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Acquisition and Analysis of Information Relative to the Industrial Behavior of the Major National and International Motor Vehicle Manufacturers

Harbridge House, Inc.
11 Arlington Street
Boston MA 02116

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16. Abstract

This report summarizes data collected from 1978 to 1980 relating to the following motor vehicle companies: General Motors, Chrysler, Ford, American Motors, International Harvester, BL, Fiat, Peugeot, Renault, Saab, Volvo, Daimler-Benz, Volkswagen, BMW, Toyota, Nissan, Honda, Toyo Kogyo, Mitsubishi, and Fuji. The topics focused on in this report are corporate strategy; product plans; production; marketing and distribution; finance; research and development; government relations; and labor. In addition to information in these subject areas, a broad overview of major markets through the 1980s has been provided. The report also gives financial, production, and registration data for the period 1975-1979.

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PREFACE

In October 1978 Harbridge House began a two-year effort of monitoring and collecting published sources of information in the United States, Europe, and Japan on the world automobile industry and synthesizing this information into a monthly report titled "World Automotive Analysis." This final report is a compilation and distillation of these earlier reports; it shows trends and strategic directions and provides a context for comparing companies or groups of companies. This final report can be used best in conjunction with the more detailed information available in the individual monthly reports.

It should be noted that the monitoring of publications was stopped in mid-October 1980; thus, events occurring after that time are not included in this document. It should also be noted that the last section of this report, Baseline Data, which presents financial, production, and registration/sales information, has been limited by the difficulty of obtaining current, directly comparable, and complete data for geographic areas and companies — most notably, passenger car registrations and market shares in Brazil and Italy.

At all times Harbridge House has made every effort to assure consistency in the figures and events reported. We have evaluated all sources for their accuracy and have endeavored to use the most reliable and consistent data.

The numbers in parentheses appearing at the end of each item reported refer to news clippings collected and delivered by Harbridge House to the Transportation Systems Center as supporting documentation.

in late 1973 and the one occurring in spring 1979, have combined motor fuel availability problems, sudden jumps in motor fuel prices, and severe economic downturns. There has been little substantial increase in fuel prices since late 1973 apart from those associated with the two availability crises.

Each of these two packages of events has caused a shift of approximately 20% of the demand for big cars – intermediate and full size – to small cars. Prior to the first oil shock, big cars held nearly 60% of the total passenger car market; afterward, slightly less than half; and today, about 36%.

Without major external forces (e.g., large increases in motor fuel prices, another availability/price trauma) this mix pattern by category[7] is likely to remain relatively unchanged, except for a possible recovery of one to two points of market share by larger cars as the economy emerges from a recessional status, a pattern of upscaling that has typified nearly all past economic recoveries.

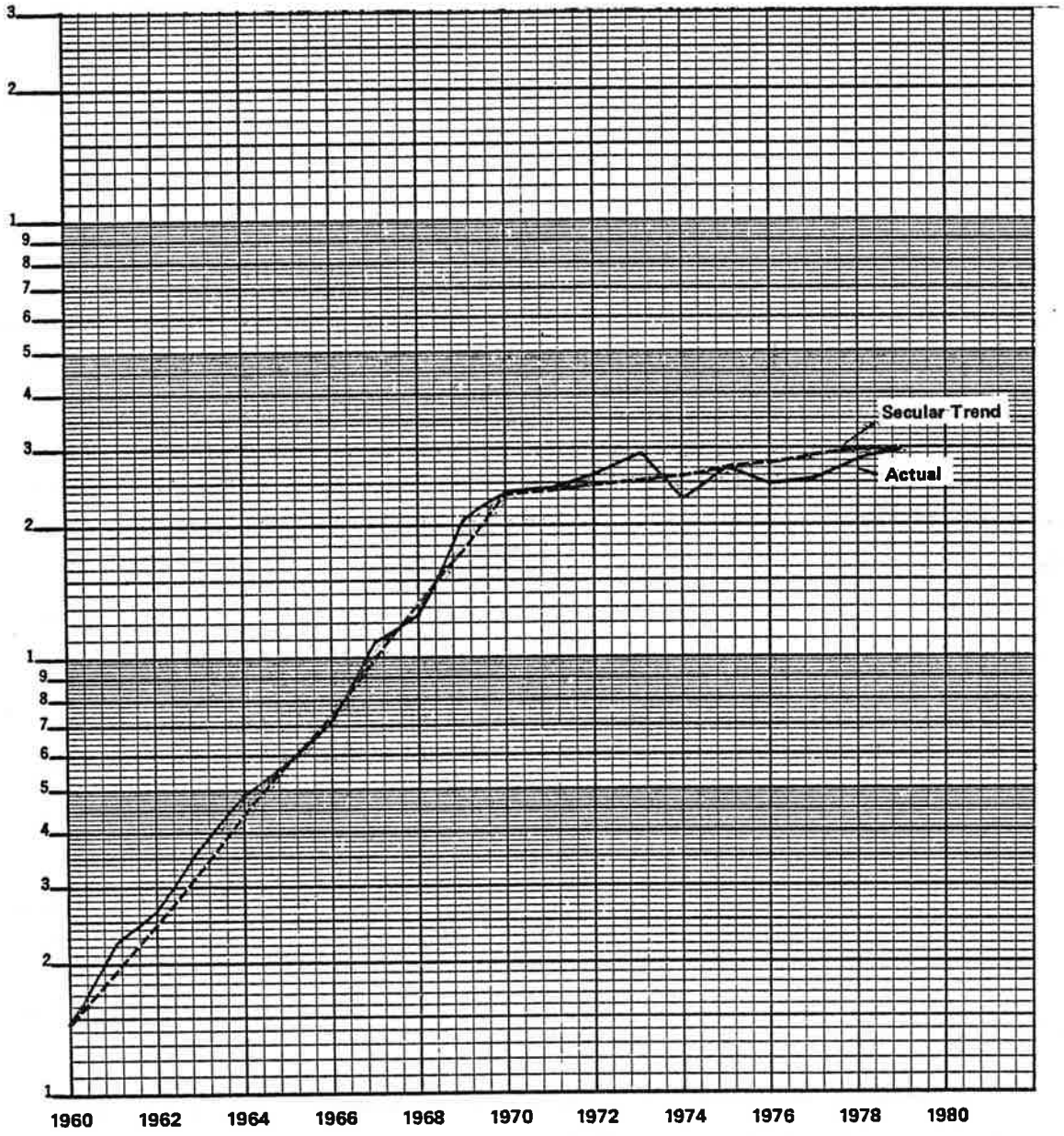
Japan

From 1960 to 1973, secular demand for passenger cars in Japan grew at a rate of approximately 26.5% per annum. Registrations in 1960 totaled 145,340 units; in 1973 they reached 2,941,388 units. In every intervening year sales exceeded the level of the prior year. However, the sales total reached in 1973 was not matched again until 1979 (see Figure 1-3).

The number of passenger cars on the road in Japan per thousand persons remains at less than half the U.S. level and well below that of both West Germany and France. This, however, should not suggest the presence of a large latent but as yet untapped demand. Municipal requirements that Japanese families have facilities to garage any car registered to them, combined with the scarcity of land and the scantiness of parking facilities in city centers, limit the potential

[7] Although Harbridge House expects the mix pattern by category to remain roughly unchanged barring a third oil crisis, many of the vehicles within each category will become smaller. For example, the new GM series of midsized cars will be stretched versions of the compact X-body platform.

FIGURE 1-3
JAPANESE DEMAND FOR PASSENGER CARS: 1960-1979
Plotted on Semi-Logarithmic Scale



Sources: Annual data, Toyota Information Handbook, 1980; trend, Harbridge House research.

the overall market is the increasing significance of used car sales. In 1974 there were only 58 used car transactions for each 100 new cars purchased; by 1978 the two figures had reached virtual parity.

Today, the Japanese automobile demand responds not only to shifts in disposable income, both actual and expected, and to interest rates, but also to all of the lesser influences of a mature market. For example, increases during 1978 and 1979 were ascribed to such factors as the large number of new models introduced; improvements in emissions technology that enhanced fuel economy; and intensive promotional efforts by the manufacturers, typically involving monetary incentives to stimulate activities among the large cadres of dealer door-to-door salesmen.

Major EEC Countries

Although in composite terms the demand for passenger cars increased only about 2.6% per annum in the "big four" countries from 1971 to 1978,[8] the growth rates of individual countries and the year-to-year fluctuations in demand have varied considerably (see Table 1-3).

TABLE 1-3
ANNUAL PASSENGER CAR REGISTRATIONS: 1971-1979
WEST GERMANY, FRANCE, UNITED KINGDOM, ITALY
(millions of cars)

	1971	1972	1973	1974	1975	1976	1977	1978	1979
West Germany	2.15	2.14	2.03	1.69	2.11	2.31	2.56	2.64	2.62
France	1.47	1.64	1.75	1.53	1.48	1.86	1.91	1.95	1.98
United Kingdom	1.28	1.64	1.66	1.27	1.20	1.29	1.33	1.59	1.72
Italy	1.47	1.45	1.28	1.05	1.16	1.22	1.22	NA	NA
	6.37	6.87	6.72	5.54	5.95	6.68	7.02	--	--

Source: MVMA World Motor Vehicle Data (various editions).

[8] The late reporting of totals for Italy prevents a composite calculation for 1971 through 1979.

- Germany. Annual growth over the period 1971-1979 was 2.2%. Cyclical variances were greater in Germany than in any other country; demand in the lowest year, 1974, was only 64% of that in the highest year, 1978. This degree of variation was considerably greater even than that in the U.S. market. However, if one excludes 1974, the German market proved to be quite stable; in particular, unit sales in the past three years diverged by less than 3%.

  In Germany there is considerable dispersion of sales among competitors. The three leading manufacturers account cumulatively for only about half of the market; the largest, Volkswagen, accounts for only 22%. The share held by domestic manufacturers has gradually been slipping but remains above 75%. The share held by Japanese vehicles has grown from less than 2.0% in 1976 to 5.6% in 1979, and has continued advancing in 1980.

  Some 80% of all German-produced cars have engines of less than 2.0 liters. Diesel engine cars accounted for about 6% of 1978 sales but are predicted to reach 13% by 1985.

- France. The French market has had the highest growth rate of the four countries, 3.4%, and the smallest cyclical variances of any of them. Unit sales in the lowest years of the decade, 1971 and 1975, were 75% of the highest, 1979. As in Germany, recent sales levels have been unusually static, with only a 3% divergence among the totals of the past three years.

  A combination of intensive nationalism and barriers against the broadening of Japanese imports has maintained the share of the market held by French manufacturers at no less than 77% since 1976. The three leading nameplates – Renault, Peugeot, and Citroen – together account for nearly 70% of the market with Renault and Peugeot-Citroen almost equal in units sold.

  Some 77% of French-produced cars have engines of 1.5 liters or less. Diesel-powered cars accounted for 6.5% of sales in 1978 and are expected to climb toward 10.0% by 1985.

- United Kingdom. At the beginning of the past decade, the U.K. passenger car market was nearly equal in size to that of France; by 1974-1976, it had shrunk to 77% the size of the French market, but in the past two years it has been recovering significantly. In contrast to the stability of registrations during the past three years in Germany and France, totals in the United Kingdom have increased strongly. The apparent secular growth rate of 3.3% during the 1970s is relatively meaningless because of the deep trough of the middle years.

  As recently as 1976 British-made vehicles accounted for 65% of the U.K. market; by 1979 this had dropped to approximately 55%. From 1978 to 1979 the market share held by BL declined from 27% to less than 20%. Meanwhile, the share held by Japanese vehicles has grown steadily up to and past the 12% mark. The two leading manufacturers, BL and Ford, together account for a shade less than half the market.

  Some 69% of U.K.-produced cars have engines of 1.6 liters or less. Diesel sales are negligible and are expected to reach only 2 to 3% by 1985.

- Italy. Italian passenger car registrations declined sharply in the 1970s. Annual sales in the early years of the decade exceeded those in the late years by approximately 250,000 units, a drop of 17%.

  Italian-made vehicles hold 65% of the national market, and only imports from France and Germany are significant.

  Some 99% of Italian-produced cars have engines of 2.0 liters or less. Diesel sales were 4.9% of the total in 1978 and are forecast at 13% in 1985.

Demand in Germany and France, the two largest markets, appears static, with real future rates of secular growth probably much lower than the 2.2% and 3.4% achieved in the 1970s. Growth in the U.K. market may continue at a higher rate if the economy continues strengthening, but only until the backlog of demand created during the weak years – 1974 through 1977 – is filled. If the Italian economy recovers, then the pattern evident in the United Kingdom may be repeated there as well.

1.2 THE MAJOR MARKETS: COMMERCIAL VEHICLES

Introduction: Market Size

Japan and the United States are by far the world's largest consumers – and producers – of commercial vehicles. (These two countries alone account for nearly two-thirds of worldwide commercial vehicle output.) In 1979, U.S. registrations of trucks and buses reached nearly 3.5 million units and Japanese registrations 2.1 million; in that year, the four largest Western European markets together registered less than half the number registered in Japan (see Table 1-4).

TABLE 1-4
COMPARISON OF SIX LEADING COMMERCIAL VEHICLE PRODUCING COUNTRIES
(1979 data)

	Commercial Vehicles		
	Production (millions)	Registrations (millions)	Per 1,000 Persons
United States	3.05	3.48	142
Japan	3.46	2.11	111
West Germany	0.32	0.17	24
France	0.39	0.31	47
Italy	0.15	0.11	23
United Kingdom	0.41	0.30	34
	7.78	6.48	

Source: MVMA World Motor Vehicle Data (various editions).

Much of the relative size of the commercial vehicle markets of the United States and Japan revolves around the preponderance of light trucks in the

sales mix. In 1979 light trucks accounted for 89% of all commercial vehicles in the United States; in Japan, 93%; in France, 76%; in West Germany, 58%; in the United Kingdom, 71%; and in Italy, about 40% (see Figure 1-4).

As mentioned earlier, in the United States an extremely large proportion of light trucks is channeled primarily into noncommercial applications. The number of small commercial vehicles utilized in Japan is traceable to such factors as the street patterns in major cities, the number of extremely small farms, and the preponderance of small business units.

Growth

Of the six countries compared here, only in the United States, France, West Germany, and Italy has there been a growing demand for commercial vehicles over the past five years. Secular patterns have been actually slightly downward in both Japan and the United Kingdom.

U.S. commercial vehicle growth seems to be entirely traceable to the boom in the use of light commercial vehicles for personal rather than commercial purposes. In France, demand continues to grow at about 5.4%, and in West Germany at 4.4%. In Germany, however, most of this demand growth is accounted for by sales of Kombi-type vehicles, which register a 6.7% rate of increase as compared with 2.1% for heavier types. The overall growth rate in Italy has been 2.8%.

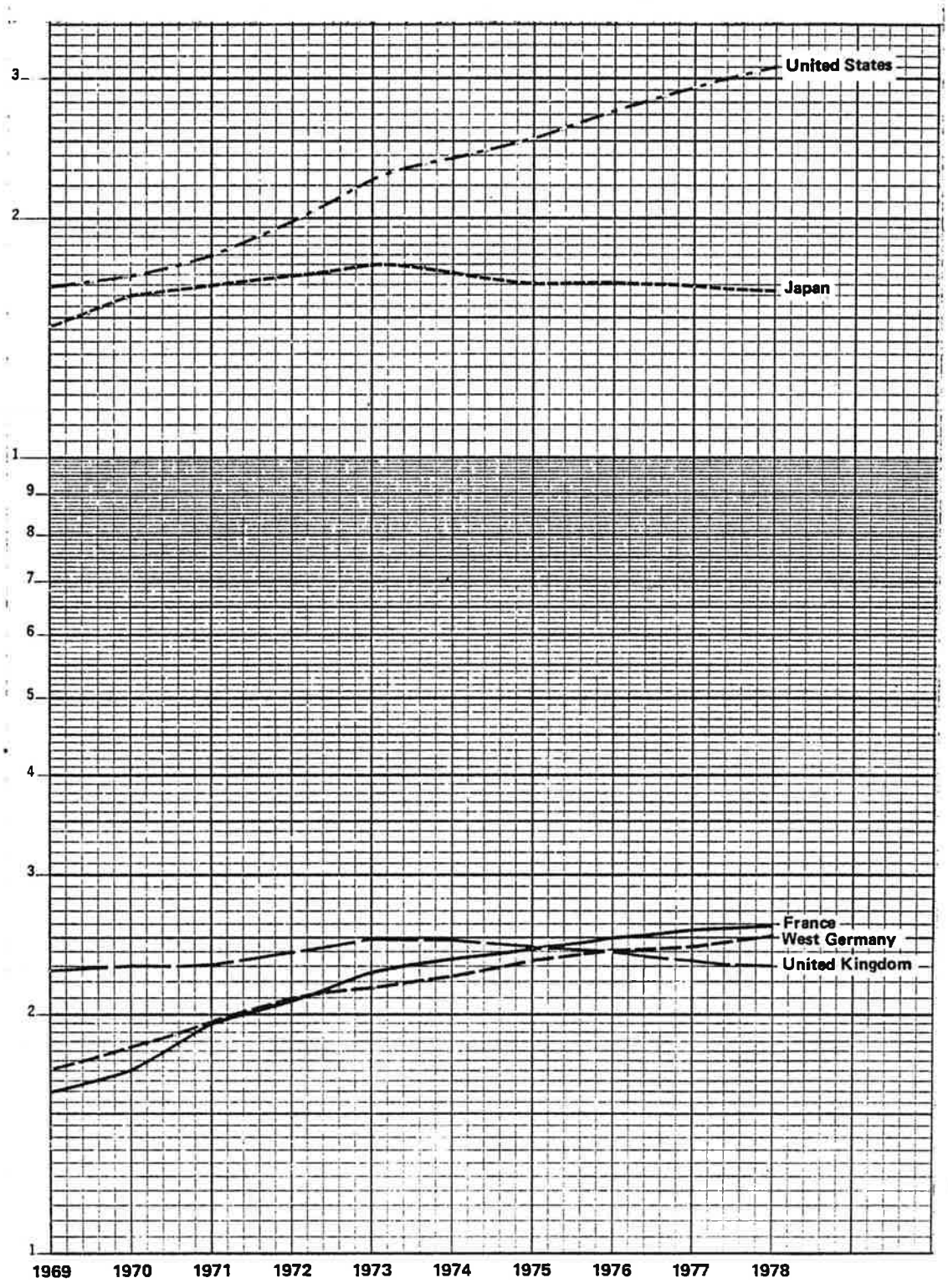
Dieselization

In all of these countries except the United States and the United Kingdom the use of diesel engines in commercial vehicles has been virtually universal in all size ranges from 3- to 4-tons GVW upwards.

One decade ago, 36% of the commercial vehicles sold in the United Kingdom were diesel powered. The number and share of diesels have declined steadily so that by 1979 only 31% of all commercial vehicles sold carried diesel engines.

In the United States, only the heaviest trucks — Class 8, 33,000 pounds and over — are as much as 70% diesel powered. Class 7 trucks in the 26,000- to 33,000-pound range are only 10% diesel equipped and dieselization in the next

FIGURE 1-4
REGISTRATIONS OF NEW TRUCKS IN FIVE COUNTRIES: 1965-1978
5-Year Moving Averages Plotted on Semi-Logarithmic Scale



Source: MVMA World Motor Vehicle Data (various editions).

Chrysler and Peugeot

- Chrysler and Peugeot concluded an agreement giving Chrysler a $100 million short-term loan secured by the 1.8 million shares of Peugeot-Citroen stock held by Chrysler as a result of the sale of Chrysler Europe holdings to the French automaker in August 1978. The agreement calls for negotiations to continue between the two companies on components sales, joint engineering, and possible assembly in Chrysler's U.S. plants of a jointly developed car that would be sold under both the Peugeot and the Chrysler nameplates. (06121, 06129, 06130)

- So far the most significant deal concluded between the two companies is a three-year agreement calling for Peugeot to supply Chrysler with 100,000 4-cylinder 1.6 liter gasoline engines in 1982 and 150,000 in both 1983 and 1984, with an option for renewal. Chrysler now purchases 4-cylinder engines from Mitsubishi (2.7 liter) and Volkswagen (1.7 liter), but its financial relationship with Mitsubishi is strained and its contract with VW ends after the 1982 model year.

  The engine deal will allow Chrysler to begin production of "super K-car" derivations in its St. Louis assembly plant in 1982 rather than 1983 as was originally scheduled. This will be in addition to K-car production at the company's Jefferson Avenue (Detroit) and Newark, Delaware, assembly plants, both of which are supplied with 4-cylinder 2.2 liter engines from Chrysler's Trenton, Michigan, plant. The engine deal with Peugeot will allow Chrysler to bring the "super K-cars" on stream with a $50 million investment (largely for retooling the St. Louis plant) instead of the hundreds of millions of dollars that would be required to increase its 4-cylinder engine production capacity.

  Beginning with MY 1983, Chrysler will also be able to purchase a lightweight 4-cylinder diesel from Peugeot, to be offered as an option on all Chrysler front-wheel-drive cars. Chrysler will be able to buy 100,000 the first year and 200,000 each year thereafter. The diesel will be available in both naturally aspirated and turbocharged versions. (08147, 08161, 08230)

Ford

- With his promotion to the position of Executive Vice President, North American Automotive Operations, Harold A. Poling has made the following strategic decisions to attempt to reverse Ford's declining position in the United States:

  - Canceled a $500 million investment in a new V-8 engine.
  - Closed three plants and eliminated jobs in the Mahwah, New Jersey, assembly plant effective 20 June 1980 because of quality and cost considerations.
  - Eliminated one shift each at the Kansas City, St. Louis, and Oakville City assembly plants and the Michigan truck plant.
  - Phased out the Dearborn specialty foundry and the Windsor, Ontario, castings plant.
  - Terminated 15,000 employees, including 6,000 salaried employees (some of whom were on Ford's bonus list).
  - Announced that there will be additional salary and benefit cuts (affecting merit pay increases and company contributions to savings and stock investment plans) for white collar workers.
  - Halted the construction of a $20 million wind tunnel for car and truck testing.

  In addition, Poling has indicated the possibility of reducing Ford's stamping capacity from five to four plants, dropping some of Ford's biggest low-mileage autos ahead of their scheduled phaseout, scrapping certain future restyling programs, and possibly importing "large" European Fords that by U.S. standards are compacts.

  Poling feels that Ford North America's facilities are simply too large for its market here. The closings of the Los Angeles plant in February 1980 and the Mahwah, New Jersey, plant in June 1980 will reduce Ford's car/truck capacity 14%, but the company will still have capacity to take 22% of the domestic market share; its current market

share is 18%. Additional capacity cutbacks are unlikely because Poling is convinced that "[Ford's] an 18% market-share company." (07108, 07325, 07371)

- In Europe, Ford is increasing its capital spending plans 10% to $8.1 billion through 1985. The announced increase is attributed to additional work on fuel-efficient engines. Ford hopes to consolidate and strengthen its position in Europe during this period of reorganization and structural change not only with its investment strategy but also by reviewing ways to improve productivity and work practices in order to compete effectively with Japanese imports to Europe. For example, Ford has increased the number of "quality control circles" (small groups of workers led by a foreman or supervisor) and is committed to involving all 140,000 European shop floor employees in such groups by the end of 1980. On the production side, it is using the Japanese "Kanban" system of stock control, a flexible system that would eliminate the need for substantial "buffer" stocks of components. (07623, 08680)

- The sourcing for Ford's Escort/Lynx product line reveals some interesting points about Ford's component network strategy. Despite the collaborative development of the new subcompact, Ford's European and American production bases are both largely self-sufficient. (The major exceptions are the purchase of manual transaxles from Toyo Kogyo for use in the United States and the export of automatic transmissions to Europe beginning in 1981.) There is no need for a large-scale trading of components between Europe and North America because Ford can attain economies of scale (estimated at annual output per factory of 100,000 engine block castings; 500,000 engine and transmission machining and assembly; and 250,000 passenger cars for final assembly) on both continents. (08712)

- The weaknesses of Ford's product line continue to lead to changes in the company's design and engineering hierarchy. These functions have basically been consolidated under the Car Development Group, set up

in 1979 and headed by Louis R. Ross. Ford's top management wants to shorten the lines of responsibility for the design, engineering, and development of new models. (08581)

- Ford will transfer its 50% interest in Japan Automatic Transmission Company (JATCO) to its two partners, Toyo Kogyo and Nissan, which hold 25% each, for a total of about $48 million. Nissan has long been agitating for a larger equity share in JATCO because it takes 70% to 80% of the company's transmission output. Further, Nissan has felt its access to JATCO products threatened because of Ford's equity linkup with Toyo Kogyo. The demand in Japan for automatic transmissions has been increasing, but Honda Motor Company is the only Japanese automaker with its own automatic transmission production capacity. Nissan, Toyo Kogyo, and Fuji go to JATCO while Toyota and Daihatsu go to Aishin-Warner, a Borg-Warner subsidiary. (08664)

Ford and Toyo Kogyo

- In mid-1979 Ford Motor Company and Toyo Kogyo Company reached a financial agreement whereby Japan-based Ford Industries will merge with Toyo Kogyo through Ford's purchase of a 20% to 25% equity interest in the Japanese automaker. This move will provide Ford with a Japanese tie similar to those of GM and Chrysler and will help the company position itself for the world market of the 1980s.

  This venture has provided benefits to both automakers. Toyo Kogyo supplies Ford with manual transaxles for the new 1981 Erika subcompacts and will supply it with automatic transaxles for Ford's 1982 front-wheel-drive compacts, helping reduce Ford's capital investment costs through 1985. Toyo Kogyo will also supply Ford with 2,000 cc diesel engines at a rate of 160,000 units a year on a long-term basis. As for Toyo Kogyo, it has been deeply involved in Ford's plans to revitalize its Asian operations with the new "Laser" line.

  In comparison to Toyota and Nissan, Toyo Kogyo has suffered from poor financial performance, heavy borrowing, and a fragile management structure. The linkup with Ford has helped to alleviate some of

these problems. Ford's ¥70 billion (US$318 million) investment in Toyo Kogyo translates into a 26% increase in the company's capital, capital needed to build a new plant and increase its domestic sales network. The arrangement with Ford will also enable Toyo Kogyo to reduce its production costs since it will be able to produce parts for Mazdas and Fords simultaneously. (02322, 02545, 02558)

Ford and Toyota

- Ford Motor Company and Toyota Motor Company are continuing discussions about a possible joint production venture in the United States. Initially, Ford dismissed the Japanese company's proposal to use an idle Ford plant to produce a Toyota-designed car as being a largely politically oriented move that would be of little practical use to the American automaker. Ford indicated that it would be much more interested in a joint assembly operation involving more than one model and 500,000 to 600,000 units per year. Ford would be particularly interested if a linkup with Toyota could involve Daihatsu Motor Company's small 3-cylinder front-wheel-drive Charade. (Toyota is Daihatsu's largest shareholder and assembles some Toyota vehicles in its facilities.) The 1,000 cc Charade would be an attractive competitor to put against GM's "S-car" line due in 1983.

  Where Toyo Kogyo, Ford's Japanese affiliate, would fit in any Ford-Toyota arrangement remains a matter of speculation. (08329, 08411, 08429, 08553)

General Motors

- Following a pattern of splitting its leadership between finance and engineering executives, General Motors has named Robert B. Smith to replace Thomas A. Murphy as the company's Chairman and Chief Executive Officer and F. James McDonald to take over for President Elliott M. Estes in early 1981. Smith has risen through the finance ranks of the corporation while McDonald and the new Vice Chairman, Howard H. Kehrl, are engineers. (08500)

- GM has reorganized its overseas staff to give its vice presidents functional area rather than geographic responsibilities. The operating heads of GM's West German, British, Brazilian, and Australian units will remain the same, but they will take on additional responsibilities. James J. Waters, Jr., Managing Director of Adam Opel AG, will now have responsibility for GM's European passenger car operations. Ferdinand P.J. Beickler, Managing Director of Vauxhall Motors, Ltd., will be responsible for the worldwide marketing of Bedford trucks. Charles S. Chapman, Managing Director of GM-Holden (Australia), will also take on responsibility for New Zealand operations. Joseph J. Sanchez, Managing Director of GM do Brasil, will have responsibility for marketing Brazilian products as well as for GM's operations in Uruguay. (07370)

- The latest move in GM's restructuring of its overseas operations is the appointment of Robert C. Stempel, former Vice President and General Manager of the Pontiac Division, as Chairman of GM's Adam Opel subsidiary.

  The increasing importance of Opel has come at a time when for the first six months of 1980 the subsidiary experienced a 16% decrease in production from 1979 levels. Opel's 1979 financial results are not out yet, but reports are that the unit was barely in the black.

  General Motors is also committed to a $3.5 billion program to expand Opel's capacity to produce small, fuel-efficient vehicles. Sales of the fuel-efficient Kadett have been counter to the general Opel slump, running more than 30% above last year. (08252)

- General Motors has announced that it will sell for approximately $300 million its Terex Division, which makes construction vehicles, to IBH Holding, a holding company that owns 11 European construction machinery manufacturers. Terex has had annual sales of $500 million. GM said it was selling Terex in order to concentrate its attention and

resources on the automobile industry. In early 1979 GM sold its Frigidaire Division to White Consolidated Industries for basically the same reason. (00622, 08682)

- GM has embarked on a $13 billion overseas capital investment program to expand its share of the world motor vehicles market and improve the profitability of its overseas operations. In preliminary moves to implement this policy decision, GM moved its overseas divisional headquarters from New York to Detroit in 1978 and promoted the heads of those divisions to the vice president level. The company also set up a project center in Warren, Michigan, to coordinate car designs among its five U.S. car divisions and subsidiaries in England, Germany, Brazil, and Australia. Also, in December 1979 GM established a worldwide truck project center. The company's goal is to have a family of world trucks prepared by 1983 (most likely medium- and heavy-duty tilt-cab models) with 75% to 80% interchangeable parts.

  GM President Elliott M. Estes has announced that from 20% to 25% of the total funds budgeted for corporate capital expenditures over the period 1980-1982 have been earmarked for the company's overseas operations. More than half of this portion will be spent in Europe. Historically, General Motors has spent 15% of its capital expenditures budget on its overseas subsidiaries, but in the period 1976-1979 capital requirements in the United States forced the company to cut this share to 12%. Estes predicts that by spending at the announced increased level, GM can top Ford overseas by 1983. The underlying reason for General Motors' decision to push for expansion worldwide is structural: in the face of increasing integration of the world automobile industry, poor performance in the international segment could threaten the company's strength in the United States.

  An additional factor behind the investment plan is General Motors' need for an international sales outlet if the company wants to continue to grow. The U.S. market has reached maturity. Replacement sales

will always be considerable, but GM cannot increase its domestic market share (GM has taken over 65% of the domestic market in the first eight months of 1980) without increasing the risk of antitrust proceedings. The European market, especially Northern Europe, is at nearly the same level of maturity as the United States. However, potential exists for GM to increase its market share there, especially while the major European automakers themselves jockey for position. For the most part, markets in the developing countries are small, but in terms of growth rate the greatest expansion will take place in the Third World.

General Motors' expansion strategies for Japan, Europe, and the Third World differ significantly from one another. In Japan, GM is acting to use its affiliation with Isuzu more creatively. The Isuzu-built Opel has been dropped from the U.S. market, but GM has been bolstering its orders of parts and components (such as 2.0 liter diesel engines) from its Japanese affiliate. Isuzu will begin producing a version of GM's subcompact J-car (due in the United States in the spring of 1981) in the spring of 1982.

In Europe, General Motors is taking steps to both increase imports and expand its production capacity by 300,000 units. The company has announced seven new plants for Europe:

- In Austria, one plant to produce 300,000 engines annually and another plant to produce 350,000 gearboxes each year.
- In Northern Ireland, a seat belt and hardware production facility.
- In Spain, three separate facilities for suspension components, steering columns, and trim.
- In Portugal, the company has acquired a site for a plant to manufacture plastic and rubber components. Production will be export oriented and feed the company's facilities in Spain.

The total cost for all seven plants will near $2 billion. The plants should be operational by mid-1981.

In Latin America, GM is in the midst of restructuring its operations, liquidating unprofitable operations and strengthening promising ones. The company has announced a bold move to double its Mexican production capacity at a cost of $350 million. Future expansion moves in Latin America are likely to be in the form of additional components plants rather than more assembly facilities, including substantially increased capacity at its Sao Jose dos Campos plant in Brazil that will be making engines for GM's J-cars. (02873, 02875, 02882, 05153, 06340, 06432, 06433, 08412, 08431, 08446, 08679)

General Motors and Isuzu

- Fuel economy regulations in the United States are altering supply relationships between U.S. and Japanese automakers. Isuzu, GM's Japanese partner, has been strongly affected by these changes. For example, GM's plans to produce pickup trucks domestically to replace the 70,000 to 80,000 Luv light trucks previously imported from Isuzu have resulted in a new role for the Japanese automaker as a supplier of engines and transmissions for these new GM-made vehicles. GM is also dropping the Isuzu-made Opel, but Isuzu will begin supplying GM with transaxles for its J-cars due in 1981. Isuzu is adding new transaxle construction capacity that will enable it to produce 550,000 to 600,000 units a year. GM will also be purchasing 2.0 liter diesel engines.

  Because General Motors will no longer be carrying finished Isuzu products, the company has begun hiring a marketing staff to support its new U.S. distribution network that is slated to be operational by next spring. The Japanese company will begin with a dealer network in 13 West Coast and Southern states. It hopes to sell 18,000 vehicles the first year, both four-wheel-drive light trucks and subcompact cars. Four-fifths of the vehicles offered will have diesel power plants.

  Isuzu disclosed a four-year strategic plan beginning in November 1979 that incorporated the company's future role vis-à-vis GM. The plan anticipates that Isuzu will be able to sell 10,000 passenger cars, 10,000 light trucks, and 5,000 standard-size trucks monthly in the domestic

market and to export 25,000 vehicles a month. Isuzu will concentrate its export activities on supplying the Asian markets as part of GM's world strategy. In total, the plan represents a sales target of 600,000 vehicles a year and an annual turnover of ¥800 billion. (J00375, J00391, 08190)

International Harvester

- International Harvester is planning major moves toward increased vertical integration. The company wants to offer trucks with more IH content, especially in areas with high profit potential for in-house manufacturing, such as electronics (primarily automatic transmissions with electronic controls) and new composite materials. (07515)

- International Harvester's Truck Group has been reorganized into seven divisions – heavy trucks, medium trucks, sport/utility vehicles, axle-cabs-components, parts, North American sales, and international sales – with each division given more autonomy and decision-making responsibility. The reorganization will allow each of the divisions to specialize in the engineering, manufacture, and marketing of its particular products. It will also shorten the lines of communication between dealers (and their customers) and management of the divisions. (05015, 05064)

- International Harvester will make a major investment in Spain now that it has signed a joint venture agreement with Empresa Nacional de Autocamiones, S.A. (ENASA), a heavy truck maker owned by the Spanish Government. The agreement calls for IH to take a 35% share of ENASA and a 65% share of a new company to be formed in Spain to manufacture diesel truck engines. IH is likely to become a majority shareholder in three years, after ENASA has been restructured.

  The new engine facility will cost approximately $200 million. It will have an annual capacity of 80,000 to 100,000 units, most of which are slated for export to the United States. IH will also begin tractor production in Spain. (08685, 08687)

European Manufacturers

BL

- BL's continuing crisis can be attributed to two major historical causes, low productivity and a weak product line, exacerbated by the effects of the current recession in Britain. A reorganization of the company's manufacturing function, including substantial cutbacks in the labor force and a rationalization of production, has begun to reap productivity dividends. This situation, along with the company's steadily increasing investment program and a diminishing adversarial relationship between management and union leaders, should help solidify the productivity improvements achieved.

  BL's new Metro line, and especially the company's attendant concern with product reliability, signal BL's intention to rebuild its public image. However, losses in the first half of 1980 indicate that the company will need more than the £130 million (US$312 million) it had agreed to take from the British Government for the period 1981-1983, particularly if it wants to follow through on its replacement products for the Marina and the Allegro. (08427, 08578)

- BL's management has denied rumors that it wants to sell Jaguar Cars, a BL subsidiary that has long been considered a highly salable operation. It is evident that the Jaguar line needs a new infusion of capital for the development of a more fuel efficient product line for the late 1980s. This capital need is an obstacle to a possible sale; it also represents a potential cash drain on the financially troubled company if the Jaguar line is retained. BL is looking for a partner to help share the development costs for a new engine and other major components for the high-performance line. (07599)

BMW

- Although it has had a long-standing strategy of having 50% domestic sales and 50% export sales, by the end of 1980 BMW's exports are likely to increase to more than 55%, largely because of sales to the

United States, the company's largest export market. BMW is planning to increase its U.S. dealer network from 400 dealerships to 450 in the near future. (06613)

- BMW is attempting to moderate the cost of new component development by establishing joint projects with its major suppliers both in and out of Germany. Current research and development projects involve connecting rods, aluminum and chromium parts, and auto electronics. (Harbridge House Research)

Daimler-Benz

- As with VW and BMW, Daimler-Benz believes that its market penetration strategy has to revolve around finding better technical and economical solutions such as those in its announced plans to:
  - Add a new basic model (W201) to its current line.
  - Modernize production facilities and increase the flexibility of the plants.
  - Centralize the production of related parts.
  - Increase production capacity as the company expands its model range.
  - Rearrange its truck assembly activities for maximum cost advantage. (07974, F00411)
- To strengthen its worldwide market position in trucks, Daimler-Benz has recently taken the following actions:
  - Acquired a minority share of more than 25% in FBW Fahrzeng AG, a Swiss commercial vehicle producer, to boost Daimler-Benz sales in Switzerland and to utilize FBW's technology. The investment amount was not disclosed.
  - Begun discussion of a joint venture with an unspecified Egyptian company to build a truck assembly plant in Egypt. The total investment would be $22.2 million. Daimler-Benz's share has not yet been disclosed, but it is thought to be 25% to 51%. The plant would be in

production by the fall of 1981 and would assemble heavy trucks of 15 tons or more. It would have a final capacity of 5,000 units. (Daimler-Benz already has a 5,000-unit plant in Saudi Arabia.)

- Begun considering "the possibility" of a second U.S. truck assembly plant, the site and date of which are unknown. (06830, 06870, 06920)

Fiat

- Fiat is trying to position itself for the future with a series of internal and external offensives. Within the company itself, management is looking for greater production and organizational efficiency, better controlled overhead, an improved product mix (the result of $4.8 billion investment program that will give the company four basic small- and medium-size models – the Panda, the 127, the Ritmo, and the series 131/132 – that will be produced in greater number than any of the current models), and improved marketing.

  Externally, Fiat is taking the offensive against the Japanese. Fiat had been trying to block a proposed deal between Nissan and Alfa Romeo, but the Italian Government has approved the arrangement. Fiat will now take the tack of pursuing joint ventures for component production in order to achieve greater economies of scale and thus match the cost advantage of the Japanese. The recently concluded pact among Fiat, Volvo, VW, Renault, Peugeot, and BL to pool their research resources on fuel economy and performance came at Fiat's instigation. Lancia, a Fiat subsidiary, and Saab-Scania are working together to develop a new medium-size passenger car with a 1,500 cc engine. Fiat has already negotiated with Peugeot to jointly produce car engines and would like to expand the agreement to include other major car components. (F00094, 07735, 07756, 07908, 07962)

- Fiat's corporate initiatives are being supplemented by government plans to bolster the ailing Italian automobile industry. Outright government subsidies are under consideration. The Italian Government has already approved a $36 million automotive R&D project. In addition, the government wants to increase automotive exports from 45% of total production to 50%. (F00407, F00408)

- Fiat hopes to increase its profitability (the auto group lost $62.0 million on worldwide sales of $9.1 billion in 1979) by standardizing parts, establishing joint ventures with other automakers, and increasing productivity. The company's problems are at least partially the result of its slowness in committing to new models after the oil shortage and price increases of 1973. The popular Ritmo did not appear until 1978 and the mini Panda did not debut until 1980. (F00407, F00408, 06846, 06898)

- In refusing to participate in a capital increase at SEAT, the Spanish automaker in which Fiat has a 32% equity interest, Fiat has called its entire relationship with the Spanish company into question and raised doubts as to whether it wants to acquire eventual majority control. Fiat had been scheduled to buy the share of SEAT held by INI, the state holding company, which would have increased the Italian automaker's share to 89% by 1981.

  Fiat's refusal to contribute $40 million to the $85 million capital increase that was to have been completed by 31 May 1980 was seen as a means of backing away from the heavier than expected loss of $213 million in 1979 and an expected loss of at least that much in 1980. On refusing to make the capital commitment, Fiat contended that the Spanish Government would not liberalize import legislation and car pricing policy sufficiently to allow SEAT to become profitable.

  Fiat probably wants to keep some share of SEAT, if only to assure continued use of Fiat licenses. Royalties from SEAT totaled $2.12 million in 1979. SEAT's annual production capacity of 400,000 units also accounts for a significant portion (15%) of Fiat's total production capacity and helps give the Italian group an international dimension. However, because a long-term minority interest by Fiat seems unlikely, INI has begun making overtures to Japanese manufacturers to dispose of its share in SEAT. Whatever the eventual results, INI must run the company for the foreseeable future while international arbitration is conducted to determine what both INI and Fiat are legally bound to do next. (07595)

- Fiat has become the latest European automobile manufacturer to pull back from intensifying competition in the U.S. small-car mass market. The European manufacturers have long been unable to compete with the Japanese in terms of price. Now that the domestic manufacturers are becoming increasingly aggressive in this segment, Fiat and other European manufacturers have decided to refocus their products to appeal to specialty/performance car buyers.

  Beginning in MY 1981 all Lancias will have fuel injection, and by MY 1982 Fiat's Brava and Spider lines will have turbocharging. Fiat wants to cultivate the high-performance image of the Brava first, and then work the company's X1/9 and Strada models under the high-performance umbrella. Strada was intended to be a mass-market entrant, but strikes and other production difficulties have made this infeasible. (Automotive News, 19 May 1980)

- IVECO Trucks of North America, Inc., Fiat's truck marketing arm in the United States, has introduced a light-duty (Class 3), 4-cylinder diesel van based on Class 6 truck components. IVECO anticipates that it will sell 1,770 of these "Z" vans in 1980 (including a recent order for 400 from Federal Express). Sales of this model in 1981 may go as high as 5,000 units. The Z-van gets 16 mpg, 60% more than comparable gasoline engine vans.

  IVECO also plans to introduce a turbocharged version of the 4-cylinder diesel in late 1981 or early 1982, which will permit the van's rating to go up to 14,000 pounds GVW (Class 5). In the early 1980s IVECO intends to introduce an "S" van that will be keyed to stop-and-go deliveries like GM's step-van. (08145, 08505)

- Fiat is seeking a new financial partner for IVECO, following the withdrawal earlier this year of Kloeckner-Humboldt-Deutz (KHD) of West Germany. Fiat bought KHD's 20% share in IVECO. There has been speculation that PSA Peugeot-Citroen will take a 30% equity share in IVECO and a 5% equity share in the Fiat Group, creating an imposing array of commercial vehicles that would benefit both manufacturing groups. (07193, Harbridge House Research)

- IVECO and Saurer, a Swiss commercial vehicle manufacturer, have signed an agreement to undertake joint component manufacturing. Saurer has long been supplying OM and Unic (which became part of IVECO in 1975) with research assistance in the development of diesel engines. The cooperation was expanded in January 1980 to a marketing agreement that gave the full range of IVECO vehicles access to Saurer's distribution network in Switzerland. (F00424)

PSA Peugeot-Citroen

- Peugeot-Citroen's long-term strategy has been, first, to establish itself in the Common Market; then to move into African countries; and, finally, to make a push into the United States. Further, the PSA Group is in the process of rationalizing its production activities among its three car divisions to attain maximum economies of scale. Citroen is already supplying castings to the whole group from its new foundry. A new facility to produce gearboxes at a rate of 6,000 units a day (half of PSA's total requirement) will be ready in two years. The PSA Group and Fiat are also far advanced in negotiations to jointly produce one million 1,100 cc and 1,500 cc engines a year at a factory to be built in France or Italy and scheduled to be operational by 1984. (Engine components would be supplied on a 50-50 basis from both countries.) One million engines would represent approximately one-fourth of Fiat's and Peugeot's total annual engine needs. Fiat and Peugeot already jointly produce light commercial vehicles in Southern Italy and have been integrating their automotive operations in Argentina.

  Peugeot's rationalization plans dovetail with Fiat's announced intention of producing bigger volumes by streamlining its product offerings and entering into joint ventures with other European manufacturers. Given Peugeot's and Fiat's compatible goals – especially in the face of increased competition from U.S. and Japanese manufacturers – and their successful ongoing projects together, it is likely that the future will bring increased cooperation between the two companies, including a rumored purchase of the 20% share of Fiat-controlled IVECO that

was relinquished by West Germany's Kloeckner-Humboldt-Deutz. (F00418, 06518, 06866, 07847, 07984, 08602, 08669)

Renault

- Now that Renault has strengthened its position in North America through its affiliation with American Motors, it will move to expand its operations in South America, especially in Mexico, Venezuela, and Colombia.

  AMC and Renault will work together to expand their presence in the Mexican market. AMC has increased its equity in Vehiculos Automotores Mexicanos (VAM) to 20.5%, and Renault will take a 4.5% interest in the firm. VAM currently assembles 20,000 AMC passenger cars and 4,500 Jeeps a year, but beginning in 1982 the Mexican company will begin producing the same Renault-designed, front-wheel-drive, 4-cylinder engine cars that AMC will be making at its Kenosha, Wisconsin, assembly plant. AMC will provide the Mexican factory with body stampings. Renault has also arranged for the Mexican production of engines and transaxles for the front-wheel-drive cars. (05951, 06016, 06071)

- Renault Vehicules Industriels (RVI), Renault's commercial vehicle subsidiary, has finally begun to show the results of the long integration process that followed the merger of Berliet and Saviem in the mid-1970s. The parent company has acted to reduce the subsidiary's debt load and intends to raise investment to $170 million a year over the next five years, up 40% over the preceding five-year period. RVI also expects growing export sales in the United States through Mack, its U.S. partner. U.S. sales should run about 2,000 units in 1980, but RVI hopes to sell 13,500 units by 1984.

  In 1979, RVI began to concentrate its efforts in the Western European truck market, moving away from its traditional preoccupation with its home market and with distant, but traditional, markets. This change stemmed from the realization that Western Europe, France excluded, represents 25% of the world market for trucks over 15 tons GVW. New

marketing strategies and a reorganization of the sales and service networks in Western Europe contributed to Renault's increased sales in the commercial vehicle market in 1979. In 1978 Renault's share of the commercial vehicle market was 8% throughout Western Europe, with deliveries of 5,900 vehicles. This figure climbed to 6,400 in 1979. The target for 1980 is 8,400 units. (07215, 08618)

- As part of a $600 million deal between the Portuguese Government and Renault, Renault will convert three main factories in Portugal – at Guarda, Cacia, and Setubal. Portuguese annual production of the R4, R5 (Le Car), and R12 models will be stepped up from 10,000 units to 80,000 by 1987; a new foundry will be built; and R5 engine production at Cacia is scheduled to increase to 22,000 units. Renault projects an increase in sales from 45,000 units to 60,000 by 1984, and believes that its market share in Portugal will leap from 10% to 30% by the end of the seven-year expansion period. (07326)

Renault and Volvo

- On 19 December 1979 Renault and Volvo announced a major cooperative agreement that could potentially lead to the joint development and production of a new small-to-midsize, lightweight car. The initial phase of the agreement includes the transformation of Volvo Car (previously a wholly owned division of AB Volvo) into Volvo Car Corporation, an independent company 90% held by AB Volvo and 10% owned by Renault. Renault will pay $40.5 million for the 10% share plus $38 million for the right to increase its holding to 20% by converting promissory notes into shares.

  AB Volvo has the option to take a 10% equity share in Renault Acceptance BV, a Netherlands-based investment company for Renault's car dealers, with an option to increase this share to 20%. This will give Volvo an expanded European dealer network. The Dutch connection will also help AB Volvo reinforce its presence in the Netherlands. Volvo's Dutch subsidiary, Volvo Car BV, has long been partially supported by loans from the Dutch Government. The Dutch subsidiary will now become part of the new Volvo Car Corporation.

The most interesting part of the agreement lies in what will be done in the future. The companies will begin by sharing in the development and production of costly components such as engines and gearboxes, but they may move to the joint development of an all-new car by using Renault's fuel efficiency expertise and Volvo's body construction. This new model would be a bridge between the two companies' model lines. Renault has not done well with its larger cars – its R20 and R30 models – and Volvo does not have the estimated $800 million necessary to develop a new small car.

The arrangement with Volvo signals Renault's intention to become a world automaker in the 1980s. The state-owned French automaker has been proceeding slowly to acquire amicable partners through equity links and technology-sharing arrangements. Previous agreements include the option to acquire as much as 22.5% of American Motors; the purchase of a 20% interest in Mack Trucks; and joint ownership with Volvo and Peugeot of a high-technology manufacturing plant for 6-cylinder aluminum engines near Lille, France. Renault has already moved toward increasing its purchases of parts from outside specialist producers in order to attain maximum benefits from economies of scale. (05472, 05612, 05617, 05665, 05667, 05668)

Saab-Scania

- Saab-Scania has been positioning itself in South America to counteract static demand in the European commercial vehicle market. The company's factories in Brazil and Argentina are being fully integrated into Saab's worldwide component manufacturing network. The Brazilian plant produces all of the oil pumps that Saab uses in its diesel engines. The plant in Argentina supplies drive shafts for both Saab's Swedish and Brazilian operations. The Brazilian and Argentine operations also complement each other with Brazil producing engine sets and Argentina, gearboxes. This arrangement allows Saab to benefit from economies of scale. Brazil has also become an assembly base for Saab vehicles sold in Uruguay, Paraguay, and Chile; Argentina has begun assembling trucks for export, the first batch of which recently went to Bolivia. (07674)

VW-Audi/VWOA

- In a speech given at VW's annual meeting on 3 July 1980, VW's Chief Executive Officer stated that the company's strategy for combating Japanese imports would be to offer a high level of technical performance. Underscoring this approach was the upgrading of the quality control department to a senior management level.

  VW's basic corporate strategy is to remain an automotive company; it will not develop a broad front of nonautomotive activities. Only limited funds are available for diversification because of the company's need to allocate resources to improve or maintain its market position, to develop new vehicles/technologies, and to rationalize its production facilities to increase productivity. (07981, F00409)

- All indications are that VW is broadening its automotive operations by developing its commercial vehicle base. Over the last year the company has:

  - Linked itself with MAN to produce a 6- to 9-ton truck to be marketed in Europe and possibly in Latin America.
  - Launched a new Type 2 transporter.
  - Completed a large investment program to install advanced robotics at its Hanover plant, which produces the Type 2 vehicle.
  - Created a separate commercial vehicle division.
  - Acquired Chrysler's interests in Argentina and Brazil, which include substantial commercial vehicle operations. (07807)

- According to Michigan State Treasurer Loren Monroe, VWOA filed a request for a $100 million loan to convert the Sterling Heights, Michigan, Army missile plant into an automobile factory. The facility will add 4,000 badly needed jobs and contribute $20 million a year to state revenues. The Governor of Michigan has said that such a loan to VW would be no problem for the state and would be considered virtually risk free.

The city of Sterling Heights is offering VWOA a tax exemption for 12 years on the company's improvements to the facility and a 50% tax cut for 12 years on additions it makes to the building.

The Sterling plant has 2.1 million sq. ft. on a single floor, making it suitable for conversion to auto production. A 500,000 sq. ft. paint facility will have to be added on the 290-acre site. VW plans to make Sterling Heights its second U.S. assembly plant. Start-up for the Michigan plant is targeted for late 1982 for MY 1983 production. (06331, 06403, 06568)

- The first vehicles to be produced in the Sterling plant will be minipickup trucks. Six months later, Rabbit production will be added at a daily rate of 400 units, which could be increased to 800 units a day if market demand should increase.

  Eventually, VWOA wants to integrate Canada into its U.S. operations in order to circumvent the high Canadian duty assessed on imported cars. (07760, Harbridge House Research)

  In addition to its new assembly plant plans, VWOA hopes to achieve its goal of 5% of the U.S. market by 1985 by opening a new manufacturing complex in Fort Worth, Texas, and by expanding its metal stamping plant in South Charleston, West Virginia. (06592)

- VW do Brasil's share of the Brazilian market has declined steadily – from a 1968 high of 67% to a 1979 share of 45% – but the company's sales and earnings have continued to improve. The company currently produces 1,260 cars a day, half of them Beetles and the remainder, Brasilias and Dashers. Local content has reached 99%. In order to counter the incursions of Fiat and General Motors, VW developed a new model, the BX, introduced in the Brazilian market in May 1980. The front-wheel-drive BX is similar to the Rabbit, but it has the Beetle's 1,300 cc air -cooled engine.

  VW do Brasil is an important part of the company's worldwide strategy. The Brazilian subsidiary exports 64,000 cars a year, primarily to Nigeria. In addition, it exports Dasher engines and gearboxes to the

United States and Dasher engines, Rabbit engines, and gearboxes to West Germany. Some of this export thrust is motivated by Brazilian Government programs that exempt crucial plant and equipment imports by VW from tariffs if exports reach a certain level.

VW plans to expand its truck production in Brazil by converting a plant purchased from Chrysler in 1979 into a facility to manufacture VW-MAN trucks in the 7- to 10-ton GWV class that will use many Dodge components. The company will also offer a new range of trucks in the 11- to 13-ton GVW class. (06153, 08723)

- The Peruvian Government has asked Volkswagen to build a car and truck assembly facility in Peru as that country's part of the Andean automobile development project. Peru had earlier been given responsibility for the 1,500 cc to 2,000 cc subcompact car segment. Production proposals from 10 companies were reviewed before VW was selected. VW's initial investment in Peru will be $100 million. (05937)

- Volkswagen has completed arrangements to acquire Chrysler's remaining 48% interest in Chrysler Fevre Argentina for approximately $26 million. VW now owns 96% of the Argentinian firm. The German company will eventually convert the plant for the production of VW vehicles, but in the meantime will continue to turn out Chrysler products, paying Chrysler a $10 million "technical assistance" fee during this period. It has been reported that the entire cost of the takeover and the capital expenditures required to bring the operation up to VW's standards will be around DM500 million. VW plans to exchange vehicles and parts between its Argentinian and Brazilian operations. For example, a diesel engine plant will be part of the future expansion of VW's Argentinian operations, and these power plants will be supplied in Brazil. (06941)

- VW has purchased an additional 19.0% holding of Triumph-Adler from Litton Industries, increasing its stake to 72.9%. This move reflects VW's continued interest in strengthening its position in the electronics field and reducing its dependence on the German motor industry. (06314)

Volvo

- Volvo plans to spend $115.2 million in truck development during the 1980s. This sum does not include the cost of a new assembly plant being built near Gothenburg that will have a capacity of 6,000 trucks a year. Volvo has sold trucks successfully in French and British markets; it is now moving into Italy and hopes to enter West Germany. Recently, the company was shortlisted by Peru for the assembly of heavy trucks in that country under the Andean Pact; Volvo also lost its bid for the medium-sized truck project for which it was in the running. Volvo's Brazilian plant near Sao Paulo has come on stream with bus production, and truck assembly began in the fall of 1980. (07128, 07304, 07419)

Japanese Manufacturers

- The problem of Japanese exports to the U.S. and European car markets is a complex one that has its roots in structural differences between the U.S./European motor vehicles industry on the one hand and the Japanese on the other. Much-vaunted Japanese superiority in productivity has received a great deal of coverage, but the difference in attitudes toward capacity expansion is equally, if not more, important. Broadly stated, the Japanese build new capacity and then look for markets to absorb their output while U.S. and European motor vehicles manufacturers tend to expand capacity to meet demand.

  This difference is evident in Japan's announced automotive capacity expansion plans. Announced plant expansions will increase Japan's capacity to 11 million units by 1982, up from 9 million units in 1978. This 22% increase comes at a time when demand growth in Japan is virtually flat and total worldwide demand is growing at a rate of only 2% to 3%.

  Market share restrictions on the Japanese may, in fact, be imposed in Western Europe and/or North America. Then the question will become, "Where will the Japanese cars go?" The Europeans fear that the curtailment of Japanese imports to the United States and/or Canada

will drive the Japanese into Europe, and vice versa. If Europe and North America both limit the Japanese, the struggle will be transferred to the Third World markets where all motor vehicles manufacturers will be looking for higher than average growth rates (and profits) in the 1980s to counteract stagnant demand in the industrialized nations. (08016)

- Japanese auto manufacturers are increasingly diversifying their offerings in the U.S. market to prepare themselves for competition from the new small-car offerings of the domestic manufacturers. The Japanese automakers are following the lead of the U.S. manufacturers by providing higher priced (and higher margined) cars for consumers who want to trade up from fuel-efficient, low-priced, spartan "econoboxes." (08045)

Fuji

- Despite the appointment of a former Nissan executive as its President, Fuji Heavy Industries is not predicting any closer ties with Nissan, except possibly in terms of increased cooperation in research and development. The existing arrangement between the two companies stipulates Nissan's ownership of 7.4% of Fuji stock and Fuji's contract assembly of 80,000 Nissan cars a year. Fuji's stated intention is to retain the existing overseas marketing arrangement whereby Subaru cars are marketed by independent importers. (04089, 04091)

Honda

- Honda Motor Company is in the midst of a five-year plan to streamline its parts procurement and final production processes. The company has taken several measures to encourage the use of common components among its suppliers and to orchestrate joint purchases of raw materials. The company has also undertaken to rationalize the flow of goods throughout its operations in order to improve the efficiency of its production activities. (J00671)

Nissan

- After months of delay, the Italian Government has cleared the way for Nissan and Alfa Romeo to begin their joint enterprise, despite strong objections from Fiat S.p.A. and Common Market officials. The new venture will be called ARNA (Alfa Romeo Nissan Auto), and the cars it will have available beginning in 1984-1985 will bear the "Arna" trademark. Initially, ARNA will be capitalized at $30 million and annual output will be 60,000 units, utilizing 1,000 cc to 1,100 cc displacement engines from Alfa Romeo's Alfasud complex, which has excess engine capacity. The two companies will jointly finance the construction of a $36 million assembly plant to be built near Naples.

  The Arna will compete with small, low-priced cars like Fiats, the Renault-5, and Ford's Fiesta and Escort. Half of the Arna production is expected to be available for export; it will be sold through Alfa Romeo or Nissan dealer networks. (07434, 07788, 07908, 08646, 08656)

- Nissan Motors has decided to invest approximately $30 million in its Mexican subsidiary to equip it to begin supplying spare parts (mainly body panels) for Datsun passenger cars and light trucks sold in the United States. Production was expected to start in late 1980 for 1981 distribution. Successful use of the Mexican subsidiary as a parts production base is viewed by Nissan as a necessary first step in moving to full vehicle production in the United States, but it also is in direct response to the Mexican Government's policy requiring foreign-owned firms in Mexico to provide for all of their foreign currency needs internally from 1982 onwards. (J00406, J00499)

- In April 1980 Nissan Motor Company announced that it would build a manufacturing facility in the United States to make small trucks. The plant, to be located in Tennessee, is expected to cost approximately $300 million and to employ 2,200 workers.

  Nissan Motor Company has appointed Marvin T. Runyon, a former Ford Vice President in charge of body and assembly operations, as President and Chief Executive Officer of the new U.S. manufacturing subsidiary,

Nissan Motor Manufacturing Corporation U.S.A. During his career at Ford, Runyon was involved in setting up eight Ford plants. The appointment of a person with Runyon's high-level administrative experience has led to speculation that Nissan's manufacturing plans in the United States go beyond its initially announced intention to produce 100,000 to 120,000 Datsun Hustler pickup trucks annually at a plant scheduled to begin operations in mid-1983, or possibly as early as late 1982. (08100, 08196, 08250, 08636, 08660)

- Now that Nissan has purchased a 35% stake in Spain's Motor Iberica, the Japanese automaker plans to start Spanish production of two types of vehicles – a jeep-type utility vehicle, the Patrol; and a light van, the Vanetta. Both of these vehicles will be for the Spanish and international markets. Nissan probably will be building new plants to produce these vehicles, giving rise to speculation that it will also seek an even greater equity share in the Spanish manufacturer. (07192)

- Nissan has passenger car assembly operations in Portugal and Ireland, but local content levels are low. Nissan would like to reach high enough local content levels to assure access to the European Economic Community (EEC) when Spain becomes a member in 1983. Nissan has been trying to break into European assembly for many years now, first approaching BMW, then DAF and BL. (05823, 05839, 05872, 05885)

- Nissan will establish an international division to coordinate the exchange of automobile and truck parts among major production areas in Japan, Mexico, Australia, Spain, and the United States. The company has already reimported engine parts from its plants in Mexico and intends to do the same with portions of its Australian production. (J00598)

Toyota

- Toyota is seeking to increase its market share in the Pacific Basin countries of Australia, New Zealand, the Philippines, Thailand, Malaysia, and Indonesia (countries where it already has assembly facilities) from its current level of 20% to 25%. Toyota will be making

a general and strong export push, especially through local marketing companies. It will also increase its local sourcing of parts and components.

The Toyota Pacific thrust is part of Toyota's "Global Ten" strategy, a push to secure a 10% market share worldwide. (06995, 07229)

- Toyota has retained three consulting firms – Stanford Research Institute; Arthur D. Little, Inc.; and Nomura Research Institute of Japan – to assess the feasibility of small-car assembly in the United States. The results of the feasibility studies are expected by the end of 1980. (J00573)

- Toyota has announced that it will soon begin a three-year program to develop and manufacture new, more fuel-efficient engines. The company will completely retool its engine production lines at its Kamigo and Shimoyama plants at a cost of ¥200 billion. Toyota wants to be particularly certain that General Motors, and Ford as well, do not leapfrog over its product line with their new generations of fuel-efficient vehicles. (J00656)

2.2 PRODUCT PLANS

U.S. Manufacturers

- The U.S. manufacturers are in the process of introducing a staggering array of new products over the next five years. Table 2-1 shows product changes reported in the trade press. When examining this chart, it should be remembered that new product plans have been changing rapidly as the domestic automakers scramble to improve both their market share and their profitability. Consequently, changes in this summation are to be expected.

American Motors

- W. Paul Tippett, Jr., AMC's President, recently announced that his company's two-wheel-drive cars would average 31 mpg by MY 1983. Tippett also stated that AMC has 12 new products to introduce over the next six years. Its first new offerings will be the Eagle SX4 and Eagle Kammback four-wheel-drive vehicles and the imported Renault 18i sedan and wagon for MY 1981. There will be two more models in the spring when GM brings out its J-cars. AMC did not specify how many of the 12 new models would be from Renault, but most of them are expected to reflect Renault's expertise in front-wheel-drive technology.

  AMC and Renault are working together on a front-wheel-drive subcompact that will be built in AMC's Kenosha plant beginning in mid-1982. This new car will probably begin with about 50% American content and move up to 75% between 1982 and 1984. Eventually, output of the model should reach 600 units a day. (07520, 08127, 08239, 08294, 08365, 08689)

Chrysler

- Chrysler's new 4-cylinder 2.2 liter (134 cid) transverse-mounted engine is one of the keys to the corporation's future plans. The engine is the first new power plant designed and built by Chrysler in over 20 years. In designing it, Chrysler engineers concentrated on durability and serviceability, relying heavily on proven technology. Chrysler also has

TABLE 2-1
FORWARD PRODUCT PLANS OF U.S. MANUFACTURERS: MODEL YEARS 1981-1985

	Model Year				
	1981	1982	1983	1984	1985
General Motors					
Subcompact & Compact	Replace H-specials with J-bodies in MY 1981½. Models available: station wagon fastback coupe and sedan; notchback coupe and sedan; 3-door hatchback under Chevrolet and Pontiac nameplates. Diesel option on the Chevette.	Redesign and downsize F-bodies from 108.0" WB to 104.9" WB, keeping RWD. J-bodies for Oldsmobile and Buick Divisions plus luxury version for Cadillac. Isuzu-made diesel available on J-Cars.	Pontiac 2-seater with mid-engine, fiberglass body, 90" WB – a low-volume specialty car. Chevrolet version possible.	FWD S-car introduced after 1983 debut in Spain – 92" WB, under 2,000 pounds; positioned below Chevette. Chevette to stay RWD through 1986.	Possible reskin of X-bodies. Possible 3-cylinder 78" WB commuter with composite fuel economy of 49 mpg. Electric commuter car powered by zinc oxide battery likely.
Intermediate & Standard	Reskin A-specials.	Change 2-door A-regulars to FWD, downsize from 108.1" WB; transform 4-door A-regulars to A-specials. Reskin K-car. Cosmetic changes to F-cars.	Downsize B- and C-bodies to 108" WB. Major restyling of the Corvette.	All new E- and K-bodies (FWD changed from longitudinal to transverse mounting). Possible change of A-special to FWD.	
Ford					
Subcompact & Compact	Escort/Lynx FWD subcompacts replace Pinto/Bobcat. 3-door hatchback and station wagons available first; sports model with separate nameplate due in MY 1981½.	5-door hatchback version of Escort/Lynx.	Reskin Mustang/Capri. In 1982½ stretched (99.9" WB) version of Escort will replace Fairmont/Zephyr.		
Intermediate & Standard	Downsize Cougar & Granada lines; keep RWD through 1984.	New 108" WB Continental based on downsized Granada/Cougar platform.	LTD/Marquis models replaced by upgraded versions of Granada/Cougar; still RWD. Minor modifications to Thunderbird.	Downsize Lincoln/Mark VI.	Ford's large cars begin transition to FWD.
Chrysler					
Subcompact & Compact	FWD compacts (K-cars) introduced: 3-door and 5-door hatchbacks plus station wagon model. Dodge Aries to be youth oriented, sporty; Plymouth Reliant to be "family" car. Mitsubishi replaces Sapporo/Challenger with 4-door sedan (Sigma) and 2-door hardtop (Lambda). Feature turbocharged diesel and electronic fuel injected gasoline engines.	"Super-K" cars – K-body with new sheet metal for luxury end of small car market. Hatchback versions of K-cars. K-car derived 2+2 sports car with turbocharged 4-cylinder engine available.		Omni/Horizon redesigned.	Possible minicar.
Intermediate & Standard	New Imperial (2-door intermediate) stays RWD.		Stretched K-body sedan to be Chrysler's full-size car, with Peugeot's 1.7 liter turbodiesel.	Planned X-body, downsized LeBaron/Diplomat. (This third family of cars is on hold. Chrysler is not likely to have money to bring them to market.)	X-body downsized version of Cordoba/Mirada, Gran Fury/St. Regis/Newport/New Yorker, and Imperial.
American Motors	Subcompact 4WD car, "Eaglet."	1982½ small car jointly developed with Renault; turbocharged diesel option.			
Volkswagen of America			Rabbit replacement to function as "world car."		
			Plans for 3-cylinder turbocharged diesel (date unspecified).		

Notes: Body designations are as follows:

A-regular A-special	Intermediate	X	FWD Compact
F	Sporty Compact (Camaro/Firebird)	H-special	Sporty Subcompact (Monza/Sunbird)
K	FWD Standards (Seville)	J	FWD Subcompact
E	(Eldorado, Toronado, Riviera)	P	Two-Seater
B C	Standards	S	FWD Minicar

Sources: Automotive News (various issues), Ward's Automotive Reports (various issues).

plans to downsize the engine to 1.8 liters for small cars and is considering it for turbocharging and dieselization at the current 2.2 liter size.

The 2.2 liter engine weighs only 225 pounds due to extensive use of aluminum, including cast-aluminum heads purchased from Fiat, intake manifolds, and diecast aluminum oil and water pump bodies and housings. It also features hydraulic valve lash adjusters that reduce engine noise and eliminate the need for periodic manual adjustments. The engine is designed for good torque at low speeds, where most driving is done. The 2.2 liter engine will be produced at Chrysler's Trenton, Michigan, engine plant and at its new Mexican engine plant. (07436, 07542)

- Chrysler will have the capability to install over one million 4-cylinder engines in MY 1981 cars, including 400,000 2,600 cc engines from its Trenton, Michigan, engine plant; another 220,000 2,600 cc engines from its new Saltillo (Mexico) engine plant; 300,000 contracted from Volkswagen of America; and 200,000 2,200 cc engines from Mitsubishi Motors. In MY 1981 Chrysler will offer 4-cylinder engines in 80% of the cars it manufactures. In 1979 Chrysler's 4-cylinder installation rate was 31%. The company is also planning three diesel variations: one from its 2.2 liter 4-cylinder engine; a 4-cylinder diesel variation of its 3.7 liter gasoline slant-six engine; and a diesel version of the slant-six itself. (06851, 07250, 08047)

- Chrysler has asked Mitsubishi Motors to help it develop and produce 1,700 cc L-4 engines for its subcompact "L car" series scheduled for the fall of 1984. Chrysler wants to receive 200,000 to 300,000 of the L-4 engines annually from Mitsubishi. Chrysler would also like to have Mitsubishi input in its plans for a U.S.-built small truck for 1982. (07931, 07943)

- The chief casualty of Chrysler's reduced product spending plans has been the Chrysler D-body car, a front-wheel-drive vehicle that was to have been a replacement for the company's full-size models in MY 1983. Another casualty has been Chrysler's new V-6 engine program.

Instead of the D-bodies, Chrysler will offer a stretched version of its K-body compacts. The stretched K-bodies will have a wheelbase some four to five inches longer than the compacts. They will offer a V-6 option and a 4-cylinder turbodiesel from Peugeot. (07697)

Ford

- Government analysts working on President Carter's rescue plan for the domestic auto industry feel that Ford's failure to develop a competitive product line for the present plus its plan to retrench on future capital investments will create great problems for the company through the 1980s. This view is supported by the fact that Ford's product mix lags GM's by at least two years. Also, Ford's conversion to front wheel drive will not be completed until 1987, while GM's conversion will be virtually completed by 1984 and Chrysler's by 1985.

  Ford's new Escort/Lynx models, the product of its $3 billion front-wheel-drive Erika project, are crucial to the company's worldwide market strength over the next five years because they represent almost all of Ford's line of small cars. The first of the Erika cars, three-door hatchback sedans and wagons, were introduced in MY 1981. Additional versions will debut in 1981½, 1982, and 1983 (this last a stretched version to replace the company's Fairmont/Zephyr Line). (05106, 05567, 08024, 08122)

- Harold A. Poling, Ford Executive Vice President, North American Automotive Operations, confirmed that the company is considering the manufacture of a 1.0 liter engine, two-seater commuter car capable of getting 70 mpg. These commuter cars would most likely be produced at the company's Cleveland, Ohio, V-8 engine manufacturing facilities. (07876)

- Ford's new Escort/Lynx models weigh approximately 500 pounds less and are about five inches shorter than the Pinto subcompacts they replace. The new line was to have been offered with 1.3 liter and 1.6 liter 4-cylinder engines, with the larger engine specifically designed to go with the new automatic transmission developed for the car and now

being built at Ford's Batavia, Ohio, plant. However, on 19 September Ford announced that production of the 1.3 liter engine had been canceled.

This was the second time in the past six months that Ford had canceled an engine program. In the spring Ford announced that development work on its V-8 PROCO engine had been discontinued, reasoning that V-8 engine sales would account for only 20% of the U.S. market by the time the PROCO engine would have been ready for production. Research on the V-6 and the V-4 PROCO will continue, however. The 1.3 liter engines slated for the Escort/Lynx models had not been getting the fuel economy ratings Ford was aiming for. This fact, coupled with surprisingly good fuel economy performance on government tests for the 1.6 liter engine (30 mpg city and 44 mpg highway), were contributing factors in Ford's decision to drop the line. (06869, 08434, 08456, 08632)

- Ford has signed an interim agreement with BMW Steyr of Austria to buy diesel engines for its larger models in the 1980s. Ford will buy up to 100,000 engines a year with a value of $100 million. It is likely that Ford will initially purchase 2.4 liter 6-cylinder turbocharged engines that may be supplemented later by an advanced 4-cylinder diesel. The purchase of these diesels is another indication of the turmoil in Ford's engine program. Ford had long been skeptical of the diesel because of pollution and performance drawbacks, but the heavy development costs associated with the company's PROCO program have forced it to reevaluate the role of the diesel in its product mix. (08681)

Ford and Toyo Kogyo

- One of the major results of the Ford/Toyo Kogyo linkup is the new Familia/Laser line of cars. In addition to its own Mazda Familia line, Toyo Kogyo will be producing Laser CKD kits for Ford to assemble in the Asia-Pacific region. The Laser is basically the same car as the Familia, utilizing modified front and rear panels and a Ford engine. The engine will be built in a new $328 million engine manufacturing

plant in Adelaide, Australia. The Ford Laser has already been offered for sale in Hong Kong and Singapore. Ford has spent $800 million to develop the Laser car to give its 35 Asia-Pacific marketing areas a competitively priced small car to help maintain the company's presence in the area in the face of ever-increasing Japanese strength. The arrangement with Toyo Kogyo signals the end of CKD shipments to the Far East from Ford's European operations. The company's hopes are that the success of the Escort in Europe will counteract any profitability loss due to a decline in CKD exports. (07068, 08453)

General Motors

- The thrust behind General Motors' product plans in the 1980s is to offer in every market class a passenger car that is as fuel efficient as possible for its weight. Consequently, by 1984 GM will have in place six new product lines that will be within five inches of one another in wheelbase and within 500 pounds in weight. The company is also committed to a diesel penetration of about 25% of its passenger car sales by 1985, despite the technical problems plaguing its current diesel engines. (08617)

- GM's capital spending increase (to $40 billion over four years from $38 billion over five years) announced in late May 1980 is largely earmarked for an effort to accelerate introduction of the company's fuel-efficient future models. GM's revised plans include:

  - A version of the 101.2-inch J-body for the Cadillac Division for MY 1981½.

  - Retention of the Chevette through MY 1986 despite introduction of the front-wheel-drive S-car (smaller than the Chevette) in MY 1984.

  - Giving the Buick and Oldsmobile Divisions their J-car versions at the beginning of MY 1982, only six months after Chevrolet and Pontiac get their models.

  - Giving the Pontiac Division corporate approval for a mid-engine, two-passenger, sporty commuter car, with a possible Chevrolet version to follow. In addition, an electric commuter car would be likely to follow the gasoline version in MY 1984. (07820, 07879)

- General Motors' plans for an electric commuter car were made more specific at an early July 1980 briefing in Detroit for reporters. GM President Elliott M. Estes announced a MY 1984 launch date (recently pushed off until 1985) for the electric vehicle. It is likely that the vehicle will use GM's own zinc-nickel oxide batteries, although Gulf & Western's zinc-chloride battery system is also being examined.

  The car would have a top speed of 50 mpg and a range of 100 miles without recharging. GM expects to be producing 100,000 electric vehicles a year by 1985. (07941; 07995; 08006; 08007; Automotive News, 20 October 1980)

- GM is in the process of developing a new family of engines based on a V-6 block to give the company manufacturing and marketing flexibility. Plans call for a 1.5 liter slant 3-cylinder, a 2.0 liter V-4, a possible 2.5 liter V-5, and a 3.0 liter V-6. The basic V-6 engine block will be altered to match the cylinder used. GM will be able to machine all of the blocks and heads on the same line with only minimal tooling changes. The engine family will share 85% of the same components, including water pumps, rods, valves, rings, rocker arms, push rods, and carburetors. Chevrolet, Buick, and Pontiac will do most of the 3- and 4-cylinder production while Cadillac will continue work on the larger engines. Oldsmobile will continue to focus on diesel engines. (08035, 08038, 08661)

- General Motors is preparing two minicar models (S-cars) that could be in production in the United States by 1985. One has a 3-cylinder (1.5 liter) engine with a 4-speed manual transmission and an estimated composite fuel economy of 49 mpg; the other is a more deluxe version with a V-4 engine and 4-speed automatic transmission option that can get 37 mpg. These S-cars, or at least the 4-cylinder version, are scheduled to be introduced in Spain in 1983. Large-scale production of the 3-cylinder engine is still not a certainty, but both Buick and Chevrolet are interested in using the engine in the United States in 1984 or 1985. (07441, 08036)

- General Motors is considering the addition of five more 4-cylinder engine production lines to the three (including a diesel) already in the works. Two of the three existing lines are at Chevrolet, but Chevrolet Division executives are arguing that they can use two more 1.8 liter engine lines plus an expansion of Chevrolet's V-6 line in Tonawanda, New York, in order for that facility to handle production of a V-4 off the V-6 engine block. The Pontiac Division already has a line for 4-cylinder 2.5 liter production, but says it could use two more. Pontiac would also like its own 1.8 liter engine, perhaps borrowed from Adam Opel AG designs for an overhead cam.

  Having been caught short of 4-cylinder engine capacity for use in its X-cars, General Motors wants to have enough 4-cylinder engines available for its J-car plus its downsized intermediates due in 1982 and 1983, its redone Camaro and Firebird due in 1982, and the 1983 Chevette replacement. However, the company does not want to over-build for the uncertain U.S. auto market. (07438, 07439)

- GM's Pontiac Division will drop production of its full-size cars at the end of MY 1982 when GM's B-body cars are changed over to front wheel drive. The Bonneville and probably the Catalina names will be retained for use on Pontiac's intermediate-size car. The Pontiac Division will also have GM's new two-passenger commuter car for MY 1983. (08515, 08599)

International Harvester

- International Harvester has been in negotiations with a Texas-based group concerning the sale of its unprofitable Scout line of utility vehicles, but the talks ended recently when the prospective purchasers could not obtain the necessary financing. If no other purchaser can be found, the vehicles will go out of production at the end of this year.

  Scout sales peaked at 40,000 units in 1978 but tapered off to slightly over 17,000 units in MY 1980. Contributing to International Harvester's decision to try to sell off the line was the company's loss of $480 million in the first six months of its fiscal year, but the line has always had an unprofitable share of the light truck market.

Harvester also wants to divest itself of its unprofitable industrial wheel tractor line. Sales of both of these lines will improve cash flow at IH's credit subsidiary by more than $200 million by the end of fiscal year 1981 and are expected to improve consolidated after-tax earnings by $30 million annually. (07423, 07683)

European Manufacturers

BL

- BL and Honda have concluded an agreement stipulating that the jointly produced Bounty will be sold by BL only within the European Economic Community as it is now constituted. Honda will build the same vehicle in Japan for sale in its home market, North America, and all other countries, including Spain, Portugal, and Greece, even if they join the EEC.

  The Bounty will have more than half British content. However, its engine and transmission will be imported from Japan. Initially, the vehicle will be produced in the United Kingdom at a rate of 80,000 units annually. (08004)

- BL would like to go ahead with its LC10 program, a project to replace its Morris Ital (Marina) and Allegro models with a new range of medium-size five-door hatchback cars by the end of 1982. The estimated cost of the project is $714 million, much of which will come from the British Government. In fact, the government will be asked to provide financial guarantees so that the company can order machine tools for the project. Any request for more government money is likely to be dependent on the success of BL's new Metro model launched in October 1980.

  In addition to its LC10 mid-range car development program, BL wants to have its new AM2 (Austin Morris 2) vehicle ready for a 1983 launch. The AM2 car will be a conventional three-box design to appeal to the company fleet buyers that are key to the British passenger car market. (08103, 08124, 08135)

BMW

- BMW will introduce two additional models for MY 1981: the 733i, a full-sized four-door luxury sedan; and the 633CSi, a limited production two-door luxury sports coupe. (07429)

- By 1982 BMW expects to introduce turbocharged 2.3, 3.0, and 3.3 liter diesel engines. These will be produced along with the company's more fuel efficient gasoline engine at BMW's new assembly plant, expected to be completed by mid-1982. BMW has announced that it will have ready for introduction in 1981 a 6-cylinder, 2,400 cc, 185 hp engine that can be switched over to three cylinders and will have a 30% better fuel economy than a conventional 6-cylinder engine. (05405, 05430)

Daimler-Benz

- The new luxury compact (rear wheel drive, 100-inch wheelbase) Mercedes to be introduced to the U.S. market for MY 1983 will be powered by either gasoline or 4-cylinder diesel engines. The company's goal with this new product is to maximize the 4-cylinder engine's potential in a much lighter, smaller vehicle while maintaining Daimler-Benz's system of component interchangeability. (02422, 08236)

- Underscoring its faith in 4-cylinder engines, Mercedes-Benz has produced two new hemispherical aluminum-head engines for its 200 and 230E series. These engines will power sedans, coupes, and station wagons for Europe and non-U.S. markets. U.S. observers are assuming that the new 4-cylinder power plants are a harbinger of smaller gasoline models for the U.S. market, perhaps even as a front-wheel-drive vehicle that is reportedly in the works for introduction in 1983. (08228)

- In the fall of 1980 the Mercedes-Benz 300TD (turbocharged diesel) with a 5-cylinder power plant was offered for the first time in countries outside the United States. (F00394)

Fiat

- The Panda, Fiat's new minicar, went into production at the company's Desio plant near Milan in February 1980. Additional production sourcing will be at the newly expanded Termini Imerese plant in Sicily and at Fiat's Pamplona, Spain, facility. Total production is expected to reach 1,600 units a day in 1980 and 2,000 units a day ultimately. The 4-cylinder Panda was designed by Ital Design. It has an 85-inch wheelbase, an overall length of 133 inches, and a curb weight of 1,500 pounds. (06456)

- Fiat is planning to export 4-cylinder diesel cars to the United States beginning in 1982 or 1983. The new 2.5 liter diesel is now under development and will appear in Fiat's Brava line when that line gets a style change to increase underhood space and permit diesel installation. Fiat introduced a small 1.7 liter, 55 hp, 4-cylinder diesel of its Strada line in European markets in the summer of 1980. (06717, 07349)

- Fiat's new Uno model, planned to replace the 127 and 128 models, will be positioned between its Panda and Ritmo/Strada models. The company intends to produce 400,000 units of the new model annually. (F00407, F00408)

PSA Peugeot-Citroen

- In late April 1980 Peugeot introduced its 505 model to the United States to replace the 504. The 505 is being marketed as a car specifically designed for the U.S. market. It offers a choice of 2.0 liter gasoline or 2.3 liter diesel engines. Peugeot has recently stepped up its efforts in the U.S. market. The French company's continued presence is largely dependent on receiving a waiver from NOx standards for its MY 1981 diesel engines; Peugeot is confident that it will receive this waiver. (06866)

- Peugeot will become the first automaker in the U.S. market to offer a turbocharged (TC) 4-cylinder diesel when it brings out its new engine for MY 1981. Mercedes-Benz currently has a TC 5-cylinder engine

available, and VW has one planned as an option for the Audi, but VW will not add turbocharging to its 4-cylinder engines until MY 1982. (07877)

- Talbot U.K. is trying to decide what, if anything, should replace its Avenger model. A small front-wheel-drive car is being considered, but there are no definite plans. Talbot has been struggling with an aging product line and faltering sales in its markets. Although productivity and industrial relations have greatly improved since the transfer of ownership from Chrysler to the PSA Group, Talbot is still in need of new products and better production equipment. (07502)

- In mid-May 1980 Talbot introduced in Europe the Solara, a notchback version of the Talbot Alpine. The Solara is available in seven different versions and is competing directly with such cars as the Renault 18, Peugeot 305, Ford Cortina, and Opel Ascona. It has a 4-cylinder transverse-mounted engine and a gearbox with four- or five-speed manuals. Automatic shift is offered as an option on larger capacity models. (07201, 07311)

Renault

- Renault will offer a diesel engine, first on its R-20 sedan in MY 1981, and then on its R18 model in MY 1982. Diesel penetration in France reached 7% in 1979, largely because in France diesel fuel is 52% cheaper than gasoline. The new front-wheel-drive car that Renault intends to produce at AMC's Kenosha, Wisconsin, plant will be between the R5 and R18 in size and will have a 15% greater fuel economy than comparable cars currently being produced. A turbocharged diesel engine will be offered as an option. (04791, 05458, 05785, 05930)

- Renault is considering offering a 2.0 liter diesel-powered version of its Renault 18 model in the United States to join the gasoline version sold here for the first time in the fall of 1980, but no firm introduction date has been announced. Renault already sells a diesel version of the R18 in Europe.

Renault may also make its new R5 Turbo available in the United States. Sales of this two-seater, limited production car began in France in July 1980. Both the diesel and the Turbo face time-consuming U.S. certification requirements, including the long 100,000-mile durability test for the diesel. (08031)

Saab-Scania

- Saab has become the high-volume producer of turbocharged cars, overtaking BMW. All of the six 1980 models that Saab imports into the United States have the Lambda emission control system with a three-way catalyst to improve fuel economy. Turbocharging is offered on the three-door and five-door hatchback models, which carry 2.0 liter 4-cylinder engines rated at 135 horsepower. The Saab 900 series features impact-absorption zones designed to protect the car's occupants as well as a roll cage with specially strengthened beams for additional passenger protection. (05392, 05458)

Volvo

- Volvo has brought out the first line of cars in the United States powered by an in-line 6-cylinder diesel engine. The D-24 engine is built by Volkswagen for Volvo's four-door sedans and five-door station wagons. VW uses the engines in its light trucks.

  Volvo contends that the engine's 6-cylinder configuration, overhead camshaft, and precombustion chambers give it an acceleration potential comparable to gasoline engines. Glow plugs in each precombustion chamber help provide quick starts in cold weather. (07670)

VW-Audi/VWOA

- The current VW Rabbit will be replaced as early as 1984. VWOA intends for the Rabbit's replacement to have an American-made engine as well as American-made major body panels and components. There is a possibility that some transaxles will come from Chrysler Corporation's new Process Gear Division facilities in Syracuse, New York, and Kokomo, Indiana. These Chrysler transaxles (made for the Omni/Horizon) bear a strong similarity to the automatics made in Germany

for VWOA's Rabbit. However, there are doubts that VWOA will be able to meet its American content goals because the company is constrained by engine capacity as well as other component sourcing issues. (06543)

Japanese Manufacturers

- The Japanese manufacturers are increasingly turning to turbocharging as a means of upgrading the performance of their small cars. In December 1979 Nissan brought out a turbocharged version of its Cedric/Gloria model (Datsun 200c) for the Japanese market. This was followed by a turbocharged Datsun Bluebird (Datsun 180B) at the end of March 1980. Since the Bluebird series was restyled in November 1979, it has been the sales leader in the 1,600 cc to 2,000 cc segment in Japan. Overseas sales of the Bluebird series are not yet being considered. Mitsubishi is using turbochargers on its Galant and Lancer models, and Toyota will begin offering turbocharged 2,000 cc Crown models in the mid-1980s. Toyo Kogyo and Isuzu are expected to follow suit. (J00546, 06903, 06977)

Fuji

- Fuji's Subaru four-wheel-drive and front-wheel-drive car lines had major changes in the 1980 model year, so few changes are planned for 1981. A new four-door four-wheel-drive sedan may be added to the lineup. (05237, 08027)

Honda

- Honda has no plans to sell its new five-door Quint model in the United States until late 1981 at the earliest. (The new car went into production in Japan earlier this year; any Quints not absorbed by the Japanese market will be exported to Europe.) However, Honda is likely to introduce the five-door version of the Civic in the United States soon. The Accord and Prelude models will have only minor changes this year, but the Accord will be getting all new sheet metal for MY 1982. The reskinned Accord is likely to be produced at Honda's new Marysville, Ohio, plant. (08027)

- Honda began selling its new Ballade front-wheel-drive car in Japan in August 1980. In the summer of 1981 the Ballade will also be produced under license by BL in the United Kingom. The Ballade shares many body segments and mechanical components, including engines, with the Civic, but it has a notchback sedan body rather than a hatchback. BL will sell the Bounty version of the Ballade in the European Economic Community countries while Honda retains marketing rights in the rest of the world.

  The Ballade is a sister car to the four-door Civic sedan that will be available in the United States in MY 1981. The reason for the split marketing thrust behind the virtually identical Ballade and Civic sedans lies in the two-tiered distribution system that Honda has in Japan. Honda's regular dealers will get the Civics while the company's Verno dealers, established in 1978, will get the Ballade model. (08430, 08532)

Mitsubishi

- In early May 1980 Mitsubishi Motors unveiled two new cars: the Galant/Eterna four-door sedan (Sigma) and a two-door hardtop (Lambda). The chief new features of these models are their engines, both of which are new to Mitsubishi — a turbocharged diesel and an electronically controlled fuel-injection gasoline engine. The diesel engine is equipped with a unique counterbalance shaft that cuts down much of the noise and vibration associated with such engines. The new models are already available in Japan. They replaced Mitsubishi's Plymouth Sapporo and Dodge Challenger models in the United States beginning with August 1980 shipments. (07313, 07390)

Nissan

- Nissan is revamping its top-of-the-line Datsun 810 four-door sedans and wagons. The model lines will be offered with 2.4 liter and 2.8 liter L-series 6-cylinder engines with fuel injection, with a possible 2.8 liter diesel engine available in MY 1981½. Datsun's brand new four-door Leopard may be exported to the United States as the 910, with turbocharging available by 1981½ or 1982.

Most of Datsun's other model lines will receive only cosmetic changes. The 510 line will remain completely unchanged until it gets new sheet metal and is changed to front wheel drive in 1982-1983. (07481, 08027)

- Nissan has begun limited production of a lightweight 4-cylinder, overhead cam diesel engine suitable for small-size cars. The engine is being produced at the rate of 3,000 units a month. This constitutes the company's first investment in the in-house production of diesel engines. To date, Nissan has been relying on its affiliate, Nissan Diesel, for diesel supplies.

  Japan's diesel car market is still very limited but expanding rapidly. Current sales are 6,000 units a month — or about 2% of overall car sales. Uncertainty regarding the availability of diesel fuel has somewhat dampened plans for the diesel to have an expanded role in passenger cars. (J00337, J00338)

Nissan and Toyota

- Nissan and Toyota will both introduce small front-wheel-drive cars with 1,000 cc engines in the next two years. Nissan's "KX-car" will be available for the company's domestic and international markets by the spring of 1982, while Toyota's will be ready at the end of 1981. These small cars are targeted at GM's small S-car. Nissan anticipates production in the range of 40,000 units a month and will probably utilize overseas facilities in Spain, Mexico, and Australia in addition to its domestic plants. Toyota's production plans for its new model have not yet been reported.

  Front-wheel-drive cars are taking an ever-increasing share of the Japanese market, reaching nearly 29% in the first half of 1980. The front-wheel-drive share of the market is expected to reach 70% within five years. (J00666, J00668)

Toyo Kogyo

- Toyo Kogyo's Mazda Familia line (imported to the United States as the Mazda GLC and to Europe as the 323) is being switched over to

transverse layout front wheel drive and will share manual transaxles with Ford's new Escort/Lynx subcompacts. The GLC three-door and five-door hatchbacks will be ready by the end of 1980, and a notchback sedan will be ready midway through 1981. At present there are no plans for a station wagon. Mazda's other two offerings, the 626 sedan and the RX-7, are being given only minor styling changes. Capacity limitations are likely to keep Mazda's sales in the United States around the 5,400 units a month that it has been averaging since the beginning of 1979, at least until new capacity is ready in late 1982. (07482, 07757, 07922, 08027, 08284)

Toyota

- Toyota will be offering all-new Cressida (Cresta) four-door sedans and wagons equipped with new 6-cylinder engines in the United States before the end of this year. The Corolla, Corona, and Celica lines will remain virtually the same. Toyota will also export its Starlet model to the United States. The rear-wheel-drive Starlet was introduced in Japan in 1978. Starlet models exported to the United States will likely be equipped with a 1.3 liter 4-cylinder engine. (08027)

- Toyota has introduced a diesel-powered, jeep-type, four-wheel-drive vehicle, the Blizzard, in Japan. The company's latest move to keep up with growing diesel demand has been to boost monthly diesel production at its Shimoyama plant from 6,000 units to 16,000 units. (06912, 07158)

2.3 PRODUCTION

U.S. Manufacturers

- Despite the widespread perception that the auto sales slump has bottomed out, U.S. manufacturers have only very modest production plans for the last quarter of 1980. The greatest production increases are, of course, concentrated in the smaller, more fuel efficient lines. Slow-selling larger cars are bearing the brunt of the production pinch so that dealer inventories do not begin to climb again. They are also forcing the auto companies to use expensive rebates and sales incentives programs to help bail the dealers out. Dealers, however, have been wary about ordering substantial numbers of even the small cars because of the high finance charges they must pay.

  Tentative production plans for the fourth quarter are as follows:

	Tentative Fourth Quarter Production (Units)	Percent Change
General Motors	1,000,000	(-16.0)
Ford	405,000	(+ 9.5)
Chrysler	260,000	(+25.6)
American Motors	36,000	(- 9.5)
Volkswagen	52,400	(- 0.5)
Industry Total	1,753,400	(- 5.7)

Note: Numbers in parentheses indicate percentage change from same quarter last year.

Production schedules are likely to be revised downward if sales do not improve further. (08385)

American Motors

- With the 1981 model run, AMC has begun consolidating all of its Jeep production at its Toledo, Ohio, plant. The Brampton, Ontario, plant that is now used for Jeep production will be used to produce Eagle and

Concord cars. AMC's Kenosha, Wisconsin, plant will be used to manufacture the Eagle, Concord, and Spirit as well as the company's new four-wheel-drive subcompact due in MY 1981. (07147)

- A recent report in Metalworking News stated that by 1982 AMC would begin producing 4-cylinder engines in its Kenosha, Wisconsin, plant for installation in its passenger cars and Jeep vehicles, and possibly in the new Renault-designed cars to be assembled in the United States. AMC has been purchasing 4-cylinder engines from Pontiac. (07740)

Chrysler

- Chrysler will be investing $180 million to expand, modernize, and retool its New Process Gear plant in Syracuse, New York, for the production of manual transaxles for the company's front-wheel-drive cars. Annual production volume at the plant will be 200,000 units in 1981; 300,000 in 1982; and 400,000 in 1983. (08051, 08078)

- Jack H. Parkinson, Managing Director of Chrysler de Mexico, S.A., recently said that Chrysler would be building its K-cars in Mexico by 1982 and that the company planned to invest $250 million in its Mexican subsidiary by 1985. The investment will be divided among a new 4-cylinder engine plant ($200 million), modernization of existing plants ($35 million), and truck production facilities ($15 million). Some of the 4-cylinder engine production is slated for the U.S. market. (08299)

- As part of its streamlining and restructuring endeavors, Chrysler has transferred its Mack Avenue (Detroit) pressroom operations to another stamping plant and closed the Huber Avenue (Detroit) foundry, transferring its activities to the Indianapolis foundry. Plants making components for rear-wheel-drive vehicles are especially vulnerable to closings as the retrenchment continues, because Chrysler expects to be 100% front wheel drive by MY 1984. The Lynch Road (Detroit) plant also faces closing when its fleet orders for 18,000 R-body New Yorkers are filled by the end of 1980. (08044, 08079, 08134, 08149, 08205, 08251, 08295)

Ford

- Ford's $3 billion Erika project (one-third of this amount was spent in Europe, the balance in the United States) has begun to bear fruit with the U.S. introduction of the Ford Escort and Mercury Lynx cars. In the United States, these cars are being assembled in Wayne, Michigan, and Metuchen, New Jersey; in Europe, they are being assembled at Halewood, England, and Saarlouis, West Germany. In the first full year of production of the new subcompacts, Ford is likely to turn out 550,000 units in the United States and 400,000 to 450,000 units in Europe, split about equally between England and Germany. (08453)

- Despite the controversy in the United States surrounding Ford's decision to construct a $365 million, 4-cylinder engine plant with a 400,000-unit annual capacity in Mexico, Ford has announced that it will go ahead with its plans. The plant will employ more than 1,000 workers. Ford defended its action by noting that it will then be allowed to export more U.S.-built Ford vehicles to Mexico. These exports, plus a 40% increase in the export of stampings and other parts, will create 800 jobs in the United States. However, exports to North America from the new plant will account for 80% to 90% of its total production.

  Ford declined to discuss the engine design or whether Toyo Kogyo would have a role in its design, saying only that it would be an advanced 4-cylinder engine to be used in a family of front-wheel-drive subcompact and compact cars. (07629, 07762, 07878, 08504)

- At a cost of $60 million (Canadian), Ford Canada has retooled its St. Thomas, Ontario, plant to produce the new MY 1981 Lynx/Escort subcompacts. In addition, Roy Bennett, President of Ford Canada, has said that the closing of the Windsor iron foundry and the production cutback to one shift at Oakville are only temporary actions, and that production will be reinstated within one to two years. A total of 3,300 workers were laid off by these actions. (07420)

General Motors

- As part of its overall plan to expand and modernize its production capacity, as well as its recently announced intention to speed up new front-wheel-drive model introductions, General Motors will be making major renovations at many of its North American plants:

  - Baltimore, Maryland. GM will drop truck production here at the end of MY 1981. Then it will begin adding 433,000 square feet to the plant and boosting employment from 4,000 workers to 5,000. The expansion will be completed by August 1982 and the plant will begin building front-wheel-drive MY 1983 cars on two shifts operating at a rate of 70 cars an hour. It is not clear whether the expanded Baltimore plant will join the Lordstown, Ohio, and South Gate, California, plants in J-car production or if the facility will be used to assemble front-wheel-drive A-special cars if that changeover is moved up to 1983 and 1984.

  - Oshawa, Ontario. GM will spend $100 million to retool this Canadian plant for MY 1983 J-car production and possible production of a two-door front-wheel-drive version of the A-body.

  - Arlington, Texas. Arlington will be shut down for three to four months beginning 31 August 1982 while an addition totaling 175,000 square feet is built. The plant will then switch over to front-wheel-drive production, but it has not yet been reported whether this will be production of the J-, X-, or A-car.

  - Leeds, Missouri. The Leeds plant will be closed down from late fall 1981 to January or February 1982 so that 173,000 square feet can be added. Leeds will then be switched over to front-wheel-drive passenger car production.

  - Janesville, Wisconsin. Janesville will be expanded by 265,000 square feet, with renovations scheduled to be completed sometime in 1982. The expanded facility will produce light trucks and front-wheel-drive cars. (08093, 08118, 08120, 08204, 08237, 08260)

- GM will spend $250 million to build a plant near its St. Catharines, Ontario, axle plant to produce front-wheel-drive transmissions. The new facility will be the sole supplier of these parts for all of General Motors. Production will begin in the summer of 1982. (07262)

- GM has announced that it will begin production at its new Corvette assembly plant in Bowling Green, Ohio, on 1 June 1981, and that it will end production of the H-special (Monza/Sunbird) at its Lordstown, Ohio, plant on 23 December 1980 for changeover to front-wheel-drive J-car production. The J-cars will also be built at GM's South Gate, California, facility. These cars will be put on the market in the spring of 1981. (07557; Ward's Automotive Reports, 9 June 1980)

- GM wants to consolidate its 59-year-old Clark Avenue (Detroit) Cadillac plant and its 62-year-old Fisher Body Fleetwood facility into a new Cadillac assembly plant patterned after the Oklahoma City plant that opened last year. The new plant would be between two million and three million square feet, cost $300 million to $500 million, and employ 3,000 to 5,000 people. One proposed location for the new plant is Chrysler's abandoned Hamtramck plant. However, additional surrounding land would be needed because the Hamtramck site is only 150 acres and GM wants 500 acres. (07846, 07950)

- GM is considering building a new plant in Flint, Michigan, which would consolidate operations from its Buick and Fisher Body Divisions. The plant would be operational for the 1984 model run. It would employ 6,000 workers and would be able to turn out 75 cars an hour. (07852, 07947)

- GM also announced plans to begin construction on 1 June 1980 of a new $500 million assembly plant for unitized body front-wheel-drive cars in Orion Township, Michigan. The new plant, which will have three million square feet of floor space and employ 6,500 hourly workers, will be able to turn out Pontiac cars of different body types and wheelbases, enabling GM to respond rapidly to shifts in consumer demand. It

will eventually replace the GM/Fisher Body assembly operation in Pontiac, Michigan. The Pontiac facility will now be used to expand 4-cylinder engine production. (06562, 07050)

- GM plans to reopen its idled van assembly plant in Pontiac, Michigan, by the end of 1981 and to convert it to small pickup truck production. The new pickup truck will replace the Luv truck that GM now imports from Isuzu. GM also announced that two of its former Frigidaire plants near Dayton, Ohio, would begin assembling small trucks and diesel engines by late 1981. (07059)

- Anticipating that at least 60% of its passenger cars will be powered by 4-cylinder engines by 1985, General Motors has undertaken a major worldwide expansion program to increase its 4-cylinder engine capacity. The company's announced 4-cylinder engine capacity expansion plans are summarized below:

Location	Engine Type and Size	Annual Volume (units)	On Stream
Australia	4 cyl OHC, 1.6 liter	300,000	1981
Austria	4 cyl OHC, 1.6 liter	270,000	1982
Brazil	4 cyl OHC, 1.8 liter	330,000	1981
U.S.A.	L-4, 1.8 liter	400,000	1981
	L-4, 1.8 liter	400,000	1982
	L-4, 2.5 liter	50,000	1981
	L-4, 2.5 liter	380,000	1982
West Germany	L-4, 1.6 & 1.8 liter	286,000	1982

Plans beyond 1982 are less certain, but it is known that a third 400,000-unit line to manufacture 4-cylinder 1.8 liter engines will be ready at the Tonawanda, New York, plant in 1983 and a fourth line of the same volume in 1984, while Tonawanda's 6-cylinder engine production is likely to be shifted to Canada. (08077)

- Some of GM's J-cars due for MY 1981½ will use L-4 engines imported from Brazil. The Brazilian engines are the same size as the 1.8 liter 4-cylinder engines that will be manufactured by Chevrolet, but because they have an overhead camshaft they will have higher rpms. The Brazilian plant can turn out 330,000 4-cylinder engines, and "a good portion" of these will be headed for the United States. (07708)

- In addition to the 4-speed transmissions and transaxle units previously agreed upon, Isuzu will be supplying General Motors with 5-speed overdrive transmissions for the American company's new J-cars. Isuzu will be shipping 50,000 to 100,000 5-speed transmissions and as many as 400,000 4-speed transmissions. (08188)

European Manufacturers

BL

- The licensing arrangement finalized by BL and Honda at the end of December 1979 gives the British automaker the right to produce and market in the European Economic Community the Bounty, a Honda-designed, medium-size car. This arrangement has allowed BL to cut two years off the time it otherwise would have needed to come up with a new passenger car.

  Leyland Vehicles, BL's commercial vehicle subsidiary, recently negotiated its first collaborative agreement with a Western European manufacturer. It will be making Zahnradfabrik Friedrichshafen gearboxes for use on its medium-weight trucks.

  BL's management has indicated that it is interested in making other joint venture arrangements to help ameliorate the high cost of developing new products and components and to circumvent BL's chronic shortage of engineering talent.

  This interest is behind BL's recent discussions with West Germany's BMW for a possible exchange of components between the two companies for low-volume specialty cars. BL has already talked with Renault and VW about joint development deals or component trades. (05565, 06312, 08350)

- BL is in the process of restructuring Leyland Vehicles, its commercial vehicle unit. The plan calls for investing more than $400 million over the next few years and will involve all of the company's 14 commercial vehicle plants. Key to the success of Leyland Vehicles' development plan is recovery in the slumping commercial vehicle market. Also, because Leyland sells half of its output abroad, it could be rendered less competitive by the current strength of the British pound. (07733)

BMW

- Since 1974 BMW has doubled its capacity, now at 350,000 plus vehicles a year. The company is considering adding capacity to build another 150,000 units annually, possibly for front-wheel-drive car manufacture. The decision to build a fifth assembly plant has been postponed, however, because of the decline of BMW's worldwide markets. While Regensburg, a town in Southern Germany, apparently has been the favored location for the plant, a final site selection will not be made until 1982-1983. This postponement will give BMW more time to determine whether it wants to build a plant for assembly or component manufacture. (F00400, 07672, 08060)

- It is possible that as many as 80,000 units of BMW's quota of the new, lightweight diesel engines being manufactured through a joint venture with Steyr Daimler-Puch of Austria could be offered for sale worldwide when they come on stream in 1982. In addition, Steyr Daimler-Puch may also have some of its quota of the output available for sale. Such companies as Saab, Lancia, Jaguar-Rover-Triumph, Ford, Volvo, and Talbot are all potential purchasers of the engines. (07672, F00400)

- As part of its continuing program of increasing automation, BMW recently ordered 120 industrial robots at a cost of DM30 million. The robots help streamline the production line changeovers required for different models. (Harbridge House Research)

Daimler-Benz

- On the basis of its current orders, Daimler-Benz is confident that it will operate at full capacity at least until the end of 1981. While the production of the other West German automakers fell 6% in the first four months of 1980, Daimler-Benz's production increased 2%. The company's after-tax profits increased 7.5% in 1979, although they were depressed by Brazilian exchange losses.

  While the commercial vehicle division's profits in 1979 were unsatisfactory, demand for the company's trucks was extraordinarily strong, especially in foreign markets. Daimler-Benz's worldwide commercial vehicle production is expected to be 270,000 units in 1980, up 5% from 1979. (07676, 07974)

- The first U.S.-assembled Mercedes-Benz Class 6 truck rolled off the assembly line in Hampton, Virginia, in June. This first model is a 25,000 lb. GWV L1116 turbodiesel. Production capacity at the plant will be 25 units a day on two shifts. While nearly all of the components are being imported from Mercedes-Benz do Brasil, U.S. component suppliers have indicated that the company is testing various domestic power train components for incorporation into models planned for the mid-1980s. (07705)

- Because German wage levels are the second highest in the world (behind Belgium), averaging DM24.44 per hour, Daimler-Benz is sourcing components in Third World countries for products assembled in Europe and the United States. For example, Mercedes-Benz do Brasil supplies CKD trucks for the new U.S. assembly plant in Virginia at a cost 50% lower than those produced in Germany. Daimler-Benz now has nine production plants and 28 assembly plants outside Germany. (F00110)

Fiat

- Fiat announced plans to cut production 30% (130,000 units) in the last half of 1980 in order to keep down its growing stock of unsold cars, estimated at 60,000 to 70,000 vehicles. The company wants to lay off

17% of its 140,000-person work force. This past summer it already reduced by six weeks the working time of 78,000 of its employees.

Fiat is now in the process of negotiating a new two-year contract with the metalworking union that represents the majority of its work force. The union is demanding an 8% increase in real wages (on top of a 20% increase solely to match inflation). Fiat management has called the wage demand unacceptable. The company is also seeking voluntary overtime and job assignment flexibility provisions in the new contract. (07959, 08554, F00418)

Saab-Scania

- The joint production agreement with Lancia to build a new medium-size passenger car makes provisions for Saab to manufacture components for both companies in series of about 300,000 units a year, thereby achieving better economies of scale. (F00094, 01087, 01185)

Volvo

- Slumping demand (off 15% to 35% depending on the market) has led Volvo to trim its planned 1980 production target 12% to 267,000 units. Production in 1979 was 320,000 units. The bulk of the reductions will come on Volvo's larger 240 and 260 models. (08302)

VW-Audi/VWOA

- VWOA's plans to look for a U.S. plant to manufacture engines have been shelved. Instead, the company will rely on its engine production facilities in Puebla, Mexico, to supply the U.S. market. The Mexican plant is scheduled for expansion in 1982 when it will reach a daily output of 1,600 units, 75% for the U.S. market and 25% for Mexico. (07862, 07970)

- VWOA expects sales of 330,000 MY 1981 cars, trucks, and vans, including 198,000 Rabbits. The company anticipates that more than half of the Rabbits sold will have diesel engines. (08676)

Japanese Manufacturers

- The Japanese Ministry of International Trade and Industry expects Japanese car shipments to the United States in the second half of 1980 to be down to a total of 800,000 to 830,000 units, off 11.0% to 14.2% from the same period the previous year. In response to pressures from U.S. sources, the Japanese manufacturers are trying to moderate their exports to the United States through indirect means, like increasing export prices and keeping inventory growth to a minimum, rather than by establishing self-imposed quotas. The Japanese are also hoping that new car introductions by U.S. manufacturers, coupled with improved sales of larger domestic cars because of high gasoline inventories and stable prices, will substantially increase U.S. domestic sales, causing the market penetration of the imports to stabilize at a lower, more acceptable level.

  In July 1980 total Japanese monthly production of motor vehicles exceeded one million units for the first time ever, but in August production dropped 31.6% from the July level to just over 700,000 units. The drop was short-lived, however. Preliminary figures for September 1980 showed the production of 1,008,800 units.

Japanese Motor Vehicle Production/Exports: January-August 1980

	Jan.-June	July	August
Total Production	5,464,019 (18.0)	1,039,770 (23.5)	710,926 (3.2)
Passenger cars	3,475,067 (16.8)	665,735 (23.7)	450,057 (4.0)
Trucks	1,945,647 (19.7)	365,513 (22.4)	254,202 (1.1)
Buses	43,305 (55.0)	8,522 (71.8)	6,667 (36.3)
Total Exports	2,929,500 (37.9)	529,200 (40.3)	468,415 (32.4)
Passenger cars	1,971,969 (34.8)	340,900 (34.6)	NA
Trucks	928,943 (43.5)	182,300 (51.6)	NA
Buses	28,588 (102.2)	6,000 (67.2)	NA
Total Exports to United States	1,246,219 (31.8)	220,900 (27.2)	184,780 (9.2)

Note: Numbers in parentheses indicate percentage increase from same period the previous year.

(08328, 08333, 08389, 08400, 08435)

- Toyo Kogyo, Isuzu, and Nissan are all in the process of adding substantial transaxle capacity in Japan. Toyo Kogyo's new transaxle plant is now complete; the transaxles are for its new Familia line, its first front-wheel-drive offering, and for shipment to Ford Motor Company. Isuzu is building a $250 million transaxle plant at its Fujisawa complex. The plant's production will be used in Isuzu's own cars and in GM's J-car that will be built in Australia, West Germany, and Great Britain. Nissan has undertaken a "crash program" to build a transaxle plant near its Yoshiwara gearbox facility to build transaxles for a new, small, front-wheel-drive sedan. The Nissan plant will have a production capacity of 50,000 transaxles a month. (07641)

Honda

- During 1980 Honda will be increasing car engine production from 825,000 units to 1,055,000 units on an annualized basis. The company also plans to expand its finished car capacity by 170,000 units, giving it a total capacity of nearly one million completed units. Some of the additional engine production is slated for the joint production project of the Bounty model with BL. Of the ¥32 billion that Honda plans to invest in plant and equipment in 1980, ¥17 billion is for increasing production capacity. (J00582, 08670)

- Honda has adopted a policy of local parts sourcing at its Ohio motorcycle plant in order to increase American content. To accomplish this, some of Honda's Japanese parts suppliers have extended technical license arrangements to U.S. manufacturers; others have entered into joint ventures with them. In the short period since operations began at the Ohio plant, Honda has had good quality control performance there. The company attributes this to the application of key Japanese management practices such as frequently held meetings and flexible job descriptions. (J00443, J00446)

Nissan

- Nissan claims that it has no immediate plans to increase capacity in Japan, but the company could easily add another 250,000 units by making only minor changes at existing facilities. It recently ordered $16 million worth of presses for its Murayama plant, suggesting that this kind of piecemeal expansion is already under way. (08670)
- In the fall of 1979, Nissan began producing its newly developed four-wheel-drive vehicles at the company's Kyushu plant. Monthly production is 4,000 to 5,000 units, of which exports account for 90%. The vehicles will be available in three versions: a diesel 4,000 cc; a gasoline 3,000 cc; and a gasoline 2,800 cc. (J00400)

Toyo Kogyo

- As a result of Ford's need for more small cars in the Asia-Pacific area, Toyo Kogyo will be expanding capacity at its Hofu plant in order for that facility to turn out an additional 20,000 vehicles a month (about 20% of the company's current capacity) beginning in the fall of 1982. It is likely that Toyo Kogyo will be manufacturing a front-wheel-drive version of its Capela (626) model at the expanded Hofu facility. (07873, 07939)

Toyota

- Toyota's new Tahara No. 2 plant will be completed in the spring of 1981, giving the company additional capacity for 220,000 units. This, plus a 60,000-unit increase in capacity resulting from smaller scale modifications to existing facilities, will give Toyota a total capacity of 3.5 million units by the end of next year. Toyota's factories have been running at full capacity over the past year. (08334, 08670)
- Toyota has begun construction of its No. 3 Kinuura plant, which will specialize in the production of suspension systems and other parts for front-wheel-drive cars. The plant should be operational by the spring of 1982. (J00662)

2.4 MARKETING AND DISTRIBUTION

U.S. Manufacturers

- Through the 1980 and into the 1981 model years, the U.S. manufacturers have followed a general policy of increasing prices several times and concentrating those increases on the small, fuel-efficient cars that are so much in demand. This strategy has substantially narrowed the price spread between small and large cars, and has even created the anomaly of larger cars costing less than smaller ones.

  The pricing strategy has effectively ended the complaint of U.S. automakers that small cars are not profitable, but the risk is that the Japanese makes will be given an even greater competitive edge. Japanese pricing plans are not yet fully evident, but there may be as many as 10 models in the $4,000 to $4,500 range, whereas the price of the least expensive U.S. model, the Chevette, will start around $5,250. (08342, 08715)

- Over the past 18 months the number of domestic car dealerships has slipped by 1,500. In the last six months alone, GM lost 185 (down to 11,240); Ford 338 (now 6,761); and Chrysler 499 (now 3,935). The automakers have used different strategies for coping with the decline. These have ranged from doing nothing to actively trying to establish a new dealer in the same geographic area, depending on the economic climate in that particular area. (08375)

Chrysler

- Chrysler's "satisfaction or your money back" program, which allows a customer to return a purchased car within 30 days or 1,000 miles for a full refund, will remain a part of the company's marketing strategy. Since the program was introduced, less than 1% of the cars sold by Chrysler have been returned. (08484)

Chrysler and Mitsubishi

- The distribution relationship between Chrysler and Mitsubishi has become a continuing source of rumor and speculation. Chrysler has

termed the Japanese cars "vital to the company's future," but Mitsubishi continues to press for its own distribution system in the United States. The most recent round of speculation centered on a scenario whereby Chrysler would permit Mitsubishi to establish its own dealer network in the United States to handle models not currently sold by Chrysler. In return, Chrysler would receive tooling and sole marketing rights for Mitsubishi's D-50 and Arrow pickup trucks as well as the right to continue distributing the Colt/Champ models. For MY 1981 Mitsubishi will provide Chrysler with restyled Sapporo and Challenger models and Dodge Colt and Plymouth Champ hatchbacks. The Plymouth Arrow and the Colt wagon have been dropped in the United States.

Chrysler is particularly eager for the light pickup truck because beginning in 1982 captive imports cannot be counted in achieving light-truck CAFE standards. Moreover, Chrysler's financial position virtually precludes the development of its own pickup truck over the next three years. (06788, 08027)

Ford

- Ford needs to boost its market shares in the United States (now running around 18%) and West Germany (mired below 10% for several months now) in order to generate sufficient capital to remain competitive across a full product range through the 1980s. In Germany, Ford hopes to recover lost market share by pricing its new Escort (Erika) cars only 3% above the old Escort they replace. In the U.S. market, the company's underlying pricing policy is less clear. It appears that initially Ford will be selling the Escort/Lynx versions of Erika at a loss in a bid to regain market share, but it may be that the Escort/Lynx prices merely reflect the estimated $150 million that Ford saved by pooling its international resources to engineer, tool, and launch the car and achieve production economies of scale. (08710)

International Harvester

- International Harvester has begun to position itself to improve its market penetration in Europe. The linchpin of the company's market thrust is Seddon Atkinson, Harvester's wholly owned U.K. subsidiary, but supporting roles will be played by ENASA in Spain and DAF in the Netherlands. Purchased in 1974 for $50 million, Seddon Atkinson has become one of Harvester's top performers. Its $15.8 million surplus in 1979 made it Harvester's most profitable truck plant. Harvester is now investing in new plant and equipment at Seddon Atkinson's Oldham and Preston manufacturing locations. Seddon Atkinson will be bringing out five new additions to its 300 series. Virtually all of the company's production is sold in the United Kingdom, but the 300 series is suitable for export to the European continent.

  Seddon Atkinson products will probably first appear in Spain now that IH has decided to take up its option to acquire a 35% share in ENASA. The ENASA connection will give IH improved access to the European Economic Community when Spain joins the EEC.

  DAF is the most problematic section of IH's international strategy. At present, IH owns 33% of DAF and has an option to acquire an additional 4.5% of the company. IH has long wanted a controlling interest in DAF, but has been unable to come to a suitable agreement with the Dutch company. The IH/DAF connection has been complicated further by the opening of negotiations between DAF and PSA Peugeot's Dodge trucks. IH and Peugeot-Dodge are both jockeying for position with DAF in hopes of improving their total annual output and, consequently, achieving better economies of scale. (07129, 07214)

European Manufacturers

BL

- Many BL dealers in the United States are threatening to give up their franchises in the wake of badly slumping sales here. Not even BL's new Metro will be able to help them, because the Metro cannot be produced economically to meet U.S. emission standards and thus will not be offered in this country.

The Metro should help in Europe, however, where it is generally felt that BL's marketing network needs a complete overhaul. BL is very much in need of strong European sales if it has any hope of utilizing its capacity to build 900,000 to one million passenger cars a year (1979 production was just over half a million) and thus maintain itself as a volume car producer rather than as some sort of limited product line specialty automaker. (08361)

BMW

- BMW has virtually completed a program to take into its own hands the BMW import organizations in the company's most important markets. The takeover of its U.K. selling organization went into effect at the beginning of 1980, leaving only Spain to be brought into the fold. (07418, F00390)

PSA Peugeot-Citroen

- In the face of declining registrations, the Peugeot Group is considering a reorganization of its sales network, now divided into three networks – Peugeot, Citroen, and Talbot. The French automotive group has integrated its component sourcing and model policy considerably, but it wanted to keep the sales networks separate, following the General Motors' model. (08666)

- When Peugeot purchased Chrysler's European subsidiaries (renamed Talbot), it expected a period of heavy losses, especially at Talbot UK. Talbot UK had stiff losses in 1978 ($47 million) and 1979 ($96 million), but restoration of its contract to supply Iran with 100,000 CKD vehicle kits annually, coupled with improved productivity in its U.K. plants, should help the U.K. group come close to breaking even in 1980, with profits expected in 1981.

  Surprisingly, the Talbot Group's main problems have been turning up in France, where its market share has dropped to around 6%. It is likely to suffer even more in the French market that in May 1980 dropped 24% from 1979 sales levels.

Talbot hopes to improve sales with the introduction of its new Solara model for MY 1981 and a new small car in 1981-1982. The auto group's long-term strategy is to have Talbot be its sporty, youth-oriented line while Peugeot stays with its traditional styling and Citroen continues its tradition of technological innovation. (07678, 07984, F00414)

Renault

- As of mid-1980 Renault had 1,007 franchised dealerships in place in the United States through its affiliation with American Motors. Renault expects to have 1,300 franchises in place by the beginning of MY 1981; its long-range goal is 1,600 dealerships. By comparison, as of 1 January 1980 the two captive imports with the most franchises were the Ford Fiesta, with 5,481 franchises, followed distantly by the Chrysler/Mitsubishi Colt, with 2,230 franchises. (07405)

Saab-Scania

- Scania truck sales have been growing in virtually all markets (nearly 90% of Scania's output is sold outside Sweden) despite the 10% drop in Saab car sales in recent months. The highest percentage sales growth has been in Asia (96%) and Africa (43%). Saab is considering the production and sale of heavy-duty trucks in the North American market.

Volvo

- Volvo recently established a special unit, Volvo International Development Corporation, to concentrate on selling Volvo products outside Europe, North America, and South America. The new unit recently concluded two deals for the sale of Volvo trucks, one in Iraq and one in China.

  Volvo's commercial vehicle sales have been doing extremely well (trucks up 24% in 1979 over 1978 figures, buses up 39%) even while sales of its passenger cars have been off substantially. The company is actively pursuing sales opportunities outside Europe, including an arrangement with Freightliner in the United States to distribute two Volvo diesel trucks (the NI0 6X4 and the 4X2 tractor) in both the United States and Canada. (04785, 08526)

VW-Audi/VWOA

- James McLernon, President and Chief Executive Officer of VWOA, recently indicated that VWOA would like to have its own finance company in the United States. Although the intent is to have such a company on stream within 12 to 18 months, no definite agreements have been made as yet. (07741)

Japanese Manufacturers

- The movement of the Japanese manufacturers away from a reliance on sales of the lowest priced models in the United States has been particularly evident at Honda, where Civic sales have declined steadily from 66.0% of Honda's total unit sales in 1977 to 36.6% of its sales in the period January-July 1980. Mazda and Datsun are clearly following a similar strategy. Mazda sales more than doubled from 75,309 units in 1978 to 156,535 units in 1979, yet sales of the low-priced GLC model went from 70.2% of the total in 1978 to 46.4% in 1979. Sales of the Datsun 210 have been running at 36.0% of its total sales for the first seven months of 1980, down from 45.8% for all of 1979. Toyota seems to be bucking the trend as its Corolla Tercel sales helped push total Corolla sales to 61.0% of the company's total sales for the first seven months of this year, up from 50.6% in 1979. Toyota will match Datsun's introduction of a 6-cylinder sedan for the coming model year and is heavily advertising its $10,000 Toyota Celica Supra. (08045)

Honda

- Honda has revealed that it intends to use a two-pronged strategy in the United States by selling cars imported from Japan on the West Coast and by selling vehicles produced at its new factory in Ohio on the East Coast in order to minimize land transportation costs. Ohio production is set for late 1982 at the rate of 10,000 units a month. Honda anticipates that the local content of its cars will quickly reach 30%, including the probable purchase of brake parts from General Motors. (J00560)

Mitsubishi

- Frustrated by Chrysler in its desire to market its products directly in the United States, Mitsubishi Motors Corporation is undertaking an export thrust in Europe. Drawing on the marketing savvy of Mitsubishi Corporation and C. Itoh & Co., Mitsubishi Motors will expand its sales network in Europe, concentrating first on Sweden and Italy. Mitsubishi now accounts for 8.6% of all Japanese imports sold in Europe and wants to boost its share to 16.0% – or approximately 100,000 units a year. (06972, 07180, 07364)

- In January 1980 negotiations between Chrysler and Mitsubishi, Mitsubishi won the right to sell its vehicles directly in 80 countries where Chrysler had formerly acted as its exclusive sales agent. This has generally been regarded as an important first step in the working out of a new arrangement between Chrysler and Mitsubishi concerning the distribution of Mitsubishi vehicles in the United States. (05578)

2.5 FINANCE

American Motors

- American Motors' third fiscal quarter loss (for the period ending 30 June) of $84.9 million was not only a quarterly record at the company but also well above its previous record full-year loss of $75.8 million posted in 1967. The third quarter results left AMC with net losses of $70.8 million for the first nine months of its current fiscal year and an expected full-year loss of $150 million.

  AMC's first two quarters had been comparatively strong, but in the third quarter its combined worldwide Jeep and automobile sales were only 74,387 units, off 33.6% from the same quarter in the preceding year, and dollar sales were off 32.0%. (08213, 08289, 08688)

Chrysler

- For the second quarter of 1980 Chrysler reported a loss of $536 million, its largest ever, but some $32 million lower than had been expected. Its third quarter loss was $490 million, bringing the company's nine-months' loss to $1.026 billion. This loss would have been significantly higher without the cost containment efforts undertaken. The Chrysler Loan Guarantee Board expects the company's full-year loss to reach $1.225 billion, but Chrysler's management contends it will show a profit in the fourth quarter.

  Just after the second quarter results were announced, the Chrysler Loan Guarantee Board approved an additional $300 million in loan guarantees for Chrysler, bringing the total outstanding to $800 million. The 10-year notes bear 11.40% interest (slightly higher than the 11.34% interest rate on the initial offering) and are redeemable after three years. Originally, Chrysler thought it would need another $200 million in September, but an improved cash flow at the company has enabled it to postpone the next offering, probably until January 1981. (08079, 08161, 08162, 08163, 08174, 08287, 08298, 08424, 08452, 08718)

- Chrysler must prepare a new operating and restructuring plan to present with its next request for government assistance (expected to come early in 1981) to the Loan Guarantee Board. The new plan must reflect the fact that neither the U.S. new car market nor Chrysler's penetration of it has been coming close to the company's earlier projections. Full-year projections of new car and truck sales have been dropping, and Chrysler's share of the new car market in the second quarter of 1980 was only 7.9% when it had been anticipated to be 9.5%. Even Chrysler's fuel-efficient Omni/Horizon models, which sold near production capacity in the first quarter, were 40% below capacity figures in the second quarter.

  Chrysler's need for cash has been particularly strong this fall as heavy promotional expenses for the K-car launch have eaten into financial reserves. Another difficult period will occur in the spring of 1981 when Chrysler will need to maintain its momentum during GM's J-car launch.

  The company has been restructuring its subsidiaries. The Defense Division has become a wholly owned subsidiary and Chrysler Financial Corporation has gone through additional management changes, giving rise to speculation that Chrysler will soon sell part of the assets of the financing unit. In addition, the company announced that it would be selling off several parcels of real estate that had reverted to Chrysler Corporation when Chrysler Realty Corporation was sold in October 1979. The property disposition should raise $100 million. (08044, 08079, 08134, 08149, 08205, 08251, 08295)

- In putting together an operating plan in the spring of 1980, Chrysler trimmed $2.0 billion from the $13.6 billion it had planned to spend through 1985. The chief casualty of the revised capital spending plan was Chrysler's front-wheel-drive larger car scheduled for 1984-1985. This means that the company will be left with two basic car lines: compact and subcompact front-wheel-drive models. (07095)

- Over the past two years Chrysler Corporation has cut its operating costs substantially, more than $1 billion in 1980 alone. Its salaried work force has been reduced nearly 40% to less than 25,000; nearly a dozen plants have been closed; and the company has undergone a substantial restructuring of its operations. Further, the company's remaining 40 plus manufacturing facilities are increasingly being scrutinized to determine if certain parts and components should be acquired from outside suppliers.

  Despite these cutbacks, Chrysler's fixed costs for 1980 will be approximately $3.5 billion, down about $400 million from 1979. It has been taking much longer than the company anticipated for the cost reductions to show on the balance sheet. (08452)

Ford

- A net loss of $1.227 billion over the first three quarters of 1980 and a possible long-term reduction of market share to 20% or even 18% are causing many industry observers to question Ford Motor Company's future financial viability. The company responded to its difficult financial situation by implementing a $1.5 billion cost-cutting program involving closing two plants, cutting its dividend by 70%, and trimming its payroll. In May 1980 it also reduced its $20 billion capital expenditure program for 1980-1984 by $2.5 billion, perhaps damaging its future competitiveness even more, although the company recently restored $1 billion to these plans to build 4-cylinder engine capacity. Despite these moves, the company will still require at least $3.0 billion of external financing between now and 1982, and possibly as much as $5.7 billion, depending on the depth of the recession. (08024, 08122, 08720)

- Ford U.K. supplied its parent company with dividends of $305 million and loans of $515 million in 1979. Ford of Britain is now the only profitable automaker in the United Kingdom. In contrast, Ford-Werke AG, formerly considered a cash cow for its parent, has been experiencing a declining market share since its 1976 peak of 15%. Its

share fell to 10% in 1979 and is likely to fall below 9% in 1980. The product line inadequacies that Ford faces in West Germany are similar to those it has in North America, making it difficult for the company to regain market share in the near term. Nevertheless, the West German subsidiary loaned $508.6 million to the parent company in addition to its 1979 dividend payment of $272.9 million. The dividend policy of the West German subsidiary is being criticized by the German unions, which charge that instead of turning over funds to the parent company the subsidiary should reinvest the money in Germany. However, Ford-Werke's intention to invest $1.98 billion between 1980 and 1984 has not changed as a result of the dividend payout to the parent company. (07516, 07649, 07841, 07848)

- Ford Motor Company will be pumping an additional $325 million into its Halewood, England, plant over the next four years in a continuing modernization and automation program. Over the last two years Halewood has already received $500 million to prepare it for its part in the Escort launch. In addition to the Escort, Halewood produces manual gearboxes for Ford in Europe and in the United States. (08458)

- Automotive analysts expect Ford Motor Company to lose $2.2 billion in its North American operations this year and the parent company to post a loss of $1.7 billion, which would be the company's first deficit year since 1946. Ford has moved to curtail its losses by:

  - Asking its 1,600 suppliers to take a price cut of 1.5%.

  - Reducing its quarterly dividend from $1.00 to $0.30 a share. (This will save Ford $84 million each quarter.)

  In addition, Ford has acted to bolster its financial position by:

  - Negotiating with a group of banks for an additional $1 billion credit line to be used for future new product development. This five-year revolving credit agreement is in addition to $1 billion of short-term lines of credit already available, but under which no borrowing had been made at the end of 1979.

- Issuing a prospectus on 1 April 1980 for $400 million in notes, revised upward from $300 million (because of projected heavy losses in the first half of 1980). (07008, 07014, 07803, 08015)

- Ford's Brazilian operations are feeling the pinch on the finances of the U.S. automaker. In the face of gasoline prices that have quadrupled in a year and a half, the larger car market in Brazil (U.S. compact size) has dried up. Ford does not have the $1 billion it would cost to launch a small car such as the Fiesta in Brazil, so it is trying to make do with its front-wheel-drive Corcel model (whose market share could be eroded by VW's new Golf models and GM's new "world car" due in 1982) and the intention of going after the larger car market that has been receiving scant attention from its competitors. There has been some speculation that a Toyota-Ford linkup in the United States could also lead to a joint venture by the two companies in Brazil, giving Toyota a manufacturing presence in that country and providing Ford with a badly needed new model. (08502)

General Motors

- At the end of October, GM announced a $567 million loss for its third quarter, bringing its nine-months' loss to $824 million. Outside analysts expect that the company may lose as much as $800 million over the entire year.

  In order to conserve cash for its capital spending program, the company has laid off 10% of its white-collar workers and canceled merit raises for its remaining salaried workers; cut its quarterly dividend 18%, thereby saving $158 million each quarter; and restructured its wholesaling agreement with its dealers to give the company a one-shot cash infusion of $1.5 billion to $2.0 billion before the end of the year by ceasing to give dealers 15 to 20 days to pay for newly shipped cars. GM is not expected to go to the debt market this year, but Wall Street analysts expect the company to borrow between $3 billion and $5 billion over the next five years. (08105, 08214, 08249, 08260, 08288, 08716, 08721)

- According to an announcement made by GM Chairman Thomas A. Murphy at the company's annual stockholder's meeting, General Motors has revised its capital spending plan from $38 billion over the period 1980–1985 to $40 billion over the period 1980–1984. The United States, Canada, and Mexico will get 80% of this investment; the remaining 20% will go overseas. Murphy also called for an end to "excessive and counterproductive government regulations," the encouragement of capital formation through changes in the tax code, and more moderate Japanese trade practices in the United States. (07600, 07666)

- In 1979 Adam Opel AG, GM's West German subsidiary, posted its smallest profit in five years. The unit may even post a loss for 1980, and the outlook for 1981 is also uncertain. The short-term situation at Adam Opel is the result of lagging new car sales in Germany (off 11% in the first seven months of 1980 compared to the same period last year), a steep fall in sales of larger cars, and the fact that the company will be the only car manufacturer in Germany having no new model to offer in either 1980 or 1981.

  Adam Opel pays its parent company a dividend every other year. Its payments for 1976 and 1978 totaled $789 million (converting the German mark at its current rate), but the 1980 dividend is in doubt. Adam Opel's poor financial performance places an added strain on GM's finances at a time of near-maximum investment need. GM recently raised more than $300 million in new capital in Europe, some of it privately, and has other plans for raising European capital under way. (08582, 08617)

International Harvester

- International Harvester registered a loss of $257.2 million for its second financial quarter ending 30 April 1980, bringing its loss in the first half of 1980 to $479.4 million (compared to a profit of $154.1 million in the first half of 1979). IH Chairman and Chief Executive Officer Archie R. McCardell attributed nearly half of that loss – $225 million – to the effects of the long UAW strike at the company. Sales

in the second quarter were $1.16 billion, down from $2.20 billion in the previous year. McCardell contends that the company's earnings outlook "appears strong, although earnings in the last half of 1980 aren't expected to offset fully the loss incurred in the first half." Some analysts believe that Harvester's full-year loss could be as high as $300 million because the generally poor economy and the high cost of money will have a depressing effect on IH's sales for the remainder of the year, but this will be at least partially offset by the company's order backlog totaling $3.6 billion.

It will take International Harvester several years to fully recover from the effects of the long strike. The company did gain some labor concessions that will make it more competitive with its chief rivals, Deere & Company and Caterpillar Tractor Company. Harvester did not achieve the mandatory overtime available to Deere and Caterpillar, but it now can schedule overtime on 14 Saturdays using volunteer workers. The company also won some curbs on "job shopping" by its production workers. McCardell feels that increased productivity resulting from the new labor contract should reduce the company's capital needs by as much as $500 million over the next several years.

However, the anticipated effects of productivity increases may be negated by Harvester's strike-related losses in market share. IH's share of the heavy truck market was only 13.3% in the first three months of 1980, down from 20.4% in the same quarter the previous year. In addition, the company is being forced to postpone some of the capital expenditures it had planned, at least until its debt-to-equity ratio is reduced (it was at a 10-year low just before the strike started). (07104, 07131, 07146, 07328, 07423, 07514)

European Manufacturers

BL

- For the first half of 1980 BL reported sales revenues of £1.4 billion (US$3.42 billion), off 14% from the same period last year. The company had a pre-tax loss of £178.9 million (US$436.7 million), substantially more than its full-year loss in 1979. These financial results were considerably worse than expected and are attributable, in part, to the recession in the United Kingdom as well as to strong Japanese imports. BL's Chairman Sir Michael Edwardes has stated that even without these factors the company would have had difficulty.

  Exchange rate losses, due to the strength of the pound, and high interest rates are also contributing factors to BL's problems. (08589, 08593)

BMW

- While BMW's 1979 capital expenditures of DM473 million were financed internally, it is unlikely that the company will be able to maintain this approach in the future. In fact, there have been rumors that BMW will float a $300 million bond issue in the near future, although the company has denied this speculation.

  BMW's investment strategy has focused on adding pollution control equipment and improving the energy efficiency at its production facilities, expanding capacity, and developing new engine technologies. (F00412, 07791)

- BMW has embarked on a major investment program that could involve the spending of DM4.5 billion over the next five years. Its capital expenditures are expected to total DM700 million in 1980, up nearly 50% from last year. (F00390)

Daimler-Benz

- In 1979 Daimler-Benz undertook a $5.4 billion, five-year, internally financed investment program aimed primarily at expanding car production. More than $500 million of the planned investment will go to equip

the company's Bremen plant for the new small Mercedes car designed essentially for export markets such as the United States. The Bremen plant's light truck and van output will be switched to the company's Dusseldorf plant. Production of the lighter, more fuel efficient Mercedes is initially targeted at 50,000 cars annually. (F00132, 01734, 01737, 02422)

Saab-Scania

- In 1979 Saab-Scania reported an 80% increase in pre-tax earnings. Earnings were $230 million on sales of $3.2 billion. For the first time in many years the car division contributed to profits, largely because of the 900 line of cars, a high profit margin line that now accounts for 60% of the company's production. (07112, 07216)

- For the five-year period 1974-1978 Saab invested SKr 2.3 billion in new production facilities and equipment, with 80% of this amount going to the automotive sector. Investment plans for 1979-1983 call for a similar amount, with automobile production again receiving the lion's share. Saab expects to finance this spending largely out of retained earnings. (F00371)

VW-Audi/VWOA

- The Volkswagen Group's net earnings for the first half of 1980 were $121.3 million, down 26% from 1979, on sales of $9.49 billion (up from $8.33 billion in the first half of 1979). The earnings decline is attributable to a loss of $25.8 million at Volkswagen of America and poor results at the company's Brazilian subsidiary, where 1980 sales were off 32% to $617.9 million and there was a $16.8 million loss. VW's American and Brazilian subsidiaries were plagued by strikes both at their own facilities and at major component suppliers. (08635)

- In order to guarantee its competitiveness in the 1980s, VW has outlined a marketing strategy that focuses on the continued expansion of auto production outside West Germany, particularly in North America and South America, to free the company's German plants for a stepped-up assault on the European markets. VW is investing DM10 billion in West

Germany over the period 1980-1983 to further develop model programs and to increase domestic production. The company's goal is to capture 15% of auto sales in Western Europe; its current share is 13%. An $800 million investment package has been set aside for North American operations, primarily for the construction of VW's second plant at Sterling Heights, Michigan, and to expand production in Westmoreland, Pennsylvania, to 1,200 units per day. Initial output at the Sterling Heights plant is expected to be 100,000 cars a year when it begins operating in 1982; with sufficient demand, this output could be doubled. This will allow West German output, which previously has gone to the United States, to be redirected to European markets. All of these investments will be self-financed because of VW's solid financial position. (07244, 07246, 08629, F00384)

- Audi is launching a major investment program aimed chiefly at rationalizing and modernizing its Ingostadt and Neckarsulum assembly plants. Investment is likely to total DM1.7 billion through 1983, with 1980 spending of DM350 million. (07264)

Volvo

- Volvo posted sales revenues of $2.76 billion for the first six months of 1980, off 1% from the same period the previous year. Pre-tax profits in the period were off 6.2% to $144.7 million. Earnings in the second half of 1980 are also expected to be lower than last year's performance.

  Still, Volvo's truck, bus, and construction equipment lines all experienced improved sales and earnings in the first half of the year.

  Recently, because of a 1980 passenger car production target set at less than 85% of 1979's total, Volvo won an agreement to put 6,500 of its Gothenburg car plant's 8,500 workers on short time. (08417)

- During the 1980s Volvo plans to spend $115.2 million in truck development, plus an additional sum to build a new assembly plant near Gothenburg that will have an annual capacity of 6,000 trucks. Volvo has sold trucks successfully in French and British markets, is now

moving into Italy, and hopes to enter West Germany. Bus production and truck assembly at the company's Brazilian plant began this past fall. (07128, 07304, 07419)

- Volvo Car BV of the Netherlands will invest $20 million at its Born plant to expand production capacity to handle new body types for Volvo's 340 series. Current annual production at Born is 75,000 to 80,000 units. Volvo would like to boost this figure to an estimated break-even point of 125,000 units. Production for 1980 is scheduled at 103,000 units. Other recent developments at Volvo Car include a $78 million Dutch Government aid package (half of which must be spent in the Netherlands) and an agreement giving the 45% Dutch Government-owned car company greater freedom in deciding policy matters. (F00373, 04455, 05340)

Japanese Manufacturers

- Honda, Nissan, and Toyota all reported increased sales and revenues for the current fiscal year. Based on strong mid-year results, Toyo Kogyo should also post substantial sales and earnings gains for its fiscal year ending 31 October 1980. Isuzu and Mitsubishi both saw profits fall off in the latest period, resulting in part from the transition they are undergoing in their relationships with their respective American partners. (J00577, J00611, 07677, 07696, 07716, 07737, 07833)

Isuzu

- Isuzu, GM's Japanese partner, also noted a decline in profits due to increased interest charges and higher depreciation resulting from investments in plant and equipment.

  In its current fiscal year, Isuzu is spending $225 million on new plant and equipment to increase production and develop new products. This $225 million is part of an approximately $900 million capital investment program planned for the period 1979-1982. (07833)

Honda

- Honda's strong financial results are attributable to the company's increased overseas sales, the depreciation of the yen against the dollar, and a higher profit margin on sales outside Japan. In the fiscal year that just ended, overseas sales revenues were up 39% and accounted for 70% of Honda's total sales revenues. Forecasts for 1981 anticipate sales of ¥1,280 billion and net profits of ¥29 billion. (J00577, 07677)

Mitsubishi

- Mitsubishi's projected results for 1980 are ¥1,150 billion in sales with a net profit of ¥12 billion, sales and profit levels that would continue the pattern of the company's 1979 performance – a profits decline on increased sales revenues. (J00611)

- Mitsubishi Motors Corporation and Mitsubishi Corporation acquired Chrysler Corporation's remaining 38.8 million shares in Chrysler Australia, Ltd. (CAL), bringing their combined holdings to 99.9% from the 30.0% purchased in May 1979. The cost of the purchase was $57.6 million. CAL's return to profitability in 1979 was attributable to the success of Mitsubishi's Galant model, which has been the best-selling 4-cylinder car in Australia since the beginning of 1979. With Mitsubishi's acquisition of CAL, three of the five principal automobile manufacturers in Australia are Japanese. (07259, J00599)

Nissan

- Nissan's projections for the current year include a 13% increase in sales revenues and a 16% increase in export unit sales. Nissan expects to make capital outlays of $644 million, including $180 million for rationalization plans and $200 million for new product development activities. (07696)

Toyo Kogyo

- Toyo Kogyo is expecting to have sales of $4.6 billion for the annual period ending 31 October 1980. The company is expecting export sales for the year to increase 21% over last year, largely because of the anticipated market strength of its front-wheel-drive Familia model line. (07737, 07799, 07810, 07875)

Toyota

- Toyota's record earnings this year were attributable to sharp increases in exports and foreign exchange gains. The company expects to maintain revenues slightly above this year's level through next year, although earnings are expected to be off 10% to 15%. Intense competition in Toyota's domestic and export markets, increasing pressure from its trading partners to restrain exports, and increased prices of raw materials are all contributing to the company's financial prospects. (08648)

- Toyota's capital outlays for new technology and new models will total ¥240 billion (US$1.071 billion) for the current financial year, 60% more than last year. The company will be concentrating on its switchover to front-wheel-drive cars, developing more fuel efficient vehicles, and retooling its plants for new vehicles. It will also be continuing its long-standing policy of maintaining strong cash reserves and a low debt burden. Toyota has been using its surplus funds to acquire additional stock in its affiliated companies. (08334, 08392, 08548)

2.6 RESEARCH, DEVELOPMENT, AND ENGINEERING

U.S. Manufacturers

Chrysler

- Chrysler's Electronics Division is very active in developing electronic engine controls for the company's new family of front-wheel-drive vehicles. The division will be producing 500,000 electronic fuel control systems for its front-wheel-drive K-cars this year. It will also be doing some small-scale (25,000 unit) manufacturing of a new throttle-body fuel injection system for the 5.2 liter V-8 that will be used on the company's downsized 1981 Imperial line. The Imperial injection system makes use of a vortex airflow meter that measures, without any moving parts, the volume of fresh air entering the engine. This airflow meter will eliminate the need for manifold pressure sensors. (08231)

Ford

- Ford's introduction of the PROCO program has been delayed from 1984 to 1985 or possibly 1986. This delay is the result of the company's decision to eliminate its 302 cid (5.0 liter) V-8 PROCO engine to concentrate on V-6 and 4-cylinder versions. Ford's earlier cancellation of a contract with Cummins Engine Company to develop a large-sized V-8 diesel was the result of an increasingly positive prognosis of the PROCO 302 cid V-8 program. Ford has turned to Klockner-Humboldt-Deutz of Cologne to design a 4-cylinder diesel; it is also attempting to work out an agreement with Toyo Kogyo of Japan for importing Toyo Kogyo's 4-cylinder diesels. (05549; 05568; 06719; 06720; Ward's Engine Update, 4-15-80)

- The totally new CVH (compound valve hemi) engine for the new Ford subcompact Escort/Lynx has an advanced type of hemispherical combination chamber that is reported to give a power advantage of 15% over the Honda CVCC prechamber design and a 10% power advantage over wedgehead designs. In addition, its torque is said to be 17% and 2½% better, respectively, than these other designs. Work on the new engine began in 1974; $1.1 billion was required to bring it to production. (07462, 07513, 07657)

BMW

- Like General Motors, BMW is working on improving fuel economy through the use of valve selectors on its engines. Its 320i line posted a 30% fuel economy gain because use of a three-way exhaust catalyst with Lambda feedback control permitted a switch to a smaller displacement engine. Its new Eta engine, scheduled for European introduction in 1982, will have a new higher compression chamber and lower rpm than traditional European engines in order to provide improved fuel economy. (05525, 05566, 05787, 05890, 05960)

PSA Peugeot-Citroen

- PSA Peugeot-Citroen and Thomson-CSF, one of France's chief electronics producers, have announced the creation of a new, jointly owned company to do their vehicle electronics research. PSA's Citroen subsidiary has had a long relationship with Thomson, using the supplier's components for the electronic ignition on its Visa model. But PSA does not want to leave future electronics research solely to its suppliers because of the fundamental importance of this research to new vehicle and component development. PSA will have a controlling interest in the new company. About 18 months ago Renault concluded a similar arrangement with Bendix. The Renault-Bendix deal, however, included a production agreement (a factory built near Toulouse is already producing units) while the PSA-Thomson company will be dedicated to research only. (07596, F00403)

Renault

- By the end of MY 1980 Renault expects to have ready an experimental version of its R-18 model that will feature aerodynamic improvement, an electronically controlled transmission, maximum usage of lightweight materials, and special tires to reduce rolling resistance. (05528)

Saab-Scania

- For its 1982 models Saab will have ready a new automatic performance control (APC) engine that will be electronically regulated to enable it

to operate efficiently on fuel of any octane. The new APC feature will increase fuel efficiency on Saab's turbocharged engines by 8%. (08697)

VW-Audi/VWOA

- Volkswagen's short-term plans to improve fuel economy include reducing vehicle weight by reducing engine size, modifying axle and fuel tank systems, substituting aluminum and plastic for more conventional materials, and improving vehicle aerodynamics. Engine research concentrates on increasing compression ratios in the company's spark-ignition engines, improving its diesel system, and the better matching of engines to transmissions. (Harbridge House Research)

Japanese Manufacturers

- At present, Nissan Motor Company and Mitsubishi Motors are the only Japanese automakers installing microprocessors for electronically controlling a cluster of engine functions. Nissan recently introduced its first model equipped with microprocessors (the 2,800 cc displacement Cedric). The engine central control system (ECCS) installed in the Cedric models was manufactured by Hitachi, Ltd., which will also be supplying GM with electronic componentry. The Hitachi system can control fuel injection, ignition timing, and exhaust gas recirculation as well as program the optimum interrelationship among them. The ECCS is said to increase fuel efficiency 10% over conventional engine controls.

  Mitsubishi Motors began using microprocessor-controlled fuel injection on its Galant models in May. Toyota is also expected to go to a microprocessor-controlled engine system, using hardware from Toshiba Corporation (which will also be supplying Ford Motor Company), but no announcement has been made yet. (J00626)

Honda

- Honda recently developed its own fully automatic transmission that will replace its semi-automatic "Hondamatic" transmission on cars exported from Japan. The new transmission, with overdrive, is to be

used primarily on Accord models. Some 30% of Honda's MY 1980 imports to the United States were expected to be equipped with the new transmission. (J00548)

Mitsubishi

- Mitsubishi Motors has embarked on joint research efforts with the petrochemical firms within the Mitsubishi Industrial Group to find a means for reducing the weight of automobiles. The automaker intends to promote technology exchange from Asahi Glass Company and Mitsubishi Chemical Industries in particular. (J00132)

Nissan

- Nissan cars sold in the United States in the 1980 model year average 30 mpg, an increase of 4.5 mpg over the 1979 model year CAFE. The increase in fuel efficiency comes after four years when Nissan's average has stayed in the range of 25 to 26 mpg. The recent jump in fuel efficiency is attributable to strong consumer demand for the company's most fuel-efficient vehicles and to the installation of the fuel-efficient Z-engine in Nissan's larger models. (The Z-engines have been delivering a 25% improvement in fuel economy over the engines they have replaced.)

  The key design element of the Z-engine is a cast aluminum cross-flow cylinder head with a hemispherical combustion chamber. This design promotes more rapid combustion, resulting in improved fuel economy and engine stability as well as increased power output. Increased oxides of nitrogen resulting from the rapid combustion from the hemihead design are taken care of by increased exhaust gas recirculation. (J00635, 04445)

- Nissan is developing a computerized automatic transmission that will help increase fuel economy. The new transmission will be used in conjunction with Nissan's current integrated engine control system in the company's MY 1981 Cedric and Gloria models. (J00570)

Nissan and Toyota

- Both Nissan and Toyota have acquired computerized automobile design (CAD) and computerized automobile manufacturing (CAM) systems based on an IBM 3033 computer. The Japanese manufacturers feel that they are three to four years behind their U.S. counterparts in the area of computer-assisted design and production planning. (J00020)

Toyota

- In 1981 more stringent EPA nitrogen oxides and carbon monoxide emissions standards will make electronically controlled emissions systems virtual necessities on most cars. In order for these emissions systems to work properly, the air/fuel mixture must be held at an optimum ratio of 14:1. Most ordinary carburetors cannot do this, but Toyota has developed a controlled-loop secondary-air (CSA) system that will permit the use of conventional carburetors on vehicles equipped with three-way catalysts. Before seeking U.S. certification for the CSA, however, Toyota is planning to increase emissions margins even further to cover possible variations caused by less than optimum calibration of the system's carburetor, oxygen sensor, and air-control valve. (07444)

2.7 GOVERNMENT RELATIONS

U.S. Manufacturers

- The current slump in the U.S. automobile industry has led to a dramatic increase in the number of U.S. autoworkers eligible for Trade Adjustment Assistance Program benefits. From November 1979 through August 1980, 156,700 Ford; 116,300 GM; and 39,500 Chrysler workers have been certified for payments that supplement their unemployment insurance up to $269 a week or 70% of their previous weekly gross pay. The cost of this aid is expected to be well over $1 billion, despite a fiscal 1980 budget of $381 million.

  Representatives from the parts supplier industry have begun petitioning for benefits. The Trade Expansion Act (1962) on which the Trade Adjustment Assistance Program is based stipulates that in order for a worker to be eligible, that worker must produce an item that is displaced from the domestic market by a comparable imported product. This has been interpreted to mean that imported cars per se replace domestically produced motor vehicles only. Representatives of the independent suppliers, however, argue that the Big Three autoworkers in components and support facilities receive benefits. A congressional amendment to include independent supplier workers under the provisions of the Act could add about $1 billion more to the program for fiscal 1981. (08645)

- In line with President Carter's announced policy of postponing certain pollution standards requirements on motor vehicles in order to ease financial demands on the automobile industry during its present slump, the Environmental Protection Agency has postponed from the 1983 model year to the 1984 model year hydrocarbon and carbon monoxide emissions standards for light-duty trucks and the evaporative hydrocarbon standard for heavy-duty vehicles. Earlier, the agency changed its high-altitude emissions standards for 1984 and eliminated 1982 model year standards that would have required vehicles to meet exhaust standards at all possible idle-speed settings.

The EPA decisions will enable U.S. automakers to defer capital spending of approximately $1 billion beyond the critical 1981-1982 period when they will be carrying their heaviest financial burden. (08597, 08622)

- General Motors has been accused by the Federal Trade Commission (FTC) of concealing three major engineering defects (involving transmissions, camshafts, and diesel engine pumps) in approximately four million 1975-1980 vehicles. The FTC contends that GM failed to disclose material information to both owners and prospective buyers.

  This is the third major action taken so far this year by the FTC against an American automaker. In February the FTC announced a consent degree whereby Ford Motor Company agreed to repair engines, transmissions, or other mechanical parts that had been taken care of for some consumers under so-called secret warranties. In April Chrysler agreed to make repairs on or reimbursements for extensive fender rust problems on its Aspen/Volare models. (08262, 08321, 08506)

Ford

- Ford is working very hard to stave off a recall that could involve 16 million vehicles produced by the company between 1972 and 1979. At issue are the automatic transmissions installed in these vehicles, transmissions that are alleged to shift on their own from "park" to "reverse."

  According to preliminary findings by the National Highway Traffic Safety Administration (NHTSA), the defect in the transmissions has led to 6,000 accidents in which 98 people have been killed and 1,710 injured. Ford is particularly eager to avoid the recall because of the anticipated hundreds of millions of dollars it would cost the company in a year when it is expected to roll up a loss of more than $1.5 billion. The effect of the possible transmission recall is magnified by the recent consumer relations disaster with the Ford Pinto and charges of reckless homicide made against Ford because of fatal fires resulting when the Pinto was involved in rear-end collisions. (08360, 08357, 08453)

General Motors

- GM plans to meet MY 1982 passive restraint requirements largely through the use of passive belts. Air bags will be used in cars with three-passenger front seats. Ford may eliminate all three-passenger front seat arrangements in order to avoid using air bags. Ford and GM, however, will both offer air bags as an option beginning in MY 1981. Chrysler will offer only passive belts. It petitioned NHTSA in December 1979 for a four-month waiver of the MY 1982 passive restraint standards on its full-sized cars because of the prohibitive costs of installing passive belts or air bags on models due to be phased out in December 1981. (05386, 05462, 05544)

- In its largest-ever recall to correct a pollution problem, General Motors will voluntarily recall more than one million 1977 and 1978 model year vehicles with 232 cubic inch V-6 engines in order to fix malfunctioning exhaust gas recirculation valves that are causing excessive NOx emissions. (08470)

Japanese Manufacturers

- A recent ruling by the U.S. Customs Service raised the duty on imported trucks from 4% to 25%, effective 21 August 1980. The Customs Service concluded that because imported pickup trucks lacked an installed cargo box upon entry, this did not qualify them as unfinished vehicles carrying the lower duty. The sixfold increase in duty has pleased the UAW and other groups supporting protectionist measures for the automobile industry.

  The change in tariff will, of course, have its primary impact on the Japanese manufacturers. Ford now imports its Courier pickup from Toyo Kogyo, but intends to produce its own pickup in the United States by 1982. GM, which now imports Isuzu's Luv pickup, has domestic production of a small pickup planned for 1981. Chrysler has been reported to be negotiating with Mitsubishi to build a small pickup in the United States on a joint venture basis. Nissan already has

announced plans to build a light truck assembly plant in the United States within three years. Toyota, the largest importer of trucks into the United States, is likely to be affected most. It is in the process of completing a $24 million expansion of its California assembly facility to complete partially built imported trucks. Toyota has begun importing only finished light trucks to the U.S. market and has cut output at its Long Beach, California, facility 50%. Medium- and heavy-duty trucks are not affected by this order, but the Japanese have no trucks in these size classes in the United States.

Toyota Motor Sales U.S.A. and Nissan Motor Corporation U.S.A. have stated that they intend to pursue formal challenges to the Customs Service's ruling. Company-initiated legal challenges are in the form of a complaint to the U.S. Treasury Department and a lawsuit filed in the U.S. Court of Customs. The Japanese Government will file a formal protest before the international General Agreement on Tariffs and Trade (GATT) council in Geneva. The basis for the GATT complaint is that the General Agreement prohibits the reclassification of goods for the purpose of increasing duty.

Initially, the Japanese automakers anticipated that retail price increases attributable to the duty would run between $800 and $1,000 (13% to 15% of the current price) and, consequently, sales of imported vehicles were expected to be off 40%. However, even if the full price hike is passed on to the consumer, this will result only in increasing the prices of Japanese minitrucks to the level of Detroit's heavier, less fuel efficient pickups. And, of course, the Japanese automakers and importer organizations may choose to absorb some of the increase themselves. Whatever happens, there will still be substantial demand for these vehicles, even if the full price increase is passed on to the consumer. It is too early to assess the effect of the new duty on sales of imported trucks (September sales were off 7% from August but up 9% from September last year, and most light trucks sold in September probably came into the country under the old duty), but most analysts

believe that the strong light-truck market can withstand the higher prices on the Japanese products. (07518, 08351, 08602, 08368, 08641)

- As slumping car sales bring layoffs to autoworkers in France, West Germany, Italy, and Great Britain, pressure has been mounting in Western Europe for some sort of arrangement to limit Japanese motor vehicle imports. Japanese sales in Europe for the first seven months of 1980 were 25% above sales in the same period in 1979. Full-year sales of 957,000 units in 1979 ran 28% over 1978 levels. One West German marketing analysis firm has predicted that the Japanese could take 14% of the total European market by 1984.

  Despite the increased Japanese market penetration and the small, but worrisome, Japanese manufacturing presence in Spain, European automakers and governments are both reluctant to advocate or implement restrictive import policies that would touch off a round of protectionist measures and undermine the "reciprocation of trading opportunity" underlying the General Agreement on Tariffs and Trade. The Europeans would like to see some sort of voluntary orderly marketing agreement, perhaps similar to what has existed between Japan and Great Britain over the past several years. Tariffs alone do not appear to be a sufficient deterrent to Japanese success. The Common Market countries already assess an 11% tax on the landed value of Japanese imports, but sales of the fuel-efficient and reliable Japanese vehicles have continued strong. (Japan does not have any import tax on automobiles but homologation costs and other nontariff barriers in that country are high. For example, a VW Rabbit imported to Japan ends up costing 120% more than a comparable Toyota Corolla.) The devaluation of the Japanese yen has also given the Japanese automakers a boost, especially in countries like West Germany where currencies have remained strong. (08057; 08133; New York Times, 8-8-80)

- A brief summary of the Japanese presence in four key European markets follows:

- France. In May the Japanese automakers took a 3.6% share of the new car market in France, going above the 3% market share limit set by the French Government about three years ago. Only recently has France begun to feel the effects of the auto sales slump. The comparatively low priced Japanese cars, however, have been immune to the sales decline. Further increases in market share by the Japanese are likely to bring government intervention of some kind. (08052)

- West Germany. Japan's automobile exports to West Germany, Europe's largest car market, are key to its future auto export relationship with the EEC countries. Japan has been taking an ever-growing share of West Germany's auto market (250,000 to 300,000 vehicles monthly), topping 10% at midyear. Meanwhile, the market share held by the German automakers has stayed virtually unchanged at around 75%. Consequently, the Japanese success has come at the expense of the French and Italian automakers, both of whom are protected from the Japanese in their home markets but increasingly aggravated by the strong Japanese presence in West Germany.

  The West German Government, believing that restrictive measures might jeopardize some of Germany's exporting (in 1979 some 26% of the country's gross national product was exported), does not want to officially limit Japanese auto imports. Yet pressure from its EEC partners and from trade unions within the country have led the West German Government to seek voluntary restrictions from the Japanese. Japan's Ministry of International Trade and Industry (MITI) recently announced that MITI would monitor auto exports to West Germany in order to help defuse the growing criticism from Europe. (08087, 08221)

- United Kingdom. Since 1975 an informal agreement has been in effect between the Japanese automakers and the British Government to limit the Japanese share of the British market to 10% to 11% annually. However, the Japanese share rose to 13.8% in June of

this year, climbed to 18.0% in July, and in August reached 19.7%. It has seemed apparent that this share is likely to stay well above 11.0% without any curbs. A recent agreement between the U.K.'s Society of Motor Manufacturers and Traders and the Japanese Automobile Manufacturers Association has reaffirmed the 1975 agreement through 1981. The Japanese contend that they will bring their full-year market penetration to 11.0% with reduced sales through the last four months of the year. The Japanese manufacturers hope that this voluntary agreement, in addition to a pledge not to export heavy commercial vehicles to Britain, will help lessen the mounting criticism regarding Japanese exports to that country, Japan's third largest auto export market. (08133, 08186, 08189, 08349, 08647)

Bedford, GM's European commercial vehicle unit, has begun importing one-ton Isuzu (34% owned by GM) pickup trucks into England. The vehicles are also for sale in Denmark, Sweden, Finland, and Portugal. The Bedford move is viewed by some European manufacturers as another example of Japanese entry into Europe through the "back door." Nissan has entered Europe by establishing a stake in Motor Iberica and through a tie-up with Alfa Romeo; Honda has undertaken a joint venture with BL. (08133, 08151)

- Spain. Just six months after acquiring a 36% interest in Spain's Motor Iberica, Nissan announced a $35 million investment to begin the production of jeeps and vans in Spain. Initial production plans are for 15,000 to 20,000 jeeps and 25,000 vans annually, with about half of each slated for export to Europe, Africa, and the Middle East. The Japanese company has also indicated that car production is planned. The Japanese activity in Spain is likely to grow now that Fiat has pulled back from its scheduled increased shareholding in SEAT, triggering visits by SEAT officials to Toyota and Nissan in their search for a new partner. (08057, 08181)

- In mid-November the International Trade Commission (ITC) will rule on whether or not imported automobiles are a substantial cause of injury to the domestic automobile industry. Ford Motor Company and the UAW have both requested tariff and/or quota protection from the Japanese imports while the domestic industry completes its $80 billion conversion to a more fuel efficient product line.

  In general, the Japanese manufacturers have refused to limit their exports to the United States pending the ITC's decision. Their reasoning has been that a voluntary cutback now would be tantamount to an admission of responsibility for the current plight of the U.S. domestic auto industry. (08705)

2.8 LABOR

U.S. Manufacturers

- Layoffs in the U.S. automobile industry peaked at 250,050 at the end of July 1980, then began dropping as the 1981 models went into production. Indefinite layoffs in mid-October fell below 200,000 for the first time in six months. The breakdown among companies was GM 102,000; Ford 54,400; Chrysler 33,600; and AMC 2,750. Temporary layoffs are still common at Ford and Chrysler in order to help reduce large inventories of certain car and truck lines. (08722)

AMC

- In late September 1980, American Motors and the UAW came to agreement on a new three-year contract after a two-day walkout by hourly workers at AMC's Kenosha plant. The contract grants concessions from the General Motors-Ford 1979 contract pattern, but it puts AMC's wages and benefits package nearly even with the GM-Ford package after three years. The UAW also won conditional approval to put one of its members on the AMC Board of Directors. Union representation on the AMC Board may run into a legal challenge from the U.S. Justice Department because a UAW member already sits on Chrysler's Board of Directors. The legal issue needs to be addressed because similar requests for board representation will likely surface when the UAW negotiates again with Ford and General Motors in 1982. (08631, 08639)

Chrysler

- Chrysler has dismissed 6,900 white-collar workers, 19% of the company's nonproduction employees, resulting in an annual cost savings of $200 million. In September 1979 it laid off 8,500 salaried workers. The company already has 42,804 factory workers on indefinite layoffs. In making the announcement the company stated that none of the cuts would affect the introduction of its 1981 models. (07148)

- Chrysler and the UAW have entered into an agreement to try to improve quality control for the launch of Chrysler's crucial K-car. The agreement calls for unprecedented union-management involvement in

quality control to identify and correct any quality improvement programs. The agreement will first be implemented at the two K-car factories and will be started later at other Chrysler plants. (07858, 07866, 07916)

Ford

- The recession in the European motor industry led to a 40% to 50% reduction in sales of Ford-Werke's larger models in the first six months of 1980, leading the West German subsidiary of Ford Motor Company to cut its work force by 6,000 people. These cuts will cost the company up to $76 million in early retirement and other forms of termination payments. Until now the company has relied on short-time work because of the expense of firing workers in Germany (Ford's costs will be $12,620 per worker) and the country's traditionally tight labor market and low labor mobility, which will make it extremely difficult to find skilled workers when the economy improves. France is also experiencing a sales downturn, causing Ford to introduce short-time measures at its Bordeaux transmission plant. (08116, 08261, 083011)

General Motors

- GM has announced that it will be laying off 18,000 white-collar workers, 10% of its salaried work force. The resulting estimated savings in wages and benefits payments will be $540 million annually. The cuts come on top of 2,100 white-collar layoffs announced previously. The 10% reduction will be worldwide, but will vary from division to division. (07189)

- General Motors has laid off 5,000 workers from its 65,000-person German work force because Opel sales for the first four months of 1980 ran 19% behind the same period the previous year. Most of the sales decline was with the unit's larger cars.

  The works councils at the Opel plant at Russelsheim fear that corporate decisions to build an engine plant in Austria and a small-car plant in Spain will lead to even more layoffs in Germany. Already

certain is the loss of 3,500 jobs next summer when 50% of the manufacturing complex's engine, axle, and transmission output is slated to be replaced by components manufactured at other plants.

Labor relations at Opel have been tense because the works councils do not see GM as fully participating in Germany's codetermination philosophy. GM argues that Opel is an important strategic link in its worldwide manufacturing and marketing plan and that it will be injecting $3.4 billion in the subsidiary during the period 1976-1982, but that change has to come as GM rationalizes production and improves its product line. (07861)

European Manufacturers

BL

- In January 1980 BL won a vote of confidence from its workers for a rationalization plan that would trim the company's payroll by 25,000 and lead to at least partial closings of 13 plants. The next month a stockpile of 80,000 unsold cars led to the layoff of 13,000 of BL's 117,000 workers and another 6,500 being put on shortened shifts. Labor leaders at BL are now fearful that layoffs will exceed the 25,000 originally anticipated. (05586, 06497, 07082, 07136, 07143)

Fiat

- Fiat's management has attributed 1979 losses of $117 million in the company's car operations and $9.8 million in its heavy commercial vehicle unit to production losses resulting from work stoppages and diminished competitiveness in Fiat's world markets. The company contends that strikes cost it 200,000 units of output last year. Fiat's Chief Executive Umberto Agnelli has called for devaluation of the Italian lira to bring the cost of Italian products more in line with the competition. Italy's 20% inflation rate and poor auto productivity (estimated at 35% to 45% below that in West German auto plants) are the major contributing factors to Fiat's recent poor sales performance. (07685, 07835, 07962)

- The fall of 1980 has been a period of extreme labor dissatisfaction at Fiat. The company wants to cut production 20% through the current sales decline, expected to last through the end of 1981. Consequently, it wants to cut its 140,000-member work force by 24,000 workers – half of this number being permanent cuts, the other half expected to be called back at the end of 1981. Union opposition to the plan has been strong, even with extended government unemployment benefits provided to the laid-off workers. However, Fiat's management is determined to cut production and streamline the work force so that the company's key new model development program for the 1980s is not jeopardized. (08554, 08581)

3. BASELINE DATA

These data provide a contextual foundation in which the corporate changes discussed elsewhere can be evaluated. The data are broadly aggregated into financial, production, and registration categories for the major world motor vehicle producers and markets.

3.1 FINANCIAL DATA

Tables 3-1 through 3-5 present financial highlights of the world motor vehicle producers. It is important to note that differences in accounting methods among countries do not always allow direct comparisons to be made.

TABLE 3-1
U.S. MANUFACTURERS

	1979	1978	1977	1976	1975
Revenues ($ millions)					
American Motors[1]	3,117	2,585	2,237	2,315	2,282
Chrysler	12,002	13,618	13,059	12,240	8,572
Ford	43,514	42,784	37,842	28,840	24,009
General Motors	66,311	63,221	54,961	47,181	35,725
International Harvester[2]	8,392	6,664	5,975	5,488	5,246
Net Income ($ millions)					
American Motors	84	37	8	(46)	(28)
Chrysler	(1,097)	(205)	163	423	(260)
Ford	1,169	1,159	1,673	983	323
General Motors	2,893	3,508	3,338	2,903	1,253
International Harvester	365	182	198	168	78
Return on Sales (%)					
American Motors	2.7	1.4	0.4	None	None
Chrysler	None	None	1.2	3.4	None
Ford	2.7	2.7	4.4	3.4	1.3
General Motors	4.4	5.5	6.1	6.2	3.5
International Harvester	4.3	2.7	3.3	3.1	1.5
Return on Average Total Stockholders' Equity (%)					
American Motors	21.0	10.9	2.5	None	None
Chrysler	None	None	5.6	16.1	None
Ford	11.4	12.6	21.1	14.2	5.0
General Motors	15.7	21.0	22.1	21.1	9.8
International Harvester	17.9	10.1	12.0	11.2	5.6

Notes: (1) For the fiscal year ending 30 September.
(2) For the fiscal year ending 31 October.

Source: Company annual reports.

TABLE 3-2
JAPANESE MANUFACTURERS[1]

	1980	1979	1978	1977	1976
Revenues (¥ billions)					
Honda[2]	1,307.7	1,035.7	985.1	828.5	564.0
Mitsubishi[3]	903.0	874.5	741.0	590.4	446.6
Nissan[3]	NA	2,738.9	2,306.7	2,246.4	2,024.6
Toyo Kogyo[4]	NA	835.2	686.3	628.3	588.2
Toyota (Motor Co.)[5]	NA	2,802.5	2,617.4	2,288.1	1,995.7
Net Income (¥ billions)					
Honda	27.8	14.1	27.5	26.2	NA
Mitsubishi	14.1	15.7	10.4	NA	NA
Nissan	NA	87.4	65.5	80.7	85.3
Toyo Kogyo	NA	7.3	2.6	1.1	1.0
Toyota	NA	102.0	116.3	116.8	99.6
Return on Sales (%)					
Honda	2.1	1.4	2.8	3.2	NA
Mitsubishi	1.6	1.8	1.4	NA	NA
Nissan	NA	3.2	2.8	3.5	4.2
Toyo Kogyo	NA	0.9	0.4	0.2	0.2
Toyota	NA	3.6	4.4	5.1	5.0
Return on Average Total Stockholders' Equity (%)					
Honda	13.5	7.7	17.4	21.5	NA
Mitsubishi	18.4	24.4	NA	NA	NA
Nissan	NA	13.4	11.5	16.5	21.2
Toyo Kogyo	NA	8.1	3.0	1.3	NA
Toyota	NA	12.9	16.6	20.1	22.0

Notes: (1) Fuji Heavy Industries not included because its motor vehicle operations data are not available separately.
(2) For the fiscal year ending 28(29) February.
(3) For the fiscal year ending 31 March.
(4) For the fiscal year ending 31 October.
(5) For the fiscal year ending 30 June.

Source: Company annual reports.

TABLE 3-3
EUROPEAN MANUFACTURERS

Revenues, excluding VAT	1979	1978	1977	1976	1975
BL (£ millions)	2,990	3,073	2,602	2,892	1,868
BMW (DM millions)	7,407	6,557	5,530	4,756	3,581
Daimler-Benz	27,367	24,236	23,496	21,303	19,051
Volkswagen-Audi	30,707	26,724	24,152	21,423	18,857
Fiat Group (L billions)	15,056	13,135	11,449	9,270	NA
PSA Peugeot-Citroen (F millions)	72,813(1)	47,810	41,885	35,066	16,359
Renault	42,185	34,201	28,696	25,779	18,264
Saab-Scania (SKr millions)	13,426	11,642	10,796	9,613	7,900
Volvo	23,472	19,133	16,168	15,743	13,692

Net Income, excluding VAT	1979	1978	1977	1976	1975
BL (£ millions)	(144)	(38)	(52)	44	(124)
BMW (DM millions)	108	86	69	126	74
Daimler-Benz	638	593	588	413	309
Volkswagen-Audi	667	574	419	1,004(2)	(157)
Fiat Group (L millions)	39,353	74,629	63,031	66,456	NA
PSA Peugeot-Citroen (F millions)	1,116	1,382	1,251	1,428	282
Renault	470	159	12	611	(551)
Saab-Scania (SKr millions)	233	198	182	109	126
Volvo	416	312	198	63	8

Return on Sales (%)	1979	1978	1977	1976	1975
BL	None	None	None	1.5	None
BMW	1.4	1.3	1.2	2.6	2.1
Daimler-Benz	2.3	2.4	2.5	1.9	1.6
Volkswagen-Audi	2.2	2.1	1.7	4.7	None
Fiat Group	0.3	0.6	0.6	0.7	NA
PSA Peugeot-Citroen	1.5	2.9	3.0	4.1	1.7
Renault	1.1	0.5	0.1	2.4	None
Saab-Scania	1.7	1.7	1.7	1.1	1.6
Volvo	1.8	1.6	1.2	0.4	0.1

Return on Average Total Stockholders' Equity (%)	1979	1978	1977	1976	1975
BL	None	None	None	17.1	None
BMW	10.1	9.4	9.1	18.9	12.1
Daimler-Benz	14.2	14.4	18.6	18.1	14.4
Volkswagen-Audi	11.3	11.6	10.1	28.2	None
Fiat Group	1.6	NA	NA	NA	NA
PSA Peugeot-Citroen	8.8	14.5	19.4	31.3	NA
Renault	7.7	3.4	0.4	21.8	None
Saab-Scania	14.4	14.7	14.9	9.7	12.5
Volvo	15.9	13.9	9.8	3.4	0.5

Notes: (1) Includes Talbot.
(2) Not comparable with other years because of loss brought forward.

Source: Company annual reports.

TABLE 3-4
MARKET REVENUE SOURCES (%)

	1979		1978		1977		1976		1975	
	Foreign	Domestic	Foreign	Domestic	Foreign	Domestic	Foreign	Domestic	Foreign	Domestic
U.S. Manufacturers										
American Motors	7.0	93.0	7.0	93.0	7.0	93.0	7.0	93.0	7.0 est.	93.0 est.
Chrysler	12.4	87.6	10.3	89.7	8.5	91.5	28.0	72.0	35.0	65.0
Ford	44.0	56.0	35.0	65.0	34.0	66.0	37.0	63.0	40.0	60.0
General Motors	17.0	83.0	15.4	84.6	13.5	86.5	15.7	84.3	19.1	80.9
International Harvester	27.3	72.7	27.4	72.6	27.8	72.2	29.5	70.5	30.3	69.7
European Manufacturers										
BL	41.2	58.8	44.2	55.8	49.3	50.7	54.5	45.5	50.8	49.2
BMW*	48.0	52.0	47.6	52.4	47.0	53.0	47.3	52.7	40.7	59.3
Daimler-Benz	52.7	47.3	52.4	47.6	56.0	44.0	56.8	43.2	57.5	42.5
Volkswagen-Audi	59.3	40.7	58.0	42.0	59.8	40.2	62.3	37.7	65.3	34.7
Fiat Group	←				Not Reported					→
PSA Peugeot-Citroen	55.3	44.7	49.5	50.5	49.3	50.7	46.4	53.6	46.0	54.0
Renault	41.4	58.6	39.8	60.2	39.4	60.6	36.8	63.2	NA	NA
Saab-Scania	53.0	47.0	49.0	51.0	45.0	55.0	44.0	56.0	42.0	58.0
Volvo	75.6	24.4	74.5	25.5	70 .8	29.2	68.2	31.8	70.8	29.2

	1980		1979		1978		1977		1976	
	Foreign	Domestic	Foreign	Domestic	Foreign	Domestic	Foreign	Domestic	Foreign	Domestic
Japanese Manufacturers										
Honda	70.4	29.6	64.2	35.8	66.0	34.0	64.2	35.8	56.5	43.5
Mitsubishi	←				Not Reported					→
Nissan	NA	NA	45.2	54.8	40.6	59.4	47.9	52.1	← Not Reported	→
Toyo Kogyo	←				Not Reported					→
Toyota (Motor Co.)	NA	NA	42.2	57.8	51.3	48.7	48.8	51.2	43.1	56.9

*BMW AG, not BMW Group.

Source: Company annual reports.

TABLE 3-5
PRODUCT REVENUE SOURCES (%)

	1979			1978			1977			1976			1975		
	Cars	Commercial Vehicles	Other	Cars	Commercial Vehicles	Other	Cars	Commercial Vehicles	Other	Cars	Commercial Vehicles	Other	Cars	Commercial Vehicles	Other
U.S. Manufacturers															
American Motors	← 97.0 →		3.0	← 97.0 →		3.0	← 97.0 →		3.0	← 97.0 →		3.0	← 98.0 →		2.0
Chrysler	← 94.1 →		5.9	← 94.9 →		5.1	← 95.2 →		4.8	← 96.3 →		3.7	← 96.5 →		3.5
Ford	← 92.0 →		8.0	← 94.0 →		6.0	← 93.0 →		7.0	← 92.0 →		8.0	← 90.0 →		10.0
General Motors	← 90.0 →		10.0	← 96.0 →		4.0	← 95.0 →		5.0	← 97.0 →		3.0	← 90.0 →		10.0
International Harvester	0	47.3	52.7	0	48.2	51.8	0	45.2	54.8	0	42.1	57.9	0	38.1	61.9
European Manufacturers															
BL	69.0	21.0	10.0	71.0	18.0	11.0	← 93.0 →		7.0	← 94.0 →		6.0	← 94.3 →		5.7
BMW[1]	85.5	3.1	11.4	87.6	3.2	9.2	85.9	4.4	9.7	85.9	4.2	9.9	86.5	4.4	9.1
Daimler-Benz	44.9	51.1	4.0	45.7	50.0	4.3	46.3	49.6	4.1	42.8	51.1	6.1	41.3	50.8	7.9
Volkswagen-Audi	← Not Reported →														
Fiat Group	45.7	21.8	32.5	42.8	29.9	27.3	40.3	23.2	36.5	40.0	24.8	35.2	← Not Reported →		
PSA Peugeot-Citroen	← 94.1 →		5.9	← 89.5 →		10.5	← 88.9 →		11.1	← 85.0 →		15.0	← 85.6 →		14.4
Renault	70.4	4.0	25.6	69.2	4.6	26.2	69.8	6.1	24.1	70.0	7.2	22.8	NA	NA	NA
Saab-Scania[2]	28.4	43.8	27.8	28.0	40.1	31.9	26.2	36.4	37.4	25.7	35.0	39.3	29.4	33.8	36.8
Volvo	53.8	28.2	18.0	53.6	27.6	18.8	51.4	27.9	20.7	53.6	25.8	20.6	54.9	24.2	20.9

	1980			1979			1978			1977			1976		
	Cars	Commercial Vehicles	Other	Cars	Commercial Vehicles	Other	Cars	Commercial Vehicles	Other	Cars	Commercial Vehicles	Other	Cars	Commercial Vehicles	Other
Japanese Manufacturers															
Honda[1]	62.4	27.6	10.0	62.8	27.0	10.2	57.2	33.3	9.5	52.1	37.9	10.0	50.2	36.4	13.4
Mitsubishi	← Not Reported →														
Nissan	NA	NA	NA	71.7	17.4	10.9	69.6	19.2	11.2	68.9	20.8	10.3	67.1	22.7	10.2
Toyo Kogyo[3]	NA	NA	NA	← 90.6 →		9.4	← 90.9 →		9.1	← 91.9 →		8.1	← 93.0 →		7.0
Toyota (Motor Co.)	← Not Reported →														

Notes: (1) Cars and car parts; commercial vehicles are motorcycles and motorcycle parts.
(2) Car parts grouped with cars; truck parts grouped with trucks.
(3) Motor vehicle parts included with cars and trucks.

Source: Company annual reports.

3.2 PRODUCTION DATA

Tables 3-6 through 3-10 present key production data for the major world motor vehicle producers and markets.

TABLE 3-6
U.S. MANUFACTURERS DOMESTIC PRODUCTION

	1979			1978			1977			1976			1975		
	Cars	Commercial Vehicles	Total U.S. Production	Cars	Commercial Vehicles	Total U.S. Production	Cars	Commercial Vehicles	Total U.S. Production	Cars	Commercial Vehicles	Total U.S. Production	Cars	Commercial Vehicles	Total U.S. Production
U.S. Production															
American Motors	184,643	173,361	358,004	164,351	200,023	364,374	156,994	181,196	338,190	213,606	153,396	367,002	323,704	140,557	464,261
Chrysler	928,606	303,075	1,231,681	1,126,164	489,164	1,615,328	1,236,359	474,501	1,710,860	1,333,401	441,850	1,775,251	902,854	320,054	1,222,908
Ford	2,043,088	1,031,781	3,074,869	2,557,197	1,233,122	3,790,319	2,555,379	1,189,312	3,744,691	2,053,873	888,178	2,942,051	1,807,815	692,200	2,500,015
General Motors	5,094,276	1,352,514	6,446,790	5,285,700	1,591,050	6,876,750	5,262,052	1,443,019	6,705,071	4,891,593	1,342,132	6,233,725	3,674,649	955,436	4,630,085
International Harvester	--	117,367	117,367	--	123,123	123,123	--	113,699	113,699	--	114,855	114,855	--	102,073	102,073
Volkswagen of America	172,450	2,389	174,839	40,194	--	40,194	--	--	--	--	--	--	--	--	--
Exports from U.S. to Canada															
American Motors	23,657	NA	NA	15,425	NA	NA	10,700	NA	NA	18,553	NA	NA	24,606	NA	NA
Chrysler	124,782	24,560	149,342	148,620	24,807	173,427	173,846	29,439	203,285	186,764	29,551	216,315	166,531	34,980	201,511
Ford	157,435	64,304	221,739	157,485	54,791	212,276	168,313	53,142	221,455	123,607	46,693	170,300	138,225	47,923	186,148
General Motors	276,199	54,122	330,321	219,997	45,833	265,830	233,127	38,658	271,785	233,608	37,149	270,757	219,822	37,972	257,794
International Harvester	NA														
Total Exports from U.S. to Canada(2)	600,786	145,788	746,574	542,341	120,707	663,048	591,509	116,298	707,807	573,470	120,750	694,220	550,808	129,706	680,514
Total Exports from U.S. to Rest of World	192,011	109,359	301,370	164,106	127,455	291,561	105,696	85,613	191,309	106,831	79,570	186,401	89,493	94,043	183,536
Total Exports from U.S.	792,797	255,147	1,047,944	706,447	248,162	954,609	697,205	201,911	899,116	680,458	200,320	880,778	640,301	223,749	864,050

	1979			1978			1977			1976			1975		
	Cars	Commercial Vehicles	Total Canadian Production	Cars	Commercial Vehicles	Total Canadian Production	Cars	Commercial Vehicles	Total Canadian Production	Cars	Commercial Vehicles	Total Canadian Production	Cars	Commercial Vehicles	Total Canadian Production
Canadian Production															
American Motors	--	51,925	51,925	26,286	17,881	44,167	41,717	--	41,717	43,191	--	43,191	48,373	--	48,373
Chrysler	134,086	60,866	194,952	160,085	95,415	255,500	245,332	84,272	329,604	245,332	84,272	329,604	261,265	24,714	285,979
Ford	286,416	214,423	500,839	377,172	252,313	629,485	376,785	212,510	589,295	371,305	162,848	534,153	324,783	153,763	478,546
General Motors	588,405	288,788	847,193	571,683	283,142	854,825	522,291	256,160	778,451	476,949	235,687	712,636	406,059	188,665	594,724
International Harvester	--	20,153	20,153	--	19,325	19,325	--	19,862	19,862	--	13,507	13,507	--	14,825	14,825
Volvo	8,766	--	8,766	8,199	--	8,199	6,826	--	6,826	9,487	--	9,487	13,337	--	13,337
Exports from Canada to U.S.															
American Motors	--	NA	NA	21,880	NA	NA	34,362	NA	NA	32,266	NA	NA	37,253	NA	NA
Chrysler	105,201	32,389	137,590	138,230	59,719	197,949	190,963	84,924	275,887	215,020	63,088	278,108	225,545	17,911	243,456
Ford	203,080	120,069	323,149	278,163	154,673	432,836	296,118	119,501	415,619	280,856	83,185	364,041	234,084	79,314	313,398
General Motors	274,105	131,382	405,487	326,562	151,785	478,347	310,551	123,706	434,257	280,646	110,286	390,932	216,525	72,494	289,019
International Harvester	NA														

Notes: (1) Volkswagen of America added in United States and Volvo added in Canada.
(2) Includes exports of major companies listed above as well as exports of smaller manufacturers.

Sources: Ward's Automotive Reports; Ward's Automotive Yearbook; and Motor Vehicle Manufacturers Association.

TABLE 3-7
EUROPEAN MANUFACTURERS DOMESTIC PRODUCTION

European Production	1979 Cars	1979 Commercial Vehicles	1979 Total Domestic Production	1978 Cars	1978 Commercial Vehicles	1978 Total Domestic Production	1977 Cars	1977 Commercial Vehicles	1977 Total Domestic Production	1976 Cars	1976 Commercial Vehicles	1976 Total Domestic Production	1975 Cars	1975 Commercial Vehicles	1975 Total Domestic Production
BL	503,767	124,656	628,423	611,625	131,478	743,103	639,221	132,830	772,051	687,875	120,174	808,049	605,151	133,099	738,250
BMW	336,981	--	336,981	320,853	--	320,853	290,236	--	290,236	275,022	--	275,022	221,298	--	221,298
Daimler-Benz	422,159	188,772	610,931	393,203	173,101	566,304	401,255	187,298	588,553	370,348	193,204	563,552	350,098	180,005	530,103
Volkswagen-Audi[1],[2]	1,627,861	92,450	1,720,311	1,640,981	93,067	1,734,048	1,595,499	93,882	1,689,381	1,463,024	93,920	1,556,944	1,255,448	71,651	1,327,099
Fiat Group[1]	1,310,000	71,900	1,381,900	1,325,300	67,400	1,392,700	1,277,300	72,900	1,350,200	1,326,500	64,100	1,390,600	1,182,500	64,000	1,246,500
PSA Peugeot-Citroen[1],[3]	1,815,064	187,314	2,002,378	1,421,252	174,997	1,596,249	1,343,389	174,565	1,517,954	1,270,081	167,738	1,437,819	1,112,300	130,500	1,242,800
Renault-RVI[4]	1,403,949	186,865	1,590,814	1,240,941	180,091	1,421,032	1,259,038	195,026	1,454,064	1,218,358	211,559	1,429,917	1,112,293	130,519	1,242,812
Saab-Scania	60,600	14,900[est.]	75,500	50,300	12,800[est.]	63,100	49,400	12,950[est.]	62,350	61,800	12,500[est.]	74,300	58,900	12,800[est.]	71,700
Volvo	173,100	17,000	190,100	145,700	14,500	160,200	125,100	14,900	140,000	160,900	14,300	175,200	157,700	17,373	175,073

Exports	1979 Cars	1979 Commercial Vehicles	1979 Total Exports	1979 % of Domestic Production	1978 Cars	1978 Commercial Vehicles	1978 Total Exports	1978 % of Domestic Production	1977 Cars	1977 Commercial Vehicles	1977 Total Exports	1977 % of Domestic Production	1976 Cars	1976 Commercial Vehicles	1976 Total Exports	1976 % of Domestic Production	1975 Cars	1975 Commercial Vehicles	1975 Total Exports	1975 % of Domestic Production
BL	NA	NA	NA	NA	255,763	58,575	314,338	42.3	290,389	74,739	365,128	47.3	312,698	81,739	394,437	48.8	235,049	77,170	312,219	42.3
BMW	172,861	--	172,861	51.3	164,131	--	164,131	51.2	144,486	--	144,486	49.8	132,218	--	132,218	48.1	102,270	--	102,270	46.2
Daimler-Benz	183,000	97,000	280,000	45.8	174,981	88,817	263,798	46.6	186,590	106,458	293,048	49.8	171,932	121,309	293,241	52.0	160,685	108,725	269,410	50.8
Volkswagen-Audi	768,742	55,655	824,397	47.9	791,423	55,996	847,419	48.9	819,007	57,975	876,982	51.9	780,585	57,531	838,116	53.8	690,123	45,718	735,841	55.4
Fiat Group	574,808	38,164	612,972	44.4	550,752	39,886	590,638	42.4	520,410	68,363	588,773	43.6	596,048	48,847	644,895	46.4	550,574	49,169	599,743	48.1
PSA Peugeot-Citroen	NA	NA	NA	NA	NA	NA	843,100	52.8	NA	NA	760,300	50.1	NA	NA	670,000	46.6	NA	NA	617,000	49.6
Renault-RVI	733,844	54,441	788,285	49.6	628,717	49,054	677,771	47.7	636,144	45,745[est.]	681,889	46.9	NA	NA	NA	NA	NA	NA	NA	NA
Saab-Scania	30,474	NA	NA	NA	22,863	9,985	32,848	52.0	20,070	8,453	28,523	45.7	21,805	8,741	30,546	41.1	15,991	10,021	26,012	36.3
Volvo	117,300	NA	NA	NA	95,900	NA	NA	NA	69,400	NA	NA	NA	84,300	NA	NA	NA	NA	NA	NA	NA

Worldwide Production	1979 Total Production	1979 % Outside Home Country	1978 Total Production	1978 % Outside Home Country	1977 Total Production	1977 % Outside Home Country	1976 Total Production	1976 % Outside Home Country	1975 Total Production	1975 % Outside Home Country
BL	658,000	4.5	771,000	3.6	806,000	4.2	NA	NA	NA	NA
BMW	345,681	2.5	329,913	2.7	295,701	1.8	282,426	2.6	225,138	1.7
Daimler-Benz[5]	678,626	10.0	632,905	10.5	649,355	9.4	618,104	8.8	579,400	8.5
Volkswagen-Audi	2,541,800	32.3	2,384,600	27.3	2,218,900	23.9	2,165,600	28.1	1,948,900	31.9
Fiat Group[6]	2,398,900	42.4	2,321,300	40.0	2,289,700	41.0	2,210,500	37.1	1,987,200	37.3
PSA Peugeot-Citroen	2,310,400	13.3	1,691,800	5.6	1,612,800	5.9	1,513,600	5.0	1,352,300	8.1
Renault-RVI	1,945,114	18.2	1,767,346	19.6	1,793,221	18.9	1,724,448	17.1	1,427,287	12.9
Saab-Scania	108,600	30.5	93,800	32.7	98,150	36.5	116,700	36.3	110,400	35.0
Volvo	349,900	45.7	286,500	44.1	252,900	44.6	324,300	46.0	314,700	44.4

Notes:
(1) Includes CKD kits.
(2) In addition, Audi NSU produces approximately 20,000 units annually for Porsche.
(3) Includes Talbot in 1979.
(4) Berliet not part of Renault Group before 1976.
(5) All Daimler-Benz's production outside Germany is of commercial vehicles.
(6) Nearly 80% of Fiat's production outside Italy is under license.

Sources: Company annual reports; MVMA World Motor Vehicle Data Book; Society of Motor Manufacturers and Traders; Associazione Nazionale fra Industrie Automobilistiche; and Automotive News (various issues).

TABLE 3-8
JAPANESE MANUFACTURERS DOMESTIC PRODUCTION

Japanese Production	1979			1978			1977			1976			1975		
	Cars	Commercial Vehicles	Total Domestic Production*	Cars	Commercial Vehicles	Total Domestic Production*	Cars	Commercial Vehicles	Total Domestic Production*	Cars	Commercial Vehicles	Total Domestic Production*	Cars	Commercial Vehicles	Total Domestic Production*
Toyota	2,174,202	898,983	3,073,185	2,039,115	890,042	2,929,157	1,884,260	836,498	2,720,758	1,730,767	757,084	2,487,851	1,714,836	621,217	2,336,053
Nissan	1,874,912	637,195	2,512,107	1,733,132	659,466	2,392,598	1,615,866	662,185	2,278,051	1,610,319	693,384	2,303,703	1,532,731	544,716	2,077,447
Toyo Kogyo	683,101	350,980	1,034,081	493,111	357,044	850,155	498,691	301,312	800,003	446,618	270,054	716,672	387,411	255,469	642,880
Mitsubishi	584,859	420,072	1,004,931	628,886	343,932	972,818	496,432	289,980	776,412	402,844	244,779	647,623	288,846	231,392	520,238
Honda	714,375	95,494	809,869	652,920	89,762	742,682	576,631	88,300	664,931	473,597	86,478	560,075	328,107	85,646	413,753
Isuzu	86,397	338,391	424,788	102,883	305,303	408,186	74,971	265,661	340,632	91,157	244,582	335,739	64,735	180,086	244,821
Fuji	154,641	193,349	347,990	140,229	165,220	305,449	155,705	130,940	286,645	158,179	83,286	241,465	108,663	67,162	175,825

Exports	1979				1978				1977				1976				1975			
	Cars	Commercial Vehicles	Total Exports	% of Domestic Production	Cars	Commercial Vehicles	Total Exports	% of Domestic Production	Cars	Commercial Vehicles	Total Exports	% of Domestic Production	Cars	Commercial Vehicles	Total Exports	% of Domestic Production	Cars	Commercial Vehicles	Total Exports	% of Domestic Production
Toyota	969,272	492,886	1,462,158	47.6	900,366	481,808	1,382,174	47.2	968,270	444,965	1,413,235	51.9	835,619	341,695	1,177,314	47.3	612,744	255,608	868,352	37.2
Nissan	976,806	336,111	1,312,917	52.3	855,386	363,600	1,218,986	50.9	855,422	361,564	1,216,986	53.4	797,009	345,958	1,142,967	49.6	648,641	236,220	884,861	42.6
Toyo Kogyo	468,762	177,385	646,147	62.5	341,133	194,655	535,788	63.0	339,621	185,226	524,847	65.6	274,099	161,409	435,508	60.8	226,047	123,270	349,317	54.3
Mitsubishi	280,440	153,935	434,375	43.2	320,851	134,921	455,772	46.9	255,363	77,339	332,702	42.9	217,041	62,521	279,562	43.2	100,913	54,826	155,739	29.9
Honda	544,631	7,719	552,350	68.2	487,662	7,938	495,600	66.7	434,660	10,526	445,186	67.0	293,270	14,209	307,479	54.9	184,309	6,965	191,274	46.2
Isuzu	36,008	175,804	211,812	49.9	54,731	168,093	222,824	54.6	34,649	132,391	167,040	49.0	62,903	120,181	183,084	54.5	22,784	90,020	112,804	46.1
Fuji	72,351	116,000	188,351	54.1	60,693	90,172	150,865	49.4	58,004	60,162	118,166	41.2	51,635	28,213	79,848	33.1	29,236	18,771	48,007	27.3

*Including CKD kits.

Source: The Motor Industry of Japan, 1978-1980.

TABLE 3-9
EUROPEAN MANUFACTURERS NON-DOMESTIC PRODUCTION

	1979			1978			1977			1976			1975		
	Cars	Commercial Vehicles	Total	Cars	Commercial Vehicles	Total	Cars	Commercial Vehicles	Total	Cars	Commercial Vehicles	Total	Cars	Commercial Vehicles	Total
Belgium[1]															
Renault	161,898	--	161,898	173,411	--	173,411	166,032	12,483	178,515	159,982	20,791	180,773	147,460	2,748	150,208
Citroen	38,020	152	38,172	37,501	6,732	44,233	34,832	18,050	52,882	55,652	5,773	61,425	61,562	1,161	62,723
Ford	283,072	31,246	314,318	280,000	23,115	303,115	300,568	35,149	335,717	326,191	41,664	367,855	181,530	39,871	221,401
General Motors	340,673	--	340,673	327,004	--	327,004	331,037	--	331,027	317,391	--	317,391	214,169	--	214,169
Volkswagen	121,029	--	121,029	122,900	--	122,900	104,435	--	104,435	97,314	--	97,314	75,175	--	75,175
BL	52,068	6	52,074	78,454	47	78,501	81,960	31	81,991	67,477	14	67,491	50,740	31	50,771
Volvo	37,270	10,456	47,726	38,838	7,335	46,173	33,360	8,109	41,469	45,834	7,612	53,446	45,913	4,808	50,721
France															
Chrysler[2]	--	--	--	430,694	24,574	455,268	476,565	28,533	505,098	482,696	27,957	510,653	449,013	24,783	473,796
Unic[3]	--	17,800	17,800	--	16,600	16,600	--	17,100	17,100	--	15,600	15,600	--	13,300	13,300
Spain[4]															
Peugeot-Citroen[5]	160,730	--	160,730	151,992	--	151,992	141,559	--	141,559	131,679	--	131,679	110,950	--	110,950
FASA-Renault	275,322	--	275,322	248,668	--	248,668	237,502	--	237,502	212,691	--	212,691	205,984	--	205,984
Ford	232,432	--	232,432	267,970	--	267,970	213,897	--	213,897	17,508	--	17,508	--	--	--
Talbot-Dodge[6]	72,891	4,523	77,414	98,934	5,227	104,161	96,435	5,294	101,729	82,453	4,589	87,042	66,705	6,629	73,334
Seat[7]	298,859	--	298,859	288,103	--	288,103	352,943	--	352,943	347,057	--	347,057	332,078	--	332,078
CAF Jeeps[8]	--	4,499	4,499	--	5,135	5,135	--	4,978	4,978	--	3,335	3,335	--	2,151	2,151
Mevosa[9]	--	14,182	14,182	--	14,490	14,490	--	15,001	15,001	--	10,083	10,083	--	13,565	13,565
Santana[10]	--	17,150	17,150	--	15,750	15,750	--	12,895	12,895	--	13,050	13,050	--	11,601	11,601
United Kingdom															
Chrysler	102,960	17,576	120,536	196,456	17,628	214,084	169,492	15,645	185,137	144,586	14,360	158,946	226,612	19,211	245,823
Ford	398,684	167,232	565,916	324,428	106,496	430,924	406,633	148,369	555,002	383,220	141,628	524,848	329,648	129,111	458,759
Vauxhall (GM) Bedford[11]	58,760	87,672	146,432	84,032	117,416	201,448	93,237	91,747	184,984	109,118	86,389	195,507	98,621	91,421	190,042
Seddon Atkinson (IHC)	--	4,732	4,732	--	5,252	5,252	--	3,257	3,257	--	3,353	3,353	--	2,951	2,951
West Germany															
Ford[11]	546,957	--	546,957	544,160	--	544,160	542,750	--	542,750	486,607	--	486,607	413,135	--	413,135
Opel (GM)[11]	960,243	8,223	968,466	952,656	3,799	956,455	922,304	2,863	925,167	918,856	2,840	921,696	655,877	1,662	657,539
Magirus-Deutz (Fiat)	--	20,200	20,200	--	18,800	18,800	--	18,600	18,600	--	23,200	23,200	--	17,900	17,900

Notes:
(1) Assembly (not additive to production).
(2) 1975-1978.
(3) Fiat subsidiary.
(4) Both assembly and production.
(5) Peugeot only 1975-1977.
(6) Owned by Chrysler 1975-1978, by PSA Peugeot-Citroen in 1979.
(7) Produces Fiat vehicles under license.
(8) Produces AMC Jeeps under license.
(9) Produces Daimler-Benz trucks under license.
(10) Produces BL Land Rovers.
(11) Includes CKD kits.

Sources: MVMA World Motor Vehicle Data Book and Chambre Syndicale des Constructeurs d'Automobiles.

TABLE 3-10
MAJOR SOUTH AMERICAN LOCATIONS

	1979			1978			1977			1976			1975		
	Cars	Commercial Vehicles	Total	Cars	Commercial Vehicles	Total	Cars	Commercial Vehicles	Total	Cars	Commercial Vehicles	Total	Cars	Commercial Vehicles	Total
Brazil - All Manufacturers															
Chrysler do Brasil[1]	12,798	4,176	16,974	13,783	3,171	16,954	15,099	6,875	21,974	17,508	10,451	27,959	13,529	10,946	24,475
Volkswagen do Brasil	521,272	4,431	525,703	512,938	5,665	518,603	460,248	11,944	472,192	519,490	10,146	529,636	495,255	7,325	502,580
Fiat Automoveis, Fiat Diesel	122,576	12,290	134,866	97,302	5,560	102,862	65,052	7,125	72,177	8,350	4,800	13,150	--	--	--
Ford Brasil	136,050	34,825	170,875	93,865	62,862	156,727	77,240	52,956	130,196	105,581	66,349	171,930	98,124	72,247	170,371
General Motors do Brasil	168,907	38,775	207,682	136,102	58,634	194,736	100,342	54,069	154,411	117,264	63,880	181,144	111,677	62,271	173,948
Mercedes-Benz do Brasil	--	58,943	58,943	--	58,776	58,776	--	52,957	52,957	--	48,817	48,817	--	43,600	43,600
Saab-Scania do Brasil	--	3,363	3,363	--	3,713	3,713	--	4,534	4,534	--	4,571	4,571	--	3,517	3,517
Toyota do Brasil	549	3,556	4,105	--	3,669	3,669	--	2,695	2,695	--	1,498	1,498	--	895	895
Mexico - All Manufacturers															
Vehiculos Automotores Mexicana (AMC)	20,309	4,420	24,729	19,768	3,345	23,113	16,462	2,102	18,564	22,047	3,099	25,146	21,960	2,185	24,145
Chrysler de Mexico	50,653	40,067	90,720	43,008	33,798	76,806	38,736	19,220	57,956	33,983	22,659	56,642	33,518	31,514	65,032
Ford Motor Company	35,281	39,040	74,321	31,542	36,121	67,663	26,130	24,373	50,503	21,826	24,321	46,147	33,335	22,437	55,772
GM de Mexico	24,778	29,640	54,418	21,752	27,672	49,424	17,889	15,749	33,638	18,671	18,953	37,624	16,576	19,710	36,286
Nissan Mexicana	35,744	15,123	50,867	26,571	12,934	39,505	24,984	12,082	37,066	24,082	10,250	34,332	23,727	7,144	30,871
Renault de Mexico[2]	14,366	--	14,366	13,572	--	13,572	20,546	84	20,630	23,159	533	23,692	19,151	631	19,782
Volkswagen de Mexico	98,918	10,546	109,464	86,306	7,674	93,980	42,834	9,309	52,143	68,781	14,671	83,452	88,851	15,719	104,570

Notes: (1) As of March 1979 VW had 67% equity share; Chrysler 33%.

(2) Called Diesel Nacional 1975-1977.

Sources: MVMA World Motor Vehicle Data Book and Chambre Syndicale des Constructeurs d'Automobiles.

TABLE 3-15
WEST GERMANY

	1979		1978		1977		1976		1975	
	Units	Market Share (%)	Units	Market Share (%)	Units	Market Share (%)	Units	Market Share (%)	Units	Market Share (%)
Domestic Manufacturers	2,015,858	76.9	2,079,245	78.0	2,019,588	78.9	1,809,764	78.3	1,581,393	75.1
BMW	153,923	5.9	154,567	5.8	140,182	5.5	130,090	5.6	128,637	6.1
Daimler-Benz	242,848	9.3	221,443	8.3	220,485	8.6	203,213	8.8	195,520	9.3
Ford Germany	309,318	11.8	369,530	13.8	368,384	14.4	339,362	14.7	283,697	13.5
Opel	470,482	17.9	514,478	19.3	490,651	19.2	465,615	20.1	381,397	18.1
Volkswagen-Audi	827,252	31.5	807,782	30.4	789,979	30.8	663,095	28.7	588,993	28.0
Other Domestic	12,035	0.5	11,445	0.4	9,907	0.4	8,389	0.4	3,149	0.1
Other Manufacturers	607,541	23.1	584,509	22.0	541,690	21.1	502,303	21.7	524,655	24.9
BL	9,705	0.4	10,599	0.4	12,365	0.5	12,267	0.5	8,027	0.4
Fiat Group[1]	85,136	3.2	92,680	3.5	104,051	4.1	103,753	4.5	110,347	5.2
Chrysler France[2]	--	--	52,688	2.0	54,877	2.1	54,512	2.4	55,903	2.6
PSA Peugeot-Citroen[3]	135,804	5.2	107,978	4.1	92,981	3.6	82,887	3.6	98,219	4.7
Renault	129,759	4.9	121,809	4.6	126,436	4.9	123,455	5.3	119,889	5.7
Saab	2,821	0.1	2,223	0.1	1,681	0.1	1,183	0.1	1,316	0.1
Volvo	24,997	1.0	24,984	0.9	23,371	0.9	22,806	1.0	25,156	1.2
Japanese Manufacturers	147,868	5.6	97,419	3.6	62,387	2.4	42,796	1.8	35,386	1.7
Miscellaneous	71,451	2.7	74,129	2.8	63,541	2.5	58,644	2.5	70,412	3.3
Total	2,623,399		2,663,754		2,561,278		2,312,067		2,106,048	

Notes: (1) Fiat, Autobianchi, Lancia.
(2) Becomes Talbot in 1979.
(3) Includes Talbot in 1979.

Source: Verband der Automobilindustrie E.V.

TABLE 3-16
FRANCE

	1979		1978		1977		1976		1975	
	Units	Market Share (%)	Units	Market Share (%)	Units	Market Share (%)	Units	Market Share (%)	Units	Market Share (%)
Domestic Manufacturers	1,539,284	77.9	1,539,054	79.1	1,484,472	77.8	1,432,439	77.1	1,180,821	79.6
Chrysler France[1]	--	--	206,683	10.6	180,031	9.4	191,111	10.3	132,396	8.9
PSA Peugeot-Citroen[2]	847,688	42.9	667,057	34.3	656,814	34.4	632,636	34.0	554,553	37.4
Renault	690,835	35.0	665,271	34.2	640,384	33.6	602,824	32.4	488,925	33.0
Other Domestic	761	0	43	0	7,243	0.4	5,868	0.4	4,947	0.3
Other Manufacturers	437,107	22.1	405,932	20.9	422,518	22.2	425,795	22.9	301,522	20.4
BL	25,788	1.3	23,734	1.2	24,485	1.3	19,718	1.1	15,658	1.0
BMW	15,037	0.8	15,275	0.8	13,473	0.7	13,831	0.7	11,547	0.7
Daimler-Benz	12,392	0.6	13,191	0.7	14,417	0.8	13,937	0.7	12,279	0.8
Ford Germany	79,266	4.0	86,217	4.4	96,719	5.1	78,547	4.2	49,554	3.3
Vauxhall & Opel	37,010	1.9	43,897	2.2	41,077	2.2	52,713	2.8	26,735	1.8
Volkswagen-Audi	79,942	4.0	56,764	2.9	61,393	3.2	64,549	3.5	53,333	3.6
Fiat Group[3]	62,311	3.2	64,055	3.3	68,934	3.6	69,949	3.8	55,908	3.8
Saab	206	0	16	0	35	0	100[est.]	0	202	0
Volvo	8,909	0.4	9,175	0.6	9,623	0.5	10,999	0.6	9,923	0.7
Japanese Manufacturers	42,625	2.2	35,355	1.8	49,861	2.6	50,964	2.7	23,076	1.6
Miscellaneous	73,621	3.7	58,253	3.0	42,501	2.2	50,488	2.8	43,307	3.1
Total	1,976,391		1,944,986		1,906,990		1,858,234		1,482,343	

Notes: (1) Becomes Talbot in 1979.
(2) Includes Talbot in 1979.
(3) Fiat, Autobianchi, Lancia.

Sources: Vergand der Automobilindustrie E.V. and MVMA World Motor Vehicle Data Book.

TABLE 3-17
JAPAN

	1979		1978		1977		1976		1975	
	Units	Market Share (%)	Units	Market Share (%)	Units	Market Share (%)	Units	Market Share (%)	Units	Market Share (%)
Daihatsu	99,934	3.3	97,707	3.4	67,415	2.7	67,835	2.8	87,757	3.2
Fuji	82,197	2.7	80,111	2.8	94,659	3.8	104,628	4.3	81,985	3.0
Honda	175,919	5.8	171,241	6.0	165,716	6.6	166,986	6.8	160,814	5.9
Isuzu	50,474	1.7	48,617	1.7	38,070	1.5	29,202	1.2	40,169	1.5
Mitsubishi	266,780	8.8	261,314	9.1	217,985	8.7	184,601	7.5	169,635	6.2
Nissan	890,427	29.3	834,391	29.2	755,342	30.2	741,759	30.3	856,591	31.4
Suzuki	65,554	2.2	60,038	2.1	50,774	2.0	51,498	2.1	47,318	1.7
Toyo Kogyo	203,133	6.7	171,610	6.0	176,179	7.0	162,611	6.6	175,562	6.4
Toyota	1,142,293	37.6	1,081,747	38.0	892,389	35.8	898,673	36.7	1,065,943	39.0
All Imports	60,161	1.9	49,934	1.7	41,566	1.7	42,541	1.7	44,835	1.7
Total	3,036,872		2,856,710		2,500,095		2,450,334		2,730,609	

Source: Japan Automobile Dealers Association.

APPENDIX

Report of New Technology

This document summarizes certain data regarding various motor vehicle companies. No patents or invention resulted from this work.

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