Firms in an industry are not islands but are linked together through an intricate network of affiliations. Such inter-firm linkages are in fact a measure of the development of the industry. The diffusion of economic progress in a developing country is therefore rightly viewed in terms of such linkages. The transfer of technology and skills from the large sector to the small sector, besides the diffusion of such transferred technology within the small sector, can also result in "considerable economies in marketing, investment and training by co-ordinating efforts in these domains, e.g. under subcontracting arrangement." (1) The potential for subcontracting in an industry like the automobile is enormous both for technological and economic reasons. Subcontracting in

the automobile industry has been used extensively in Japan, where the primary firms deliberately chose subcontracting for product specialisation. By such an arrangement, the primary firms could reap the advantages of vertical integration owing to the close links forged with their subcontractors. The subcontractors in turn have benefited through the diffusion of technology and managerial skills from the primary firms, besides displaying considerable initiative in adapting this technology. The primary firms in Japan, fostered the evolution of ancillaries specialising in product manufacture. The ancillaries in turn had their own subcontractors who were in process specialisation. Thus the diffusion of technology took place among the network of subcontractor firms.

Unlike in Japan, in the developing countries the presence of economic dualism tend to support, "Singer’s view that the existence of the modern formal sector firms does not do much to pull up the informal sector firms or may even potentially serve to pull it down."(2) So much so that even when subcontracting does

take place as in the case of the automobile industry in India, it does not result in the system taking deep roots. This is most patently seen in the case of the primary and ancillary firms who have an orientation towards different markets. The ancillary firms in India did not grow as a result of the technological, managerial and other assistance received from the primary firms. The primary firms were in many cases producing the same products as the ancillary firms themselves. Due to their size, the ancillary firms did not have to look up to the primary firms for transfer of technology but instead opted for foreign collaboration. However, the subcontractors of the primary firms, who are mostly in process specialisation and the subcontractors of ancillary firms who are all in process specialisation only have received the technology from their respective primary / ancillary firms. But these have been in areas of low technology.

The depth of the subcontracting relationship can be analysed in terms of the diffusion of technology from the primary to the subcontractor firms and among the subcontractor firms as well, and from an examination
of the constraints that the primary and subcontractor firms face. As such an interpretation of the process and policy of the primary, ancillary and the subcontractor firms is discussed in this chapter.

When Japan and India had embarked on the development of the automobile industry, it was in no small measure due to the awareness of the important linkages in this industry. This is because of the very nature of automotive production which has to depend upon a broad base of supplier industries. As such a "chief concern of manufacturing engineers of automakers since the beginning of the industry was to coordinate or synchronize the deliveries of materials and parts with the production of subassemblies and the requirements of final assembly lines. The process was complicated, not because automobile technology itself was difficult, but because a single vehicle contained thousands of large and small components that required thousands of workers to produce. Coordinating in-house manufacturing with suppliers from outside the company was especially difficult when hundreds of subcontractors contributed
parts, materials or assembly services. A feature of the automobile industry is that even the major components manufacturers are large in size and oligopolistic in structure. This is because of operation of economies of scale which is equally important for the components as for final assemblers. In the automobile industry there are also many parts that are less significant cost wise to be worth the trouble of making them. These are also subcontracted. Thus a final assembler has transactions with specialised large component manufacturing firms besides numerous subcontractors. As such apart from the technological aspects of coordination there are important economic factors to be considered relating to pricing, timely supply and quality besides strategy.


4) In respect of cars and components, "enormous scale economies accrue only at very high volume of output. For instance, economies of scale are realised at 1 to 2 million units for body pressing, 1 million for casting of engine blocks, 100,000 to 75,000,000 for other castings, 600,000 for power train machining, 500,000 for axle machining and assembly and 250,000 for painting, 1 million for stamping, 500,000 for engines and 250,000 for assembly."

for the future growth under dynamic conditions. (6) This has far reaching implication for inter-firm cooperation within the industry.

The developed countries having the advantage of an established suppliers industry and possessing the requisite technical know-how, could advise suppliers on product design and production techniques. (7) In

6) "Basically, the more suppliers a company has, the more complex the buying and delivery operations become, with perhaps 70 percent of the value of the car being produced by suppliers. Therefore management needs to devote much time to ensure that components are bought at the best price and are delivered on time. Also, it is difficult to persuade suppliers to invest in new plants to improve productivity when they are not certain that they will receive any orders from the customer in a year's time. Conversely, the 'tied' component supplier may operate with the same system as the parent company, so that his scheduling can be controlled more closely, but since he has a guaranteed outlet for his products, he may be less keen to keep prices down."

7) "In Britain the car manufacturer may turn to the supplier as an equal, if not in sheer turnover, at least in technical knowledge and manufacturing capability. In some spheres, such as fuel injection and electrical equipment, for example, the expertise of the suppliers far exceeds that of the customer. Therefore the vehicle manufacturer involves the supplier from the drawing room stage, and will often call on him for technical advice."
the developed countries size factors, technological capability and maturity of the market as a whole resulted in the firms in the industry tempering their oligopolistic characteristics. In fact, cooperation between the vehicle builders and parts producers resulted in enhancing the efficiency of the industry as a whole in terms of standardisation of components, economies of scale, cost reduction etc. (8)

When India and Japan initiated the development of the automobile industry, they did not have a developed

---

8) In Britain the "Monopolies Commission on electrical goods" made it clear that near monopolists like Lucas and Smiths did not exploit their strong position vis-a-vis the vehicle firms in order to earn above 'normal profits'. Suppliers are in fact eager to pass on price reduction made possible by long production runs, and consequently many suppliers are in the forefront of the campaigns for firms to standardise on components so that economies of scale can be reaped and passed on. It is unlikely that vehicle builders themselves could supply the same range of components at the same cost and price as their outside suppliers. The desire of Lucas, GKN, Smiths and other firms to supply a standardised product in order to increase their own efficiency and reduce their prices suggests that even the strongest firms are not interested in harmful monopolistic or oligopolistic practices." Rhys D G, (1972) ibid. pp. 322.
suppliers industry. (9) At that time, the American automobile industry (which had assembly operations both in India and Japan) was highly integrated. (10) It would have therefore been quite natural for the automobile industry in the two countries considering the near absence of suppliers to opt for extensive in-house manufacture. However in Japan a conscientious departure from this policy was made. Although such a move involved extensive dependence on outside suppliers and was fraught with risks, it is to the credit of the Japanese entreprenurs who innovated a unique strategy of supplier relationship whereby effective control could be excercised even outside their own corporate divisions. At the same time, such a deft handling also

9) Branson notes that due to the lack of suppliers in developing countries the "burden of developing industrial capabilities in basic materials, semi-finished parts (especially castings and forgings) the wide range of finished components required in an assembled vehicle, falls heavily on the vehicle manufacturers."

10) "For more than seven decades after the appearance of the Ford Model T in 1908, managers in the American automobile industry believed that vertical integration made them more efficient by reducing dependence on other firms for materials and components and by lowering their vulnerability to opportunistic overcharging."
yielded results by way of lowering costs, increasing productivity etc. The Japanese automobile industry embarked on this bold experiment, despite uncertainties and were assisted in this by the cooperative behaviour of their subcontractors. (11)

Being a late starter the Indian automobile industry did not have the benefit of an established supplier industry with which it could grow in a symbiotic relationship as in developed countries. Nor did it realise fully the advantages of the unique supplier network devised by the Japanese automakers although it was very much there for then to emulate. Of course it is sometimes contended that the Japanese suppliers network which had evolved on the principle of

(11) "--- vertical integration required huge amounts of capital to buy out firms or to expand in-house capacity. While Japanese automakers were highly profitable during the 1950s and early 1960s, company executives hesitated to invest large sums because they could not be sure to what extent the domestic market would grow, despite the high potential demand. To subcontract more was essentially a policy of caution. Less manufacturing in-house reduced the need for employees, machinery, warehouses, and operating capital, especially if subcontractors agreed to hold stocks of parts and deliver them frequently, and in small loads, only as the automakers requested."

subcontracting is a system which is peculiar to Japan's cultural and social milieu and as such difficult to replicate. (12) In India the role of the primary producers in fostering the development of supplier firms was minimal. Once the domestic manufacturing programme commenced the primary firms started straight away in-house production without even considering the aspects relating to the relative advantages of buying from outside suppliers. Their action was aimed at fulfilling the target in terms of percentage of indigenisation achieved. As a result there was over investment and even production of typically ancillary items took place within the primary firms. Due to the lack of advance planning, there was distortion in the structure of the industry. While each manufacturer had adopted a phased manufacturing

12) Watanabe referring to subcontracting in Japan notes that the "success of the practices is often inseparable from a country's social and cultural background and the mentality of the people. Moreover the extra cost of grafting them on to another country's economic system will seriously impair their advantageousness. Neglect of these simple but important facts seems to have caused a great deal of frustration of development plans and waste of resources. This is particularly evident in the case of policies for the promotion of small manufacturing enterprises and industrial subcontracting -- --."

programme there was no coordination regarding the components to be manufactured. (13) Besides there were various ancillary projects outside the manufacturing programme of the primary producers. The primary producers themselves were attempting to undertake more than one project (i.e. models) even though they could not make appreciable progress in more than one project. And yet these primary producers were anxious to take on new projects. However, considering the fact that the primary firms were slow in moving away from the assembly phase, any addition to models manufactured would have no linkage effect. Such an effect can take place only when domestic manufacturing takes place at a rapid pace. The question of making a choice in a spectrum of organisational forms would otherwise not be meaningful. Surprisingly, although the Government which was aware of the overriding importance of manufacturing as opposed to sheer assembly (14), did not  

13) "--- Hindustan Motors and Premier Automobiles Ltd have plans to produce rear axles for their respective truck models separately although the foreign firm which is going to collaborate with them is the same Rockwell Springs and Axle Company USA." Tariff Commission (1956) ibid. para 17.9.  

14) "While recognising that the inadequate progress of the automobile manufacture in India was partly due to contd.
take concrete measures for the development of the industry. Instead the problems of the automobile industry became a part of the general problem besetting the economy and the government's approach to this industry was also from the perspective of a generalist solution to macro-economic problems.

Considering the early stage of the industry and the Government's protectionist policy, it should have been possible for subcontracting to develop to meet the growing needs of the primary producers. But in India

14) contd.
circumstances beyond the control of the industry, we cannot help feeling that the programme could have been more rapid if the system of protection which was introduced in 1953 had offered the industry more positive incentive towards this end. Under this system each approved manufacturer is given the privilege to import a vehicle on condition that he will implement an approved programme of manufacture with reference to that vehicle. Experience has shown, however, that the domestic cost of production of automobile components are very much higher than their import costs with the result that in most cases implementation of the manufacturing programme results in increasing overall costs of the domestic producer and reducing the overall profit margin. The reduction in import duties on automobile components which was effected in 1953 has further widened the disparity between the domestic cost of production and import cost. The result is that at the present level of duties it is distinctly more profitable for a manufacturer to import and assemble a foreign vehicle than to manufacture its essential components locally."
the primary producers did not show much inclination in this regard. (15) Also the contradictory tariff policy defeating the very purpose of protection appears to be an important reason for the primary firms postponing the indigenisation programme in order to get the advantage of the reduced tariff rates on components. Meanwhile, the large ancillary firms facing the ever increasing demand from the replacement market, fully utilised the advantage of tariff reduction, because of which the indigenous programme became totally unattractive. Thus in the absence of any productive activity either on the part of the primary or of ancillary firms, subcontracting by product specialisation could hardly take place. Whatever subcontracting practices that emerged in the industry

15) "It will place the industry on a sound footing if investment were directed to setting up common production facilities for forgings, castings and certain items like rear axles and chassis number than to establish manufacturing units for new models. The establishment of common production facilities for this will lighten the the financial burden of manufacturers avoid duplication of capacity and make for lower costs. This presupposes willingness on the part of the various units to collaborate with each other. The manufacturers of India have shown little inclination in this direction and much duplication has already taken place. Manufacturers defend this on the ground that it gives them more effective control over cost and quality." Tariff Commission (1956) ibid. para 17.9.
were mostly of process specialisation type and that too with small firms only, preempting the possibility of subcontractor firms graduating to a first-tier ancillary firm of Japanese style which alone could bring about the advantages of the Japanese type of formal integration with all the benefits of 'We' feeling. The primary and the ancillary firms continued to function on parallel lines as there was no convergence in their interest, a position basically arising from their orientation towards different markets and from their strong predilection towards integration. They were even exhibiting rivalry by trading charges against each other.

The Japanese firms had also to confront the major decision as to whether to rely on foreign or domestic sources. Although the primary firms like Toyota and Nisson were simultaneously trying to promote both internal production and subcontracting yet they had to rely on imports for various items in the early stages. It was the strong positive measures for domestication of parts production (Jidosha seizo jigyo ho, or the Automobile Industry Act of 1936) that ruled out
importation as a choice and reduced it to only extreme cases of necessity. (16) The policy options open to a primary firm has been nicely depicted in the form of a flow chart by Odaka which may be seen in Fig. 5-1. The Japanese auto industry chose to develop subcontractors by having stable and exclusive relations with them. In Japan from the "primary firms' view point, quick domestication of vehicle manufacturing by developing an extensive network of affiliated suppliers (ancillary firms) was the most effective, and perhaps the only strategy they could pursue for their own survival and growth under the circumstances." (17) The contrast with the Indian situation is vivid where the tariff rates were reduced on imported components after granting protection to the vehicle producers. This was intended to encourage the greater use of vehicles by bringing down the prices. The government could not evolve a long term policy for the development of the

16) "The origins of the Japanese auto parts industry date back to the establishment of Japan GM and Japan Ford in the mid-1920s. Around 1930, Japan GM and Japan Ford also started to subcontract the manufacturing of simple items to Japanese companies in response to pressure from the Japanese Government to decrease their imports."

ALTERNATIVES IN THE ACQUISITION OF PARTS AND COMPONENTS

Importation

Domestic Supply

Make

Buy

Floating relation with AFs

Stable relation with AFs

Non-exclusive relation with AFs

Exclusive relation with AFs

AF: = Ancillary Firm (Subcontractors)

Source: Odaka K et al (1988) ibid. pp 265
industry which in effect led to considerable delay in domestic manufacture.

In India initially the government issued licences to five manufacturers for production of cars and trucks. However, it was felt that considering the small size of the market and the importance of scale economies, excess capacity was created. Apparently, the intention of the government was to promote internal competition in the face of total protection from foreign competition. (18) However, once having created the structure, it was difficult to dismantle it as the efforts of the government at rationalising the structure proved. The alternatives considered were mergers of the existing producers or selecting one of

18) "It is suggested that in each class of vehicles, there should be at least two units competing with each other and in order to establish the need for an additional unit in accordance with this principle, a class of vehicle is sometimes so narrowly defined that there would appear to be no internal competition at present. We consider this approach to be totally unsound. If planned development is the objective it would be an admission of failure if for the purpose of keeping costs and prices under control, it was found necessary to promote internal competition at the expense of economic volume, since this would involve a waste or uneconomic use of resources which is the very objective of planning to avoid."
them for progressive expansion with government participation if necessary. But the existing producers did not support the move and the proposal fell through. (19) In a small market the presence of many

19) "--- having regard to the views expressed by the members from time to time in the House and the general complaints about the scarcity of passenger cars currently manufactured, the defects in their quality etc, the Government have been giving further thought as to how best the increasing demand could be met consistently with public expectations of price and quality and within the limitations imposed by the present conditions. Naturally, it was felt that the fullest use of existing productive capacity, a satisfactory arrangement regarding foreign exchange for capital and maintenance requirements were basic considerations. As a first step, Government explored the possibility of expanding production of existing manufacturers in a manner calculated to secure maximum economies in the cost of production over a period of time. Two alternative proposals were put to the manufacturers and discussed with them. The first proposal was that the existing cars manufacturing facilities may be integrated so as to produce one or at the most two makes of cars making rational use of such facilities and undertaking expansion in the most economical manner. The second proposal was that one of the existing manufacturers may be selected for substantial expansion, the selection being made on competitive basis with reference mainly to requirements and arrangements for foreign exchange and assurance in regard to price reduction. Government participation in the selected undertaking was also envisaged in order to allow the other two manufacturers to continue production at present levels or allow them time to make some adjustment in their manufacturing activity. Neither proposal found favour with any of the manufacturers. On the contrary each of them offered to make a new model car, the price of which, however, would be appreciably lower than the existing price. This approach could not therefore be fruitfully approached."

Statement made by the Minister of Industry, D Sanjivayya, Lok Sabha debate, 5.8.'66.
manufacturers is bound to result in loss of efficiency in scale as in the case of the automobile industry. This has important implications for subcontracting since a primary producer with a low volume of production will have no incentive to subcontract. But at the same time the oligopolistic structure of the industry enjoying sellers' market, became complementariness resulting in unduly long waiting period, poor quality and high prices. It was this poor performance of the industry that brought it under the scrutiny of the government. Although, there was a rise in domestic demand as seen from the long waiting period, the industry did not try to respond in terms of improved quality and lower prices which would have given an impetus for the expansion of the market. Instead it had manipulated captive domestic demand for sheer profiteering. Such conduct on the part of the primary producers cannot result in developing a subcontracting system which is intended for improving quality, reducing cost etc.

20) Participating in the Lok Sabha debate on manufacture, consumption and prices of cars, a member of parliament, S M Bannerji, stated, "I am told that if today you wanted a Fiat car you have to wait nearly for 7 to 8 years and if you want an Ambassador you can get it in 2 to 3 years.”
Lok Sabha debate 14.12.’64
In fact the problem of high price and poor quality arose soon after domestic manufacturers were granted protection. The manufacturers were subject to a form of informal price control. (21) Due to acute foreign exchange shortage, the government had restricted the allocation of the same to the industry. The domestic demand was however rising while production of both passenger cars and commercial vehicles came down. Dealers' orders indicated that they had to wait for as long as 12-24 months. (22) A cost comparison between the domestic models and their counterparts abroad showed that the price of the Hindustan Ambassador was 38 percent higher than the Morris Oxford, while in the case of Tata's Benz truck the cost differential was 12 percent to 15 percent. (23) However, there were other

21) "Following the recommendation of the Tariff Commission (1956) manufacturers were allowed to revise prices subject to the condition that a month's notice of any variation would be given to the government so that they may intervene if the price rise was prima facie deemed unreasonable. Later one month's notice was not found sufficient and the manufacturers were directed not to revise the prices without the prior approval of the government."


23) Jha Committee (1960) ibid.
factors beyond the control of the producers that were responsible for this and the Government of India almost exonerated them. \(24\)

There was also another disturbing trend in this regard. Some of the enquiries had revealed that the manufacturers were found not keeping their costing data in sufficient detail so as to make an accurate assessment of true costs. \(25\) The absence of a

\(24\) The Tariff Commission (1968) Automobiles, which enquired into the price increases, attributed this to:

1) enhanced custom/excise duties 2) increase in CKD price and ocean freight 3) tax levies by the state governments from time to time 4) variation in the parity rate of the Indian rupee and other foreign currency of the country from which imports are made by manufacturers and ancillary suppliers 5) increase in prices of tyres and tubes etc. The manufacturers contended that there was no increase in price due to rising wages, higher costs of indigenous raw-materials and components, maintenance and repairs etc. The Directorate General of Technical Development (DGTD), Government of India also endorsed this observation, stating that the increase in prices after 1956 was beyond the control of the vehicle producers.\(\)


\(25\) The need for maintaining costing details was stressed both by the Tariff Commission (1956) as well as the Jha Committee. The industry's tendency to exaggerate costs would be evident from the statement made by the Secretary, in the Ministry of Industry before the Estimates Committee, refuting the charge that taxes accounted for most of the high price: "About the incidence of tax, I don't have figures for all the contd.
realistic cost estimate has enabled the domestic producers to inflict exhorbitant costs on the domestic market. The government had been obviously lax in allowing such an exploitative market conduct detrimental to the consumers at large and for the healthy growth of the market. (26) Thus a fundamental

25) contd.
countries, how it compares with them. But compared to the western developed and industrialised countries, our tax incidence is high but the only exercise was done in 1980 based on the then prices and the taxation rates showed that the incidence of tax worked out to 35 percent of the show room prices. Today, it may be a little different but nowhere near 65 percent. It cannot be 65 percent."
Estimates Committe, 1983-84, Seventh Lok Sabha.
Further evidence of the tendency to exaggerate the reasons for high costs is provided by the following statement in the light of the introduction of the MODVAT.
"Perhaps in the past the automotive industry has tended to exaggerate the cascading effects of indirect taxes on components so that it could charge a higher price to the consumer. Though the extent of such exaggeration may not have been very significant, MODVAT will eliminate the one reason for charging high price."
Auto Parts Guide Vol 1 No.5, April 1986.

26) "There is nothing like a price control at all. As a matter of fact, the 1957 price was supposed to add to the price according to certain rise in costs etc. So Government are not to blame for any price that may be prevailing as such directly, though I do concede that the producers have been kind enough to refer their problems of higher costs etc. from time to time to us and we have looked into this and also said whether such a thing was reasonable or unreasonable as the case may be."
Statement by the Minister of Industry and Heavy Engineering during the Lok Sabha debate on 23.12.64).
motive for subcontracting viz. cost reduction was conspicuously missing. The Indian automobile industry operating in a protected market, insulated by even threat of entry due to licencing policy of the government, completely lacked cost consciousness. This is quite unlike in Japan, where even in the large ancillary firm there is a significant cost differential vis-a-vis the primary firm. (27)

The importance of product specialisation in subcontracting in the automobile industry has been discussed in Chapter IV as it saves the primary producer considerable trouble in terms of reduction in lead time, supervisory skills etc. The strong motive for maintaining quality is also necessary for the Japanese style of subcontracting to flourish. In the Indian automobile industry the poor quality was a consequence of a market structure which did not face

27) "--- workers at Nissan and Toyota during 1980-83 still cost their employers about 30 percent less in annual wages and benefits than American auto workers. The discrepancy was even larger at the subsidiaries and other subcontractors that accounted for 70 percent of the manufacturing cost of each car Nissan and Toyota produced during the early 1980-s."
any competition indispensable for maintaining high quality standards. The automobile manufacturers were as much lackadasical in their attitude towards quality related aspects as to any other efficiency criteria. The findings of the Tariff Commission show that the auto manufacturers could have ensured the quality of their products as they had the necessary wherewithals for the same besides having the advantage of foreign collaboration. This reflects the behavioural differences in approach to qualify which assumes greater importance than institutional forces.

The primary producers, however, despite extensive in-house manufacturing, attributed their problems in respect of cost and quality to the ancillary industry.

28) "It is not a source of gratification to observe that in the case of Ambassador car only the fuel tank and pipes, battery and propeller shaft have escaped complaint. These constitute only a few of the assemblies. Most of the components which go into these assemblies are purchased from indigenous ancillary manufacturers. In the case of the Fiat car only the propeller shaft, fuel tank and pipes, carburetor, fuel pump, frame and chassis have been found to attract no complaint. But for the chassis which is the skeleton on which the vehicle is built, the rest of the items are also contributed by the ancillary industry. The standard has fared worst. Only 3 items viz. clutch, steering and chassis seem to be without blame."
Tariff Commission (1968) Automobiles, para 15.8.3.
It is distressing to note that primary producers and ancillary firms have been trading charges against each other instead of endeavouring to improve their performance. The ancillary firms complained that the primary producers were hesitant to place orders with them and even when they did it was marked by considerable uncertainty in terms of volume, specifications etc. (29) High prices and poor quality were attributed to these ancillary firms, by the primary firms. (30) In fact, the primary producers were instrumental in bringing the ancillary firms under the scrutiny of the government. (31) The fact that the

29) "Some of the ancillary firms have complained that changes in specifications are introduced without informing them in advance with the result that when orders are placed they do not get adequate time to make these changes and fulfill as per schedule. Original equipment manufacturers change design without suitable warning to ancillary manufacturers and latter are saddled with stocks of obsolete products which could be utilised for any other purpose." Tariff Commission (1968), Automobile Ancillaries, ibid, para 7.5.

30) "Cost differential between parts producers and assemblers were considerable especially in the case of propeller shafts, crank shafts and shock absorbers". Watanabe S, (1978) ibid.

31) "The government informed the Tariff Commission that complaints were received that while informal price control was exercised over the price of assembled autos, no such control was being exercised in the contd.
price in the replacement market was generally higher than that for original equipment (O.E.) could have been an important reason for the ancillaries concentrating increasingly on the replacement market. The advantage that an ancillary firm could get by selling to vehicle manufacturers is the quality stamp. (32) In order to improve the quality it was recommended that there should be continuous dialogue between the vehicle manufacturers and ancillary firms. This was necessary to bring about improvements in the performance of the industry. (33) The vehicle manufacturers and the case of automobile ancillaries. There were also complaints that the prices charged by the ancillary producers was exhorbitant. It was therefore decided to undertake an enquiry into the cost structure of some of the major ancillary industry."
Tariff Commission (1968), Automobile Ancillaries, para 1.2.

32) "The O.E. prices are generally lower than the replacement prices all over the world -- --. The ancillary manufacturer who is selling ancillaries to the replacement market reap the benefit of quality stamp."

33) " -- -- although it was the responsibility of the automobile manufacturers to ensure that the parts used met their specifications, it did not absolve the ancillary manufacturers of their responsibility in ensuring a uniform and acceptable standard of quality." Tariff Commission (1968) Automobile Ancillaries, para 5.7.
ancillary firms had assimilated the know-how but not the know-why of technology. As a result the capacity to design and develop components indigenously could not be achieved. Ancillary firms maintain that vehicle manufacturers do not encourage development activities either financially by meeting these costs or ensuring that orders will be placed once the components are developed. (34)

A diametrically opposite relationship between primary producers and parts suppliers is obtained in Japan, partly owing to certain historical factors. In Japan subcontracting practices received a boost from the government's arsenals before it spread to the private sector. (35) Later the primary producers in the


35) "Early in 1934, under the pressure of redundant production facilities, small manufacturers of machinery and metal products in Kochi Prefecture petitioned that the local government help them to get orders from the Kure Navy Arsenal. The idea was accepted and after a trial period the Arsenal gave them some work. Similar practices soon spread to neighbouring prefectures, and attracted the attention of the Ministry of Commerce and Industry which was anxious to find some way of helping depressed industries. By 1936, the Ministry had begun subsidising such schemes with a view to extending industrial subcontracting throughout the country". Watanabe S, (1974), ibid.
Japanese automobile industry developed subcontracting as an effective supporting system. To develop an extensive subcontracting system the primary producers required considerable technological and managerial ability. The primary producers from an early stage were accumulating experience in automobile production before becoming full-fledged producers of vehicles.\(^{36}\) The experience in the manufacture of components enhanced the technological capability of the primary producers considerably. The history of the Japanese automobile industry is full of such instances of building technological capability through adaptation of imported technology which reveals the exacting standards that the primary producers have set for themselves.\(^{37}\) Such

\(^{36}\) Describing the efforts of Aikowa of Nissan Motor, Cusumano writes that "he accepted parts orders from Japan Ford and Japan GM. Aikowa was convinced that subcontracting would be a valuable experience because if parts were not up to standards, the American subsidiaries would not buy them --- his goal was to learn enough from subcontracting to make complete vehicles independently within five years". Cusumano M A, (1989), ibid. pp. 38, 39.

\(^{37}\) Nissan had a tie-up with Austin of U.K., yet was vigourously pursuing a localisation policy but without compromising on quality. "One example of how Asahara managed the tie-up involved the manufacturing of differential gears. No matter how hard Nissan tried, the Japanese parts made more noise in operation than Austin's original equipment, so Executive Director contd.
a strong technological base in the primary firms is a prerequisite for cementing the inter-firm ties under subcontracting. In India, the suppliers/ancillary firms themselves were slow to develop. And even after the government gave a fillip to the development of domestic parts manufactures after 1960 through "a) the investment licence; b) the capital goods import licence; and c) the foreign collaboration licence", (38) besides demarcating or reserving items to be produced exclusively by the ancillaries, it did not result in bringing about inter-firm cooperation 37) contd.

Harashina decided that Nissan was not ready to meet the British standards and placed an order for 2000 more crown gear and piston sets with Austin. Asahara found out about this, cancelled the order, called in Harashina as well as Sasaki, and pointed out that the tie-up was to learn how to make the parts, not buy them. He then asked Austin to send an engineer to Japan to find out what Nissan was doing wrong. Austin was obligated to help under the 1952 contract, and it was to the British Company's advantage to have Nissan produce as many cars as possible because it received a royalty on each sale. The Austin engineer who came to Japan, a man called Tomlins, discovered that Nissan did not have the gear-cutting machinery set correctly. Neither Harashina nor Sasaki had noticed this because they did not make a set of gears themselves - a mistake they did not repeat".


extensively." (39) The ancillary firms in India unlike their counterparts in Japan did not have to lean heavily on the primary firms for either the market or the technology. As noted earlier, the ancillary firms had their own technical collaboration with reputed foreign firms and were catering largely to the replacement market. The concentration of imported technology at one source and its diffusion within the economy such as from primary to ancillary firms would have been far more desirable in terms of avoiding high costs of repetitive import of technology, developing the domestic technological base and diffusion of the same through subcontracting.

Not only the primary and the large ancillary firms in India were functioning independently without any linkage whatsoever, but they did not form or develop any linkage with their subcontractors either. In fact technological guidance is restricted to supply of designs and drawings and the case study shows that subcontractors are selected after they have made a

39) "The proportion of bought-out components ranged from 39.4 percent (Ambassador) to 62.2 percent (Jeep) in 1967". Watanabe S., (1978) ibid.
trial production. The representatives of the primary/ancillary firms with whom discussions were held in fact voiced their disappointment about the low technological level of the subcontractors in general and their inability to make any significant contributions in this regard. This is rather surprising, considering the fact that until the technological level of the subcontractors is raised by the primary/ancillary firms, to begin with, it would be futile to have such expectations. On the other hand, some of the relatively larger sample firms in the case study had stated that there was little incentive for them to innovate, since sometimes, after the development work is done, the primary/ancillary firms place orders with another firm at lower price. This is certainly an instance of 'pulling down' as observed by Singer.

From the case study it is seen that there are highly qualified engineers among the subcontractors. Yet they have not displayed any remarkable initiative for technological adaptation. They have remained content in merely fulfilling the technical requirements stipulated by their buyers and had not ventured beyond
that stage. This is quite unlike the high adaptability to imported technology displayed by the Japanese workers and engineers. Even the workers with the assistance of simple instruction manuals attached to the imported machine achieved the required standard of performance. Again, while depending on imported technology the ultimate goal was to match the same as seen in the case of Nippondenso which after entering into a comprehensive technological tie-up with Robert Bosch Company of West Germany declared, "We shall catch up with Bosch in ten years". (40)

The Japanese primary producers followed a well planned strategy for the development of their suppliers. (41) First, there was the selection of subcontractors who had the potential to grow as manufacturers of components. The selection was based on certain well-


41) The procurement policy of Toyota Motors was typical of the behaviour of the Japanese automobile industry towards their suppliers. "Once affiliated, an ancillary firm shall be regarded as an organic part of the (Toyota) Corporation, in principle, therefore, standing purchase orders shall be maintained with the firm, and as much assistance as possible will be extended to improve its performance". Odaka K, et al (1988), ibid. pp. 67, 68.
laid out economic considerations. Although the initial urge for subcontracting was to lower costs, the primary producers expected their first tier ancillaries to make their contributions in other spheres as well. While allowing them to grow the primary firms were aware that this would mean an end to their exclusive relationship. Nevertheless, they assisted this process in order to get the advantages of economies of scale through the ancillary firms. At the same time closer ties were forged through equity.

42) "To qualify as first-tier, the firms had to have capital assets over 50 million yen, publically held stock, an independent decision-making capacity to cope with technological as well as managerial requests from Nissan, the inclusion on the board of people who were not members of the principal owners' family, the capacity to competitively market unique products (50% or more were supplied to firms other than Nissan), and the technological capability to take over the substantial portion of Nissan". Odaka K, et al, (1988), ibid. pp. 257.

43) "Okumura Shoji who had served as the assistant general manager of Nissan's production planning department during the mid 1950's, noted three reasons why Nissan and Toyota recruited subcontractors rather than increase their levels of vertical integration: to avoid the capital expenditure necessary to produce a wider variety of components in large quantities; to reduce risk by maintaining low factory capacity in case sales for the industry slumped; and to take advantage of the wage scales in smaller firms". Cusumano M A, (1985), ibid. pp 244.
participations. Thus instead of independent large supplier firms, there are the first tier ancillary firms functioning in close cooperation with the primary producers. The Indian experience however, shows that such wide ranging ties which could result even in equity participation are not to be found. In an industry like the automobile the cementing tie between the parent firm and the subcontractor is technology. Watanabe notes the transfer of 'core production technology' from the parent firm to the subcontractor is exceptional and attributes this to lack of interfirm competition.


45) "Parent firms offer technical guidance and assistance as the need arises. A good example is the case of Ashok Leyland, a subsidiary of British Leyland. When the principal stopped producing its van 'Comet', Ashok Leyland had to find local suppliers of bodies among others. It contacted Press Metal Corporation, which was doing cold rolling in Bombay, and passed British Leyland cold rolling technology to this Indian firm. It also invited experts in raw materials treatment from Japan, the source of supply, and sent some of the Indian subcontractors' staff to Britain for in plant training. Some of Ashok Leyland's subcontractors have their own subcontractors and provide them with technical guidance and assistance similar to those received from their parent firms." Watanabe S, (1978) ibid. However Watanabe notes that such instances are rare.
The primary producers in Japan utilised their cooperative ties with the ancillary firms to cope with the expanding market and price competition. This was possible since unlike in India ownership of firms was not a political issue. Hence ancillary firms could be controlled and directed by the primary producers. Treating the ancillaries as an integral part of the primary firm, the facilities of centralised purchase of materials was extended.\(^{(46)}\) There are numerous instances of the assistance given to ancillary firms. For instance, "Tokyo Sokuhan Company was a producer of gauges, jigs, tools, and micrometers, and was supplying gauges to Nissan. When the company experienced financial difficulties in 1952, Nissan provided it with short-term loans and later bought shares of stocks. In addition, Nissan dispatched a research staff member to the company to assume the post of managing director."\(^{(47)}\)

\(^{(46)}\) Centralised purchasing of materials meant," larger volume discount from materials suppliers such as steel companies. It also allowed greater synchronisation of production throughout the system, including better control of overall inventory levels." Odaka K, et al, (1988), ibid. pp. 104.

The "unique set of relationship with their suppliers enabled the Japanese primary producers to overcome many weaknesses of vertically integrated companies in the West and arm's length relations with independent suppliers. The cross ownership links between Japanese car firms (not majority shareholdings) and their suppliers are built around the coordination of strategy, cooperation in R&D and product development and tight production scheduling. Suppliers remain independent business units and so full costs are known, unlike many traditionally vertically integrated companies. Relationships are by definition of a long-term character emphasising the maximum flow of information and the rapid diffusion of new managerial practices and new technologies such as computer aided designs (CAD)." (48) Branson has identified certain reasons as to why subcontracting has not developed in India as in the case of Japan. These relate to,

- "shortage of the experienced engineering and technical ties necessary to adapt techniques to local equipment and materials;

- shortage of much lower machine skills and factory discipline, including machine operators' abilities to read blue-prints, set-up tools and in other ways substitute human skills for machine accuracy;
- lack of an industrial organisation that permits the effective use of small scale shops as adjuncts to modern industrial complexes or lack of the experienced and industrially developed small scale industrial sector which can adjust and coordinate its activities to those of the large industrial complexes.\(^{(49)}\)

Some of the problems cited by Branson would certainly have been obstacles for developing a subcontracting system in the early stages of development. But considering the fact that subcontracting has been in existence for over two decades, as seen in the case study, it should have been possible to enhance the technological level of the subcontractors. When institutional support is combined with the patronage of the primary firm, it results in an efficient form of subcontracting. Watanabe cites the case of the

\(^{(49)}\) Watanabe S, (1978) ibid.
subcontractors on the industrial estate of Hindustan Machine Tools (HMT) in this regard. The case study shows, there is a general neglect of subcontracting other than as a source of cheap inputs. It cannot be denied that this important factor is basic to subcontracting. But if this continues to remain the only motivating factor, the instability in the subcontracting relation would continue especially considering the fact that due to institutional support from the government (like credit, supply of machinery on hire purchase etc.) there is fairly elastic supply of subcontractors who compete in low technology production. To a limited extent a diffusion of technological / managerial skills from the large to the small firm is taking place, such as ex-employees becoming subcontractors. But this requires sustained support and patronage of the parent firm and the consistent good performance of the subcontractors.

50) "The fact that industrial estates in urban areas have been more successful than those in rural and semi-urban areas may be explained partially by the larger market available to the former. It can be demonstrated by the success of subcontractors on the estate of Hindusthan Machine Tools (HMT) in Bangalore. Enterprises in the HMT are fortunate in that there are a number of large firms in Bangalore, in addition to HMT which feed them with orders". Watanabe S, (1974) ibid.
In Japan the conduct of the primary firms was instrumental in creating a structure of ancillary relationships which was organised on hierarchical lines. Here the qualitative aspects of the relationship such as the desire for stability, continuous patronage etc. deserve special mention. The ancillary firms in turn subcontracted, the process being stretched so as to take full advantage of the principle of division of labour. The hierarchy as seen in terms of the size also reflected their relative importance in the chain of relationships so that it became the endeavour of each subcontractor to move up in the hierarchy. (51)

As Watanabe observes the "relation between the two parties depends largely on the underlying motivation ---. Such is the case mainly with subcontracting at the higher levels of the hierarchy, where specialisation and division of labour are taken so far

51) "Such assistance and guidance would not have been so effective if petty producers themselves had not been eager to improve their performance. Their enthusiasm came from the hard competition among petty enterprises, which would grade them down to a lower level of subcontracting hierarchy or eliminate them from the group relentlessly, once they failed to meet their parents' needs".

as to produce 'quasi-integration'. At lower levels, parent firms are free to change their subcontractors since the latter use more common production techniques and because there are a large number of would be subcontractors competing for products". (52) From the study of the Japanese automobile industry, it is seen that such a close relationship could be forged in respect of subcontractors under product specialisation. The motivation factor assumes importance as compulsory subcontracting enforced by the government can be of limited use. For instance in India, the introduction of compulsory subcontracting by large firms has been criticised by Watanabe for resulting in inefficiencies. "--- guaranteed markets for subcontractors and the forced use of inefficient subcontractors combined with the cost-plus pricing method adopted by parent firms will discourage efforts to improve industrial inefficiency."(53) More importantly without the active cooperation of the primary firms subcontracting cannot evolve into an effective supportive system.

In Japan the intricate relationship between the primary and ancillary / subcontractor was not the result of any government fiat but was a product of an enlightened strategy adopted for mutual growth. The formation of Ancillary Associations around primary firms was a technique which strengthened their relationships besides inculcating loyalty. (54)

A distinguishing feature of these associations is that they are vertical and not horizontal groupings. Such vertical groupings are possible when the underlying motivation is for a stable relationship. In India the position of the subcontractors is rather vulnerable. Lacking in technological dynamism, the relationship between the subcontractor and the parent firms has been merely in terms of subcontractors seeking to enhance their market share and the primary / ancillary firms looking for an avenue for cost reduction. Due to their

54) "Ancillary firms associations have played an indispensable role in the development of both ancillary and primary firms. They served not only as primary firms' channel of assistance to ancillary firms, but also as an effective instrument for the cultivation of loyalty. Further, they fostered intra-group competition in productivity improvement." Odaka K, et al, (1988), ibid. pp. 255.
poor bargaining power, the subcontractors find it necessary to maintain cordial relation with their parent firms. A subcontractor who is dealing with a large corporate entity has to interact with various departments like purchase, quality control, stores, accounts etc. Frequent meetings with key personnel is necessary for the suppliers not only to retain their share of business but also expand their business. Such a behaviour which is the result of uncertainty, can also result in practices which are not conducive to efficiency. The primary / ancillary firms in turn have no desire to alter the vulnerable status of their subcontractors.

55) One of the sample firms admitted that purchase officers were frequently entertained in order to elicit information regarding the important trends within the parent company. Another firm which supplies components with its own material pays a retainer fee to an employee in the quality control department ostensibly to test the material purchased, the real objective being to ensure the acceptance of the components supplied. A subcontractor who is a highly qualified engineer stated that he asks for technical advise even when he does not need it so as to please the personnel in the purchase department. Another subcontractor, who is a qualified technocrat, stated that the barrier for growth in his firm was his inability to forge contacts. The importance of establishing and maintaining contacts can be seen from the fact that Firm 30, which had a long association with an ancillary firm, lost substantial amount of orders, when one of its employees who had been lissing with the parent firm left Firm 30 to become a partner in another firm (Firm 20 in the sample).
In India the primary producers/ancillary firms and the subcontractors have a one-to-one relationship. While subcontractors view other subcontractors as rivals, the parent companies are averse to any organisational form which would enhance the bargaining powers of the subcontractors. This would deprive them of this oligopsonistic advantage of bargaining with subcontractors. It also underscores the attitude of the large firms which are unable to perceive the long term advantages that could accrue from a more enlightened behaviour. The subcontractors are only too conscious of the importance of contacts with the primary/ancillary firm. (56) In some companies like Ashok Leyland and Lucas TVS buyers-sellers meet is organised periodically where the subcontractors are stated to be provided with a forum for discussing their problems. Such occasional gatherings cannot confer any advantage either to the primary/ancillary firm or

56) "--- It is essential for the supplier to maintain good personal relations with all his customers, so that he can discover the trend in orders before they are placed. In addition, with close relationships the supplier will often know that a change is coming or a strike imminent long before it is generally known. However, it is not always possible to establish and maintain these relationships" Hartley J, (1981) ibid. pp. 105
subcontractor. On the contrary at times the subcontractors may get penalised for being too vocal in their grievances. (57)

Quite unlike in India, the primary firms in Japan had organised vertical groupings of their subcontractors. This served as a channel for diffusion of technology, managerial assistance and training, besides inculcating a sense of loyalty. (58) However, it would be simplistic to assume that the relationship between the primary and ancillary subcontractor firms in Japan was free of problems. In fact, subcontracting was

57) A very senior executive of a primary firm with whom discussions were held stated that when a certain subcontractor complained that he was being hard pressed by this primary producer, his orders were cancelled. In another ancillary firm, the assessment of the subcontracting system is sought through a questionnaire which the subcontractor can send without his signature. However, it was learnt that certain innocuous marks are put on the questionnaire mailed to the supplier to establish his identity.

58) The associations served as an "information clearing house and as a means to keep up the morale ("we' feeling) of the member firms."
For instance when Toyota faced serious financial and labour problems in 1949, the member firms 'cooperated with the primary firm by deferring the collection of receivables from Toyota'.
a major source of poor quality in Japan in the 1950s and 1960s. (59) But with the assistance of the primary firms subcontractors became reliable suppliers. These suppliers had evolved into specialised producers of one or two components with a level of quality that integrated automakers like General Motors and Ford had trouble in matching. Likewise, the early stages had witnessed delays in payments as seen from the fact that special legislation had to be enacted. (60) But the primary producers who were keen to see the growth of their subcontractors could not have pursued such a

59) "The decision of Nissan and Toyota during the mid 1950s to subcontract more components, rather than expand in-house capacity to meet new demands, stands out as the most significant departure from American practice, because, when implemented successfully, it resulted in consistently high nominal productivity in-house and low manufacturing and operating costs. Subcontracting so extensively brought with it the risk of poor quality and this was a major difficulty until the early 1970's. Cusumano M A, (1985), ibid. pp. 377.

60) "Subcontracting is not without its darker side. The relatively strong position of parent firms sometimes tempts them to exploit their subcontractors: delays in payments and unfair pricing of subcontracted parts and components are the most frequent causes of trouble. If the system is to operate soundly, therefore governmental guidance and control are indispensable. Regulations by the Anti-Monopoly Law and the Payment of Subcontractors (Prevention of Delay) Law in Japan may be cited as an example."
policy for long in any case. The Japanese industry provides a shining example of how an oligopolistic structure per se does not result in an exploitative conduct. In fact in Japan the conduct of the primary producers had been responsible for allowing the subcontractors to grow into first tier ancillaries of equal size, a phenomenon seldom expected on the part of the primary firms elsewhere and a market conduct unique to the Japanese automobile industry.

In India opportunities for subcontracting were preempted due to extensive in-house manufacture. At a later stage when the primary and ancillary firms went for subcontracting it was primarily to reduce their costs by farming out labour intensive activities which consumed considerable supervisory time. This indicates clearly that subcontracting is inevitable in the industry due to the enormous complexity in its manufacture. An increase in the pace of manufacturing as opposed to mostly assembly activities would therefore necessitate subcontracting. But in the Indian industry a strong tendency had developed towards vertical integration due to the slow pace of domestic
manufacture. (61) Once this tendency is built in, an inertia for vertical disintegration sets in as it involves certain special additional responsibilities as under subcontracting. Hence the parent firms did not go beyond the limited objective of cost-saving and failed to perceive the potential of their subcontractors as other than suppliers of cheap inputs. The subcontractors who are mostly small firms primarily cling on to the primary / ancillary firms since it resolves one of the biggest problems of a small firm, viz., marketing. Hence despite problems like deferment of orders, delays in payments etc. the subcontractors do not quite the field. (62) In fact in the case study

61) "The basic reason for the isolated existence of many 'large' enterprises in India is their small size and slow growth. Subcontractors cannot grow and multiply without the expansion of existing and potential parent firms. This is particularly true in a country like India, where large enterprises usually have integrated production facilities and where under-utilisation and duplication of production facilities are common both in parent firms and in subcontractor's factories". - Watanabe S (1974) ibid.

62) "One of the main advantages small companies may receive from a subcontracting arrangement is stability of orders. Small producers hope to obtain, and sometimes do obtain sizable orders assuring them of a given market over a period of time -- the time of subcontracting will be directly related to the contd.
barring one firm (Firm-4) which was participating in the automotive sector at only about 50% of its production, none of the subcontractors expressed any intention of moving into a different market. Yet, this continuous relationship has not yielded long term benefits such as improvements in technology, quality etc. A fundamental difference in the conduct of the primary producer / ancillary firms in India as compared to their counterparts in Japan is that they have failed to derive the full advantage under subcontracting apart from cost.\(^{63}\) Apparently, given the government policy of promoting small enterprises the large firms are reluctant to formalise their relationship with their subcontractors for fear that it may impose some obligations on them. Unlike in Japan where both stable and exclusive relationship with subcontractors was the

62) contd.
contractor's production activity. In periods of boom, the subcontractor can reasonably expect an increase in orders: he will 'climb on his contractor's coat-tails'. In periods of depression, he will evidently be the first victim."

63) "Currently the main real economic advantage of subcontracting in India is for lower labour costs for the small firms, lower labour associated over-heads and reduced labour disturbances."
order of the day, until the subcontractors had grown in size, in India even very small subcontractors are forced to have multiple buyers. This feature has been discussed in Chapter IV.

Under a subcontracting relationship the primary/ancillary firms in India have to undertake the process of selection besides deciding on the modalities of transaction with each subcontractor. In most cases the relationship is also a continuous one. Yet, the conduct of the primary and ancillary firms does not reveal any interest on their part to foster the growth of the subcontractors. While there is an increase in the volume of business transacted, it is invariably in respect of items of low technology which they are already producing. It is seen that a sizable number of subcontractor firms is manned by qualified engineers who can contribute in many ways to technological improvement. This would require that a congenial environment is created wherein the subcontractors are encouraged to take up such tasks. But such an endeavour would require both faith and money besides the support of the primary firms. More importantly, the primary
firms can motivate their subcontractors only if they are sufficiently motivated themselves to undertake the task of improvements in quality, reduction in costs etc. Both the subcontractors and the primary / ancillary firms have only short term interests even when their business relationship extends to the medium or long term. As a result the parent firms show oligopsonistic traits like exploiting their subcontractors during a recession. Watanabe notes that the "key to the introduction of efficient subcontracting in developing countries as of so much else, is the creation of an appropriate socio-psychological climate. A strong sense of teamwork and social responsibility is an essential ingredient - - - ."(64) In India, the large vehicle manufacturers do not find it worthwhile to expend much time or resources on subcontractors. The subcontractors are deprived of the advantage of graduating into higher levels of technology. In any case this would require both a growing market and the unstinted support of the primary producers. The absence of such conditions has resulted in an unchanging structural relationship in the industry. The

64) Watanabe S, (1971) ibid.
subcontractors are doomed to remain as small suppliers of low technology items.

The automotive industry in India saw some changes in terms of infusion of fresh technology with the establishment of public sector project, Maruti, for the manufacture of passenger cars. The development that surrounded this event indicate that once again indigenisation is on a discount (65) which would have adverse implications for subcontracting. It is only when there is a rapid progress in domestic manufacture that subcontracting can develop as an effective support

65) "As a result of entry of newcomers in the field of proprietary ancillary items, in order to protect their business, the older manufacturers are obliged to ensure that their products are comparable in technology to those of the newcomers. This involves additional investment and in many cases has led to additional collaboration arrangements for technology. When this happens chances of indigenous efforts to advance technology becomes slow and a situation develops whereby advancement is obtained only through a competitive purchase of technology to match brand name with brand name. Indigenous R & D becomes an empty slogan and at best confined to adaptive work rather than the creative work".

system as found in the Japanese automobile industry.

The conduct of the automotive firms has been conditioned by the absence of outside competition. The government which had perpetuated this till date does not have a cohesive policy towards this industry. Under a liberalised licensing policy the Indian automotive manufacturers were allowed to diversify their product line in the automotive sector. But this resulted in a heavy outflow of foreign exchange and so new projects involving foreign collaborations had to be halted. (66) The industry has increased its capacity, but without a substantial increase in market the manufacturers will face problems. One way by which

66) "The introduction of the concept of broad banding in the automobile industry has resulted in several proposals by Indian Manufacturers for diversification into manufacturing of new model cars. The move well known among these include TELCO (in collaboration with Honda of Japan) and Escorts (in collaboration with Citroen of France). The government has now become hesitant to approve the applications as this would entail heavy expenditure of foreign exchange. The major problem which Indian car manufacturers will face in the coming years is that the aggregate demand for cars will not be large enough to justify increased capacities*. “Automobile Units grinding up in low gear”, Indian Express, dated 14.4.87.
vehicle manufacturers can increase the market is to reduce the price and improve quality. The Japanese automobile industry had succeeded in achieving this through their subcontracting system. Lacking the dynamism of the Japanese firms the Indian firms, secure in a sheltered market, are likely to perpetuate their inefficiencies. Despite starting off with similar disadvantages the Japanese automakers through their market conduct had achieved entirely different results. In Japan the primary producers and ancillary firms had grown together reaping the advantages of cooperation in terms of technological advancements, improvements in quality and cost reduction, which in turn has benefitted the whole economy. On the other hand in India, the absence of such a cooperative approach has resulted in inefficiencies of various forms within the industry detrimental to the economy. As noted by Watanabe, this situation has to be remedied through "economic incentives, even if the socio-psychological climate governs the direction, speed and extent of reaction to them. The dominant motive of specialisation-oriented subcontracting is cost-saving through better use of capital, labour or technology.