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<p>16. Abstract In response to specific task statements, basic statistical data are provided on the Japanese Automotive industry, specific governmental and other policies related to that industry are described, and a brief evaluation of the climate for investment in Japan by foreign companies is made. As these tasks are structured to provide source data for other DOT reports, Volume I is primarily a summary, and much of the information is contained in draft tables and figures in the Volume II Appendix.</p> <p>Some of the most significant findings include:</p> <ul style="list-style-type: none"> • There is strong unanimity regarding national goals, but not for the policies by which they are achieved. • The social, business, financial, labor, and similar sectors are all dedicated to maintaining a stable, growing economy. • Government, industry, labor, and financial interest interact in a much more supportive (but pragmatic) mode than in the United States. • There are essentially no formal government support or protective measures presently in effect that promote Japan's automotive industry. This was certainly not the case in the past, and intervention should be expected in the future if the industry were to face serious problems. • The single most important political and social pressure is to maintain employment levels. 					
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I INTRODUCTION

For several years, the U.S. Department of Transportation (DOT) has been conducting studies of the automotive industry in this country and in other countries of the world to the extent that there is an effect on the United States. With the recent surge in automotive imports into the United States, the international studies, and especially those on Japan, have received increased emphasis. SRI assisted the DOT's Transportation Systems Center (TSC) in an earlier study of competitiveness of the Japanese auto industry by supplying a brief overview of "Industry-Government Interactions in Japan's Automotive Sector."

This study, "Industrial Policies of the Automotive Sector in Japan", Contract No. DTRS-57-81-C-00034 (SRI Project No. MTU-2434) is structured to emphasize accumulation of data in specified subject areas and to provide some evaluation of one particular topic. This resulting report is arranged to directly address each of the specified subject areas in the order assigned. Volume I describes the main findings in each subject area in condensed form, and Volume II provides the detailed information in Appendixes I and II.

SRI's proposal contained four tasks. The objective of the first task was to accumulate general data. The second task was to provide descriptions of various government policies and discussions thereof. The third task was to evaluate the investment climate, and the fourth was to analyze the comparative advantages held by Japanese versus U.S. auto producers. Because of timing and budgetary considerations, only the first three tasks were authorized.

To meet DOT/TSC internal needs, an interim draft version of the final oral presentation was delivered on 29 December 1980. A final oral report with extensive supporting handout data was given at DOT/TSC in Cambridge on 9 March 1981 and to DOT personnel in Washington on 11 March 1981.

The majority of the project was conducted by personnel from SRI's East Asia office, located in Tokyo. Miss Takako Kawakami, Industrial Economist, provided valuable assistance in obtaining and analyzing data. Mr. Kazuhiro Yokoyama, Senior Management Consultant, was the principal investigator; Mr. Philip D. Umholtz, Senior Consultant, acted as project leader and presenter; and Mr. Fredric Weil, Director of the Mechanical and Electrical Industries Department, provided overall project supervision.

II SUMMARY

Basic statistics on the Japanese motor vehicle industry are presented in considerable detail in the Appendices in Volume II. Included is the English language information generally available in the United States plus a second second level of detail obtained from Japanese language sources. A third level of detail, available only to members of the Japanese Motor Vehicle Manufacturers' Association, Inc. (JMVMA) could not be obtained and probably would be too voluminous for general study use.

The brief profiles of the major automobile companies highlight the differences among each in terms of: history, size, organizational philosophies, product lines, technological emphasis, export policy, foreign ties, and the like. Common factors include their extreme competitiveness, home country distribution methods, component supplier networks, and extensive interactions with the companies in their respective groups.

Historically, motor vehicle sales in the Japanese home market have slowed from their very high annual rates in the 1960s (more than 32%) to about 1.6% in the 1969 to 1979 period. Forecasts available to DOT from other agencies* suggest an annual growth rate of about 2% to 3% from 1979 to 1985 for all vehicles. Independent studies by SRI indicate growth rates of slightly more than 3% for passenger cars and 2.6% for commercial vehicles.

Japanese government policies regarding its auto industry in the following specified subject areas are discussed and quantified to the extent possible:

- o Industrial Policy
- o Investment Policy
- o Taxation Policy
- o Competition Policy
- o Regulatory Policy

*A compilation of these exists in "Economic Statistics and Information Concerning the Japanese Auto Industry" by Gary R. Saxonhouse, HSRI, University of Michigan 11.10.79.

- o Trade Policy
- o Promotion Policy
- o Guardian of Industry's Proprietary Information
- o Management of Cyclical Change
- o Risk Insuror.

In the simplest and most general terms, Japan's policies toward promotion of the auto industry began in late 1949 with strong support and protection on all fronts for this and several other fledgling strategic industries. Promotion and protection of the strategic industries included various investment, taxation, regulatory, trade, and similar policies, and continuing involvement and cooperation by various agencies of government, industry, finance, trade, and labor. As a result of this support plus the extreme dedication, competitiveness and skill of the people involved, the social and economic system and similar factors, the industries gained such strength and growth that during the 1970s this assistance was essentially completely withdrawn. In fact, the success of the auto industry, especially in exports to the United States and Western Europe, has been so great that the government is somewhat embarrassed, and has begun to apply pressure on the industry to restrain its expansion and exports.

Japanese government policies toward monopoly practices and competition within an industry have always been considerably different from those of the United States. In any conflict of principles, continuation of employment and strength of the industry almost automatically take precedence. Thus, government-arranged mergers or affiliations such as Nissan-Prince, Toyota-Hino and Toyota-Daihatsu met no opposition on grounds of law or principle.*

The Japanese government is thoroughly responsive to public safety and needs and Japan has conservationist/environmentalist groups that are as active and vocal as any in the world. As a result, severe air quality and traffic congestion problems were promptly met by regulations on motor vehicle emissions, safety, economy, noise, size, and conditions of operation. This was done in cooperation with the auto industry rather than in the adversary mode as is customary in the United States.

*"Japanese Industrial Policy: Source of Strength for the Automobile Industry," Ira C. Magaziner, Michigan Papers in Japanese Studies No. 3, 1981. University of Michigan, Center for Japanese Studies. See also list of references in Volume II, Appendix I.

As in all other matters, Japanese policy toward foreign investment in their auto industry has been pragmatic. Despite a very restrictive Foreign Currency and Foreign Investment Law (Including a 25% maximum investment rule), when Isuzu and Toyo Kogyo encountered financial problems, GM was allowed to buy 34.2% and Ford 25% to assist their return to a healthy competitive status. Also, Chrysler acquired a 15% interest in Mitsubishi Motors as part of a complex marketing, component procurement, and joint-venture agreement. Starting in December 1980, the New Foreign Currency Law removes essentially all legal restrictions on foreign investment in Japan.

Many practical problems remain, however, when foreigners are considering investment in the Japanese automotive sector. Today these result mainly from the major differences in the social and cultural environment, business practices, and similar factors, rather than a conscious, focused effort to exclude foreign investment/competition. One of the most important factors is the extreme competitiveness among companies and with any new entry into the market. Many large U.S. companies have evaluated various forms of participation in automotive operations in Japan, but few have proceeded. Probably for the same reasons, few Japanese companies have made significant commitments in the United States.

III TASK I: PROVIDE BASIC STATISTICS AND INFORMATION ON THE JAPANESE MOTOR VEHICLE INDUSTRY

Introduction

The basic statistics on the Japanese motor vehicle industry are presented in tabular and chart form in the first two sections of the appendix (Volume II of this report). These consist principally of two categories of information; one being that widely supplied by Japan Automobile Manufacturers Association (JAMA) in English, and the second being the next level of detail collected from a variety of sources and supplied almost exclusively in Japanese. A third level of detail is maintained by JAMA and the member firms which includes extremely detailed information, and is available only to the members, and is in Japanese. This latter information includes things such as exports by month, by country, destination, manufacturer, model designation, and vehicle characteristics. This discussion portion of the report describes the significant trends found in the tabular data, and frequent reference will be made to Volume II. This section also discusses likely future trends and provides a brief profile of the major Japanese automotive manufacturers.

Industry Trends

The motor vehicle industry of any country can be described at a national level by examining production, imports, exports and new vehicle registration, as well as the total vehicles in use and scrappage. These parameters are related as follows:

Change in

vehicles + Scrap = New registration = Production + Imports - Exports
in use

In Japan imports are negligible, and scrappage (or retirement) data is unavailable, but can be calculated from the above. Thus all of the information needed for generalized market analysis is available.

As in most countries, the number of passenger cars and trucks has grown relatively smoothly and continuously. Trend line average annual growth rates are used in all cases, and passenger cars in use showed a rate of almost 35% in the 1960s but only 7.8% in the latter 1970s. Another unusual aspect is that it was not until 1970 that the number of passenger cars in use exceeded the number of trucks. The growth rate for trucks was even greater than passenger cars in the early 1960s (over 41%), but appeared to reach a saturation point (or steady growth rate of 2.3% by 1970. The period of very rapid buildup followed by

almost a decade of what is believed to be mainly replacement growth, indicates that the Japanese home market probably has reached a mature stage almost comparable to that of the other industrialized nations.

New motor vehicle registrations grew at rates of 32% for passenger cars and 17.9% for trucks in the 1960s, but dropped to about 1.55% and 0.4% for the 1970s.* Since imports are negligible (about 2% of passenger car new registrations), it is obvious that Japan's home market may be considered to be saturated for the currently existing social, economic and similar conditions.

Production and exports, however, are another matter. During the 1970s production of all motor vehicles grew at 26% and exports grew at about 43%. In the 1970s, production continued at 6.8% and exports at 14.7%, whereas total new registrations at home remained at 2.35%. Production growth rates are relatively smooth, with dips in new registrations at home being at least partially balanced by higher than normal exports.

Company by company production trends are relatively stable by U.S. standards--production of all vehicles by Toyota and Datsun has stayed between 64% and 55% of the national total for the last 10 years, but their share has decreased more or less steadily since 1975. Toyota has kept almost constant, while Nissan's share, especially in trucks, dropped. In exports, the two largest companies lost market share to their smaller competitors from 80.8% in 1970 to 55% in 1979. Honda had the fastest growth in both production and exports.

Exports to North America constitute 47% of the total and at 2,146,266 units in 1979, amount to more than double any other destination (e.g., Europe at 956,965 units). Numerous other trends of lesser general importance may be observed in the tabular and charted data in the appendix.

Company Profiles

Of the thirteen major manufacturers of motor vehicles in Japan, two (Yamaha and Kawasaki) make only motorcycles. Another two, Hino and Nissan Diesel, make almost exclusively medium and heavy trucks--and are really the heavy truck arm of their parent companies, Toyota and Nissan respectively. Three others Fuji (Subaru), Daihatsu, and Suzuki, concentrate almost exclusively on minicars (360 and 550 cc passenger cars and light trucks), and are quite small compared to the other major vehicle manufacturers. As a result profiles were prepared on only the remaining six companies.

*"Motor Vehicle Statistics of Japan 1980," Japan Automobile Manufacturers Association, Inc.

HONDA

Introduction

Honda Motor Company Ltd. has established a substantial export market share in the fewer than 10 years since it has advanced into automobile production from its basic role as the world's leading manufacturer of motorcycles. Though only the fifth largest automotive company in Japan (behind Toyota, Nissan, Toyo Kogyo, and Mitsubishi, based on 1979 results*), Honda is the third or fourth best-selling U.S. import car. Unlike Toyota and Nissan, Honda has concentrated on only a few basic models and offers relatively little variety in colors and styles. Honda is a technological leader and is generally more innovative than its larger competitors. As a relative latecomer to the automobile market, Honda is more dependent on exports than the other Japanese companies are. Honda may move more aggressively into overseas production in the future, if its access to capital for expansion is sufficient.

Honda entered the U.S. automobile market with a 600-cc version of its 360-cc minicar supplied to the home market. This was quickly found to be inappropriate for the more demanding performance and durability needs and was replaced by the Civic model. This and all subsequent models have become known for their fuel economy, performance, and durability.

History

- 1948 Incorporated in Hamamatsu, Japan.
- 1953 Saitama factory built.
- 1959 American Honda Motor Company established.
- 1962 Motorcycle factory constructed in Belgium.
- 1964 Thailand subsidiary established.
- 1971 Development of CVCC engine announced.
- 1972 1200-cc Civic automobile produced.

*Honda Motor Co., Ltd., 1979 Annual Report.

- 1973 1500-cc Civic automobiles marketed.
- 1976 Kumamoto factory established.
- 1977 Accord introduced.
- 1979 Honda of America Manufacturing began motorcycle production in Ohio. Joint production agreement in U.K. with B.L. concluded.
- 1980 Honda announced intention to expand into auto production in United States.

Company Composition and Facilities

Group

Independent, but loosely affiliated with the Mitsubishi Group.

Divisions and Plants

Production facilities (mostly for motorcycles) in:

Japan	United States (Ohio)	Thailand
Saiama	Italy	Malaysia
Hamamatsu	Indonesia	Taiwan
Suyuka	Philippines	Peru
Kumamoto	Korea	
Woko	Belgium	

Twenty licensees worldwide.

Subsidiaries and Affiliates

69 subsidiaries worldwide.

Employees

33,007.

Products and Services

Road Vehicles

- o Motorcycles
- o Automobiles

Associated Equipment

Production machinery

Nonautomotive

- o Farm machines (tillers)
- o General purpose engines
- o Generators
- o Lawnmowers
- o Outboard motors.

Technology and Research

Honda is best known for its development of the CVCC engine (compound vortex controlled combustion) which gives good fuel economy and meets all existing emission control regulations without using a catalytic converter. It has also brought forth other innovative engine developments and production processes, especially in its motorcycle line.

Markets

Domestic (1979)

Motorcycles	\$ 398 million
Automobiles	<u>\$1,111 million</u>
Total	\$1,509 million

Overseas (1979)

Motorcycles	\$1,003 million
Automobiles	<u>2,139 million</u>
Total	\$3,142 million

Total World

Motorcycles	\$1,401 million
Automobiles	3,250 million
Other	<u>528 million</u>
Total	\$5,179 million

Automobile export proportion = 66% of total production (units).
Motorcycle export proportion = 72%.

Financial

Assets (February 28, 1979)

\$3,674,770,000

Liabilities (1979)

\$2,742,450, excluding stockholders' equity.

Sales/turnover (1979)

\$5,178,630,000

Sales/employee: \$156,895 (all products)

Income/profit

Pre-tax: \$162,270,000

After-tax: \$ 70,460,000

(Financial data calculated at ¥ 200 = \$1 all years, per company annual reports.)

ISUZU

Introduction

Isuzu Motors Ltd. has been a pioneer in the development of the Japanese automobile and truck industry and is currently the fourth-ranking truck, and the sixth-ranking motor vehicle manufacturer in Japan. Emphasis has been on the truck part of the company products, hence only a very limited range of passenger cars is available. Isuzu has developed a broad range of diesel engines spanning their entire product line, and has extensive sales of separate engines for automotive and other applications.

Facing a maturing market in heavy-duty trucks, Isuzu's affiliation with General Motors has increased the company's passenger car market prospects, both independently and because part of its product line has been integrated into the GM world car concept. The Gemini (Chevette in the United States), the first vehicle jointly produced by GM and Isuzu, is now marketed in both Japan and the United States, as well as in Brazil and in Europe as the Kadet. The Isuzu product line in passenger cars contains only two basic platforms, with major emphasis on the smaller Gemini. Isuzu has a full range of trucks and buses. GM and Isuzu are also cooperating in the development of GM's J-series cars, production of components, and marketing and production in developing countries.

History

- 1916 Ishikawajima Ship & Engineering Co., Isuzu's predecessor, begins manufacture of automobiles.
- 1918 British Wolseley trucks produced under license.
- 1936 First diesel engine in Japan produced.
- 1948 Isuzu becomes Japan's top diesel engine manufacturer, with annual production capacity of 270,000 units.
- 1953 Isuzu begins producing passenger cars under license.
- 1959 Small diesel truck introduced.
- 1971 Affiliation agreement concluded with General Motors for joint vehicle development and marketing.
- 1974 First joint Isuzu-GM product introduced in Japan.

1976 First joint Isuzu-GM product introduced in the United States.

1980 GM will stop importing the Chevy LUV into the United States, and Isuzu has started an independent U.S. marketing operation.

Company Composition and Facilities

Groups

GM owns 34.2%; other major stockholders include Dai-Ichi Kangyo Bank and C. Itoh Trading Company.

Divisions and Plants

- o Kawasaki (heavy duty trucks and engines)
- o Tsurumi (engines)
- o Tochigi (axles and related parts)
- o Fujisawa (passenger cars and light trucks).

Subsidiaries and Affiliates

Two plants in Thailand

Employees

14,800

Products and Services

Road Vehicles

- o Passenger cars
- o Buses
- o Vans
- o Light trucks
- o Medium trucks

- o Heavy-duty trucks
- o Trucks with special-purpose bodies.

Associated Equipment

Diesel engines

Nonautomotive

None.

Technology and Research

Isuzu is known for its strong diesel engine capability, and its general technological capability will be enhanced by its affiliation with GM.

Markets

Domestic

\$2,118 million

Overseas

\$952 million

Worldwide

\$3,070 million

Large trucks & buses	31%
Small trucks	34%
Cars	12%
Engines & parts	23%

Financial (October 31, 1979)

Assets

\$2,072 million

Liabilities

\$600 million

Sales/Revenue

\$3,070 million

Sales/employee = \$207,432

Income/Profit

After tax, \$35 million
(Based on ¥ 194.6 = \$1)

MITSUBISHI

Introduction

Mitsubishi Motors Corporation is the fourth-largest automobile manufacturer in Japan, after Toyota, Nissan, and Toyo Kogyo. Mitsubishi Motors is part of the huge and very diversified Mitsubishi Group. The company manufactures a wide range of passenger cars and has been supplying Chrysler with automobiles and parts for almost 10 years. Mitsubishi has been forced to extend loans and payment periods to Chrysler during the latter's current difficulties. But public statements assert their relationship will probably continue regardless of these problems. Mitsubishi Motors is a privately held company, and very little information is released.

History

- 1917 Sales of first mass-produced automobile in Japan.
- 1935 Production of first diesel truck in Japan.
- 1954 Jeep sold.
- 1959 Medium-duty truck introduced.
- 1960-
- 1970 New models of automobiles introduced nearly every year.
- 1970 Mitsubishi Motors spun off from Mitsubishi Heavy Industries.
- 1971 Mitsubishi agrees to supply automobiles and parts to Chrysler.
- 1977 Fully automated plant completed at Nagoya.

Company Composition and Facilities

Groups

Part of Mitsubishi Group

Divisions and Plants

- o Nagoya (passenger cars, buses, jeeps)

- o Mizushima (passenger car, truck, automobile engines)
- o Kyoto (automobile, industrial, and agricultural engines)
- o Tokyo (trucks, buses and engines)
- o Tokyo-Maruko (heavy-duty trucks, special vehicles).

Subsidiaries and Affiliates

- o Mitsubishi Motor Sales Co.
- o Mitsubishi Motor Sales Finance Co.
(Affiliates in Thailand, Indonesia, and the Philippines.)
- o Fuso (buses)
- o Tokoku Automotive Components Co.
- o Shinyo Automobile Equipment Co.

Employees

23,000

Products and Services

Road Vehicles

- o Passenger cars
- o Trucks (light, medium, and heavy)
- o Buses
- o Specialized vehicles.

Product Line

Mitsubishi passenger cars are concentrated in the smaller sizes--ranging from 99- to 90.6-inch wheelbase. Four basic body shells allow good coverage of small end of the market.

Associated Equipment

Components

Nonautomotive

Machinery (through Machinery Division of Mitsubishi Group)

Technology and Research

Mitsubishi has introduced several automotive engine new developments and is believed to have an entirely adequate R&D capability and background.

Markets 1978

Domestic

513,825 units sold
54%

Overseas

430,730 units sold
46%

Worldwide

944,555 units sold

Financial, 1978

Assets

Not available.

Liabilities

Not available.

Sales/Revenue

\$4,164 million
Sales/employee, \$181,043

Income/Profit

\$138 million

NISSAN

Introduction

Nissan Motor Co. Ltd. is the second largest automotive manufacturer, after Toyota, in Japan.* Nissan is, however, much closer in size and overall competitiveness to Toyota than Ford is to General Motors. Also, like Ford, it is more strongly oriented toward overseas operations than the company it is trying to overtake. During the late 1970s, Nissan rounded out its line of trucks with the addition of the medium and heavy units supplied by Nissan Diesel. Nissan, like Toyota, has been under pressure to set up a manufacturing plant in the United States and has announced it will establish a plant for assembly of light trucks. Nissan regards developing countries as having better long-term market growth potential than the United States or other industrialized countries, but is making a strong move toward entering the EEC via production in the United Kingdom and participation in Alfa Romeo (Italy) and Motor Iberica (Spain).

History

- 1911 Kwaishinsha, a predecessor of Nissan, established.
- 1932 First Datsun car produced.
- 1934 Company name changed to Nissan.
- 1938 Production shifted from cars to trucks.
- 1955 Nissan production facilities returned to Nissan by U.S. Occupation forces.
- 1960 Deming Prize for quality control awarded.
- 1965 First trip of Nissan's first special car-carrier ship.
- 1966 Nissan production in Mexico begun; merged with Prince Motor.
- 1968 Contract to export diesel engines to Chrysler awarded; cooperative agreement with Fuji.
- 1970 Japan Automatic Transmission Co. established as joint venture with Ford and Toyo Kogyo.
- 1973 Established Japan Electronic Control System Co. with Bosch and Diesel Kiki Co.
- 1974 Production of light-duty trucks begun.
- 1976 15th car-carrier ship launched.
- 1978 Production of heavy-duty trucks (Nissan Diesel).
- 1978 Nissan Trading Co. established to import auto parts.

*Nissan Motor Co., Ltd., Business Report 1979

Company Composition and Facilities

Groups

Nissan Motor Co. is the nucleus of a large group of automobile and parts manufacturers. It has close financial relations with Fuji Bank and Industrial Bank of Japan.

Divisions and Plants

There are 13 plants in Japan, of which 10 produce motor vehicles and components.

Subsidiaries and Affiliates

There are 21 total in Japan, 9 overseas, including:

- o Nissan Diesel Motor (diesel engines, medium and heavy trucks and buses)
- o Nissan Shatai (body manufacture and assembly)
- o Aichi Machine (light vans, trucks, parts)
- o Atsugi Motor Parts (parts)
- o Nihon Radiator (heating and cooling components)
- o Kanto Seiki (auto instruments)
- o Hitachi (electrical components)
- o Fuji Heavy Industries (Subaru vehicles).

As is the case with other major industrial firms, each of the major subsidiaries and affiliates have second and third tiers of suppliers closely affiliated into a very large and complex family or group.

Employees (1979)

57,500

Products and Services

Road Vehicles

There are 30 different passenger car models, vans, jeeps, light-, medium-, and heavy-duty trucks, and buses.

Product Line

Nissan passenger cars range from the Cedric 2800 (at 2.8-liter engine displacement and 105-in. wheelbase) to the Cherry FII (at 1.2 liter engine and 90-in. wheelbase) with a total of about five basically different body shells. This allows a full range of models and body styles, although at present all but one are front-engine, rear-wheel drive. New models of front engine-front drive are under development for the larger sizes in the product line up.

Nissan has introduced somewhat more advanced body styles (e.g., Fairlady or 280Z sports car) and power plant concepts (passenger car and truck gas turbine) than Toyota, but has the image of having slightly smaller and less powerful vehicles, on average.

Associated Equipment

- o Many different auto parts and components
- o Industrial machinery

Nonautomotive

- o Rail cars (Fuji Heavy Industry)
- o Rubber products
- o Electronic equipment (Clarion)
- o Precision machinery
- o Real estate
- o Rockets
- o Textile machinery
- o Boats

Technology and Research

Nissan has maintained a strong R&D effort in gasoline and diesel engines, automotive safety, and wide variety of automotive technologies--especially in the field of fuel economy.

Markets 1978

Domestic

\$6,979 million
59%

Overseas

\$4,850 million
41%

Worldwide

\$11,829 million

Financial 1978

Assets

\$7,779 million

Liabilities

\$4,618 million

Sales/Revenue

\$11,829 million
Sales/employees = \$205,721

Income/Profit

Pre-tax: \$616 million
After tax: \$336 million

Sourcing

Nissan and Toyota are very similar in regard to their supplier and sourcing practices in Japan. However, Nissan is viewed as being slightly less centralized and concentrated. Also, Nissan has led in sourcing major components from foreign facilities, e.g., engines from Mexico.

When production capacity of the main plants is inadequate, Nissan has some complete vehicles assembled by several of its affiliated companies, notably Fuji and Nissan Shatai. Nissan and Toyota are the only Japanese companies employing this method of accommodating peaks in demand.*

Nissan clearly appears to be the most advanced of the Japanese OEMs in terms of overseas production and joint ventures with other major OEMs. The philosophy behind this appears to be a realization that this may be the only way of guaranteeing their ability to sell in some localities--in view of the worldwide increasing tendency to impose trade restrictions on firms and countries that concentrate solely on exports from home country plants.

*"The World's Biggest Cottage Industry," The Economist, July 26, 1980, p. 65.

TOYO KOGYO

Introduction

Toyo Kogyo Co., Ltd. has recovered from the consequences of its earlier nearly exclusive commitment to rotary-engine automobiles, and is now third among the Japanese manufacturers.* Wankel production capacity is less than 25% utilized, and plans for its expansion have been dropped. After almost going bankrupt in 1975, the company received loans of \$400 million from the Sumitomo group and sold a 25% share to Ford Motor Company for \$135 million. For 1979 after-tax profits are about \$60 million, up significantly from the \$13.5 million reported for 1978. Toyo Kogyo will attempt to continue Wankel production for specialty cars, but their main efforts will be in the reciprocating-engine category.

History

- 1920 Toyo Kogyo founded in Hiroshima, Japan.
- 1929 Machine tool production begun.
- 1940 Trial production of small cars.
- 1950 Truck production begun.
- 1958 Computer system introduced.
- 1960 First light passenger car introduced.
- 1961 Licensing of Wankel rotary engine.
- 1963 KD assembly begun in Korea and Burma (previously in the Philippines).
- 1967 Assembly plant established in Malaysia, joint venture with Peugeot and Asia Motor.
- 1969 Substantial exports of rotary engine cars begun.
- 1970 Electric car marketed; RX-2 rotary car introduced; Mazda of America founded.

*Toyo Kogyo Co., Ltd., Annual Report 1979.

- 1971 KD assembly begun in Indonesia.
- 1975 Concluded information exchange contract with GM regarding rotary engines.
- 1975 U.S. sales hurt by engine durability problems and poor fuel economy at time of energy shortage and gasoline price increase--strategy reoriented.
- 1976 Substantial fleet purchases by prefectural and national governments helped to keep company alive.
- 1978 RX-7 rotary-engine sport car introduced.
- 1978 Ford acquired 25% share.

Company Composition and Facilities

Associated with Sumitomo Group.

Divisions and Plants

Plant and headquarters are in Hiroshima Prefecture, Japan.
Overseas KD assembly operations are in:

Korea	South Africa	Trinidad & Tobago
Malaysia	Kenya	Republic of Ireland
Phillipines	Ghana	Thailand
Indonesia	Greece	Burma
Portugal	Pakistan	New Zealand.
Iran	Costa Rica	

Subsidiaries and Affiliates

<u>Subsidiaries</u>	<u>Affiliates</u>
Toyo Coated Sand Co.	Belgium
Mazda Seihi Co.	F.R. Germany
Toyo Machine Tool Sales Co.	France
Takaya Industries Co.	Canada
Toyo Rock Drill Sales Co.	United States
	Australia
	New Zealand
	Malaysia
	Thailand

Employees

27,827

Products and Services

Road Vehicles

- o Economy and mid-priced passenger cars and RX-7 sports car
- o Small buses, vans, and trucks
- o Medium- and heavy-duty trucks.

Associated Equipment

Machine tools

Nonautomotive

Rock drills

Technology and Research

- o Dual-mode (both computer and human controlled) buses and cargo carriers operable on special guideways.
- o Electric vehicles.
- o Hybrid (diesel and electric motor) trucks.
- o Direct-injection stratified-charge version of Wankel.

Markets (1978)

Domestic

342,346 vehicles sold (39%).

Overseas

535,788 vehicles sold (61%)

Total World

878,134 vehicles sold (100%)

Worldwide sales were distributed among:

Automobiles	91.0%
Rock drills	0.5%
Machine tools	0.4%
Other	8.1%

Financial (Oct. 31, 1978)

Assets

\$3,289 million

Liabilities

\$2,838 million (excluding stockholders' equity)

Sales/Revenue

Automotive	\$3,184 million
Total	\$3,527 million
Sales/employee:	\$126,747 million

Income/Profit

Before tax	\$77.2 million
After tax	\$13.5 million

(Based on ¥ 194.6 = \$1).

TOYOTA

The Toyota Group is composed of the Toyota Motor Company Ltd., Toyota Motor Sales Co., Ltd., and 15 other companies active in the manufacture of auto parts, steel, machine tools, automatic looms, home appliances, and prefabricated housing units. The major portion of the Group's production is from Toyota Motor Company, Ltd., founded in 1937. Toyota is Japan's leading automaker, with production of 2,996,225 vehicles in 1979. Production grew from 1,439 vehicles per year in 1937 to a nominal level of 3,000,000 in 1979, ranking Toyota third among automakers worldwide.* The companies comprising the Toyota Group, the main plant locations and the overseas affiliates are shown in the following tables.

Corporate Structure and Organization

Although Toyota is clearly the largest and most successful vehicle manufacturer in Japan, it has several major features that are unique in the industry, which are listed below:


- o Toyota Motor Company produces the vehicles, while Toyota Motor Sales handles all aspects of marketing the products.
- o Toyota production is almost completely concentrated in a small area of Japan near Nagoya.
- o There are almost no large overseas production operations--only knocked-down assembly.
- o Toyota carefully avoids being first to the marketplace with new technologies or avant garde styling.
- o Product goals are to be just a bit better than the competition in quality, price, and long-term customer satisfaction.
- o Toyota relies very heavily on suppliers for a large proportion of their components, including some car bodies.


In other matters, Toyota is very typical of the rest of the Japanese industry:


*Toyota Motor Company Ltd., Annual Report 1979.


TOYOTA COMPANIES AND PLANTS

Toyota Group


 **Toyoda Automatic Loom Works, Ltd.**
Main Products: Textile machinery, small commercial vehicles and industrial vehicles


 **Toyoda Machine Works, Ltd.**
Main Products: Machine tools and automobile parts


 **Toyoda Tsusho Kaisha, Ltd.**
Main Activities: Export, import and sales of various raw materials and products


 **Nippondenso Co., Ltd.**
Main Products: Various electrical parts for automobiles & others, air conditioners and machinery for general use


 **Toyoda Spinning & Weaving Co., Ltd.**
Main Products: Cotton yarns & fabrics, woolen fabrics and automobile parts

 **Towa Real Estate Co., Ltd.**
Main Activities: Purchase, ownership and management of real estate


 **Toyota Central Research & Development Laboratories, Inc.**
Main Activities: Various types of research for the development and application of technology


 **Toyoda Gosei Co., Ltd.**
Main Products: Synthetic resins, rubber products and various types of cork products

 **Aichi Steel Works, Ltd.**
Main Products: Special steel and forged steel products


 **Toyota Auto Body Co., Ltd.**
Main Products: Bodies for passenger cars, trucks and special vehicles and automobile parts


 **Aisin Seiki Co., Ltd.**
Main Products: Automobile parts, household articles, die casting products

 **Toyota Motor Sales Co., Ltd.**
Main Activities: Sales of cars & vehicles, automobile parts and motor lubricants

 **Kanto Auto Works, Ltd.**
Main Products: Various types of bodies for passenger cars and commercial vehicles

Loosely Affiliated Companies

 **Hino Motors, Ltd.**
Main Products: Diesel engine and gasoline engine vehicles and other type vehicles

 **Daihatsu Motor Co., Ltd.**
Main Products: Automobiles, automobile engines and various kinds of machinery

Head Office & Honsha Plant
Products: Trucks, Toyota Homes

Motomachi Plant Products: Passenger Cars

Kamigo Plant Products: Engines, Transmissions

Takaoka Plant Products: Passenger Cars

Miyoshi Plant Products: Chassis Parts

Tsurumi Plant Products: Passenger Cars

Miyoshi Plant Products: Engine Parts, Chassis Parts

Shimoyama Plant Products: Engine Parts, Exhaust Emission Control Devices

Kinuwara Plant Products: Transaxles

Tetsu Plant Products: Trucks

Nigashi Fuji Technical Center

Overseas Affiliates and Associated Companies

	Company	Equity Participation	Capital (In thousands)	Date of Joint Venture	Business
U.S.A.	Toyota Motor Sales U.S.A. Inc.	TMS 50%, TMC 50%	US\$10,000	Sept. '57	CBU import and sales
	Toyota Industrial Trucks, U.S.A. Inc.	TMS 40%, TMC 20%, Toyoda Automatic Loom Works, Ltd., 40%	US\$1,000	Oct. '74	Import and sale of industrial vehicles
	Cally Design Research, Inc.	TMS 20%, TMC 40%, Yachiyoda Sangyo 20%, Toyota USA 20%	US\$150	Sept. '73	Automobile design research and information gathering
	Toyota Technical Center, U.S.A.	TMS 36%, TMC 44%, Aishin Seiki 5%, Nippondenso 5%, Toyota USA 10%	US\$1,800	May '77	Automobile testing, research and information gathering
Thailand	Toyota Motor Thailand Co., Ltd.	TMS 35.66%, TMC 35.61%, Local 28.73%	TCS130,000	Sept. '62	CBU import, KD import and sales
	Thai Hino Engine Co., Ltd.	TMS 10%, TMC 10%, Hino Motors 20%, Local 60%	TCS22,000	Jul. '78	Engine production
Peru	Toyota del Peru S.A.	TMS 23.3%, TMC 23.3%, Mitsui & Co. 46.6%, Local 6.8%	S/. 123,600	Jul. '66	KD import and sales
Australia	Australian Motor Industries Ltd (AMI)	TMS 25.01%, TMC 25.00%, Local 49.99%	A\$5,964	Sept. '68	KD import and sales
	Thiess Toyota Pty Ltd.	TMS 20%, TMC 20%, Local 60%	A\$6,000	Jun. '71	KD import and sales
	Toyota Manufacturing Australia Ltd (TMA)	TMS 45%, TMC 45%, Local 10%	A\$19,000	Mar. '77	Engine production
Portugal	Salvador Caetano	TMS 13.5%, TMC 13.5%, Local 73%	C100	Mar. '72	KD import and sales
Indonesia	PT. Toyota-Astra Motor	TMS 24.5%, TMC 24.5%, Local 51%	Rp 806,962	Jul. '70	Import and sale of KD parts and CBU's
	PT. Toyota-Mobilindo	TMS 30%, TMC 30%, Local 40%	Rp. 2,365,500	Oct. '76	Parts production
Canada	Canadian Motor Industries Holding Ltd	TMS 20.57%, TMC 20.57%, Mitsui & Co. 57.87%, Local 0.99%	C\$2,606	Jan. '72	CBU import and sales
Costa Rica	Ensambladora Centroamericana de Costa Rica S.A.	TMS 10%, TMC 10%, Local 80%	¢ 6,000	Mar. '73	Assembly
West Germany	Toyota Deutschland GmbH	TMS 50%, TMC 50%	DM10,000	Nov. '74	CBU import and sales
New Zealand	Toyota New Zealand Co., Ltd.	TMS 10%, TMC 10%, Local 80%	NZ\$6,000	Feb. '77	KD and CBU import and sales

Note: TMS = Toyota Motor Sales, TMC = Toyota Motor

- o In the earlier years it was heavily dependant on licensing and technical agreements, but now has a very strong internal R&D capability.
- o It has a dedicated and competent work force, large capital investment per worker, and advanced production equipment.
- o There is a strong export orientation.
- o Toyota is fiercely competitive, and often very independent in the face of government pressures that conflict with corporate goals.
- o Market share and very long-term goals are more important than short-term profitability.
- o Decisions are made according to the Rinji or concensus system (as is almost universal in Japan) wherein all interested parties are involved beforehand. As a result of this and the customary emphasis on detailed planning, corporate staffs are large by Western standards.

Early in Toyota's development, financial problems and slower than desired growth caused MITI (Ministry of International Trade and Industry) and the banks to require Toyota to split into separate production and sales organizations. This occurred as part of other support and rationalization moves by MITI, such as the merger of Prince and Nissan. There is some question as to the value of such a split, but in any case it was accepted and the company prospered. For each negative point ascribed to such an organization, there seems to be a matching benefit.

Sales and Marketing

Toyota Motor Sales handles domestic as well as foreign sales and marketing and is Japan's largest wholesaler of automotive products. It exports about 45% of the units produced and sell through almost 200 distributors in 120 countries. In 1979, 58.3% of Toyota's sales were domestic as shown below:

	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970
Domestic:										
Motor vehicles	\$6,346,917	5,115,527	5,050,029	4,785,546	4,316,934	3,997,177	3,613,642	2,859,153	2,696,689	2,557,942
Industrial vehicles	183,246	131,394	123,014	96,057	126,091	117,622	82,153	62,933	76,866	71,928
Parts and other	1,160,030	973,882	899,948	811,708	681,033	558,273	420,856	337,665	310,356	269,608
Lubricants	152,815	149,669	143,392	131,574	125,435	89,359	67,665	62,383	56,675	48,737
Total domestic sales	7,843,008	6,370,472	6,216,383	5,824,885	5,249,493	4,762,431	4,184,316	3,322,134	3,140,766	2,948,215
Percentage of net sales	58.3%	50.5	54.1	60.4	64.6	70.2	69.7	61.0	70.3	75.2
Overseas:										
Motor vehicles	\$5,176,569	5,805,931	4,905,139	3,517,393	2,597,297	1,825,536	1,662,847	1,958,932	1,202,058	900,961
Industrial vehicles	119,474	110,237	95,612	65,392	86,880	46,100	43,100	38,766	25,837	14,962
Parts and other	324,123	332,568	281,694	237,636	188,148	148,340	113,356	129,560	96,694	58,096
Total overseas sales	5,620,166	6,248,736	5,282,445	3,820,421	2,872,325	2,019,976	1,819,483	2,127,258	1,324,589	974,019
Percentage of net sales	41.7%	49.5	45.9	39.6	35.4	28.8	30.3	39.0	29.7	24.8

Products and Services

Road Vehicles

- o Wide range of passenger cars from economy to luxury models (500 cc to 3500 cc).
- o Vans, small buses, utility vehicles, 4-wheel drive vehicles, trucks.

Product Line

Toyota has a very complete line of passenger cars, and light- and medium-commercial vehicles. Heavy vehicles are produced by Hino. The passenger cars range from the Crown, 105.9-in. wheelbase, 3,260-lb curb weight and 2.6-liter engine, to the recently introduced Starlet, 90.6-in. wheelbase, 1,530-lb curb weight, and 1.0-liter engine. Toyota's only front-engine front-wheel-drive car, the Tercel, uses the less modern north-south engine orientation.

Pick-up trucks start at 5,100-lb GVW and 1.6-liter engines, and the largest of the medium trucks has a 23,600-lb GVW and 6.5-liter engine. Hino Trucks range upward from 18,500-lb GVW and the 13.8 liter engine. Within these ranges are a full line of vans, 4-WD Land Cruisers and pick-ups, dumpers, cranes, buses, and the like.

Toyota's products usually are not in the forefront of innovative technology or styling, but are sound, conservative, and leaders in price, fuel economy, quality, and durability.

Just as in the United States, Toyota is converting its product line to front-wheel drive and transverse engines to improve fuel economy and packaging efficiency. However, future product plans are not publicized, as has been done in the United States.

Associated Equipment

- o Machine tools and production machinery
- o Specialty steels
- o Automotive electrical parts.

Nonautomotive

- o Modular housing
- o Textile machinery
- o Forklifts.

Technology and Research

Areas of concern have included: energy saving by reducing vehicle weight, improving engine and drive train efficiency, reducing rolling resistance, and aerodynamic drag. There is extensive R&D on advanced and unconventional engines, emission control, highway safety, and the like.

Financial

Although not immediately obvious from simple financial statements, it is generally agreed that Toyota is one of the strongest motor vehicle companies in the world. Financially it has no debt and finances all operations internally. Its family of suppliers is very close, and the entire organization is managed extremely well. It is said that Toyota does not borrow from banks, rather that the banks borrow from Toyota.

Assets (June 30, 1979):

\$6,639,632,000

Liabilities (1979):

\$2,794,205,000 (excluding shareholders' equity)

Sales/Revenue (July 1978-June 197) (12 months):

\$12,914,605,000 (vehicles)

Sales/employee: \$285,513

Income/Profit (7/1/78-6/30/79):

Net: \$470,314,000 (after tax)

Gross: \$924,692,000 (before tax)

Forecasts

The forecasts of the Japanese domestic motor vehicle market discussed in the Highway Safety Research Institute report* done for DOT were reviewed in the light of independent work done by SRI and found to be in good general agreement. Our forecasts fall between 5 and 6 million new registrations for 1985. Specific independent export forecasts were not made because of the external complexity of the problem, the potential for significant changes on a country by country basis, and the interactions with other aspects of the world trade picture.

Japanese Automotive R&D

Specific and useful data on R&D activities in the Japanese automotive industry are not available, and as is the case in most industries, definitions of what to include in each of these categories are unclear. However, a number of impressions and observations have evolved that may be of some use in comparing Japanese and U.S. efforts.

- o Japanese and U.S. research capabilities appear to be comparable in engine and drive train components and their associated materials and production processes.
- o There appears to be somewhat less overlapping and duplication of research activities in Japan.
- o Many research topics in Japan appear to be researched to greater levels of detail than in the United States.
- o Japanese research efforts seem to be somewhat more focused than in the United States--i.e., end objectives are kept in sight, and fewer peripheral avenues are explored. The end objectives receiving greatest emphasis are those which will enhance end product competitiveness, e.g., fuel economy, driveability, reliability, noise/harshness/vibration, safety, emissions, and the like.
- o Japanese research management also appears to be more selective in terms of what topics are pursued, e.g., efforts on advanced power plants such as Stirling engines, compound engines, exotic batteries, and the like are believed to be limited to modest levels or simply monitoring.

*Saxonhouse, Gary R., "Economic Statistics and Information Concerning the Japanese Auto Industry," Highway Safety Research Institute, University of Michigan, Contract DOT-TSC-1616 Nov 10, 1979

- o In Japan there is still some residual of purchased technology, with considerable effort being devoted to applications and improvements. This was a highly cost-effective way of getting a fledgling industry up to speed, but today the Japanese are much less likely to purchase new technologies than in the past.

- o Unusual engineering advances--e.g., the Mitsubishi "Silent Shaft" vibration damper--as opposed to research based advances are used somewhat more frequently than in the United States. Manufacturers in the United States tend to avoid the need for such devices, and view them as costly "crutches."

IV TASK 2: DESCRIPTION OF GOVERNMENT POLICIES

Introduction

Government policies in Japan that influence the automotive industry are established in a variety of agencies, and as is the case in the United States, they are not necessarily coordinated to achieve some desired overall effect. Rather, in Japan there is a general atmosphere of industry support as opposed to the U.S. adversary relationship. The resulting laws and regulations, however, are rigorously enforced in Japan. Regulatory exceptions or revisions may be more common than in the United States, but are formalized and come under careful scrutiny.

Some policies evolve outside the formal government agencies (e.g., within the labor unions or the various political parties), and some are designed to affect a number of industries--possibly to a greater extent than the automotive industry. Moreover, no compendium of automotive-related policies exists either within government, academia, industry associations, or similar sources. Accordingly, the general policy areas and the government roles listed in the contract objectives were explored in a series of interviews with key people in the pertinent agencies and activities, and the pertinent literature was reviewed. The agencies contacted and their views in capsule form are listed in the first few charts of the oral presentation--Appendix Section 3. The major aspects of the findings from this appendix section will be covered in more detail in the following discussions.

Industrial Policy

The Japanese political parties, the elements of the major economic group (Keidanren) and the labor unions (and labor federation) all have a similar perception of the auto industry, its role in the national economy, and the industry goals. Its importance to the national economy as a fundamental and strategic industry is thoroughly understood and unquestioned. Similarly, its very large employment and capital needs guarantee its position of political importance and high visibility. The goals appear to be to continue to expand the industry in terms of worldwide competitive position, improve profitability, avoid any significant reduction in employment, and provide various associated local and national social benefits, e.g., regional development, worker training.

The policies by which these goals are to be achieved, however, are not always the same for the various interested parties. The principles

and general policies of these groups are at least partially described by their responses to specific issues as listed in Section 3 of the Appendix. Common elements that can be deduced from these responses include:

- o Administrative guidance of the industry is feasible, but direct government interaction is undesirable.
- o Employment must be maintained.
- o Free trade is desirable, but some weak domestic industries need protection.
- o The industry should use self-discipline so as not to hurt foreign economies.
- o There should be government assistance if the industry deteriorated.
- o Sudden or drastic changes are impossible.
- o Increased international investment is desirable.

The position and policies of Ministry of International Trade and Industry) (MITI) are not at all clear. At least two groups appear to have rather different views. One favors some form of stronger control or guidance (and possibly even further rationalization) of the auto industry, and the other favors a laissez-faire approach.

Labor Policy

Labor unions in the Japanese auto industry are company-based and are seldom found in the smaller suppliers or component manufacturers. In the United States these unions would almost be considered to be an arm of management rather than an adversary. The federation of these unions handles the annual wage negotiations, but restraint and cooperation are exercised by both parties. A damaging industry-wide strike many years ago was viewed as being very detrimental to both sides and as a result is not a practical consideration in the present environment.

Union attitudes and policies include:

- o Increased automation is acceptable so long as employment is not significantly impacted.
- o Lifetime employment principles must be maintained.
- o Investment in overseas plants is accepted as being necessary.

- o Industry maturity is recognized and problems with future employment levels are expected.
- o Wage rates should be comparable with those in other industry and compatible with company and industry goals

Government policies regarding the labor unions appear to be almost nonexistent as the situation is generally viewed as being very satisfactory without any need to interfere. Policies regarding protection of workers' health, safety, working hours, etc., are firm, but most large companies view such matters as their own clear responsibility and meet or exceed all requirements without government intervention.

Investment Policy

Investment policies should be viewed as falling into three categories: those involving foreign investment in Japan, Japanese investment abroad, and control of Japanese home investment to achieve national goals. In almost every aspect of all three categories, government policies are the same for all industries and have no special features specific to the automotive industry. The only exceptions to the general policies are things such as a prohibition from stock participation by foreign interests in 11 companies that are related to the national security.

Direct international investment by Japanese manufacturing companies is looked upon quite favorably by the government, but no direct assistance or benefits are provided to the companies, nor is any expected. Such activities are viewed as contributing to the development of the receiving countries, and thus improving their position as markets for other Japanese goods, and ensuring supplies of essential materials to Japan. All such decisions are made entirely by the individual companies for the customary long-term economic and competitive reasons. Although it is recognized that some jobs are exported, the net effect is believed to be a strengthening of the home industry structure.

Foreign investment in Japan has traditionally been prevented or severely constrained, but with its relatively recent emergence as a major world economic power, many of these restrictions have been or are being removed. The old Foreign Currency Law and the Foreign Investment Law were quite restrictive, and procedures had grown up for the administration of the laws that were even more troublesome. The new Foreign Currency Law effective December 1, 1980 supercedes the previous laws and basically makes all foreign trade and foreign investment free. Clerical complications are greatly relieved, and the requirement for government review of capital participation (and especially any that is greater than 25%) has been removed. It should be noted in the case of Isuzu, however, that purchase of 34% interest by GM was permitted under the old law in order to help forestall their threatened financial failure.

The Japanese government would like to have the manufacturing industries invest in new facilities within Japan to facilitate regional development goals and reduce the industrial concentration that is now perceived as being increasingly undesirable. The goals are stated in the report "The Vision of MITI Policies in 1980s,"* and some of the recommendations are:

- o Provide tax and investment incentives to accomplish the goals.
- o Discourage industrial concentration in metropolitan areas.
- o Provide necessary infrastructure to encourage local development.
- o Assist decentralization by providing information network facilities.
- o Equalize wages and create jobs in local areas.
- o Encourage supporting industry (as well as target industries) growth in local areas.
- o Match industries to regional resources.

Specific funding or benefits are not available to accomplish this, but some industry compliance will gradually occur so long as serious economic disadvantages do not result.

Taxation Policy

The Japanese taxation system is very similar to that in the United States in that it occurs at national and local levels and consists of four major categories of taxes, i.e., income, property, consumption of goods, and transfer of goods. Businesses and individuals are taxed although in Japan a much greater proportion of the revenue comes from the value-added type of taxes versus income taxes than is the case in the United States. There are also taxes peculiar to the local Japanese business and social environment as mentioned in the listing in Section 3 of the Appendix.

There are no special tax incentives for the Japanese auto industry for a number of reasons:

- o Primarily the auto industry is doing extremely well without any help, and other industries that are not doing as well would object to any preferential treatment.

"The Vision of MITI Policies in 1980s," March 1980, Ministry of International Trade and Industry, Tokyo, Japan.

- o International pressure resulting from auto exports would intensify if incentives were granted.
- o The tax revenue from the auto industry is significant, and any reductions would have to be made up elsewhere.
- o Tax reductions are not feasible in this present period of monetary restriction. In fact, the government is considering revising the commodity tax on automobiles and corporate taxes.

During periods of crisis in any industry in Japan, companies are much more likely to receive temporary tax relief and other assistance than is the case in the United States. When Toyo Kogyo was having severe financial problems several years ago, the prefectural government provided several forms of assistance and support although it was not possible to document them exactly. They are believed to include purchase of cars for local government fleets, tax holidays, and similar steps.

Taxes on acquisition and use of motor vehicles are appreciably higher than in the United States, and they are graduated so as to discourage the use of the larger and more powerful vehicles. The tax on gasoline is about 80¢/gal, and the purchase tax is about \$650 for a car with a 2000 cc engine or larger. In addition, there is a stringent and rather expensive safety inspection that starts at a 2-year interval, but is required every year for older cars.

Competitive Policy

The Japanese system of control of monopolies when compared with that in the United States appears to be at best flexible, pragmatic, and somewhat puzzling. Rigorous provisions prevent monopolistic practices, but there are also provisions whereby exceptions can be accomplished after suitable hearings and legal procedures. Apparently exceptions are not granted easily or capriciously or frequently and occur only in response to a serious threat to a company's or industry's existence or competitive position.

It is generally conceded that MITI fostered the merger of Nissan and Prince and the ties between Toyota and Hino and Daihatsu. The push at that same time to force all of Japan's auto companies into three groups was resisted, however, and Mitsubishi, Honda, and Toyo Kogyo remained relatively independent. There is some current speculation that the present relatively low profitability and external competition is causing MITI to again attempt to mold the industry into three groups.

The reorganizing, streamlining, and rationalizing of Japan's ship building industry, and cartel actions such as assigning production of specific sizes of antifriction bearings to individual companies are examples of actions which probably would not be legal in the United States, but are acceptable exceptions under Japanese law.

The only current major antimonopoly issue regarding the automobile industry concerns the manufacturer's role in the distribution system. Japanese manufacturers generally have substantial financial participation in their distributorships, require exclusive distribution agreements, and are alleged to use their power and position to unfairly minimize mark-ups (and thus profits) by their distributors. Despite revised contracts under the guidance of the Fair Trade Commission in 1980, problems persist and protective legislation is being sought.

Regulatory Policy

Japan had been suffering from serious air quality, safety, noise, and traffic congestion problems, and shortly after the U.S. "Muskie Act," initiated its own regulations on vehicle emissions. The regulated emission levels became tighter progressively as was done in the United States, but the auto companies worked with the government to set levels and schedules that could be met realistically. The final levels appear to be approximately the same as those called for in California, and are tighter than the U.S. 49 state requirements. Additional local requirements were added, the most notable being that all taxes in large cities use liquified petroleum gas (LPG, i.e., butane/propane) because of its presumed lower emission characteristics. Because Japanese cars were much smaller than those in the United States, the emission control technologies that were selected were frequently different than those in the United States, but achieved the desired results. Emissions and effluents from automotive manufacturing processes in Japan are controlled to levels of effectiveness approximating or exceeding those in the United States, and control costs for both product and process are believed to be roughly comparable in both countries.

Japan also faced a steadily rising auto accident fatality rate, and instituted a program that halved the number of fatalities within 9 years.* The United States was only able to reduce fatalities from a peak of about 55,000 per year to 50,000, and the rate appears to be climbing again. The Japanese approach was to deal with the people involved, i.e., drivers, pedestrians, and the like, to minimize the number of accidents rather than to take the U.S. technological approach of changing the cars so that they do less damage to the occupants and the people that they strike. Japanese cars are engineered to be compatible with the U.S. federal motor vehicle safety standards (FMVSS), but delete many of these features for their home market, and add some other safety features necessary for the local conditions. Typical of the Japanese personal concern for their fellow man is the requirement that drivers inspect their cars daily for defects that

*"Appendix to Motor Vehicle Statistics of Japan 1980," Japan Automobile Manufacturers Association, Inc.

might lead to an accident. Their formal safety inspection program is extremely rigorous, and any safety defect noted by a policeman results in prompt removal of that vehicle from service.

In Japan vehicle noise is regulated at the national level to 81 Phons for passenger cars (under acceleration) and 86 Phons for heavy trucks. These regulations are enforced, mainly via the inspection program, and some tightening is expected.

Japan also established fuel economy regulations that will have to be met by 1985 (and 1988 for imports). The mpg levels are graduated and range from 20 mpg for cars of 2785-lb to 4435-lb curb weight, to 46.5 mpg for cars weighing less than 1270 lb. Problems in meeting such limits are unlikely, and the industry has made no significant comments. The levels of emissions, noise, and fuel economy regulations are detailed in the Appendix.

Trade Policy

For many years, prohibitive restrictions were placed on the import of motor vehicles into Japan, but this has been progressively relaxed to the point that for all practical purposes no tariff or nontariff barriers exist. There are even quasi-government agencies to encourage imports; nevertheless, despite a recent 3-year period of import growth, the import total was still only about 65,000 units in 1979. Reasons for this include:

- o Most purchases are for replacement, wherein brand loyalty is very important.
- o The dealer network for foreign cars is weak and mostly limited to the big cities.
- o Domestic production of foreign makes (VW, GM/Isuzu) will decrease the share of imported cars.
- o Japanese cars use right-hand drive (as in the United Kingdom). Left-hand drive cars are permitted on the road, but are a bit of a problem to drive. Many of the European imports are modified to right-hand drive.
- o Some large U.S. cars might not meet the emission standards.
- o Competition at the dealership level is severe. There is little chance of meeting Japanese price competition because of the artificially low dealer markups and manufacturer's strong participation. See Appendix.
- o Japanese manufacturers provide features in their cars that buyers perceive as being evidence of superior quality (e.g., exceptionally smooth paint finish).

Many of the parts for Japanese cars are supplied by small companies in the third or fourth tier of production. Many of these companies are almost a cottage industry with very low wages, intermittent production, and no fringe benefits or lifetime employment. Competition by U.S. or European plants for such products would be impossible, but suppliers from South Korea, Taiwan and the Philippines have made some minor inroads.

Promotion Policy

The Japanese government has no specific promotion policy for its automotive industry. To the contrary, the industry is so successful in exporting that it is causing considerable pressure on the government to limit these exports. Unofficially, the industry is viewed as being too competitive (certainly in the home market) and consequently is operating with lower than desirable profits. It is also recognized that survival in the future world arena of automotive manufacturing will require that a company be in the production range of 1 to 3 million units per year. It is believed that at least one portion of MITI favors further rationalization of the industry to alleviate these conditions. Although this is not a specific example of promotion, such a result could certainly be viewed as a definite move to further strengthen the industry.

Guardian of Industry's Proprietary Information

Any proprietary information supplied to government agencies by private industry in Japan is protected by the principle that public servants have the duty to protect such information. This is a condition of their employment much as it is in the United States and elsewhere in the world. Moreover, general government information is protected by national and local public service laws. Japan has no Freedom of Information Act or "Sunshine Law," but in 1980 the government began to release some information not previously available. A Freedom of Information Act similar to that in the United States does not seem likely, at least in the near future.

Antiindustry legal actions by consumer groups have been essentially confined to environmental and safety issues. Objections to industry practices and business decisions that result in stockholders suits in the United States are essentially unheard of in Japan. Industry information is protected by the rules of employment, and there is some question as to whether government is privy to all of the plans of the auto manufacturers.

The Japanese patent system is well established and effective. It was set up in the late 1800s and contains four main elements as described in the Appendix. These are the basic patent, a basic concept, a design patent, and what would be considered a brand copyright in the United States. The number of applications is the

largest of any country in the world by a factor of 3 to 1 and is growing at over 5% per year. The United States has the next largest number of patent applications and is the only other country showing any growth.

Management of Cyclical Change

Production in the Japanese auto industry has grown continuously every year except 1974. In effect, therefore, no cycles to manage have occurred. In terms of the overall economy, the government uses monetary policy predominantly to control prices, economic growth, balance of payments, and employment. Main monetary policies include:

- o Control of bank interest rates
- o "Window" guidance for financial institutions
- o Open market operations
- o Adjustment of reserve deposit requirements.

Risk Insuror

There is no formal risk insuring system for major private companies. If the normal economic and business processes failed to avert financial failure, however, political measures would be taken to ensure continuation of employment. All political parties are in favor of government intervention in such a case. The government has not directly intervened to avoid the failure of a major company since the Yamaichi Security Company case in 1965, and that was done to avert collapse of the entire financial system.

There are credit insuring systems for smaller businesses. In most cases, small companies that supply the auto industry have long-standing ties with their major customers, and quite often they supply only that one customer. In such cases, the customer would undoubtedly take various measures, both internally and with external credit services, to provide assistance.

Toyota constitutes the main elements of one of Japan's 15 industrial groups, and the same holds for Nissan.* Other major groups include three successors to prewar Zaibatsu groups--Mitsubishi, Mitsui, and Sumitomo--and others are based on leading banks. Toyota and Nissan lack the diversity of major companies and the financial strength found in some of the other groups, but they still have reasonably strong ties to banks, trading companies, and other industry through intergroup

*"Industrial Groupings in Japan," Revised Edition 1978, Dodwell Marketing Consultants, Tokyo, Japan.

ties. Crossholding of shares is customary within groups, and this amounts to about 35% in the Toyota group and 40% in Nissan. Under such conditions, financial difficulties encountered by a particular company become a concern for their group, and even their associated groups. Thus, when Toyo Kogyo forced serious losses, Sumitomo stepped in to provide financial and management assistance. No direct support was provided at a national level, but the prefecture did take an active role.

The national government does not act as a risk insurer, and therefore this does not enter into Japanese corporate strategy. The group system does act in this role to some extent (and very infrequently), however, but corporate plans that would rely on rescue by group members would be unthinkable.

V TASK 3 EVALUATE INVESTMENT CLIMATE

Before World War II, the 10 major Zaibatsu groups virtually controlled the entire Japanese economy. The occupation authorities required that all of these groups be dissolved into smaller independent companies. With successive revisions of the Antimonopoly Law, however, many of the former associations were renewed, but in a much more decentralized and democratic form. Holding companies are prohibited; therefore, instead of direct control by vertical ownership of shares, the present group presidents meet and vote (equally and democratically) on the issues. This organization and a considerable increase in mutual shareholding within groups was industry's answer to increasing liberalization of direct capital investment by foreign interests during the 1960s and early 1970s.

With the new Foreign Investment Law of 1980, significant formal obstacles to foreign capital investment in Japanese industry apparently are eliminated, but competitive considerations are probably more severe than anywhere else in the world. This competition is among the various Japanese groups, as well as with any foreign company attempting to break into the market. Because of the radically different social, business, and economic environment, most foreign companies seek to enter the Japanese market by acquiring all or part of a Japanese firm and using most or all of the existing personnel and management. Thus, a foreign automotive manufacturer seeking to participate in Japan almost automatically finds himself being a part of a major industrial group to some smaller or greater degree. Some aspects of the investment climate are thus determined not only by the company being acquired, but also by its position in the group and even to some extent by intergroup competition.

Despite the prospects of severe competition, a few automotive companies--generally the largest and most long-range oriented, e.g., GM, Ford, Chrysler, Bendix, TRW, and the like--have established participation in Japanese operations. Almost all of these companies purchased partial interest in a major manufacturer (GM/Isuzu, Ford/Toyo Kogyo, Chrysler/Mitsubishi) or formed a joint venture (JATCO--Ford/Nissan/Toyo Kogyo to produce transmissions). Because of the worldwide rationalization of the automotive industry and the economies of multinational sourcing, more of such operations are to be expected. Conventional wisdom currently dictates that only the largest auto companies can remain profitable by the end of the 1980s. As a result, a number of previously difficult-to-imagine partnerships, joint ventures, marketing agreements, and similar arrangements with Japanese companies are being considered. Examples include: Volkswagen/Nissan, Chrysler/Mitsubishi, and Ford/Toyota. Therefore, the only conclusion

is that the investment climate is certainly not prohibitive, but definitely subject to severe competitive pressures and risks.

In recent years, the number of wholly owned subsidiaries set up in Japan by foreign companies appears to have increased. The proportion of 100% ownership to some smaller amount, increased from about 23% in 1971 to 52% in 1977. These national statistics, however, do not necessarily relate to the automotive sector.

The other major deterrent to foreign investment in Japan is the traditionally low corporate profits compared with those in the United States or Europe. Furthermore, there is an extremely long-range perspective regarding profits--the demand for immediate and quarter-by-quarter profitability in Japan is viewed as short-sighted. A major reason for this is that the major banks and financial institutions are major shareholders and are accustomed to the relatively low, government-controlled interest rates. In addition, the extremely competitive environment generally prevents unusually high profits.