	29.9	-14.9	-22.8	-17.6

Note: % represents a ratio of increase over each preceding year.

Table 4 Japan's Automotive Production (Cont'd)

c) Distribution Ratios of Cars, Trucks & Buses, 1946 - 1968

Year	Passenger Cars			Trucks				Buses	Grand Total	3-wheeled Trucks		
	Standard & Small	Midget	Total	Standard	Small	Midget	Total			Small	Midget	Total
	%	%	%	%	%	%	%	%	%	%	%	%
1946				95.0	4.9		100.0		100.0	100.0		100.0
1947	1.0		1.0	84.1	14.0		98.1	0.9	100.0	100.0		100.0
1948	1.9		1.9	76.9	17.4		94.3	3.8	100.0	100.0		100.0
1949	3.7		3.7	61.7	27.4		89.1	7.2	100.0	100.0		100.0
1950	5.0		5.0	55.6	28.3		83.9	11.1	100.0	93.8	0.2	100.0
1951	9.4		9.4	58.8	21.2		80.0	10.6	100.0	100.0	-	100.0
1952	12.2	0.2	12.4	50.3	26.6		76.9	10.7	100.0	100.0	-	100.0
1953	17.4	0.3	17.7	49.2	23.4		72.6	9.7	100.0	98.6	1.4	100.0
1954	20.5	0.2	20.7	45.3	25.8		71.1	8.2	100.0	98.8	1.2	100.0
1955	29.3	0.1	29.4	32.4	31.2		63.6	7.0	100.0	99.3	0.7	100.0
1956	28.8	0.1	28.9	26.5	39.1	0.1	65.7	5.4	100.0	98.6	1.4	100.0
1957	25.9	-	25.9	25.5	44.0	0.2	69.7	4.4	100.0	96.9	3.1	100.0
1958	26.6	0.3	26.9	20.9	48.0	0.2	69.1	4.0	100.0	85.8	14.2	100.0
1959	28.0	1.9	29.9	17.7	49.2	0.6	67.5	2.6	100.0	47.3	52.7	100.0
1960	26.8	7.5	34.3	17.4	38.0	8.6	64.0	1.7	100.0	31.3	68.7	100.0
1961	24.1	6.6	30.7	13.2	32.3	22.5	68.0	1.3	100.0	38.4	61.6	100.0
1962	21.3	5.9	27.2	10.6	34.9	26.2	71.7	1.1	100.0	47.6	52.4	100.0
1963	25.7	6.1	31.8	7.5	35.1	24.5	67.1	1.1	100.0	43.8	56.2	100.0
1964	29.3	4.8	34.1	6.8	37.2	21.1	65.1	0.8	100.0	47.2	52.8	100.0
1965	32.1	5.0	37.1	6.1	34.5	21.3	61.9	1.0	100.0	51.0	49.0	100.0
1966	53.1	5.3	38.4	5.9	34.2	20.6	60.7	0.9	100.0	55.9	44.1	100.0
1967	34.7	9.0	43.7	5.9	32.6	15.9	55.4	0.9	100.0	65.8	34.2	100.0
1968	38.5	11.8	50.3	5.3	23.6	14.9	48.8	0.9	100.0	68.0	32.0	100.0

Table 5 Japans' Truck Production Showing Distribution Ratios of Size Groups Including 3-wheeled Trucks

Year	Standard-size		Small-size						Midget-size						Grand Total	
			4-wheel		3-wheel		Total		4-wheel		3-wheel		Total			
	Units	%	Units	%	Units	%	Units	%	Units	%	Units	%	Units	%	Units	%
1946	14,178	80.5	736	4.2	2,692	15.3	3,428	19.5							17,606	100.0
1947	9,522	51.4	1,584	8.5	7,432	40.1	9,016	48.6							18,538	100.0
1948	15,649	43.4	3,562	9.1	16,852	46.7	20,414	56.6							36,063	100.0
1949	17,712	33.7	7,848	15.0	26,727	51.1	34,575	66.1							52,287	100.0
1950	17,576	28.4	8,925	14.4	35,413	57.1	44,338	71.5			86	0.1	86	0.1	61,900	100.0
1951	22,633	30.3	8,184	11.0	43,782	58.7	51,966	69.7			20		20		74,619	100.0
1952	19,595	21.3	10,365	11.2	62,224	67.5	72,589	78.7			-		-		92,184	100.0
1953	24,490	18.3	11,657	8.7	96,034	71.1	107,741	80.6			1,400	1.0	1,400	1.0	133,631	100.0
1954	31,767	21.5	18,085	12.2	96,875	65.5	114,961	77.7			1,205	0.8	1,205	1.8	147,933	100.0
1955	22,352	17.0	21,505	16.3	87,248	66.2	108,753	82.5			656	0.5	656	0.5	131,761	100.0
1956	29,433	16.5	43,424	24.3	103,926	58.3	147,350	82.6	101	0.1	1,483	0.3	1,584	0.9	178,367	100.0
1957	46,352	19.2	80,083	33.1	111,352	46.1	191,435	79.2	385	0.1	3,585	1.5	3,970	1.6	241,757	100.0
1958	39,265	17.2	90,303	39.4	84,875	37.1	175,178	76.5	498	0.2	14,002	6.1	14,500	6.3	228,943	100.0
1959	46,594	13.9	129,417	38.6	74,803	22.3	204,220	60.9	1,474	0.4	83,239	24.8	84,713	25.2	335,527	100.0
1960	83,700	14.3	182,789	31.1	87,057	14.9	269,846	46.0	41,522	7.1	190,975	32.6	232,497	39.7	586,052	100.0
1961	107,405	13.8	262,753	33.8	86,222	11.0	347,975	44.8	183,232	23.6	138,373	17.8	321,605	41.4	776,985	100.0
1962	104,968	12.3	345,780	40.4	68,600	8.0	414,380	48.5	259,968	30.4	75,567	8.8	335,535	39.2	854,883	100.0
1963	97,996	10.0	450,902	46.0	51,305	5.2	502,207	51.2	313,883	32.1	65,885	6.7	379,768	38.8	979,971	100.0
1964	115,726	9.7	633,938	53.3	37,794	3.2	671,732	56.5	359,478	30.2	42,254	3.6	401,732	33.8	1,189,190	100.0
1965	114,747	9.6	647,176	53.8	21,910	1.8	669,086	55.6	398,167	33.1	21,034	1.7	419,201	34.8	1,203,034	100.0
1966	135,349	9.5	780,883	54.9	18,666	1.3	799,549	56.3	471,626	33.2	14,698	1.0	486,324	34.2	1,421,222	100.0
1967	184,982	10.4	1,026,193	58.0	17,401	1.0	1,043,594	59.0	532,193	30.1	9,052	0.5	541,245	31.6	1,769,821	100.0
1968	214,605	10.7	1,169,163	58.1	14,810	0.7	1,183,973	56.8	607,637	30.2	6,984	0.3	614,623	30.5	2,013,201	100.0

Table 6 Japan's Passenger Car Production by Piston Displacement, 1955 - 1967

Year	360 cc & Under		361 - 1,000 cc		1,001 - 1,500 cc		1,501 - 2,000 cc		Over 2,000 cc		Total	
	Units	%	Units	%	Units	%	Units	%	Units	%	Units	%
1955	48		20,220				-		-		20,268	100.0
1956	88		31,968				-		-		32,056	100.0
1957	76	0.2	20,024	42.5	27,021	57.3	-		-		47,121	100.0
1958	604	1.2	22,695	44.8	27,344	54.0	-		-		50,643	100.0
1959	5,111	6.5	26,543	33.8	46,147	58.7	797	1.0	-		78,598	100.0
1960	36,110	21.9	42,172	25.5	85,100	51.5	1,712	1.1	-		165,094	100.0
1961	53,578	21.5	42,364	17.0	105,136	42.1	48,430	19.4	-		249,508	100.0
1962	57,935	21.6	37,401	13.9	104,518	38.9	68,930	25.6	-		268,784	100.0
1963	77,772	19.1	62,799	15.4	135,016	33.1	129,216	31.7	3,027	0.7	407,830	100.0
1964	82,354	14.2	103,417	17.8	249,928	43.2	137,998	23.8	5,963	1.0	579,660	100.0
1965	94,007	13.5	131,855	18.9	344,618	49.5	122,557	17.6	3,139	0.5	696,176	100.0
1966	119,861	13.6	176,854	20.1	425,331	48.6	150,309	17.1	5,301	0.6	877,656	100.0
1967	282,536	20.6	246,601	17.9	634,631	46.1	199,327	14.5	11,520	0.9	1,375,755	100.0

Table 7 Japan's Truck Production by Loading Capacity, 1957 - 1967

Year	500 kg & less	501 - 1,000 kg	1,001 - 2,000 kg	2,001 - 5,000 kg	5,001 - 7,000 kg	Over 7,000 kg	All-wheel Drive Vehicles	Total
1957	385	44,575	35,508	21,715	12,651	3,421	8,565	126,820
1958	568	56,392	33,690	12,422	9,564	2,346	15,084	130,066
1959	1,632	83,810	45,405	14,771	13,702	4,704	13,461	177,485
1960	42,283	113,790	68,371	17,991	27,301	8,667	29,617	308,020
1961	184,139	157,961	103,950	19,862	37,267	15,096	35,115	553,390

	1,000 kg & less (360 c.c. & less)		1,001 - 2,000 kg	2,001 - 5,000 kg	5,001 - 7,000 kg	Over 7,000 kg	All-wheel Drive Vehicles	Total
1962	(259,968)	481,015	125,366	18,598	39,989	15,892	30,534	711,394
1963	(313,883)	615,043	149,169	17,318	33,520	17,262	28,912	861,224
1964	(359,478)	785,698	206,638	24,397	34,997	28,210	26,087	1,106,027
1965	(398,167)	871,334	178,277	27,612	28,327	22,946	31,594	1,160,090
1966	(471,626)	1,058,205	200,032	39,820	27,875	32,689	29,237	1,387,858
1967	(532,193)	1,329,579	236,971	58,649	32,825	53,535	31,809	1,743,368

Table 8 World's Leading Manufacturers Production during 1967

Make	Passenger Cars	%	All Kinds of Automobiles	%
United States				
General Motors	4,117,860	55.6	4,798,184	53.2
Ford	1,696,224	22.9	2,148,477	23.8
Chrysler	1,363,696	18.4	1,505,561	16.7
Others	234,879	3.1	571,514	6.3
Total	7,412,659	100.0	9,023,736	100.0
Japan				
Toyota	476,807	34.7	832,130	26.5
Nissan	352,045	25.6	726,067	23.1
Toyo	129,051	9.4	388,323	12.3
Mitsubishi	105,950	7.7	317,378	10.1
Others	311,902	22.6	882,588	28.0
Total	1,375,755	100.0	3,146,486	100.0
West Germany				
Volkswagen	1,089,237	47.5	1,162,258	46.8
Opel	540,206	23.5	549,281	22.1
Daimler-Benz	200,470	8.7	254,138	10.2
Ford-Werke	193,780	8.5	194,655	7.9
Others	272,021	11.8	321,987	13.0
Total	2,295,714	100.0	2,482,319	100.0
France				
Renault	706,622	39.8	805,253	40.1
Citroen	419,245	23.6	500,030	24.9
Peugeot	374,028	21.1	405,314	20.2
Simca	275,881	15.5	275,881	13.7
Others	726		23,194	1.1
Total	1,776,502	100.0	2,009,672	100.0
United Kingdom				
B L M C	726,700	46.8	891,676	46.0
Ford	440,711	28.4	534,572	27.6
Vauxhall	196,877	12.7	286,173	14.8
Rootes	181,226	11.7	210,438	10.9
Others	6,498	0.4	14,243	0.7
Total	1,552,012	100.0	1,937,102	100.0
Italy				
Fiat	1,233,892	85.7	1,312,215	85.1
Others	205,319	14.3	230,454	14.9
Total	1,439,211	100.0	1,542,669	100.0

Note: Renault includes Saviem.
Ford of West Germany: German production only

Source: Automobile manufacturers organizations of the respective countries.

Table 9 Japan's Automobile Production by Make during 1968

	Passenger Cars						Trucks								Buses						Total	
	Standard & Small		Midget		Total		Standard		Small		Midget		Total		Large		Small		Total			
	Units	%	Units	%	Units	%	Units	%	Units	%	Units	%	Units	%	Units	%	Units	%	Units	%	Units	%
Toyota	659,189	41.9	-		659,189	32.1	27,308	12.7	397,439	34.0	-		424,747	21.3	1,925	14.1	11,544	46.4	13,469	35.0	1,097,406	26.9
Nissan	571,614	36.3	-		571,614	27.8	20,136	9.4	380,407	32.5	-		400,543	20.1	453	3.3	7,224	29.0	7,677	19.9	979,834	24.0
Toyo	162,648	10.3	15,467	3.2	178,115	8.7	12,290	5.7	228,438	19.4	43,335	7.1	282,063	14.2	-		931	3.7	931	2.4	461,109	11.3
Isuzu	39,776	2.5	-		39,776	1.9	50,450	23.6	50,743	4.3	-		101,193	5.1	4,214	30.8	2,457	9.9	6,671	17.3	147,640	3.6
Mitsubishi	78,961	5.0	51,292	10.8	130,253	8.3	57,732	26.9	55,258	4.7	112,216	18.5	225,206	11.3	2,962	21.8	1,555	6.2	4,517	11.7	359,976	8.8
Daihatsu	14,050	0.9	75,246	15.6	89,296	4.3	3,297	1.5	49,699	4.3	117,536	19.3	170,532	8.6	-		527	2.1	527	1.3	260,355	6.4
Hino	801	0.1	-		801		29,917	13.9	-		-		29,917	1.5	2,892	21.1	671	2.7	3,563	9.2	34,281	0.8
Fuji	29,989	1.9	73,757	15.3	103,746	5.1	-		9,179	0.8	66,822	11.0	76,001	3.8	-		-		-		179,747	4.4
Nissan Diesel	-		-		-		13,404	6.3	-		-		13,404	0.7	1,243	9.1	-		1,243	3.2	14,647	0.4
Suzuki	277		96,194	20.0	96,471	4.7	-		-		96,906	15.9	96 906	1.9	-		-		-		193,377	4,7
Honda	16,760	1.1	169,800	35.3	186,560	9.1	-		-		132,257	21.9	132,257	6.6	-		-		-		318,817	7.8
Aichi	-		-		-		-		-		38,567	6.3	38,567	1.9	-		-		-		38,567	0.9
Others	-		-		-		71		-		-		71		-		-		-		71	
Total	1,574,685	100.0	481,756	100.0	2,056,821	100.0	214,605	100.0	1,180,163	100.0	607,639	100.0	1,991,407	100.0	13,689	100.0	24,989	100.0	38,586	100.0	4,086,826	100.0

Table 10 Japan's Automobile Exports, 1955 - 1968

Year	Cars		Trucks		Buses		Total		3-wheelers	
	Units	Inc. %	Units	Inc. %	Units	Inc. %	Units	Inc. %	Units	Inc. %
1955	2		907		322		1,231		169	
1956	46		1,884	107.7	517	59.0	2,447	98.8	1,837	987.0
1957	410	791.3	5,512	192.6	632	22.2	6,554	167.8	419	-77.2
1958	2,357	474.9	7,540	36.8	346	-45.3	10,243	56.3	489	16.7
1959	4,884	107.2	13,959	85.1	442	27.7	19,285	88.3	2,094	328.2
1960	7,013	43.6	31,028	122.3	768	73.8	38,809	101.2	11,261	437.8
1961	11,531	64.4	44,529	43.5	977	27.2	57,037	47.0	2,252	-80.0
1962	16,011	38.9	49,871	12.0	808	-17.3	66,690	16.9	4,269	89.6
1963	31,447	96.4	65,877	32.1	1,240	53.5	98,564	47.8	1,007	-76.4
1964	66,965	121.9	81,721	24.1	1,735	39.9	150,421	52.6	1,464	45.4
1965	100,716	50.4	90,923	11.3	2,529	45.8	194,168	29.1	1,935	32.2
1966	153,090	52.0	100,900	11.0	1,744	-31.0	255,734	31.7	2,600	34.4
1967	223,491	46.0	135,687	34.5	3,067	75.9	362,245	41.6	4,513	73.6
1968	406,250	81.8	201,290	48.3	4,889	59.4	612,429	66.8	8,541	89.3

Note: Inc. % represents a percentage of increase over each preceding year.

Source: Japan Automobile Manufacturers Association, Inc.

Table 11 Japan's Automobile Registrations, 1945 - 1967

Year	Cars		Trucks		Buses		Special Purpose Vehicles		Total		3-wheelers	
	Units	Inc. %	Units	Inc. %	Units	Inc. %	Units	Inc. %	Units	Inc. %	Units	Inc. %
1945	25,533		72,908		12,792		2,314		113,547		28,500	
1946	26,863	5.2	84,579	16.0	12,060	-5.7	6,678	188.6	130,180	14.6	33,598	17.9
1947	26,340	-1.9	100,618	19.0	12,772	5.9	10,274	61.4	150,004	15.2	38,207	13.7
1948	30,221	14.7	122,676	21.9	14,704	15.1	13,051	27.0	180,704	20.5	57,595	50.7
1949	36,265	20.0	137,876	12.4	16,467	12.0	14,040	7.8	204,648	13.3	89,463	55.3
1950	42,588	17.4	150,612	09.2	18,306	11.2	12,494	-11.0	225,497	10.2	111,888	25.1
1951	57,533	35.1	169,143	12.3	21,220	15.1	14,836	18.7	264,150	17.1	152,734	36.5
1952	88,354	53.6	191,317	13.1	24,307	14.5	17,599	18.6	322,856	22.2	213,027	39.5
1953	114,696	29.8	213,455	11.6	27,982	15.1	22,617	28.5	379,654	17.6	293,674	37.9
1954	138,518	20.8	234,598	10.0	31,530	12.7	28,952	28.0	434,583	14.5	367,441	25.1
1955	153,325	10.7	250,005	6.6	34,187	8.4	32,572	12.5	471,306	8.5	429,491	16.9
1956	181,074	18.1	294,213	17.6	38,050	11.3	29,400	21.0	553,949	17.5	493,839	15.0
1957	218,524	20.7	372,442	26.6	42,724	12.3	47,257	19.9	682,196	23.2	553,958	12.2
1958	259,631	18.8	454,617	22.1	46,957	10.0	54,784	15.9	817,307	19.8	612,342	10.5
1959	318,758	22.8	574,481	26.4	51,030	8.7	63,588	16.1	1,009,122	23.5	742,340	21.2
1960	457,333	43.5	775,715	35.0	56,192	10.1	64,286	1.1	1,353,526	34.1	822,159	10.8
1961	663,951	45.2	1,159,542	49.5	63,450	12.9	76,612	19.2	1,963,555	45.1	904,262	10.0
1962	889,03[illegible]	33.9	1,677,467	44.7	72,029	13.5	90,776	18.5	2,729,304	39.0	903,496	-0.1
1963	1,233 [illegible]51	38.8	2,337,249	39.3	81,414	13.0	110,038	21.2	3,762,352	37.9	879,277	-2.7
1964	1,67[illegible],359	35.6	3,090,969	32.2	93,011	14.2	132,111	20.1	4,988,450	32.6	793,635	-9.7
1965	2,181,275	30.4	3,865,478	25.1	102,695	10.4	150,572	14.0	6,300,020	26.3	682,949	-13.9
1966	2,833,246	29.9	4,798,961	24.1	114,289	11.3	174,876	16.1	7,921,372	25.7	573,843	-16.0
1967	3,836,409	35.4	5,856,191	22.0	129,217	13.1	207,207	18.5	10,029,024	26.6	472,075	-17.7

Note: As of the end of December
Inc. % represents a percentage of increase over each preceding year.

Table 12 Main Countries' Automobile Registrations and Population, 1962 - 1967

1. Registrations

(in thousands)

Year	Japan		United States		West Germany		United Kingdom		France		Italy	
	All Autos	Pass. Cars	All Autos	Pass. Cars	All Autos	Pass. Cars	All Autos	Pass. Cars	All Autos	Pass. Cars	All Autos	Pass. Cars
1962	2,736.6	889.0	79,022.9	65,928.5	7,192.0	6,340.0	8,836.5	6,706.2	7,850.0	6,220.0	3,535.6	3,006.8
1963	3,770.0	1,233.7	82,747.9	69,026.7	8,689.1	7,756.4	9,291.4	7,546.7	8,800.0	7,075.0	4,442.4	3,864.2
1964	4,997.1	1,672.4	86,297.1	71,950.2	9,645.8	8,689.7	10,235.0	8,436.2	9,786.0	7,960.0	5,251.7	4,631.8
1965	6,309.3	2,181.3	90,370.2	75,260.8	10,714.7	9,718.8	10,958.5	9,131.1	10,687.8	8,777.5	6,141.7	5,465.0
1966	7,931.7	2,833.3	94,179.0	78,315.0	11,354.0	10,302.1	11,622.7	9,746.6	11,625.7	9,635.2	7,002.8	6,322.4
1967	10,029.0	3,836.4	97,527.0	81,051.0	12,352.7	11,299.7	12,487.3	10,554.2	12,430.0	10,410.0	8,084.5	7,311.4
'67/'62	366.5	431.5	123.4	122.9	171.8	178.2	141.3	157.4	158.3	167.4	228.7	243.2

2. Population

Year	Japan		United States		West Germany		United Kingdom		France		Italy	
	Population		Population		Population		Population		Population		Population	
	per veh.	per car	per veh.	per car	per veh.	per car	per veh.	per car	per veh.	per car	per veh.	per car
1962	34.0	105.1	2.4	2.8	7.8	8.9	5.9	7.9	5.9	7.4	14.0	16.8
1963	25.5	78.1	2.3	2.8	6.6	7.3	5.5	6.8	5.4	6.7	11.0	12.9
1964	19.4	58.1	2.2	2.7	5.7	6.4	5.2	6.3	4.9	6.0	9.8	11.1
1965	15.5	44.9	2.2	2.6	5.3	5.8	5.1	6.1	4.6	5.6	8.4	9.4
1966	12.6	34.9	2.1	2.5	4.9	5.3	4.8	5.6	4.3	5.1	7.5	8.3
1967	10.0	26.1	2.0	2.4	4.8	5.3	4.4	5.2	4.0	4.8	6.5	7.1

Source: Figures other than Japan, the Society of Motor Manufacturers and Traders.

Table 13 Japan's Automobile Sales, 1955 - 1967

1) Passenger Cars (Standard- and Small-size)

Year	Private Persons		Passenger Transportation Companies		Other Establishments		Total	
	Units	%	Units	%	Units	%	Units	%
1955	147	0.9	10,595	66.4	5,221	32.7	15,963	100.0
1956	806	2.7	20,519	67.7	8,979	29.6	30,304	100.0
1957	1,550	3.6	23,477	53.9	18,508	42.5	43,535	100.0
1958	2,014	4.2	22,205	45.9	24,201	49.9	48,420	100.0
1959	3,935	5.9	26,505	39.5	36,600	54.6	67,040	100.0
1960	9,006	7.9	34,128	29.9	70,964	62.2	114,098	100.0
1961	21,117	12.2	43,726	25.2	108,464	62.6	173,307	100.0
1962	27,443	13.9	41,711	21.2	127,950	64.9	197,104	100.0
1963	46,177	16.1	55,146	19.2	186,079	64.7	287,402	100.0
1964	84,555	22.0	61,171	15.9	238,166	62.1	383,892	100.0
1965	130,668	28.3	52,620	11.4	278,255	60.3	461,543	100.0
1966	174,976	30.3	55,562	9.6	346,934	60.1	577,472	100.0
1967	312,534	39.1	60,816	7.6	426,720	53.3	800,070	100.0

2) Standard-size Trucks

Year	Cargo Transportation Companies		Other Establishments		Total	
	Units	%	Units	%	Units	%
1955	5,281	26.6	14,569	73.4	19,850	100.0
1956	7,907	28.1	20,279	71.9	28,186	100.0
1957	10,243	28.5	25,640	71.5	35,883	100.0
1958	7,265	26.5	20,117	73.5	27,382	100.0
1959	11,184	32.3	23,409	67.7	34,593	100.0
1960	15,906	30.4	36,435	69.6	52,341	100.0
1961	21,481	30.6	48,744	69.4	70,225	100.0
1962	19,214	28.2	48,867	71.8	68,081	100.0
1963	23,286	32.6	48,196	67.4	71,482	100.0
1964	28,216	34.0	54,835	66.0	83,051	100.0
1965	22,413	31.1	49,683	68.9	72,096	100.0
1966	31,346	33.3	62,869	66.7	94,215	100.0
1967	42,821	33.8	83,894	66.2	126,715	100.0

3) **Small-size Trucks**

Year	Cargo Transportation Companies		Other Establishments		Total	
	Units	%	Units	%	Units	%
1955	537	2.6	20,494	97.4	21,031	100.0
1956	1,363	3.3	39,544	96.7	40,907	100.0
1957	3,469	4.7	70,424	95.3	73,893	100.0
1958	3,877	4.7	79,491	95.3	83,368	100.0
1959	6,364	5.3	113,120	94.7	119,484	100.0
1960	9,543	5.7	158,300	94.3	167,843	100.0
1961	13,051	5.5	225,354	94.5	238,405	100.0
1962	14,590	4.8	292,322	95.2	306,912	100.0
1963	20,671	5.1	384,585	94.9	405,256	100.0
1964	21,609	4.3	486,383	95.7	507,992	100.0
1965	19,966	3.5	551,469	96.5	571,435	100.0
1966	22,525	3.3	657,424	96.7	679,949	100.0
1967	24,831	2.9	832,099	97.1	856,930	100.0

Table 14 Investment in Plant and Equipment by the Japanese Automobile Manufacturers, 1953 - 1967

Fiscal Year	Value (in million yen)	Inc. %
1953	3,945	102.7
1954	5,400	36.9
1955	3,971	-26.5
1956	8,025	102.1
1957	14,785	84.2
1958	12,672	-14.3
1959	23,613	60.9
1960	52,572	122.6
1961	70,834	34.7
1962	65,566	-7.4
1963	107,408	63.8
1964	112,818	5.0
1965	105,749	-6.3
1966	118,826	12.4
1967	194,768	63.8

Inc. % represents a percentage of increase over each preceding year.

Table 18 Japan's Domestic Cargo Transportation

a) Transportation in Terms of Ton

(in millions)

Fiscal Year	By Automobiles		By Railways		By Coastal Ships		Total	
	Ton	%	Ton	%	Ton	%	Ton	%
1960	1,156	76.9	239	15.9	108	7.2	1,503	100.0
1961	1,437	79.6	252	14.0	116	6.4	1,805	100.0
1962	1,602	81.2	247	12.5	125	6.3	1,972	100.0
1963	1,948	81.9	253	10.7	177	7.4	2,379	100.0
1964	2,210	83.9	259	9.8	165	6.3	2,633	100.0
1965	2,193	83.5	252	9.6	180	6.9	2,625	100.0
1966	2,654	85.5	249	8.0	202	6.5	3,105	100.0
1967	3,272	86.8	257	6.8	242	6.4	3,771	100.0

b) Transportation in Terms of Ton/Km

(in millions)

Fiscal Year	By Automobiles		By Railways		By Coastal Ships		Total	
	Ton/Km	%	Ton/Km	%	Ton/Km	%	Ton/Km	%
1960	20,801	15.2	54,515	39.8	61,500	45.0	136,816	100.0
1961	26,572	17.4	58,469	38.4	67,300	44.2	152,341	100.0
1962	32,428	20.7	57,230	36.6	66,800	42.7	156,458	100.0
1963	42,031	23.2	60,120	33.2	78,800	43.6	180,951	100.0
1964	47,215	25.6	59,886	32.5	77,100	41.9	184,201	100.0
1965	48,392	26.0	57,364	30.8	80,600	43.2	186,356	100.0
1966	64,910	31.0	55,841	26.7	88,700	42.3	209,451	100.0
1967	81,094	33.1	59,542	24.3	104,700	42.6	245,336	100.0

Table 15 Japan's Domestic Cargo Transportation (Cont'd)

e) Land Cargo Transportation by Distance

(In millions)

Distance (Km)	Fiscal 1967 (A)			Fiscal 1963 (B)			A / B		
	Trucks	National Railway	Total	Trucks	National Railway	Total	Trucks	National Railway	Total
Up to 10	1,687.3	5.3	1,692.6	1,110.8	5.6	1,116.4	1.52	0.95	1.52
11 - 50	1,195.0	32.2	1,227.2	628.7	32.8	661.5	1.90	0.98	1.86
51 - 100	231.7	29.7	261.4	101.4	28.0	129.4	2.29	1.06	2.02
101 - 200	105.3	45.4	150.7	63.4	47.0	110.4	1.66	0.97	1.37
201 - 300	24.7	25.6	50.3	10.4	26.0	36.4	2.38	0.98	1.38
301 - 400	10.6	17.7	28.3	4.7	18.8	23.5	2.26	0.94	1.20
Over 400	17.8	41.7	59.5	7.3	44.6	51.9	2.44	0.93	1.15
Total	3,272.4	197.6	3,470.0	1,926.7	202.8	2,129.5	1.70	0.97	1.63


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