CHAPTER 7

CONCLUDING REMARKS AND IMPLICATIONS OF THE STUDY

This last Chapter summarises the main findings of this study, i.e: the strength of the ENO framework as well as its correlation with economic development and competitiveness with special reference to the automobile industry. Some implications of the findings on the economy, the automobile industry and participating firms within the context of global competition are also revealed to enable the respective actors to adapt to the new environments; otherwise, the possibility of being left out in the fierce global competition, or more adversely, totally squeezed out from domestic markets is inevitable.

7.1 The Strength of the ENO Framework

Although the mainstream neo-classical economics, as perceived in microeconomic theory, acknowledges the entrepreneurial factor as an input to the economy, the attempt to place the factor in theory, in a more appropriate manner has been a total failure. Major economic arguments have been diverted from this qualitative factor and converged to other quantitative economic inputs, such as capital, labour and land. As a result of such an overemphasis on quantitative variables, entrepreneurial factor played no definite role in an economy.

This weakness led to the development of an economic theory, where the entrepreneurial factor was not given its true role in economic development of any society. In reality, the entrepreneurial factor is a dynamic organiser or coordinator of all

other scarce resources. In an adaptive and innovative manner, this factor is able to reorganise probable static resources into new combinations which bring about advantages to itself as well as to the whole economy.

Another weakness of the neo-classical economic theory is its over-simplified assumption about economic transactions. The theory recognises that any economic activity could possibly end up with the transaction of goods and services in the marketplace, but market transactions are confined to merely exchanging end products between discrete groups of economic agents, i.e. the producers and end consumers. Based on this assumption of independent actions, economic transactions among economic actors, such as producers, from the same group have been overlooked. Furthermore, major economics and development economics textbooks hardly provide any room for conscious, inter-dependent interactions among economic agents of a certain group, specifically for the case of group entrepreneurial firms.

Attempts to overcome these weaknesses have been taken by other disciplines. For instance, economic sociology, in particular, acknowledges the entrepreneurial factor and interdependency among economic actors of similar and/or dissimilar groups. This interaction could be based on individuals or organisations. Thus, the new discipline offers good medicine to remedy the scar left by traditional economic theory.

Fully utilising the explanatory power of economic sociology, the present study (as discussed in Chapter 2) has developed the ENO framework. This analytical framework is capable of "killing two birds with one stone" because it is able to solve two problems at a time. Besides solving the problem of indefinite entrepreneurial functions and over-independent actions of economic agents inherited from neo-classical

economics, it also solves the problem of the disintegrated analysis of the three conceptual frameworks, namely entrepreneurship, network and organisation - to be more consistent and conceptually harmonious.

The ENO framework assumes that entrepreneurial factors are influential in determining the mode of economic or business organisations that are suited to their needs. In choosing the best organisation, they take into account various economic and non-economic (social capital) factors surrounding them. Given the complexity and stiffer competition in the present business world, organisations seem to play essential entrepreneurial functions.

Today, the trend is towards an entrepreneurial organisation establishing networks with other organisations; which consequently result in clusters of organisations or business groups. The power of ENO thus exudes from both the internal (entrepreneurial skills and cost efficient methods), and external environments (advantages derived from other firms or from their cooperation).

The strength of the ENO framework lies in its ability to explain the patterns, contents and characteristics of spatial inter-relationships among entrepreneurial organisations which enables these organisations to relate the congruence between economic goals and social capital. This framework is also useful in analysing the micro and macro performance of an economy. At the macro level, its ability to explain the economic development of East Asian countries is obvious; whilst at the micro level, it would be the best vehicle for the development and competitiveness of certain industrial sectors, particularly the automobile industry.

7.2 Entrepreneurial Network Organisation and Economic Development

A civilised society is concerned with the improvement of their standard of living. This proposition emanates from Jeremy Bentham's (1748-1832) doctrine of utilitarianism. He argues that mankind is governed by two sovereign masters, namely pain and pleasure; but all their motivation at any time and place is to avoid pain and to maximise pleasure or utility (Ekelund and Hebert 1990, Hunt 1992). Therefore, economic development containing economic growth and equal distribution of wealth is their main attention. Hence in order to achieve economic prosperity they are also concerned with economic organisation which is the best mode to organise scarce resources effectively and efficiently.

For the society which adopts the capitalist economic system, the best model for economic organisation are changing over time due to the changing needs (of both consumers and producers) and the environments that force these changes. The essence of this capitalist society is the independent and significant actions of the private entities in the economy. In fact, self-interest pursuits to obtain a better share in the economic cake is its main concern.

In a simpler capitalist society, the market (or price) mechanism is the best economic organisation to cater to its needs. As the economy advanced, more resources have to be accumulated and managed. Individual entrepreneurs were incapable of taking all the burden. Thus, a hierarchical organisation was required to carry out entrepereneurial functions separated by functional divisions. Westerners still accept that the organisation as in the case of the individual has the characteristics for independent

action. They believed that this individualistic capitalism would pursue self-interest that eventually bring about economic prosperity to their society.

Unfortunately, such an independent organisation is only suitable for homogenous products and simpler economic activities. The more prosperous society requires greater product differentiation and a wide range of choices. Ultimately, several forms of ENO emerge in the economy to cater for such consumer demands.

Chapter 3 has compared and demonstrated different types and features of economic organisations across regions and countries. Hierarchical entrepreneurial organisations were more prevalent in the West due to their search for market dominance since the World War II. On the other hands, the Asian region tends to resort to hybrid organisations (ENO features) to cater for a growing competition in the open markets. This resulted in the emergence of various business groups which were also known in various names, such as *Kereitsu and Kaisha* in Japan, *Chaebol* in Korea and family-owned business groups in Taiwan. Kin-based business groups were also found in Chinese-dominated economies, such as in Hong Kong, Singapore and other Southeast Asian countries.

The structure of the business groups are rather mixed; these business groups are structured horizontally or vertically dependent on the objectives and activities of an organisation as well as on national origins of such organisations. *Kereistu* are less-centrally coordinated or structured horizontally among a group member firms. *Kaisha* are structured more vertically for enabling a principal firm (*Kaisha*) to monitor and control its affiliated firms more effectively, particularly in manufacturing activities.

Chaebol and other business groups in other Asian countries are also structured more vertically because they are owned and controlled by a single family.

Nevertheless, irrespective of their structure, business groups exchange many types of input and resources, such as goods and services, information, capital, personnel, management, directorship and many other essential input, among their member firms.

Business groups are responsible for bringing about rapid economic development to the region which has been dubbed as "economic miracles." Some of these organisations, especially the Japanese and the Koreans, have become multinational corporations and exported their firms and activities to other countries, even to the U.S.A. By the mid-1980s, the significant influence of the Eastern business groups on the world economy and automobile industry, in particular, has attracted many parties to study the fundamental strength of the groups. Owing to their structural differences from the Western capitalism, they are dubbed with various new terminologies of Asian capitalism. Their emergence is more prevalent in culture-rich, benevolent societies in the East Asian region. This region characterises the existence of strong business groups differently from the business groups in the West, in terms of the considerable autonomous power held by firms, both affiliated and non-affiliated to the core group. The existence of these firms is due to not only economic factors, but also social capital variables which are strongly functional in shaping them.

Malaysia too is reluctant to be left out from emulating this organisational structure, where various stimulatory and protective measures have been introduced by the government to propel large entrepreneurial firms to form their networks, particularly

with local smaller firms. Nevertheless, the government has more effective power through its substantial equity participation in large firms; but its power becomes weak when the large firms are owned by foreign MNCs. Therefore, ENO is more applicable to government-sponsored firms and less applicable to non-government-sponsored firms.

Due to the structural weaknesses in the local industrial sector, foreign MNCs prefer to outsource parts from their parent companies in the respective home countries or from their subsidiaries overseas. In other words, intra-firm linkages are preferred to inter-firm linkages. These MNC's are the largest contributors to our economy, particularly to export-oriented industrial production, such as electrical and electronics as well as textiles and garments.

7.3 Entrepreneurial Network Organisation and the Automobile Industry

As displayed in Chapter 4, the pioneers of the automobile industry have introduced many changes in the world production systems. The recent changes have made a remarkable impact on global production systems when Asia's most dominant automakers, Japan, was able to outperform old producers, such as the American and European automakers in the international market. Since the 1980s, the Japanese sub-contracting model has, despite mixed results, been emulated by automakers all over the world. The "Japanisation" of the production system, particularly in the industrial sector, is nowadays a common phenomenon in other parts of the world.

The outstanding performance of the Japanese automobile industry has been largely associated with the ability of Japanese automakers to develop inter-firm linkages within a special form of ENO, the sub-contracting arrangements. The structure

of this arrangement is vertical, but its coordination and relations in terms of production velocity, parts supply, quality control and delivery services are more horizontal once the centralised monthly plan is formulated. It is characterised by the existence of two parties, namely automakers and suppliers, to exchange various products, support and services. These two parties also have special production jobs to perform: automakers specialise in doing final assembly of automobiles, whilst suppliers specialise in making auto parts and performing sub-assemblies of auto parts.

Each party benefits from the transactions: automakers gain in terms of constant flows of auto parts and components, manufacturing skills and cost competencies from their suppliers. The suppliers, in turn, derive benefits from the automakers in the form of market assurance and various support and assistance, such as equity participation, directorship and management assistance, consultancy and advisory services, and technical assistance.

Many factors have influenced the configuration of sub-contracting arrangements in the Japanese automobile industry. The Japanese government played a dominant role in the initial formation of the sub-contractings; but once this organisation was established, principal automakers took the leading role to consolidate this economic organisation which was fostered by economic calculation and social obligation among the group member firms.

7.4 The Malaysian Automobile Industry and Its Subcontracting Arrangements

As elaborated in Chapter 5, Malaysia has long been involved in the automobile industry, but its involvement became more serious with the introduction of the heavy

industrial policy in the 1980s. This policy was in fact in line with the Look East Policy introduced by Dr. Mahathir Mohamed immediately after he took the Prime Minister's office in the early 1980s. These two policies were directed to emulate the Asian capitalism model which premised on collective entrepreneurship (ENOs) and heavy industries in the hope that this policy direction would bring the Malaysian economy to an advanced level.

7.4.1 The Automobile Industry at the Centre Stage

Although this country has identified and promoted several heavy industrial projects, the automobile industry is always at the centre stage. Heavy industrial projects, such as the automobile industry are characterised by a huge capital investment, high level of technology and expertise, and a long gestation period; hence the private sector is reluctant to invest in them without a special privilege offered by the government. As an alternative, the government took a leading role in the projects. In the automobile industry, the government has introduced a list of policy measures in terms of protection, regulation, stimulatory and investment tools as well as subsidy to promote its two automobile "pet projects", namely Proton and Perodua. These two projects were established in collaboration with Japanese multinational corporations, i.e. Mitsubishi (Proton) and Daihatsu (Perodua).

Efforts were also made to initiate and develop the automobile production system through sub-contracting arrangements between automakers and sub-contractors. In this connection, the government has given a special attention to enhance the development of local small and medium sub-contracting firms, amongst others, through the Vendor Development Programmes and the Local Content Policy. These two policies would

enable the local firms to be suppliers or sub-contractors to larger firms, i.e. the national and non-national automakers.

About two decades after the establishment of the first national car project (the Proton in 1983), a question was raised whether or not all the government efforts were fruitful in bringing success to the economy in general and to the automobile industry in particular. This study attempts to entertain part of the question by examining the present status and achievement of the automobile industry in terms of its production and market performances. Nonetheless, the more specific attention is given to its sub-contracting arrangements, based on the perspectives of both automakers and sub-contractors.

7.4.2 Auto Production and Market

It is undeniable that the government, within certain aspects, has contributed significantly to the development of the Malaysian automobile industry. It successfully initiated the national automobile projects, which would be otherwise a dream, with the launching of the two national car projects (Proton and Perodua). From a humble start, the two national companies were able to produce a significant amount of passenger cars a year with Proton alone contributed to more than 80 per cent of the total domestic production.

Unfortunately, a large portion of the local automobile production (more than 80 per cent) is catered for domestic market, whilst the rest (less than 20 per cent of either passenger or commercial vehicles) is exported. To a certain extent, a small proportion of the domestic demands has to be met by the import of either used, reconditioned or new CBU vehicles.

Indeed, Malaysia is the net importer of automobiles because its trade accounts in automobiles are always deficits and increasing over the years. Import sources of automobile products are dependent on its types. In 1998, Japan, Germany and France were the top three sources of Malaysian imports of passenger cars; while the top three sources of commercial vehicle imports were the United Kingdom, Germany and France.

Export of Malaysian automobiles is mainly for passenger rather than commercial vehicles. Most export of passenger cars were sourced from Proton, which constituted to about 75 per cent of the 23,700 units exported in 1998 (MITI 1999). The top three markets for the export of passenger cars were the United Kingdom, Germany and France. For commercial vehicles, the top three markets for the export were the U.S.A., Taiwan and Singapore. Between 1997-1998, the export value of both passenger and commercial vehicles increased by about 61 per cent though the export volume decreased by about 3 per cent, mostly due to the favourable exchange rates that benefited this country.

7.4.3 Governing Mechanism and Influential Factors in Binding the Sub-Contracting Arrangements

In Chapter 6, the governing mechanisms of auto sub-contracting arrangements for automakers and sub-contractors were discussed separately. It is timely for this sub-section to bring the two points of governing mechanisms together, as both automakers and sub-contractors play active roles in incorporating certain elements in their networks.

As discussed in Chapter 6, the automakers and sub-contractors entered a special sub-contracting arrangement to exchange their goods and services, and resources among them. The three automakers incorporated several elements of governing mechanisms in

their networks with sub-contractors. These elements which included purchasing departments, organisational support, communication style, standardisation and quality management, grading system and mutual involvement in certain auto production processes and activities would enable the automakers to either monitor, assist, and/or develop their sub-contractors. In addition, one automaker (Automaker A) organised its sub-contractors into a tier system.

A cross-examination with the sub-contractors reveals further details of certain elements of such governing mechanisms. Most of the sub-contractors was governed or coordinated by legal contracts, JIT system, and information sharing in dealing with auto parts production and/or transactions. A rather large number of the sub-contractors also received technical, R&D facilities, and consultancy support from automakers. Nevertheless, a small percentage of the sub-contractors obtained other supports, such as equity participation, directorship or management and financial support from automakers.

A majority of the sub-contractors achieved outstanding performance in auto parts production when they were awarded with quality certifications, i.e. ISO/MS 9000. This is also an element of governing mechanism due to the fact that the receivers were able to conform with the quality standard set by an international body in Geneva, Switzerland.

Most of the sub-contractors dealt directly with the automakers pertaining to price, quantity, quality, and delivery of auto parts. From the communication perspective, a majority of the sub-contractors admitted that they had horizontal

communication (mutual negotiation) with automakers in the determination of price, quantity, quality, and delivery of auto parts.

Irrespective of the automakers or sub-contractors' viewpoints, the empirical results unveil that the sub-contracting arrangements were more influenced by economic calculation rather than social capital factors. The importance of economic calculation over social capital in influencing and binding the buyer-supplier networks is understandable. Rationally, the automakers turned to the sub-contractors because they wish to minimise their business risks and to save their in-house production costs; hence they would gain economies of scale and economies of scopes through such an organisational specialisation.

In addition, the automobile manufacturing industry itself is rather new to the Malaysians. As a newcomer, the automakers are struggling to achieve competitive advantages over their rivals. Domestic-oriented production for the small auto market adds severity to the position of the automakers and sub-contractors. Small demands from the domestic auto production lines is not conducive for the development of the auto-parts industry. With the small number of sub-contractors, what is most important to consider by the automakers is economic efficiency, rather than social affairs. Moreover, the real actors behind the industry (in automakers and sub-contractors, at least in technology and design) are not Malaysians. Without government intervention in the industry, the automakers (particularly the Japanese) would probably prefer to form their own sub-contracting arrangements that consist of themselves and their nationally established sub-contractors. If this is the case, then social capital would play a greater role compared to economic calculation.

It should also be realised that social capital has its own influence on the buyer-supplier networks. Most of the sub-contractors agreed that social capital had a certain degree of influence in governing and binding their network relations. The levels of influence of this factor were varied from one automaker to another; but by and large, its influence is weaker than the economic factors. Most of the sub-contractors admitted that trust and culture were more important than power in binding their networks. Nevertheless, when this social capital is compared with economic factors, its influence is again weaker than the latter. This is evident when there was merely a small proportion of the sub-contractors stressed that social capital was the more influential factor than economic calculation in binding their networks with automakers.

7.4.4 Auto Parts Production and Its Influencing Factors

All the three automakers surveyed made individual auto parts and performed in-house sub-assemblies of auto parts, such as body, engine and emission, chassis and brake, as well as transmission, steering and clutch parts. Certain parts, such as electrical and electronics and standard parts were, either assembled by their sub-contractors, or imported.

Automakers had their own reasons for making auto parts and doing sub-assembly in-house. All the three automakers admitted that in-house production for certain parts was essential because these were specialised parts and cheaper through in-house production. Two automakers provided other reasons for undertaking in-house production: Automaker A conceded that in-house production was important for high

technology items; whilst Automaker C did in-house production in order to achieve higher local content points.

Even though all the three automakers did in-house production, they needed external sourcing, either from local sub-contractors or import sources, to ensure the continuity of their auto production activities. As discussed in Chapter 6, a large percentage of general parts was outsourced by the three automakers from local sub-contractors, whilst functional parts (except for electrical and electronics parts) were imported. In other words, outsourcing from local sub-contractors by the three automakers were substantial for body and standard parts (general parts) as well as electrical and electronics parts (functional parts).

From the perspective of sub-contractors, Chapter 6 demonstrated the patterns, trends, and performances of auto parts production. Most of the sub-contractors was able to diversify their individual auto-parts production. However, a majority of them (59.5 per cent) confined their production activities to individual parts making (a simpler level of parts making in the automobile industry); compared to 40.5 per cent of the sub-contractors was involved in both individual parts making and sub-assemblies of auto parts.

An insignificant number of the sub-contractors (19.7 per cent) was solely involved in the manufacture of functional parts, such as engine and emission, chassis and brake, as well as transmission, steering and clutch. Most of them (45.1 per cent) made general or standard parts, the least strategic parts in auto making. The remaining 35.2 per cent of the sub-contractors diversified their production into making mixed products, i.e. functional and general parts.

A majority of the sub-contractors (58.8 per cent) manufactured original equipment (OEMs) in which they made auto parts based on designs developed by automakers or foreign collaborators; 17.6 per cent was own design manufacturers (ODMs) and 23.5 per cent was both OEMs and ODMs. Most of the sub-contractors (72.8 per cent) identified themselves as the first-tier vendors (based on their networks with Proton) and the rest belonged to the second-tier vendors.

Chapter 6 also revealed that the auto parts production was strongly influenced by the firm position in a network, firm size, firm ownership, the levels of foreign equity participation in the sub-contracting firms, and technical collaborators among the sub-contractors.

The first-tier sub-contractors were given more important production tasks than the second-tiers as evident in their higher involvement in both individual parts making and sub-assembly of auto parts as well as in the manufacturing functional parts and a mixed combination of functional and general parts.

The large sub-contractors were more able to diversify their auto parts production and to undertake more production tasks than the small and medium sub-contractors. The findings of this study showed that a larger portion of the large sub-contractors than the SMSCs was involved in both levels of parts making (individual parts making and sub-assembly of auto parts) as well as in functional parts and a mixed combination of functional and general parts production.

The local sub-contractors tend to undertake less important production jobs than their foreign counterparts since they tend to produce individual parts and involve less in the production of functional parts. On the other hand, the foreign sub-contractors tend to

involve in more important production jobs, i.e. individual parts making and sub-assembly of auto parts as well as functional parts production.

The sub-contractors with foreign equity participation tend to perform more important jobs in auto parts production than those without the foreign resources. This is a fact when the percentages of the former involved in both individual parts making and sub-assembly of auto parts as well as in functional parts production were higher than the latter.

The sub-contractors which had technical collaboration with Japanese firms were able to take greater responsibilities in auto parts production by involving in more important levels of parts production (functional and the mixed parts).

7.4.5 Auto Parts Market and Its Influencing Factors

As discussed in Chapter 6, Malaysia is the net importer of not only automobiles, but also auto parts. Its main export markets for auto parts were Singapore, Taiwan and the U.K., whilst its main sources of imported parts were Japan, Germany and Taiwan. In 1998, the export value of auto parts was about RM298 million (MITI 1999), compared with its import value of RM1,645 million for the same period (MIDA, unpublished data).

Chapter 6 also displayed the patterns, trends and performances of auto parts market. Most of the sub-contractors sold their auto parts to local market; only about 17.0 per cent of them were able to diversify their markets to both local and export markets. In the local market, a majority of the sub-contractors (56.6 per cent sub-contractors) was able to diversify their parts market to various manufacturing industries,

i.e. to automobile and non-automobile industries. In the automobile industry, most of the sub-contractors (69.4 per cent) sold their parts to a wider market, i.e. to automakers and other auto sub-contractors. A majority of the sub-contractors (59.8 per cent) was able to market their auto parts to more than five automakers. Most of the sub-contractors (68.6 per cent) sold their auto parts to both national and non-national automakers.

As evident in Chapter 6, auto parts market was influenced by the firm size, firm ownership and the levels of foreign equity participation in the sub-contracting firms. This study found that the relationship between auto parts market and firm size was rather mixed. Instead of confirming the hypothesis that the large sub-contractors had a broader market base, the study found that the SMSCs and not the large counterparts were more able to broaden their market base on international basis and in the local manufacturing and automobile industries.

However, the study found that the large sub-contractors were more able than the SMSC's to broaden their market base in two areas. They were more able to sell their products to more than five automaker buyers and to both national and non-national automakers.

With little exception for the local manufacturing market, the foreign sub-contractors were more able than the local counterparts to conquer a broader market segment. This proportion is true when a larger percentage of the foreign sub-contractors was able to sell their products to both local and export markets, automakers and auto sub-contractors, more than five automaker buyers, and national and non-national automakers.

The sub-contractors with foreign equity participation tend to dominate a broader market base than those without foreign equity participation. A larger percentage of the former was able to market their products to the local and export markets and to more than five automaker buyers in the local market.

On the contrary, the sub-contractors without foreign equity were more able to dominate the local markets based on their domination in the local parts market (in both automobile and non-automobile, automakers and auto sub-contractors as well as national and non-national automakers market categories).

7.5 International Framework for Future Competition

Malaysia is a small-open economy and any changes in the international agreements and arrangements, specifically in economic issues, would ultimately affect its position internationally. The two coercive powers that would bring about uncertainty to the Malaysian economy in the near future are the ASEAN Free Trade Area (AFTA) and the World Trade Organisation (WTO).

7.5.1 Regional Framework: The AFTA

Prior to the introduction of AFTA in 1992, economic cooperation among the ASEAN members was very disappointing. Most of the regional cooperation during the 25 years of the ASEAN formation was biased towards fulfilling the political agenda of the member countries (Mohd. Rosli 2000). The lack of information and promotional programmes as well as slow and long bureaucratic *red tape* for the processing of new

applications have discouraged the involvement of private firms in ASEAN projects (Carolina 1993).

Industrial structures among member countries were similar. Most of the production activities were export-oriented and limited to simple processing and assembling as well as to labour-intensive and import-substitution industries (Anwar 1993). The nature of economic activities of each member country was a substitute, rather than a complement, to the activities of other member countries and there was tendency for each member country to protect its own entrepreneurial firms by creating a huge barrier for the entry of firms from other member countries.

Foreign MNC's that have been established in the region were an added problem to potential economic cooperation among ASEAN countries due their preference for importing inputs and components from their respective home countries. This is reflected by the following indicators: intra-ASEAN trade was not more than 20 per cent of total ASEAN trade with the world (Suthipand 1993); its share in non-oil trade only accounted for about 20 per cent (Anwar 1993); and its trade in manufactured products accounted for a mere one third of the total ASEAN external trade (Oii 1986). The economic success of each member country in the 1970s and 1980s was generated from within, and not because of the impact of economic cooperation among themselves.

Later developments at international levels have compelled ASEAN countries to reconsider their position globally. Strong pressures from the enlargement of new trade blocks, such as the North American Free Trade Area (NAFTA, comprising the U.S.A., Canada and Mexico) and European Union (E.U.), as well as the uncertainties created by the late conclusion of the multilateral trade agreements under Uruguay Round have

forced ASEAN countries to create their own shield (Yoo 1995) through the formation of AFTA.

The Fourth ASEAN Summit in 1992 in Singapore saw the commitment of the ASEAN countries to endorse AFTA. Three short documents for the creation of AFTA were issued: (1) Singapore Declaration of 1992; (2) Framework Agreement on Enhancing Asean Economic Cooperation; and (3) Agreement on the Common Effective Preferential Tariff (Anwar 1993). All these documents showed the eagerness of ASEAN members to realise AFTA within 15 years from 1 January 1993, or alternatively to be completed by 1 January 2008.

As the main mechanism of AFTA, the Common Effective Preferential Tariff (CEPT) has offered two programmes of tariff reductions: the Fast Track Programme and the Normal Track Programme were tariff reduction plans calculated as of 1 January 1993.

7.5.1.1 Fast Track Programme

This programme covers all manufactured products (except for unprocessed or minimally processed agricultural products). Products with the existing import tariff rates below 20 per cent will be reduced to between 0-5 per cent within 7 years (by 1 January 2000). For products with tariff charges that exceed 20 per cent, a reduction between 0-5 per cent within 10 years (by 1 January 2003) applies.

Fifteen product groups have been identified for tariff reductions under this programme as follows; vegetable oils, cement, pharmaceuticals, fertilisers, plastics, rubber products, leather products, pulp, textiles, ceramic and glass products, gems and

jewellery, copper cathodes, electronics and wooden and rattan furniture (Carolina 1993).

7.5.1.2 Normal Track Programme

For products with import tariffs within the range of 20 per cent and below, these will be reduced to 0-5 per cent within 10 years (by 1 January 2003). For import tariffs that exceed 20 per cent, these will be reduced to 20 per cent within 5-8 years (by 1 January 2001), then to 0-5 per cent within 7 years (by 1 January 2008).

In a later development, ASEAN countries agreed to reduce the time frame of the AFTA from 15 years to 10 years. This means that AFTA will be completed by 1 January 2003, instead of 1 January 2008 as agreed upon earlier (Rosli 2002). As an additional measure, all non-tariff barriers (import bans, quota, import and export licensing and foreign-exchange licensing) are to be removed for the products under the CEPT. They are instead, to be replaced by tariffs and finally reduced in accordance with the CEPT schedules.

Recently, on Malaysia's request, tariff cuts for the automobile industry have been postponed from 2003 to 2005 (The Wall Street Journal, 12 October 2000). If all the ASEAN members abide by the planned trading mechanism, they will have common tariff rates of 0-5 per cent on all products traded amongst them. Eventually, automobile products too would not be able to escape from this agreement.

7.5.2 Global Framework: The WTO

The World Trade Organisation (WTO) the successor to the General Agreement on Tariffs and Trade (GATT) came into effect on 1 January 1995. In September 1994,

all member countries agreed to widely open their economies, including trade, investment (capital movement) and technology. This recent agreement (called the Uruguay Round) was more global in its nature and distinct from the multilateral agreements in the past which were restricted to tariff liberalisation on manufactured products (see Das 1999 and Dunkley 2000 for detailed elaboration).

All the 8 areas involved are to include tariffs, non-tariff measures, technical matters, trade-related investment measures (TRIMs), trade-related intelectual property (TRIPs), general agreement on trade in services (GATS), plurilateral agreements, and functional mechanism of the GATT system (Dunkley 2000). Only two sensitive issues of environment and labour were excluded from the agreements because of the strong resistance from developing countries.

Despite no detailed agreements on the automobile industry, it is understandable that tariff and investment liberalisation as well as the clarification of non-tariff measures and some other agreements on property rights would become the forces that reshape the future of the world automobile industry.

7.6 Strategic and Policy Implications

The two forces of economic liberalisation under AFTA and globalisation under WTO would bring about opportunities and challenges to the world society. This global issue cannot be put aside because it has been agreed by all the signatories to the two international agreements. Thus, any evaluation of their implications on the Malaysian economy and particularly on the automobile industry should be treated in the global

perspective. And for a more balanced and comprehensive evaluation, this section considers diverse information from the literature and empirical findings of this study.

The following areas indicate how important it is for Malaysia (particularly the local entrepreneurial actors) to organise its economic activities into ENO configurations.

7.6.1 Tapping Economies of Scale and Economies of Scope

As available in Chapter 4, Japanese automakers were able to compete locally and internationally in a rather short-time period because they were able to tap economies of scale and economies of scope through an organisational specialisation which was manifested in the form a sub-contracting arrangement between automakers and their auto parts suppliers.

If Malaysian automakers were to succeed in global competition they have no choice, but to undertake such an organisational specialisation that enable them to tap both economic advantages. Unfortunately, given the present situation of the Malaysian automobile industry, such a specialisation would be difficult to realise because of the weak structure of the economy, of over-protection given to the industry and its over dependence on a small market base.

In connection with the economic structure, it was found that the local entrepreneurs tended to involve in resource-based industries. Consequently, non-resource-based industries, such as the automobile industry, have to depend on foreign entrepreneurs (locally or abroad) to outsource parts and components. With regard to auto parts production, there were merely a few hundreds of sub-contractors involved in

the industry (MIDA, unpublished data) against more than 50,000 sub-contractors in Japan (Smitka 1991) and more than 800 sub-contractors in Thailand (Legewie 2000).

Over protection given to the industry results in the high price that has to be paid by the economy and consumers. Huge protection in terms of tariff and non-tariff barriers as well as special privileges in the form of stimulatory and investment measures and subsidy which were given to the industry at the expense of other economic sectors and consumer surplus. At the same time, the protection offered has made the automobile industry unable to compete internationally.

The small market base (local-oriented market) for Malaysian automakers and sub-contractors made these two entrepreneurial firms unable to perform to their optimal effects. Because there is a large number of automakers (13 automakers) competing fiercely to get a small market share (about 288,000 passenger and commercial vehicles were sold in 1999 based on the new registration), each firm was unable to produce automobiles at full capacity. Average auto production in Malaysia in 1999 was about 23,000 units a year (a total production of passenger and commercial vehicles as in Table 6.6 is divided by 13 automakers), whereas production at a capacity level according to the experience of advanced producers is 200,000 units a year (Mohd Rosli 1994b). This means that Malaysian auto production is at the level of excess capacity, obviously at a much higher average cost.

The small domestic market base also makes the sub-contractors contributed little to the overall development of the industry because of three reasons. First, the small domestic market makes difficult for the sub-contractors to invest in higher value-added production activities (to produce functional parts) due to the fact that it requires higher levels (surely higher costs) of technology; instead, they produced low-technology

products (general parts). Second, the sub-contractors had to obtain technology and design (see Chapter 6) from foreign partners, thus they did not contribute to value added in the manufacturing process (as in Porter's (1985) value chain). Finally, they were not able to mass-produce auto parts and to deeply specialise in certain auto parts; hence they gain little economies of scales and economies of scope in auto parts production.

Alternatively, the sub-contractors should diversify their market base into global arena to tap both economies of scale and economies of scope. Unfortunately, this study found little evidence that the sub-contractors had exported their products. There was merely about 17.0 per cent of the sub-contractors operating in Malaysia exported their auto parts to foreign countries.

Due to the proposed reasons, the Malaysian automobile industry is still far lagged behind than those of the Japanese and Koreans. While these two countries are able to produce million units of automobiles a year for both local and export markets, Malaysia produces merely a few hundred thousand units of automobiles mainly for the local markets. While the two countries are able to export their organisations, auto production system and technology, Malaysia is still dependent on foreigners to start and develop its automobile industry. While the Japanese automakers specialise in the final assembly of automobiles, the Malaysian automakers have to diversify production jobs into individual parts making, sub-assembly of auto parts and final assembly of automobiles.

7.6.2 Consolidation of Sub-contracting Arrangements

Given the short time frame for the full implementation of AFTA (by 2005), Malaysia and its entrepreneurial firms have very limited time to adapt to the changing

environments. Trade associations and locally entrepreneurial firms should play more pro-active roles in organising their related activities and players in any ENO form. Each association should take diversified activities to assist its member firms. These include joint-application for loans, joint-purchases of materials, joint research and development, joint-marketing of products, exchanging information among members and taking care of the welfare of their members. These steps would help their members to pool and share resources; hence, they would be able to withstand the unexpected outcomes of global competition.

Sub-contracting arrangements should be consolidated through more intimate relations among the contracting firms. This effort would help sub-contractors to improve their manufacturing capabilities and to expand their firm size. The expansion of firm was proven important because this study found that the large sub-contractors were more able to diversify their auto parts production, to undertake more production tasks than the small and medium sub-contractors.

Unfortunately, the Malaysian auto sub-contracting arrangement is, to some extent, still in a weak position. It cannot tap economies of scale and economies of scope due to small domestic auto production and its loose structure. The firms were not fully organised into layer system as found in Japan. While the Japanese automakers have deep and well-structured sub-contracting arrangements, the Malaysian automakers have a shallow and not-well-structured sub-contracting arrangements.

As far as the industry is concerned, the source of competitiveness for the Japanese automakers lies in their ability to organise their sub-contractors in a comprehensive multi-tier system. In Malaysia, such a strategy is difficult to adopt

because the industry itself is dependent heavily on foreign partners (at least technologically) to produce and develop automobiles and auto parts.

This study found that only one out of the three Malaysian automakers organised its production into tier system. And from a further discussion with the sub-contractors, the tier system was too shallow because it was confined to two layers only, whereas it developed into three and more layers in the Japanese case. Even though the findings showed that the first-tier sub-contractors were involved in more important tasks of auto parts production than the second-tier sub-contractors, there was merely a handful of the first-tier sub-contractors involved in functional parts making (22.7 per cent); whereas, a larger proportion of them was involved in general parts making (32.0 per cent).

This is in the contrary with the Japanese case in which her first-tier sub-contractors were specialised in functional parts or the assembly of auto parts. Consequently, this study found that a large percentage of functional parts (the parts that enable an automobile to move and to control), such as engine and emission, chassis and brake, and transmission, steering and clutch had to be imported by the three automakers. In contrast, body, electrical and electronics and standard parts were mostly outsourced from the local sub-contractors.

The automakers cannot be blamed for the poor structure of the sub-contracting arrangements. The local sub-contracting firms themselves are unskilled to get involved in the auto parts industry. This study found that the local sub-contractors and the sub-contractors without foreign equity participation tended to confine their auto parts production activities to a simple level of parts making (by making individual parts) and manufacturing general parts. These findings have an earnest implication on the future

development of the sub-contracting arrangements because the local-owned sub-contractors constituted more than 80 per cent of the total of sub-contractors operated in Malaysia. These local sub-contractors would be displaced from the industry under the open market regime as their simple production activities required lower technology and knowledge; and hence opened to fierce competition.

Indeed, space and time are another factor contributing to poor performance of the Malaysian sub-contracting arrangements. In contrast to the Japanese sub-contracting firms which are located within a 2-mile radius with their respective core automakers, Malaysian sub-contracting firms are situated tens and, in certain cases, hundreds of miles away from their automakers. Because there is no auto city in Malaysia, automakers are operating in various locations.

More than 70 per cent of the automakers was operating in Kelang Valley, but their plants were scattered all over the region. As a result, a majority of the sub-contractors (77 per cent) was also spread out all over the area. The rest (23 per cent) was scattered all over Peninsular Malaysia; hence they would suffer losses in terms of the economies of time and space during the transaction process. To partially overcome this problem, there was a proposal to set up a Proton City in Perak; but its fate is still unknown following the Asian crisis that erupted in July 1997.

While Malaysian auto sub-contracting is still struggling to organise its participating firms, Japanese auto sub-contracting progresses even further. Toyota, Nissan, Honda, Mitsubishi, Mazda, Fuji H.I., Daihatsu, Hino and Nissan Diesel have introduced or planned to introduce module production systems in their home or overseas plants (Maeda 2000). This new system requires more intimate relations

between each automaker and its group first-tier suppliers because outsourcing is conducted based on completed components, not on fragmented sub-components or parts as in the past. More aggresively, Toyota also asked its suppliers to acquire an ISO14001 in line with the international request for environmental-friendly automobiles.

In its 1999 purchasing policy, Toyota requested its group suppliers to restructure their overseas operations. In the ASEAN countries, the restructuring has taken place since the introduction of Brand-to-Brand Complementation (BBC) scheme in the late 1980s. In line with the scheme implementation, Toyota retained its three auto parts production plants in Thailand and one each in Malaysia, Indonesia and the Philippines. In early 1993, one of its plants in Malaysia started exporting steering systems to Thailand, the Philippines and Indonesia; its plant in the Philippines embarked on exporting transmissions to Malaysia, Thailand and Indonesia; and its plant in Indonesia and Thailand began to supply gasoline engines and floor panels to Malaysia respectively (Yoshimatsu 1999). Besides Toyota, MMC, Nissan, Mercedes-Benz and Volvo were also granted approval for BBC implementation from ASEAN governments.

7.6.3 Market Access

AFTA, so far, comprises nine ASEAN member countries (Cambodia is still excluded due to its civil war). WTO covers more than 135 member countries (The Asian Wall Street Journal, 12 October 2000) and several trade blocs. These two organisations have billions of people and trillions of incomes. It is an opportunity for Malaysian firms to enter global markets since trade barriers and restrictions would be

removed under the agreements. For example, weighted tariffs on imported manufactured products during the post Uruguay Round were lower than 5 per cent in most developed countries (MITI 1994).

Both automakers and auto-parts suppliers would have better chances to export their products and would be able to take advantage of economies of scale and economies of scope from their larger production activities. However, only efficient firms which are able to offer competitive prices at global standard products would have higher probability to enter and compete in such open markets. On the contrary, inefficient firms would be incapable of entering regional or global markets, or even worse, maintaining their local market share.

Unfortunately, Malaysian automobiles and auto parts are still incapable of getting access into regional and global markets. As discussed earlier, the exports of automobiles and auto parts were, at present, rather insignificant. Export value of both passenger and commercial vehicles was too insignificant to outstrip their import value. In 1998, the export value was RM973.3 million; compared to the import value of RM2,082 million. This resulted in a trade deficit in automobile accounts amounting to RM1,108.7 million (MIDA, unpublished data). A trade deficit in auto parts in the same year was even larger, i.e. amounted to RM1,347 million (MIDA, unpublished data).

From a survey conducted on the sub-contractors operating in Malaysia, this study found that only a small percentage of the sub-contractors (17 per cent) was able to export their auto parts. The rest (83 per cent) sold their products to the local markets. And from the insignificant number of the sub-contractors which was able to export their

auto parts, most of them was the small and medium sub-contractors, the foreign ones and the sub-contractors with foreign equity participation.

As shown in this study, the local sub-contractors were dependent too much on the local marketplace to survive. This indicates that the local sub-contractors were more inward-oriented in their marketing strategy. Hence, it may put the local sub-contractors in jeopardy in the near future, particularly when the Asean Free Trade Area's (AFTA) agreements on the automobile industry is in full force by 2005.

The removal of trade barriers by Malaysia would invite foreign products to flood the local market. For the automobile industry, the removal of the trade barriers on both CBU and CKD means cheaper imports of foreign auto products. Within the ASEAN members, intense competition would arise from the four auto producers, namely Malaysia, Thailand, Indonesia and the Philippines. The three neighbouring countries, i.e. Thailand, Indonesia, and the Philippines are the potential challengers to the Malaysian industries since they have comparative and competitive advantages in terms of labour costs and skills.

As the automobile markets in developed countries have reached a saturation point, the locus of global competition has begun to shift from the developed to developing economies (Abrenica 1998). Consequently, foreign MNCs have consolidated their position in the automobile industry in the Asian region to cater for the local market of host countries (Doner 1994) as well as for export markets (Legewie 2000). Ford and GM are the two foreign firms that have actively developed even up to the upstream auto parts production activities in Thailand. Similarly, the Thai-based Toyota, Honda, Mitsubishi and Isuzu have aggressively exported their automobiles and

auto parts since the recent Asian crisis. In the same token, Daihatsu has been actively forming joint ventures with Indonesian auto parts manufacturers in its efforts to develop the auto parts industry (Maeda 1998). During the period of 1992-1997, a steady increase in the number of Japanese auto parts makers were seen in Thailand, Indonesia, Phillipines, China and Taiwan (Yoshimatsu 1999).

The participation of Japanese MNCs has also increased in China and India after the Asian crisis; the U.S. and European automakers, though lagging behind the Japanese, have also strengthened their Asian bases by establishing production and sales networks (Sato 1999). Besides Asia, foreign involvement in Latin American auto manufacture has been remarkable (MITI 1996). Japanese and European firms in the respective home countries are also expected to substantially increase their auto and parts export to the Asian region once the trade barriers are removed.

The net outcome to the Malaysian economy would eventually depend on the ability of local firms to capture market shares in the global market. However, highly protective measures extended to some industries at present represent a crucial hindrance for their future development and competitiveness. Mandatory deleted items, local content policy and licensing requirements currently adopted by Malaysia are inconsistent with the spirit of AFTA and WTO. With only a short period of time before the official commencement of the trade agreements, it is quite impossible for the protected firms to adjust themselves to the international market when all the barriers are finally removed.

In fact, the Malaysian automobile industry does not seem prepared to open up its market. The Malaysia Automobile Association (MAA) has recently requested the

government to appeal to WTO to extend the local content programme (The Star, 15 April 2000). The initial agreement on AFTA, in particular, the CEPT, was to liberalise tariff barriers by means of cutting tariff rates to 20 per cent by 2000 and 0-5 per cent by 2003 (MITI 1997); but recently before the due date was up, Malaysia applied for the postponement of full implementation of AFTA for the automobile industry to 2005 (The Wall Street Journal, 12 October 2000).

7.6.4 Market Survival

Active relocation and restructuring of foreign MNCs all over the world, particularly in the recent periods indicate that they are seriously preparing for a greater future competition. For the local entrepreneurial firms, the first question that arises is should they not succeed, would they survive the potentially fierce market competition.

Over concentration on the small domestic market invites some problems for future survival of firms. Malaysia has exported many thousands of its auto production annually; but the export volumes have been heavily subsidised by local consumers as reflected by the substantial difference between the high local price and low foreign price for the same auto models and variants.

Malaysian firms too have done some reverse investment overseas. PROTON, for instance, has ventured out to Australia, China, the Philippines and Vietnam. It has also bought over 80 per cent equity in U.K. Lotus International in 1996 (Sieh 2000). But, their presence overseas has so far been rather insignificant when measured against international standards. The reverse investment in the auto industry is largely overshadowed by the Japanese partners. These partners are ready to have joint ventures

with local firms as long as they gain benefit in doing so; but if they think that the local firms are no longer useful to them (say by removing protective measures), they would find ways to cut free.

It is important for the collaborative firms to diversify their markets and to strengthen their position internationally by taking into consideration internal economies that are under their control. Cost reduction efforts by maintaining international standard quality are surely the main criteria for their survival. As found by this study, the sub-contractors had diversified their markets, but it was confined to the local markets. The subcontractors that were able to dominate the local market segments (in the domestic manufacturing and auto markets) were the large sub-contractors, the local sub-contractors and the sub-contractors with foreign equity participation.

Performance and competitiveness of the finished automobile unit are heavily dependent on the performance of auto parts production. In a recent interview, however, one automaker (the first national and the largest car company, Proton) lamented that local sub-contracting firms were rather reluctant to cut their costs of parts production when they were requested to do so. In fact during the recent crisis, the sub-contracting firms had to be subsidised; otherwise they would have had to shut down their operation. In addition, commercial banks declined to render new credits because of market uncertainties during the late 1990s economic crisis (based on the researcher's personal interview).

The reluctance of the firms to cut their costs is probably due to their stubbornness or their inability to do so. This is indeed a cause for concern for the Malaysian automobile industry. If the Proton's sub-contractors were unwilling to cut

costs, then what would happen to the future development of the national car projects when the market is open?

Although Proton and Perodua have seriously attempted to develop local system-component sourcing, the local supporting firms were weak in their structure and function. This study found that a majority of the local-operated sub-contractors tended to involve in a simple level of parts production (by making individual parts) and in the making of general parts. Most of them sourced technology from foreign firms and also used designs developed by automakers or foreign firms (OEMs) to make auto parts. Capability to use own designs (ODMs) to make auto parts were still low among the sub-contractors (only 17.6 per cent of the sub-contractors was ODMs).

The two so-called national auto companies (Proton and Perodua) would survive in the open market in the near future. But this would only be the case when they no longer have to outsource expensive parts and components from local sub-contracting firms, instead they buy from the cheapest sources (including from neighbouring countries like Thailand and Indonesia). If this possibility takes place, efforts to utilise the ENO development programme since the last two decades would prove futile. The future survival of local sub-contracting firms would be in jeopardy owing to the fact that the outsourcing by the national auto projects would be at the expense of these local support firms.

According to a recent survey, two national automobile association members were rather pessimistic about the would-be positive effects created by the removal of the local content policy. One of the associations found that 81 per cent of its member firms would experience adverse effects in terms of the retrenchment of about 5000

employees; annual turnover loss totalling to RM730 million in 2000, RM725 million in 2001 and RM716 million in 2002; investment under threat amounting to RM1,185 million; and the possible closure of 25 sub-contracting firms. Another association found that 77 per cent of its sub-contracting firms viewed that the removal of the policy would lead to the retrenchment of 1,763 employees; annual turnover loss by about RM265 million in 2000; and investment threat amounting to RM500 million (MITI, undated).

7.6.5 Global Sourcing

Until recently, local sub-contracting firms were not competitive in the auto parts market. According to an industrial source, it was ridiculous to pay more than RM25,000 for a small car. The main cause for the expensive prices of national automobiles is due to limited parts outsourcing. Because of the localisation policy, there are cases where local parts are 5 times more expensive than imported items; but the national automakers still buy from the local firms (based on a personal interview of the author).

Once the market is opened, Malaysian-based automakers would have greater opportunities to outsource parts and components from overseas. This would be a fact since the network relations between automakers and sub-contractors were mostly bound by economic calculations rather than social capital. If this be the case, trade account deficits in auto parts would be even worse from the current amount totaling to RM1.3 billion (MIDA, unpublished data). With the would-be increase in imported parts, the future automobiles would still maintain the label of "Made-in-Malaysia" products with local brand names; but once one looks closely at their parts, one would find that most of the parts would bear the trade-mark "Made-in- Thailand, Taiwan, China, Indonesia, or

the Philippines". This would also apply to other industries, particularly electrical and electronics, and textiles and garments.

Most probably, large MNCs operating in the open market mechanism would establish their own sub-contracting arrangements to source materials, intermediate and capital goods as well as to market their products; but they would tend to link with their national affiliated firms in the home countries or in other lower cost countries. This would occur if Malaysian firms (including SMFs) are not prepared to take large orders from their large core firms.

7.6.6 Foreign Intrusion

Foreign firms have been continuously encouraged to set up their production bases in the country (MITI 1996). In the automobile industry, they were expected to inject more competition and foster linkages with global auto manufacturers. They were encouraged to manufacture Original Equipment Manufacturing (OEM), Own Design Manufacturing (ODM) and Original Brand Name (OBN) products and to link up with local firms in their production chains.

Foreign firms have shown their increasing interest in both Malaysian automakers and parts makers. There is a tendency for some Japanese and European auto parts affiliates to assume Malaysia as their production base owing to the fact that a significant part of their production is exported (Sieh 2000). In addition, considerable foreign shares and technical assistance in the Malaysian-based automakers and their equity shares in sub-contracting firms are also remarkable.

For instance, as of 30 November 1997, foreign firms held shares of about 31 per cent of the total number of Proton's sub-contracting firms; including their majority shares in 18.2 per cent firms; and 100 per cent equity in 10.8 per cent firms (MIDA, unpublished data). Based on the new approval of auto projects in 1998-1999, foreign firms also held equity in about 60 per cent of the total number of firms granted the approval; including their majority shares in 18 per cent firms; and 100 per cent equity in 7.5 per cent firms. Their investment was mostly in the manufacture of functional parts (MIDA, unpublished data).

This study found that foreign entrepreneurs fully owned (held 100 per cent equity) 9.4 per cent of the total sub-contracting firms in Malaysia; and held equity in 43.4 per cent of the total number of sub-contracting firms. It was also found that the foreign sub-contractors and the sub-contractors with foreign equity participation already took more important jobs in auto parts production by involving in both individual parts making and sub-assembly of auto parts and in the manufacturing of both functional and general parts.

This study also found that the foreign sub-contractors (based on the majority shareholdings) constituted about 20.0 per cent of the total number of sub-contractors, but they were able to broaden their markets at the international and national levels.

When the market is opened, foreign firms are expected to play a greater role for both Malaysian automakers and auto parts manufacturers because they were endowed with many advantages in the economy (in capital, technology and market). With the disadvantages facing local firms, it would not be surprising if one day the local firms were marginalised in the automobile industry. Once again, the auto products would be

labeled "Made-in-Malaysia", but the cause for concern would be: who really makes the would-be "Made-in-Malaysia" products? Worse still, the would-be "Made-in-Malaysia" products are no longer carrying local brand names, but instead carrying foreign brand names. Then, the subsequent question that would arise is: what happens to our own entrepreneurs and entrepreneurship?

7.6.7 Indigenous Technological Development

Heavy dependence of Malaysia-based firms on foreign technology is well illustrated in many studies (Mohd. Rosli 2000). For automakers, their dependence on Japanese and European technologies is a clear fact. Even the so-called national automakers had to depend on Japanese firms to obtain their technology. For auto parts manufacturers, their dependence on imported technologies has been illustrated in the earlier part of this study. Most of their technological collaborators were Japanese firms and some from collaboration of Japanese, the U.S and European firms. Only a handful of firms used locally developed technologies, such as from SIRIM and RRIM. Unfortunately, these foreign firms preferred to transfer simple and low technology to their partners, the local sub-contracting firms. As evident in this study, the transferred technologies were mostly used for producing individual parts and general parts.

Therefore, the economy and the local firms have no choice, but to develop indigenous technology to enable this auto industry contribute more to the value chain as proposed by Porter (1986). Undeniably, the local firms have conducted their in-house R & D, but they did this at a marginal rate; their preference is to import ready-made technologies from abroad. Actually, their small scale operations for small market

do not justify them to invest large amounts of money on R & D (MITI 1996) and D & D (Design and Development) facilities, and manpower.

Presently, local R & D is mostly conducted by government-sponsored institutions - public universities and other research institutions. Unfortunately their roles are not well-coordinated, always overlapping and competing with one another. There is also a wide commercial gap between research (at laboratory level) and development at the market level (Yap and Nicholas 1995).

With the limited time left, what local research institutions should do now is to identify research areas where they have competitive advantages. They should form joint ventures or strategic alliances among themselves and should also involve firms which are going to use their research outputs and technologies. This step would ensure more coordinated work, resource savings and market-oriented-technological development and innovation.

7.6.8 Government Role

The country's economic development is largely policy-driven in which it has succeeded in attracting FDI and certain local entrepreneurs into the industrial sector. In the automobile sector, the government role (power) was able to promote a certain portion of small and medium sub-contractors and local sub-contractors to be involved in auto parts production because this factor was seen responsible in binding the networks between the sub-contractors and automakers (as discussed in Chapter 6).

Despite its outstanding economic performance in the past, Malaysia's weak social support at present would be problematic in sustaining the achievement in the

future. Because of its current lack of skilled manpower and entrepreneurial skills in various fields, Malaysian economic development is mostly generated not by local people, but by foreigners. The lack of entrepreneurial skills is very obvious when most of the local firms tend to be involved in traditional resource-based industries (Mohd. Rosli 1996). These industries are mostly single-based, low value added products that have little use as inputs in other industries.

Prior to the full implementation of AFTA and WTO, the government can play an unlimited role in the economy. Its role, however, will become increasingly limited as the time to the full implementation of AFTA and WTO draw closer. Protective measures would be ruled out and the only channels that would be available to the government in the near future are stimulatory and investment measures. Stimulatory measures are also confined to the measures which are not distorted international trade and investment (Das 1999). It means that export incentives cannot be provided once the two international mechanisms are fully implemented.

A critical role for the government in the years to come is to develop internal human resources. Comprehensive training should be developed and provided so that the local manpower and entrepreneurs are able to take part in future competition. In addition, the education system should be restructured to enable locals to get accustomed with the latest developments in skills and technologies. Presently, the education system of the country skews towards the social sciences rather than the applied sciences. This restructuring has been on the cards since the last decade, but no effective steps have been taken so far. This means that a prolonged dependence on foreign resources is inevitable in the future.

The gradual removal of exising trade barriers is also a conducive environment for the local firms to prepare for an open market. Unfortunately, until the last Budget (Budget 2001), there had been no concrete measures spelt out to face the competitive world. The budget focused on a three pronged strategy: to stimulate internal economic growth, to increase national competitiveness, and to foster a caring society. Unfortunately, there was little elaboration on the steps to be taken by the country to increase its competitiveness. Again, much hope was placed on FDIs to bring about future competitiveness of the Malaysian economy in various areas (see the Budget Speech in Berita Minggu, 28 October 2000). There was no single measure to liberalise trade barriers in the automobile industry.

Fierce market competition in the near future would offer little choice for the Malaysian economy to develop its own ENO framework. The government has no choice, but to continuously take a leading role in promoting the development of Malaysian-based ENOs, either through existing or new programmes. Coincidentally, the WTO provides some room for the involvement of state-owned enterprises in the economy so long as these enterprises do not restrict imports and exports of other private firms or divert imports and exports to preferred sources and destinations (Das 1999).

Government promotion of ENO should not merely confine itself to production networks; but it should include all types of networks from materials, intermediate and capital good supplies to production, marketing and distribution networks. Our problem can be traced to the very start. Malaysia is weak at materials supply, not because it does not have materials, but partly because of its incapability to transform the materials into ready inputs. As a result, it has to export its raw materials (e.g. rubber and metal) and

import the materials in the form of semi-processed inputs. The incapability of indigenous firms to process imported raw materials into ready-to-use inputs also poses another problem. This is actually one of the reasons for this country to produce goods at relatively higher costs and to experience a deterioration in trade balance for machinery, textiles and electronic industries (discussed in Chapter 5).

7.7 Some Key Questions for Further Research

The present study has comprehensively developed the ENO framework and applied the importance of this new economic organisation to economic development in general and automobile industry in particular. Most of the analyses have been devoted to industrial production networks at a limited spatial frame (more domestical-ENO relations). The later related research should address some of the following questions:

1. Would global economic organisations converge at or diverge from common forms in the future? This question is interesting to address because there was a tendency among Western firms to follow the Japanese model of organisation since the 1980s by having various forms of ENO agreements.
2. How would Malaysian-based MNCs reshape their ENOs when the market is fully open under AFTA and WTO? Would they prefer to involve Malaysian firms or rely solely on their home-based firms? If the second alternative was to be their preference, would they prefer global sourcing by spreading out their supplier firms across the globe or would they prefer local sourcing by inviting their suppliers to work closely with them?

3. What would happen to government-sponsored ENOs? Would they retain their present status or structure with greater participation of local firms or would they restructure themselves with greater participation of competitive firms irrespective of their nationality?
4. What are the patterns, content and characteristics of global and Malaysian ENOs in non-industrial sector?
5. Lack of internal skills and common cultural norms are among the critical factors accounting for the difficulty in establishing locally-based ENOs in Malaysia. The question is: could such cultural norms (business ethics, reciprocal obligations, caring, loyalty, trust etc.) be nurtured and developed, so that well-defined ENOs as in the East Asian countries become a reality in Malaysia?
6. Islamic teachings are rich in positive cooperative values. The Al-Quran and Al-Hadith have encouraged and touched upon the needs and importance of Muslims to live and work as an *ummah* (united group). We also pray together in groups, at least, once in a week (Friday prayer); but why have such cooperative values not been translated into the present business reality?