Chapter 6

Conclusion and Policy Implication

6.1 Introduction

Industrial policy have played its massive role to shift-up the development of RBI especially for the sector that identified has a significant contribution to GDP, employment creation and as well technological transfer during the period under study. Therefore, in this chapter a more comprehensive and analytical approach pertaining the issues of policy will be discussed in more details. As part of policy, this chapter will also bring along the attention of future prospect in RBI as well as the related issues that are relevant in discussing the matters under study.

6.2 The Industrial Master Plan (IMP): What Can We Expect?

The implementation of IMP since it was first introduced in 1986 has become an important and crucial policy to the development of manufacturing industry especially concerning output increment, employment opportunities, export earnings and so as technological advancement. In this section the implementation, progress and prospect of the First and Second Industrial Master Plan (IMP) will become a center of discussion and at the same time what actually can we expect from IMPs for the development of RBI.

6.2.1 The Industrial Master Plan (IMP): The Enhancement of Prevailing Policies

The IMP1 was announced after taking into account the previous industrial policies namely import-substitution industry (ISI), export-orientation industry (EOI) and heavy industrialization phase that was implemented in the 1960s, 1970s and 1980s respectively.

Sadasivan (1986) has argued that the former approach had served the country well in the early stages of Malaysia's drive to industrialize, but as the manufacturing sector was called upon to play an increasingly important role in spearheading the expansion of the Malaysian economy and as the process of industrialization become more difficult, the Government decided that an Industrial Master Plan should prepared for the country based on a plan-oriented approach to industrial planning as practiced in Japan and Korea.

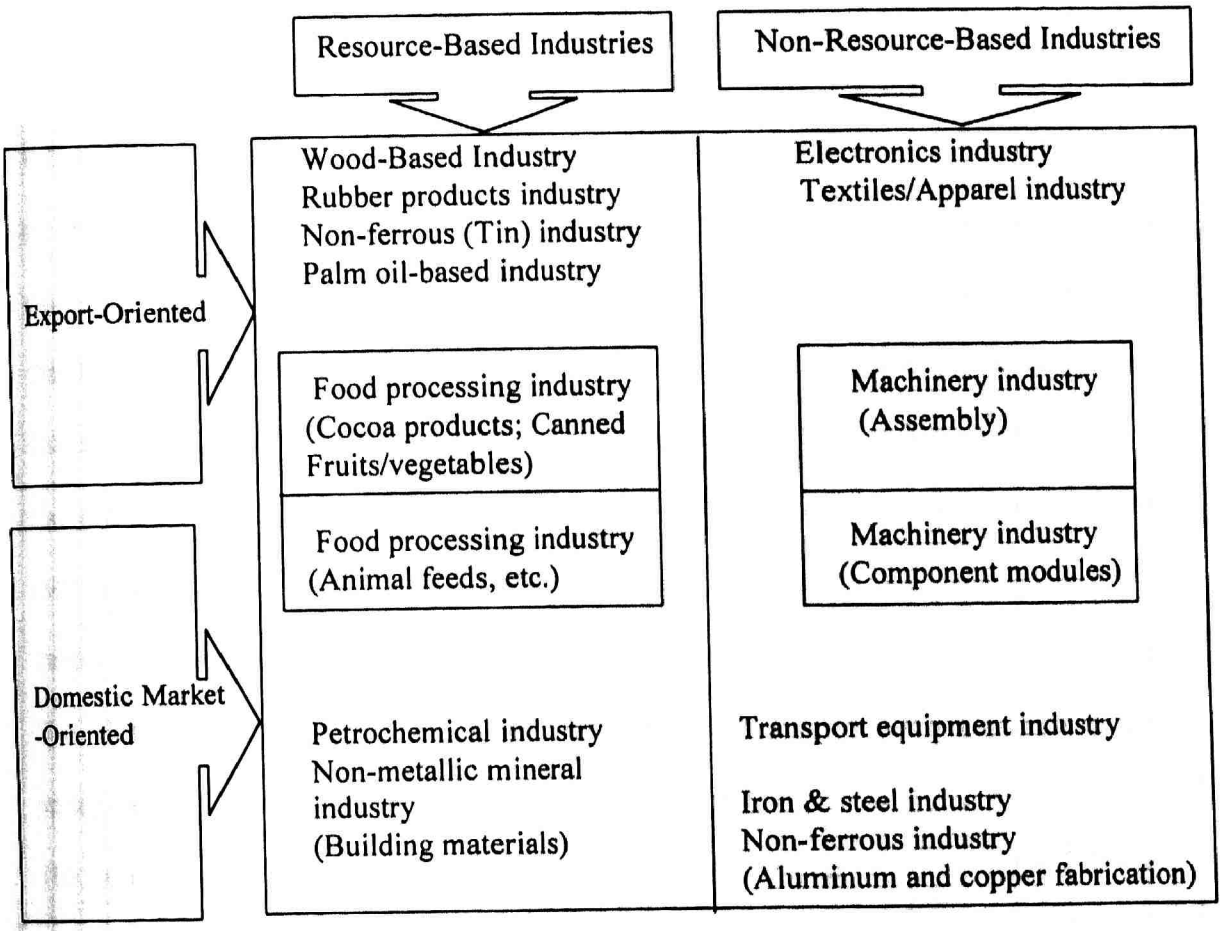
The IMP1, launched in early 1986, was aimed at refocusing industrial planning from a largely market-oriented approach to a distinctly planned or target-oriented approach within a free enterprise economy. The strategic emphasis (*as depicted in Chart 6-1*) was targeted and focuses on products marketing and resource allocation to further encourage aggressive promotion and production in downstream activities.

The IMP1 comes with three vital objectives which views of the macroeconomic prospects of the Malaysian economy up to the year 1995. The growth of the GDP during the plan period is expected to be 6.4 per cent per annum, and to support this GDP growth the total investment for the economy should increase at the rate of 5.7 per cent annually in real terms. The main concerned of the IMP1 during the implementation solely concentrated to the growth of manufacturing output but also stressed in the area of employment opportunities and increasing in the technological transfer, in terms of capability and competitiveness as a leapfrog towards advanced industrial country status in the information aged (Anuwar Ali, 1992).

For the RBIs, especially pertaining to the requirements for more technological and skills enhancement particularly concerning the issues of productivity increment, the critical development of technology become a major thrusts to the former issues.

Chart 6-1

The IMP1: The Strategic Emphasis of Industries in Relation to Market and Resources



Source: UNIDO (1985)

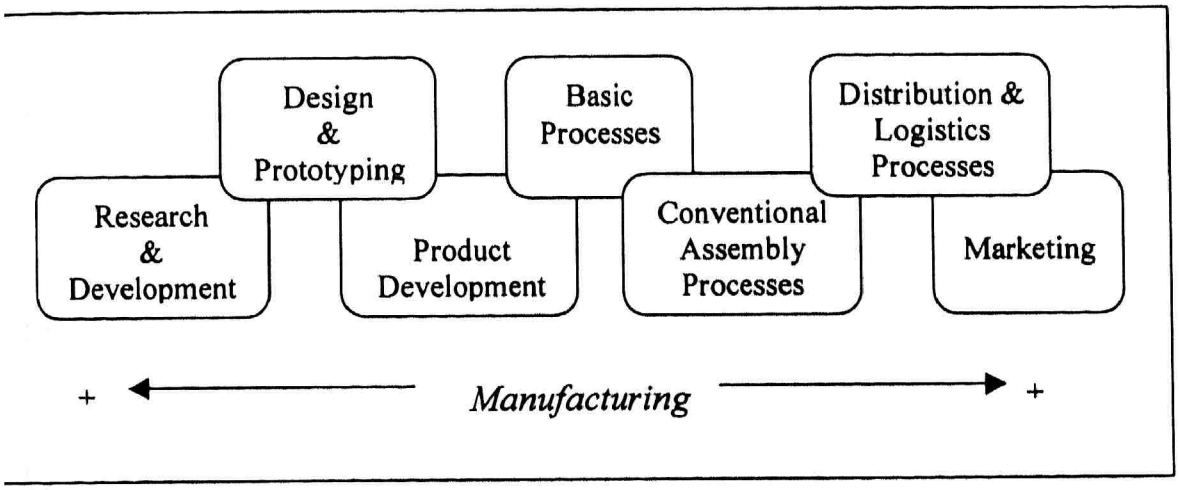
UNIDO (1985) reported that to attain the status of an industrial country in the future, Malaysia should devote substantial efforts to achieve a high degree of efficiency in manufacturing activities. The objective of manufacturing development should thus be oriented towards increasing efficiency. In particular, efficiency requires the following: competitive markets; entrepreneurial spirits; an achievement orientation; and the accumulation of skills and technologies.

The launching of the IMP1 was subsequently complemented by the introduction of the Promotion of Investment Act in 1986 and the amendment of the Income Tax Act of 1967 to provide liberal investment incentives to potential investor. One of the principal strategies of the IMP1 is the intensive development of RBIs, particularly those sub-sector that have the potential for export promotion and for enhancing technical skills. Mohd. Ismail Ahmad (1990), in his comparison study of RBIs between Malaysia and Thailand found that although half of the twelve industries identified for the development of in the IMP1 are RBIs, but the current investment incentives generally treat investments in all industrial categories alike and do not materially favour RBI over non-RBI investment. The relatively decline pattern in RBI investments is expected to continue unless special policy measures and investment incentives are give to RBIs.

The implementation of IMP2 (1996-2005) is the review of IMP1, which come with new perspective and focuses. The IMP2 (*as depicted in Chart 6-2*) emphasizes moving beyond manufacturing operation including research & development (R&D) and design capability, development of integrated supporting industries, packaging, distribution and marketing activities (MITI, 1996).

Chart 6-2

The IMP2 Strategy: Value Chain of Manufacturing



Note: In IMP2, concentration will be given to the assembly and production phase especially in the area of value-added.

Source: MITI, 1996.

6.3 Future Prospect of RBIs in Malaysia

As empirically outlined in chapter 5, RBIs in Malaysia obviously need for a new direction and development strategy. Some industry for instance chemical and chemical products, petroleum products and wood and woods products that was traditionally contributes most of income exports should be pay more attention in order to be remained competitive in world markets. Some other industry especially beverage and tobacco and food manufacturing industries a more comprehensive and directive policy should be formulated to ensure the industry provides a better quality products locally, nationally and internationally. Therefore the formulation of Second Industrial Master Plan (IMP2) becomes an important and crucial event in manufacturing industrial planning where some basic issues (disadvantage) in IMP1 have been deeply scrutinized.

In terms of production, RBIs has shown an upward pattern growth each year. For the periods 1990 to 2000, each of the selected production index of RBIs increase consistently. Generally mean, Malaysian industry is divided into two main groups namely exports oriented industries and domestic oriented industries. For the RBIs cluster industry, wood and wood products is classified as export oriented industries, while other as domestic oriented industries. The industrial production index (growth) of selected RBIs is depicted as in Table 6-1.

The new IMP2 will be emphasizing in improving economic foundation in which manufacturing sector operates through the value-chain (and manufacturing ++ strategy) especially involving industrial linkages, increase productivity and competitiveness (MITI, 1996). The manufacturing ++ strategy will not only moving along the value chain but more importantly place emphasis on productivity-drive growth.

Table 6-1

Selected Industrial Production Index (value added growth) for RBIs, 1990-2000

Years	1*	2	3	4	5	6	7	8	9
1990	70.2	76.5	73.4	75.3	57.2	-	111.6	105.6	83.7
1991	73.9	87.2	87.1	85.3	68.5	-	112.8	107.6	89
1992	81.9	93.4	95.5	94.2	79.1	-	107.1	112.6	92.3
1993	100	100	100	100	100	100	100	100	100
1994	104.2	112.8	113.1	106.1	115.4	116.5	98.8	115.4	112.3
1995	110.5	125.9	125.5	113.8	130.5	127.2	100.8	127.6	127.9
1996	123.1	150.5	156.2	118.1	145	121	108.3	147.5	144.2
1997	121.1	187.3	172	123.3	149.9	136.7	129.8	147.2	157.1
1998	107.4	183.8	126.4	120.7	161.7	124.8	118	129.9	139.1
1999	99.6	215.3	129.7	127.6	167.5	140.8	99.8	126.6	138.7
2000	103.6	247.9	156.3	148.3	174.2	162	174.9	134.2	166.3

Note: ***1, wood and wood products***
2, Chemical and chemicals products
3, Non-metallic mineral products
4, Food manufacturing
5, Rubber products
6, Paper products
7, Tobacco products
8, Beverages
9, Petroleum products

* ***Classified as exports-oriented industries***

Source: Bank Negara Monthly Bulettin, April 2001.

For the case of RBIs, IMP2 has provides an analytical and comprehensive framework in which emphasis will be given in the area of development and efficiency. The terms development in RBIs sector mainly involving the number of projects implemented and efficiency will be focusing in the area of production, skills and technique. The development of RBIs in Malaysia in terms of total approved investment for the periods of 1980-1990 and 1990-1999 has shown an upward pattern (*refer Table 6-2*). The percentage share of total approved investment of RBIs in the periods 1980-1990 was 53.9 percent compared to 53.6 percent for the periods of 1990-1999. The double digits figures (above 50 percent) is higher when compared to its counterpart Non-RBIs in which share of total approved investment only 45.4 percent and 46.0 percent respectively for the stated periods. For the periods of 1980-1990, the largest investment is received for chemical and chemical products (11.8 %), followed by investment in petroleum products (9.3 %), food manufacturing (6.8 %), non-metallic mineral products (6.5 %), wood and wood products (6.2 %), paper, printing and publishing (5.3 %) and rubber products (4.1 %). While some other industry in RBIs only contributes in range 0.1 % to 2.7 %. For the periods of 1990-1999, petroleum products industry took over ranking from chemical and chemical products (11.1 %) with total approved investment mounting to 15.5 %, non-metallic mineral products (8.3 %), wood and wood products (4.5 %) and paper, printing and publishing and natural gas industry received about 4.1 % and 4.0 % respectively. Although the percentage point declined but in terms of real figure all industry (except rubber products and food manufacturing industry) experienced an increasing pattern. It can be proved by total approved manufacturing investment increase from RM 44,454.5 million (1980-1990) to RM 132,8793.0 million (1990-1999).

Table 6-2

Malaysia: Total Approved Manufacturing Investment by Industry, 1980-1999

Industry	1980-1990		1990-1999	
	RM'Mil	% Share	RM'Mil	% Share
Resource-based				
Natural gas	-	-	9877.7	4
Petroleum products	7667.5	9.3	38323.6	15.5
Paper, printing & publishing	4399.3	5.3	10048.9	4.1
Rubber products	3345.4	4.1	2109	0.9
Chemical & chemical products	9692.6	11.8	27537.8	11.1
Food manufacturing	5643.9	6.8	5167.6	2.1
Non-metallic mineral products	5393.8	6.5	20547.7	8.3
Wood & wood products	5088.1	6.2	11168.4	4.5
Plastic products	2224.3	2.7	4802.2	1.9
Furniture & fixtures	585.6	0.7	1837.9	0.7
Beverages & tobacco	340.4	0.4	1219.9	0.5
Leather & leather products	73.6	0.1	238.3	0.1
Total Resource-based	**44454.5**	**53.9**	**132879**	**53.6**
Non-Resource-based				
Electrical & electronic products	11046.1	13.4	49446.7	20
Textile & textile products	2904.1	3.5	7527.7	3
Machinery manufacturing	2447.7	3	4978	2
Basic metal products	14847.7	18	35257.1	14.2
Transport equipment	3189.9	3.9	9157.2	3.7
Fabricated metal products	2596.4	3.2	7191.7	2.9
Scientific & measuring equipment	360.1	0.4	474	0.2
Total Non-Resource-based	**37391.6**	**45.4**	**114032.4**	**46**
Miscellaneous	560.5	0.7	928.3	0.4
Total Approved Investment	**82406.6**	**100**	**247839.7**	**100**

Source: Public Bank Economic Review, December 2000

The strategic emphasis for RBIs is also mentioned and highlights in Eight Malaysia Plan, which clearly stated the future challenges of the industry, direction and issues concerning the development of the industry itself. There were eight industries has been (critically and profitably) identified for the plan periods which will be given greater emphasizes up to 2005. (*Refer appendix A-9*)

The industries are wood based products, rubber products, palm oil based products, cocoa-based products, food products, ceramic products and chemical products (including pharmaceutical products industry). To face the challenges industries should remain competitive in the world markets. Strategic restructuring is one of the main challenges that should be adopted by the industries. Which means the industry competition capability will now depend largely on non-price factors namely quality, customization and delivery time (since price factor will itself determined by non-price factor). Although all the quality needed (non-price factor) is too expensive (costly) and timely consumed, but it can be attained by strong support from manufacturing-related services (Malaysia, 2001).

Strong government support (and active involvement) plus private sector participation through research and development (R&D) activities will therefore provide new dimension for the expansion of the RBIs in Malaysia. It is hope that with the solid framework outlined and implemented through the announcement of IMP2 (and discussed further in Eight Malaysia Plan), will therefore offer the brighter prospects not only to the country but more specifically (or importantly) for the survive of the industry.

6.4 Related Future Issues in RBIs and Manufacturing

Issues in RBIs and manufacturing sector have become a primary concerned when discussing the future development of this industry. Some of them are manpower constraint especially focusing towards training and workers skill development, technology transfer, competition and uncertainty in the industry itself. In this research we will discuss and scrutinize the issues and then looking for the appropriate policy for future development of RBIs and manufacturing sector.

6.4.1 Manpower Constraint

The issues of manpower (labour) constraint, in Malaysian manufacturing industry especially concerning the RBIs become an important topic to discussed.

Issues that Labour contribution's to the economic development process especially in the more competitive sector during the period of industrialization in Malaysia has become a major concerned of the industrialization process. As in many others less developed countries (LDCs), the *shift of labour* from the primary sector in Malaysia has been accompanied by higher labour productivity and higher wages in the manufacturing sector. These are natural corollaries of the industrialization process. The periods of industrial phase since ISI in 1960s to EOI in the 1970s until the period of second phase of ISI in 1980s namely heavy industrial phase has seen as a crucial periods of labour absorption in the industrial process development in Malaysia.

According to Norma et. al (2001), in viewing labour markets issues in Malaysia for pre and post economic crisis quote,

> *"....., Malaysia continues to face labour shortage in certain sector of the economy owing to a lack of intersectoral mobility and the strong preference among locals for jobs that are not perceived as menial" (Pp:144-5)*

According to them, since labour seen as major player in fostering the economy, Malaysia still suffer from imbalances in the labour market, with surpluses in some area and shortages in some others. Based on Table 6-3, expected demand for wood products and furniture industry (13.56%) and rubber products and plastic industry (7.22%) is more crucial other industry in RBIs sector. Obviously the need for workers in these sectors is vital since wood products and furniture and rubber product and plastic industry is expected to bring a greater exports income.

But some basic issues need to be implemented, especially in the area of training and skills management. Besides government efforts, private sector should play a greater role in providing adequate training for workers. This human capital investment will therefore benefit the company as well as the nation. The emphasis is on providing unskilled workers so as to reduce gap between skilled and semi-skilled workers. This is because demands for labour and labour absorption of both skilled and semi-skilled workers are highest especially for the stated RBIs namely, rubber and plastic industry and wood products and furniture industry.

Table 6-3

Expected Demand for Workers by industry, 1990-1998

Industry	*Basic skills*	*CAD*	*Semi-skilled*	*Total*	*%*
Food	1271	436	6160	7867	1.84
Drinks and tobacco	53	---	520	573	0.13
Textile	1660	3831	31391	36882	8.62
Wood products and furniture	5829	3291	48884	58004	13.56
Paper and printing	1716	180	6536	8432	1.97
Chemicals	1389	1207	10880	13467	3.15
Coal and petroleum	1173	124	734	2031	0.47
Rubber products and plastic	2897	2056	25913	30866	7.22
Nonmineral material	1558	980	10531	13069	3.05
Basic minerals	7421	207	8996	16624	3.88
Manmade minerals	4153	360	4956	9469	2.21
Electrical and electronic	7811	5973	174300	188084	43.96
Engineering and vehicle tools	8238	531	18242	27011	6.32
Measurement tools	151	42	1840	2033	0.47
Other	1518	773	11184	13475	3.15
Total	**46838**	**19991**	**361067**	**427896**	**100**

Note: CAD: Computer Aided Design.

Source: Norma et. al (2001), Table 4.21. p:184.

6.4.2 Technology advancement

Technology is an important element in the process of industrialization in Malaysia. Theoretically, industrial technology can be transferred from abroad and adapted to the local conditions, or be developed by local scientists, or can be a combination of the two methods. The process of technology transfer has been defined as a process in which a country is free to choose autonomously, from among different alternatives of scientific and technological knowledge (Anuwar Ali, 1993). Although the term 'technology transfer' may give the impression of the existence of a donor and a recipient instead of a seller and a buyer, it may also be said that technology transfer simply means the act of purchasing technology from another country based on the mutuality of interests (Anuwar Ali, 1992). Narayanan et.al (1997) found that the process of technology transfer (through multinational enterprises) has clearly begun in Malaysia and gained some momentum in the manufacturing industry. Besides gaining technological expertise directly, most of the industries have improved in their product quality through their management skills but such dependency on multinational enterprises must be highly selective in order to avoid long-term locking in effects.

Thus to further develop the RBIs, there is a need to intensify efforts in research and development (R&D) and technology upgrading as part of the technology transfer through investment process. However new forms of technology transfer (through foreign investment) must be exploited, for example, joint ventures, contract arrangement, turnkey operation and licensing, rather than direct foreign investment, so that some measure of control is retained by national. Both private and public sector should play a greater role to

develop the infrastructure and network so as to strengthen the capability in R&D especially for downstream products with high value added.

6.4.3 Competition and uncertainty

Uncertainty and competition in the world market structure especially in manufacturing sector becomes another interesting issue to discuss. As globalization took place, most of countries rely on open trading system as part of the cycle. Therefore, in the short term, labour productivity measures can be volatile in particular at a disaggregated level, as they are strongly affected by business cycle and shifts in product composition due to competitive pressures. Hitchens et.al (1996) and Gersbach and Baily (1996) provide additional insight into the explanation for differences in efficiency due to openness to trade and competitiveness. Competitiveness relates not only to comparative performance in real terms, but also to the relative costs at which products are manufactured and sold. Such costs are not only determined by the prices of factor inputs (Jung and Doroodian, 2000) but also by those of intermediate inputs and by the exchange value of a country's currency (Kuroda, 1996). The study of export competitiveness of dynamic Asian economies, Wilson (2000) has prove that how country's currency as a case of Malaysia and Thailand (depreciates over US dollar) had become more competitive across a broad range of manufactured goods relative to the older Dynamic Asian Economies (DAEs) especially in the periods of 1983-1995. This imply that the productivity of manufactured country for the case of Malaysia and Thailand become an evident to what have been mentioned by Kuroda when comparing Japanese and US levels of manufacturing productivity. Kuroda conclude that the competitiveness of US industries has been

declining since 1980s, due to more rapid growth of input prices in the USA and the appreciation of the dollar relative to yen.

For the case of RBIs (especially) and manufacturing sector (generally), the advantage of exchange rates nowadays (pegged at RM3.80 per $US) seem that Malaysian exports become more competitive in world markets. But uncertainty of world price especially for rubber and palm-oil products will become a major constraint in the industry.

6.5 Conclusion

Malaysia manufacturing sector after the establishment and implementation of various manufacturing strategy and policy especially both IMPs has shown an impact to the overall macroeconomic issues. Industrialization was originally seen in Malaysia as providing an opportunity to reduce vulnerability to the volatile world market for Malaysia's primary commodity exports. Therefore, RBI in Malaysia has taken its role in manufacturing sector especially in 1980s, as one of the main objectives is to diversify and developed market based on its value-added. In realizing the correlation between manufacturing development and national income especially in terms of GDP, employment and labour productivity especially in managing the more competitive and pragmatic economy, government has thus far developed and implement major policy and trade strategy namely Industrial Master Plan 1 (IMP1) and IMP2. The direction of Malaysian industrial output especially when comparing with other developed countries has become a subject of debate and discussion.