3 JOHOR: THE ROLE OF THE STATE IN ECONOMIC GROWTH AND STRUCTURAL CHANGE

3.1 Geography

Johor lies at the southmost part of Peninsular Malaysia and is the second largest state in Peninsular Malaysia. It is bounded in the north by the state of Pahang and west by Malacca. Johor is made up of eight administrative districts, namely Johor Bahru, Pontian, Batu Pahat, Muar, Mersing, Kota Tinggi, Kluang and Segamat. The state capital, Johor Bahru, is connected to Singapore by road and rail via a 1.2 km causeway. In the western parts, rubber, oil palm and pineapple are grown, making Johor the prime producer of these products for the whole country. Meanwhile, the port of Pasir Gudang is fast developing into an international one, which is an added advantage for its industrialization.

3.2 Reasons and Justification for State Intervention in Johor

In the initial decades after independence, the state has intervened heavily in the economic activities as it was the surest and most direct route to economic progress. Few people would have questioned the advisability or desirability of formulating and implementing a national development plan[1]. Planning had become a way of life in the government ministries, and every five years or so the latest development plan was paraded out with great fanfare.

Initially, the government deliberately used domestic saving and foreign finance to carry out public investment projects and to mobilize and channel scarce resources into areas that can be expected to make the greatest contribution toward

the realization of long- term economic objectives. These have included the construction of railways, schools, hydroelectric projects, and other components of economic infrastructure, as well as the creation of import- substituting industries. Also, the government through the use of economic policy such as taxation, industrial licensing, the setting of tariffs, and the manipulation of quotas, wages, interest rates and prices; directed and stimulated private economic activity so as to ensure a harmonious relationship between the desires of private business operators and social objectives of the federal government.

The fundamental reason put forward for state interventions is markets in Johor are permeated by imperfections of structure and operation. Often, commodity and factor markets are badly organized and the existence of distorted prices means that producers and consumers are responding to economic signals and incentives that are a poor reflection of the real cost to society of these goods, services and resources. In addition, there is imperfection in the form of lack of information and the presence of uncertainty that most individual producers and consumers face. For example, producers are often unsure about the size of local markets, the presence of other producers and the availability of inputs, both domestic and imported. Consumers, on the other hand, may be unsure about the quality and availability of products and their substitutes. Under such circumstances, profit and utility maximizing behavior may be based on the wrong information and hence not leading to an efficient allocation of resources.

Therefore, the government needs to intervene in the market by guiding producers and consumers.

Besides that, the state government also realized that the state cannot afford to waste their limited financial and human resources on unproductive ventures. Investment projects must be chosen not solely on the basis of partial productivity analysis dictated by individual industrial capital-output ratios but also in the context of an overall development program that takes account of external economies, indirect repercussions and long term objectives. For example, many goods, such as education and health services, have a high social value that is not reflected in their market pries. The government has to be responsible for providing these goods as the private sector has no incentive to produce them.

The state also intervenes through economic planning on the belief that a detailed statement of national economic and social objectives in the form of specific development plan can have an important psychological impact on the population that is characterized by different races and religion. It can provide the needed incentives to overcome the inhibiting and divisive forces of sectionalism and traditionalism in the quest for material and social progress.

Economic development is a process of structural change. Though the market may be efficient in allocating resources at times, it may be ineffective in producing changes in the economic structure, changes that is crucial to the state's long- term development. The government therefore has to intervene in sectors

crucial to the country's development to ensure that they change over time and flourish.

Although the state has played an important role in economic development in Johor, this does not mean that Johor should not rely more on the market to allocate their products and resources. Rather, it means greater and more effective cooperation through a proactive government industrial policy, which was actually the reason for the strong economic growth of the state over the past two decades.

3.3 Economic Growth 1980-1999

Despite the recession in mid 1980's and the 1997 financial crisis, Johor's economic performance was relatively strong, and an annual growth rate of 10.7 per cent was achieved over the period 1980-1999. In terms of percentage composition of GDP, the manufacturing sector has risen significantly over time and now contributes around 38 per cent of the state GDP (see Table 3). Meanwhile, the contribution from agricultural sector has dropped from 33.7% in 1980 to 22.5% in 1999. The contribution from the tertiary sector has not changed much over time. This is because this sector is not only an important industry in its own right, but of fundamental importance in both agriculture and manufacturing industry. Hence, we can see that Johor is experiencing structural transformation via accelerated industrialization, agricultural modernization and development of a strong service sector. The state government is also embarking on manpower development and technological upgrading not only to relieve the pressure of the

current tight market, but also as a strategy to strengthen the basic economic base and parameters for competition in the high value- added goods market.

3.4 The Agricultural Sector

Table 3 shows that the contribution of agriculture sector to GDP has declined. This is further supported by Table 5 which shows that employment in this sector has also declined over time, with –1.9% & -0.4% average growth rate for the period of 1991-1995 and 1995-2000, respectively. Meanwhile, productivity from this sector has been growing at a slower rate during the period of 1995-2000 as compared to 1991-1995 (see Table 4).

Although the relative importance of the agricultural sector has been eroded in recent years, this sector remains the ultimate source of livelihood (directly or indirectly) of most Johorean, and with its present contribution and size, it is likely to remain of basic importance in the long term. This can be seen in Tables 6 &7.

Between 1989 and 1999, there has been significant changes in the agricultural land use pattern in Johor. Oil palm areas have grown from 48% in 1989 to 60% in 1999. Correspondingly, the rubber areas have declined from 37% to 24%. In terms of hectarage, crops like coconut (except for duration of 1992-1994) and coffee remain more or less the same. Fruits areas have grown from 48,972 hectares in 1989 to 73,500 hectares in 1999 (see Table 6). Vegetable production was also in an upward trend since 1997 and Johor is now the largest vegetable producing state in Malaysia, accounting for almost 50 percent of the

Table3 Johor: Gross Domestic Product (GDP) 1980 & 1999 (RM Million)

Sector	1980 Value	%	1999 value	%	1980-1999 Annual growth rate
Agriculture, forestry and fishing	1615	33.7	3271	22.5	5.4
Mining	118	2.5	86	0.6	-1.4
Manufacturing	1109	23.1	5449	37.5	20.6
Construction	200	4.2	523	3.6	8.5
Transport, storage, communication and utilities	279	5.8	1279	8.8	18.9
Wholesale, retail, hotel and restaurant	473	9.9	1526	10.5	11.7
Finance, insurance, real estate and business services	359	7.5	1119	7.7	11.1
Government services	459	9.6	1162	8.0	8.1
Other services	185	3.7	116	0.8	-2.0
GDP	4797	100	14530	100	10.7

Source: Fifth Malaysia Plan 1986-1990,
Johor Economic Planning Unit

Table 4 Johor: Productivity by Sector of Origin

	Productivity (RM in 1991 Prices)			Avg. Annual	Growth Rate
	1991	*1995*	*2000*	*1991-1995*	*1995-2000*
Agriculture	13,031	16,509	19,552	6.1%	3.4%
Mining	99,379	46,519	29,120	-17.3%	-8.9%
Manufacturing	30,061	36,334	43,918	4.9%	3.9%
Construction	6,475	7,642	10,338	4.2%	6.2%
Transport	36,790	43,581	59,072	4.3%	6.3%
Wholesale	16,535	19,476	25,742	4.2%	5.7%
Finance	54,858	64,521	84,503	4.1%	5.5%
Gov. Services	12,468	13,458	14,411	1.9%	1.4%
Other services	2,897	3,418	4,305	4.2%	4.7%

Source: Economic Planning Unit, Johor

hectares under vegetable in the country. The proximity to Singapore plays an important role in the production of fruits and vegetables in Johor, as much of these are exported to the Republic. In terms of the export value for the main crops, palm oil is still the main contributor and its contributions had been increasing over the ten years period under study. Meanwhile, the contribution from rubber has decreased over the years due to lower demand internationally, but remained stable for the past three years (see Table 7).

However, suitable agricultural land is becoming scarce in Johor. Until 1997, approximately 78 per cent of the agro- ecologically suitable agricultural lands have been utilized. Furthermore, opportunities for extensification, especially in the district of Keluang, Pontian, Segamat, Muar and Batu Pahat were more difficult as suitable agricultural land diminishes due to competing land use.

In view of this, the state has since early 1990s, generally redirected the development emphasis away from new land schemes to an in- situ[2] approach as the availability of new land becomes a constraint for large scale agriculture development. The government has also taken measures to promote greater linkages between the agro-based industries and agriculture development in order to ensure that industrial development is also well supported by the vertical diversification policies of agriculture activities.

In order to overcome labor shortage problems in the agriculture sector, the government, through the Department of Agriculture and other public agencies, has intensified their R&D programs into labor-saving techniques via

mechanization, and has encouraged farmers to switch from labor-intensive and low value crops into more capital-intensive and high value crops. They have also introduced other measures such as the utilization of bio-technology and the adoption of block planting, group farming, etc. to the farmers to enhance productivity.

Table 5 Johor: Employment by Sector of Origin

	Employment (percentage)			Avg. Annual	Growth rate
	1991	1995	2000	1991-1995	1995-2000
Agriculture	36.8	29.7	24.5	-1.9	-0.4
Mining	0.2	0.2	0.2	10.9	5.0
Manufacturing	20.5	23.9	28.2	7.5	7.0
Construction	7.7	8.2	8.6	5.2	4.4
Transport	4.0	4.6	5.4	7.0	6.9
Wholesale	9.7	10.3	10.3	5.0	3.6
Finance	2.4	2.9	3.5	8.4	7.1
Gov. Services	13.2	13.5	12.0	4.1	1.2
Other services	5.5	6.7	7.4	8.6	5.6
Total	100.0	100.0	100.0	3.5	3.5

Source: Economic Planning Unit, Johor

Table 6 Johor: Land Area of Main Agricultural Component (hectares)

	1989	1990	1991	1992	1993	1994
Palm oil	467,203	510,252	515,000	536,672	571,832	583,300
Rubber	356,508	344,096	346,600	345,138	308,385	300,800
Fruits	48,972	48,398	48,000	47,780	47,482	47,300
Coconut	37,298	37,705	35,400	16,351	11,895	7,800
Vegetables	32,373	34,392	36,100	46,214	67,216	67,500
Cocoa	10,456	12,151	13,100	13,232	11,333	11,500
Pineapple	11,347	12,115	12,700	13,820	14,080	14,500
Coffee	9,054	9,920	10,400	10,918	11,130	11,300
Food production	2,814	2,264	2,800	3,192	2,783	2,900

	1995	1996	1997	1998	1999
Palm oil	597,764	595,000	605,492	605,000	605,500
Rubber	290,692	285,500	249,795	248,500	247,300
Fruits	68,930	69,500	72,014	72,700	73,500
Coconut	40,892	40,700	37,011	37,000	37,000
Vegetables	15,150	16,300	13,399	14,200	18,000
Cocoa	2,302	2,000	1,387	1,450	1,500
Pineapple	9,848	9,100	10,058	10,500	10,500
Coffee	8,964	9,150	6,696	6,550	6,430
Food production	2,002	2,250	3,359	3,700	15,000

Source: Johor Annual Economic Report (various issues)

Table 7 Johor: Export Value for Main Agricultural Product (RM million)

	1989	1990	1991	1992	1993	1994
Palm oil	1,743	1,256	1,917	2,603	2,730	3,036
Rubber	756	571	513	473.5	350	436
Cocoa	75	70	60	16.5	21.2	9.8
Pineapple	66	83.4	80.9	85.4	78.2	90
Fruits	127.2	136.3	145	202.9	128.7	155
Vegetables	37.6	43.2	45	42.9	43.4	45
Coconut	8.3	9.3	10	9.1	10.9	12
Food products	1.7	1.4	1.8	1.5	1.7	1.7
Flowery	4.2	5	5	15.5	16.1	18.4
Others	28.9	34.2	39	69.6	23.1	21
Total	*2,848*	*2,211*	*2,817*	*3,520*	*3,406*	*3,825*

	1995	1996	1997	1998	1999
Palm oil	4,649.7	5,400	4,100	4,423	4,500
Rubber	531	441	318	346.4	330.2
Cocoa	7.5	5	30	35	37.5
Pineapple	69.4	71.6	70	74	80
Fruits	120.3	148	130.5	120.4	126.87
Vegetables	60.9	64	57.5	60	66
Coconut	12.5	12	9.9	10	10
Food products	1.8	2	2	2	3
Flowery	39	40	35.2	36.9	38.8
Others	24.9	26	11.4	12.1	13
Total	*5,517*	*6,210*	*4,760*	*5,119.8*	*5,205*

Source: Johor Annual Economic Report (various issues)

These state measures have been complemented by the provision of special incentives. For example, there was an input subsidization policy covering technical advice, contract services, supply of special inputs such as fertilizers, planting materials and chemicals, irrigation water, drainage, credit and the like, in which the inputs were either directly subsidized or supplied on more favorable terms than would have been possible without government intervention. These special measures were further complemented by considerable development of the physical infrastructure in the agricultural areas and the improvement of other social and economic amenities. The rationale for these strategies stemmed from the concern over the high incidence of poverty in the agricultural sector.

From the above discussion, we can see the important role played by the state in agricultural development. However, weaknesses in planning and implementation of development programs which relate to the proliferation of agencies responsible for the development of agriculture sector, and the overlapping of functions and duplication of effort has been the main constraint to agriculture development too. For example, besides FELDA and FELCRA as federal land agencies, there are also a large number of state agencies as well as RISDA involved in new land development. Realizing this fact, the government has now let the agricultural sector to be market-oriented and intervene only to accelerate market outcomes, correct any discernible market failures or distortions. However, government intervention is sometimes necessitated to achieve social objectives.

3.5 The Manufacturing Sector

The manufacturing sector in Malaysia in general, and of Johor in particular, has been expanding at a rapid rate over the past three decades (refer to Table 3 for contribution to GDP, Table 4 for productivity and Table 5 for employment in this sector--- all showing a positive growth). The rapid pick up of manufacturing investments in Johor can be attributed to the availability of infrastructure and facilities, and the proximity of the state to Singapore. The role of federal agencies, such as the MITI, in providing improved services and infrastructure to investors also contributed to the rapid inflow of manufacturing investments. Based on the number of approvals by the Malaysian Development Authority (MIDA) for 1980-1999, as shown in Table 8. Johor has always been in the second position in terms of the number of new investment projects, accumulating more than RM 18 billion invested capital for the period 1989-1995 (Table 9). Johor remains as an attractive destination for investors after Selangor.

Table 8 Manufacturing Project Approved in Malaysia ,1980-1999

State	number of approved projects					
	1980-1989	1990-1994	1995-1998	1999	Total 1980-1999	%
1. Federal Territory Kuala Lumpur	295	122	72	30	519	3.7
2. Federal Territory Labuan	21	6	5	-	32	0.2
3. Selangor	1,643	1,165	871	187	3,866	27.6
4. Penang	630	558	378	93	1,659	11.9
5. Perak	377	293	211	55	936	6.7
6. Johor	1,081	971	721	172	2,945	21.1
7. Negeri Sembilan	264	191	151	32	638	4.6
8. Malacca	194	158	116	35	503	3.6
9. Kedah	197	285	205	43	730	5.2
10. Pahang	165	73	64	14	316	2.3
11. Kelantan	119	23	70	4	216	1.5
12. Terengganu	95	72	59	15	241	1.7
13. Perlis	39	34	38	-	111	0.8
14. Sabah	334	195	158	5	692	4.9
15. Sarawak	234	163	158	23	578	4.1
Total	5,688	4,309	3,277	708	13,982	100

Source: MIDA

Table 9 Johor: Capital Investment of Approved Projects, 1989-1995
(RM million)

	1989	%	1990	%	1991	%	1992	%
Johor	2,736.1	22.4	2,090.0	7.4	4,484.6	14.6	2,299.8	8.3
Malaysia	12,215.4	100.0	28,168.1	100.0	30,818.4	100.0	27,775.1	100.0

	1993	%	1994	%	1995	%
Johor	1,056.0	7.7	1,884.4	8.2	3,660.3	17.5
Malaysia	13,752.7	100.0	22,951.3	100.0	20,865.2	100.0

Source: MIDA

In the early period (1980-85), investments in Johor were concentrated in food manufacturing, non- metallic mineral products, electrical and electronics, and textile and apparel industries as shown in Table 10. Altogether, these sectors accounted for 50 to 60 per cent of the total number of approved projects. The electrical and electronics as well as textiles industries remained attractive in Johor over time as indicated by the number of approved projects. Lately, wood and wood products, furniture, machinery, plastics and transport equipment industries have emerged as important industries in the State. This was in line with the government's policy to broaden the base for industrialization, besides emphasizing capital- intensive industries.

Table 10 Johor: Distribution of Projects Approved, by Industry (%)

Industry	1980		1985		1990		1995	
	No	%	No	%	No	%	No	%
Food manufacturing	13	16.3	14	13.7	12	5.9	8	3.6
Textile & textile products	8	10.0	14	13.7	74	36.3	17	7.7
Leather and leather products	1	1.3	0	0.0	0	0.0	2	0.9
Wood & wood products	4	5.0	3	2.9	5	2.5	7	3.2
Furniture & Fixtures	1	1.3	1	1.0	12	5.9	24	10.9
Paper, Printing & publishing	4	5.0	4	3.9	11	5.4	9	4.1
Chemicals & chemical products	6	7.5	6	5.9	11	5.4	23	10.5
Petroleum Refineries/ Products	2	2.5	2	2.0	1	0.5	2	0.9
Rubber products	3	3.8	1	1.0	0	0.0	5	2.3
Plastic products	7	8.8	9	8.8	6	2.9	13	5.9
Non-metallic mineral products	12	15.0	9	8.8	14	6.9	18	8.2
Basic metal products	3	3.8	4	3.9	2	1.0	3	1.4
Fabricated metal products	4	5.0	6	5.9	4	2.0	9	4.1
Machinery manufacturing	1	1.3	3	2.9	4	2.0	12	5.5
Electrical & Electronic products	9	11.3	15	14.7	34	16.7	57	25.9
Transport Equipment	0	0.0	4	3.9	6	2.9	9	4.1
Scientific & measuring equipment	0	0.0	1	1.0	2	1.0	0	0.0
Miscellaneous	2	2.5	6	5.9	6	5.9	2	0.9
Top four sub- industries		52.4		59.8		71.6		55.0

Source: MIDA

Table 11 Johor: Capital Intensity[a] in Projects Approved, by Industry (RM' 000)

Industry	1980	1985	1990	1995
Food manufacturing	77.4	471.2	177.6	101.9
Textile & textile products	4.6	13.2	37.8	48.6
Leather and leather products	111.1	na	na	26.9
Wood & wood products	17.7	32.9	215.1	125.0
Furniture & Fixtures	7.7	15.5	25.8	33.6
Paper, Printing & publishing	63.8	479.5	95.0	87.3
Chemicals & chemical products	116.0	272.5	589.2	1125.1
Petroleum Refineries/ Products	63.9	140.9	300.0	2182.1
Rubber products	130.8	45.3	na	46.4
Plastic products	16.1	43.5	62.8	75.1
Non-metallic mineral products	111.0	113.6	152.6	237.2
Basic metal products	37.6	92.4	221.6	394.2
Fabricated metal products	41.3	218.3	102.3	58.6
Machinery manufacturing	52.5	38.2	87.6	133.0
Electrical & Electronic products	4.7	7.2	35.9	40.9
Transport Equipment	na	28.9	81.1	68.9
Scientific & measuring equipment	na	na	13.4	na
Miscellaneous	3.7	15.0	24.0	28.2

Notes: (a) The capital intensity is calculated based on the ratio of capital investments to the potential employment created by the respective industry.

Source: MIDA

From Table 11, it is obvious that the investments in the State were becoming more capital intensive as indicated by increasing capital intensity over the years for most industries. Nevertheless, the textile and apparel, furniture and fixtures, rubber products, electrical and electronic industries remained labor intensive if the RM55,000 capital/ worker cut- off is used. Since new approvals by MITI are expected to be more selective in favor of capital intensive investments, the capital intensity is expected to be higher in the future.

Table 12 shows that the average approved investment per project in Johor has increased from RM5 million in 1980 to RM16 million in 1995. Smaller average-sized industries that are characterized by lower capital intensity values, tend to have larger number of employment. These industries (including textiles, furniture, rubber products, fabricated metals and electrical and electronics) are dominated by small and medium scale industries (SMIs)[3]. Thus, SMIs contribute significantly to the employment in the state.

Table 12 Johor: Average Approved Investment[a] Per Project, by Industry (RM million)

Industry	1980	1985	1990	1995
Food manufacturing	6.3	22.8	14.4	6.1
Textile & textile products	0.9	1.7	4.7	2.8
Leather and leather products	3.0	0.0	0.0	3.9
Wood & wood products	2.4	1.8	31.3	19.4
Furniture & Fixtures	0.8	0.5	3.2	4.2
Paper, Printing & publishing	5.0	50.1	7.9	7.9
Chemicals & chemical products	10.0	6.8	42.6	59.3
Petroleum Refineries/ Products	1.2	2.5	30.0	353.5
Rubber products	28.3	2.0	0.0	1.8
Plastic products	0.9	2.0	7.6	5.6
Non-metallic mineral products	7.0	10.7	10.8	25.2
Basic metal products	4.3	5.3	41.1	18.1
Fabricated metal products	1.6	10.8	11.0	6.7
Machinery manufacturing	1.8	2.8	16.4	11.8
Electrical & Electronic products	1.7	0.8	9.4	5.6
Transport Equipment	0.0	1.3	8.8	7.1
Scientific & measuring equipment	0.0	0.8	4.0	0.0
Miscellaneous	0.3	0.6	3.1	1.6
Total	5.0	8.1	10.3	16.3

Notes: (a)The Average Approved Investment here refers to the ratio of capital investment to the number of projects.

Source: MIDA

Table 13 Johor: Approved Projects With The Condition of Export 50% and above, 1987- July 1997

year	No.	Employ-ment Opport-unity	Local Equity (RM)	Foreign Equity (RM)	Local Investment (RM)	Foreign Investment (RM)
1987	46	9,360	33,994,397	165,770,105	83,932,917	450,288,985
1988	148	23,481	133,487,459	528,600,017	285,228,244	1,320,674,489
1989	183	34,600	164,105,881	609,531,819	403,655,743	2,066,046,773
1990	162	24,618	85,338,236	632,524,464	233,927,692	1,572,015,907
1991	138	23,587	258,344,250	788,925,672	908,594,165	2,013,786,244
1992	154	22,911	67,732,237	317,261,988	242,852,270	713,643,861
1993	84	15,227	112,463,465	175,065,285	266,485,934	439,279,734
1994	94	13,646	136,300,276	326,777,644	357,392,026	982,972,892
1995	101	11,943	24,733,130	579,379,870	127,070,141	1,532,613,454
1996	73	8,936	15,261,854	1,602,000,010	171,386,291	4,077,754,924
1997	52	3,912	31,475,210	179,885,502	209,987,175	616,642,819
Total	1,235	192,221	1,083,216,095	7,142,202,407	3,290,512,871	15,786,516,082

Source: MIDA

Table 13 shows that in terms of approved projects with the condition of export over 50%, both foreign equity and foreign investment exceed that of the local from 1987 to 1997. The relative importance of foreign investments to Johor's economy is increasing as the government embarked into export-led industrialization. A continuation of selective state intervention, on a policy of EP con EP – of protection conditional on export performance, was supplemented by interventions in the following areas:

• *finance*--- because of imperfections in the market stemming from risk and uncertainty, that is, companies may under- invest in long-term production facilities since the rate of profit or surplus required by the companies is likely to be higher than that required by society. As a result, long term investment is likely to be smaller than the social optimum unless the state underwrites it.

• *technology*--- the state has been actively involved in the negotiation for technology transfer.

• infrastructure--- given the economies of scale in the provision of infrastructure, the state has been the best party to be directly responsible for such provision.

• the training of labor --- because of externalities in the market, that is, companies which spend money on training are not assured of being able to recoup that cost. As a result, the state coordination is crucial to ensure training that is not under- funded.

The growth and development of industrial estates in Johor are not equally distributed in all districts, as depicted in Table 14. Based on the distribution by district, 77.6% and 11% of the industrial estates are located in Johor Bahru and Batu Pahat respectively. The distribution of industrial estates in other districts is very marginal. This pattern of distribution explains why most of the industrial activities and population are concentrated in Johor Bahru. 56.6% of the industries in JSEDC and 35.3% of the state population are located in Johor Bahru. This scenario depicted the government's failure in achieving a balanced industrial development. As such, the government is in the effort of dispersing the growth into other districts by firstly improving the basic infrastructure and support services in other districts.

Finally, the current status of the manufacturing sector in Johor is discussed. From Table 15, electrical and electronics and textiles industries are the leading industries in terms of projects approved, employment and fixed assets. Therefore, the discussion in this session is on the role of the state in promoting these two industries.

Table 14 Distribution of Industrial Estates, Industries and Population, by District, 1995

District	Existing Industrial Estates (Ha)	%	Proposed Industrial Estates(Ha)	%	No. Of Industrial Establish-ment in JSEDC Industrial estate	%	Population (%)
Johor Bahru	1901	77.6	2221	82.3	817	56.6	35.3
Pontian	35	1.4	67	2.5	35	2.4	6.1
Kota Tinggi	12	0.5	-	-	26	1.8	8.6
Kluang	52	2.1	266	9.9	104	7.2	10.7
Batu Pahat	270	11.0	-	-	203	14.1	13.7
Muar	141	5.8	88	3.3	247	17.1	14.0
Segamat	40	1.6	40	1.5	-	-	8.4
Mersing	0	0.0	17	0.6	11	0.8	3.1
Total	2451	100.0	2699	100.0	1443	100.0	100.0

Source: Johor Industry Guide 1995
Department of Statistic

Table 15 Johor: Factories That Were Approved and in Operation As of 31st Dec.1998

Industry	Factory		Employ-ment		Fixed Assets	
	number	%	Number	%	RM	%
Food manufacturing	73	9.7	10,631	6.4	897,849,969	7.1
Beverage & tobacco	7	0.9	205	0.1	18,074,608	0.1
Textile	*136*	*18.1*	*26,711*	*16.0*	*1,014,934,449*	*8.0*
Leather product	5	0.7	553	0.3	27,620,283	0.2
Wood product	48	6.4	7,332	4.4	361,420,061	2.8
Furniture & fixture	34	4.5	8,859	5.3	446,462,982	3.5
Paper, printing & publishing	35	4.6	3,478	2.1	313,065,107	2.5
Chemical product	40	5.3	3,141	1.9	1,010,351,842	7.9
Petroleum and coal	4	0.5	1,058	0.6	1,512,022,642	11.9
Rubber product	27	3.6	3,395	2.0	125,716,911	1.0
Plastic product	46	6.1	6,622	4.0	490,759,640	3.9
Non- metallic	46	6.1	5,460	3.3	1,203,450,349	9.5
Basic metal product	11	1.5	2,085	1.3	676,170,035	5.3
Fabricated metal	47	6.2	3,800	2.3	232,180,164	1.8
Machinery	20	2.7	3,929	2.4	137,959,896	1.1
Electrical & electronic	*131*	*17.4*	*70,719*	*42.5*	*3,415,745,794*	*26.8*
Transport equipment	22	2.9	3,724	2.2	596,102,665	4.7
Scientific & measuring equipment	4	0.5	2,347	1.4	79,951,201	0.6
Others	17	2.3	2,524	1.5	164,156,489	1.3
Total	*753*	*100.0*	*166,573*	*100.0*	*12,723,995,087*	*100.0*

Source: MIDA

3.5.1 Electrical and Electronic (E&E)

The E & E industry is the largest in Johor in terms of fixed assets and employment. The E & E industry plays a significant role in driving the process of industrialization in Johor because of two main reasons:

• higher technology content of their products and production process. Thus, they have the capability of delivering higher productivity and value added, hence, rapid economic growth.

• capable of generating the growth of local ancillary and supporting industries.

However, the production of 'high tech' inputs is still largely undeveloped in Johor. Many companies in Johor are involved in relatively unsophisticated production. This is the direct result from the strategy adopted during the early stage of industrialization whereby too much concern is placed on volume rather than value added. In addition, linkages between MNCs and indigenous Malaysian industries are relatively non- existent. About 42 per cent of the materials and components are imported, mainly due to the unavailability of the raw materials locally, poor quality, higher costs and unreliable delivery.

In order to overcome the existing problem, the state government has created a state technology consortium consisting of state government agencies, industrialists and universities to establish centers for reverse engineering and better R&D activities. The state government has given out incentives to promote centers for warehousing, international procurement offices (IPOs) and overseas

headquarters (OHQs). The state government, through its various investment arms, especially Johor Corporation, identifies target companies to be located in Johor besides preparing wafer fabrication quality infrastructure to accommodate such projects.

3.5.2 Textile and Apparel

The textile and apparel sector is the largest within the manufacturing sector in Johor in terms of the physical number of establishments in the industry. The textile and apparel industry is concentrated in Johor Bahru, Batu Pahat and Muar, which together account for 83.7 per cent of employment[4].

However, this industry is facing serious labor shortage problem. The labor supply position is becoming difficult and competition for labor with other sectors in a vibrant economy is increasing with the possibility that this may restrict future growth. Although the apparel sub- sector is expanding, technical and operational skills are not developing at the same rate. As a result, it is becomingly increasingly difficult for firms to broaden their product base and respond to an ever more demanding export market. Also, there are little industrial linkages between the domestic primary textile, the accessories sub- sectors and the apparel sub- sector.

The state is also looking into establishing Technology Management Unit to improve the technological foundations of textiles and apparel industry in Johor. In its effort to improve market development and penetration, the state has

promoted the capabilities of Johor textiles and apparel manufacturers through state sponsored exhibitions in foreign markets.

Now, two examples as evidence of government efforts to promote industrialization are given:

1)Johor Technopark

Johor Technopark Sdn. Bhd. was incorporated on 20th June, 1992 as the principal company of the Industrial Development Division of Johor Corporation[5]. It is a wholly- owned subsidiary of Johor Corporation with paid – up capital of RM 20,048,000 as of 30th April, 2000. The company's mission is to be the premier industrial property developers in the region to ensure that Johor's economy continues to grow through accelerated expansion of the trade and manufacturing sectors.

As the principal company entrusted with the formulation and implementation of the state's industrialization program, its core businesses include, among others; managing Johor Corporation's industrial estates, developing industrial properties, providing consultant in industrial properties development (as project management and marketing agent), providing supporting infrastructure for industries.

To date, the company has already developed and managed 28 industrial estates/ parks covering an area of approximately 4,855 hectares throughout the state of Johor. It has spent approximately RM 800 million in developing these

industrial estates/ parks and has allocated hundreds of million more for similar projects in upcoming years.

One of the notable projects managed by the company is the Johor Technology Park. In line with the state's aspiration to be a high- tech region, the Johor Technology Park is being developed as manufacturing site for high quality base materials and to house high- tech and value- added industries. The park, located on a 486 acres in Skudai, is strategically located close to the Universiti Teknologi Malaysia and is about 25 km from Johor Bahru City and only 5km away from the Sultan Ismail International Airport in Senai. It is designed to provide a convenient and conducive environment to industrialists.

As an accelerator of domestic high- tech industries, Johor Technology Park will actively work with resources of technology including UTM, government agencies and SMIs with emphasis on provision of R&D support facilities, excellent and modern infrastructure and speedy approval of projects. The focus would be on the areas of advanced electronics, instrumentation, automation, flexible manufacturing system, electro- optics, optoelectronics and alternative energy sources[6].

2) Technology Acquisition Fund (TAF)

The Technology Acquisition Fund (TAF) was established by the Malaysian government to facilitate the acquisition of technology for the Malaysian industrial sector. Its primary objectives are to promote technology

upgrading and to increase competitiveness. It provides a means to promote efforts by the private sector to increase and enhance their technology level and production processes.

The grant is given out to those manufacturers who fulfill the following criteria:

1) The acquisition of technology must be within the approved list as outlined in the Promotion of Investment Act.
2) A company is locally incorporated and has at least 51 per cent Malaysia ownership.
3) A company must have signed technology agreement where applicable.
4) A consortium of firms is also eligible.

Activities eligible under this type of fund include:

1) Purchase of high-tech equipment and machinery. This is to facilitate companies in acquiring the latest machinery and equipment to increase and maximize production and to facilitate the development of new products. The fund provides a partial grant up to a maximum of 50% of the total cost of machinery equipment to be purchased.
2) Technology licensing. This refers to technology acquisition through licensing to enhance design and production for both new and existing products. This grant provides a maximum of up to 70% of the cost of licensing fees.

3) Acquisition of Patent Right, Prototypes and Design. This facilitates the transfer of technology to local companies, enabling research and development of new processes and product. The fund provides up to a maximum of 70% of the total cost involved in patent rights, prototypes and design.

4) Placement of Malaysians in Foreign Technology Based Companies and Foreign Technology Institutes. This will expose and upgrade Malaysian Employees' knowledge on technology development on foreign technologies. The fund provides partial grant of 50% maximum of the total cost or RM 30,000 which ever is lower, for a maximum of 3 persons per project not exceeding 3 months. Funding includes the cost of air travel, accommodation and daily allowance. However, funding is not provided in affiliated or subsidiary companies overseas.

5) Expert Sourcing Program. The objective of the program is to assist firms to engage foreign technical experts and consultants in upgrading their products and processes. This encompasses all foreign experts in advising and assisting in upgrading technical competency of firms. The terms eligible for funding are the same as above.

6) Information Dissemination Seminar/Workshops. This focuses in assisting the industry Association and Chambers of Commerce to engage foreign experts to advice in current technological capability of its member companies. This involves organizing technical workshops or seminars in relevant areas of technology. The fund provides partial grant of up to a maximum of RM50,000

to the organization that organizes such seminars. In addition, it will cover costs of professional fees, airfare and local accommodation.

3.6 The Services Sector

Services industries have expanded at a constant rate (see Table 3) and are expected to assume greater role in the future in tandem with the growth in the other sectors. In order to fully enjoy the advantages of its proximity to Singapore, the state has been supportive in promoting and strengthening the development of services sectors.

This section discusses three main components of the services sector, namely distributive trade, finance and tourism.

3.6.1 Distributive Trade

Since 1970s, a modern retail sector has grown in Johor with newer retail outlets replacing the traditional ones. Based on the data from the Ministry of Domestic Trade and Consumer Affairs, in 1995, Johor has the fourth largest number of wholesalers, after Sarawak, Kuala Lumpur and Penang. This amounts to 11.9 per cent of the total wholesale establishments in the country. For retail establishments, Johor has the second largest number, after Kelantan, accounting for 10.8 per cent of the national total.

The increasing number of shopping malls has created the crowding-out effect whereby small retailers are slowly being put out of business. Also, the emergence

of hypermarket in the industry has caused a structural change in the distributive system. The reduced layering in the distribution will speed up the supply chain management process. In view of this, efforts have been made since early 1990s to initiate state- led transformation of Johor into a premier center for distributive trade. In launching this strategic initiative, the state government has taken the lead to give the initiative sufficient political clout. It is also a constructive leadership approach whereby the private sector, consisting of wholesalers, retailers and associations, is involved in the task force overseeing the initiative. The state government, together with the business sector; have always been working together to clean up the city to convert the environment to one that is attractive, enhancing and conducive for shopping. Efforts have been made in improving landscape to create greener city, implementing beautification program, providing better public facilities...etc. The above strategies are accompanied by a full- scale promotion campaign to publicize Johor as a premier distributive trade center. The promotion campaign is a joint effort from the private sector with cooperation from government agencies and local authorities.

3.6.2 Finance

Commercial bank sector in Johor grew at an average annual growth rate of 10 per cent from 99 branches in 1989 to 175 branches in 1995. Finance companies grew from 66 branches in 1989 to 139 branches in 1995, at an average annual

growth of 13 per cent. Only one merchant bank operates in Johor. In 1995, there were 5 stock- broking firms and 106 branches of insurance companies in Johor.

The financial sector has undergone gradual restructuring over the years in response to the changing economic and financial environment. However, the increased fragility and vulnerability arising from the destabilizing contagion effects emanating from developments in the regional and global financial markets have posed serious challenges, requiring increased surveillance by the authorities to strengthen the resilience of the banking system. Efforts have been and will continue to be directed at strengthening the regulatory and supervisory framework of the banking system. The central Bank, Bank Negara Malaysia, has played an important role in its capacity to monitor and detect emerging risks in the financial system.

3.6.3 Tourism

As shown in Table 16, there is a sharp increase in arrival of tourists between 1997 to Oct 1998, accounting to a 32.7% during that period. The decrease from 10,796,584 in 1996 to 9,609,157 in 1997 was due to the problem of haze during that period. Also, it is notable that the majority of visitors to Johor are from Singapore and they are short duration visitors who do not spend on accommodation. This can be explained by Table 17 where hotel's occupancy rate has been hovering around 50 to 60 per cent since 1994. Table 17 also shows that the number of hotels and rooms have not changed much. Hence, there is a need to

attract higher- spending and longer staying tourists by diversifying into new products. As such, the state government has identified and focused on tourism product development. Among others:

(i) develop integrated resort tourism with priority to Desaru, Mersing/ Islands;

(ii) develop eco- tourism with priority to Endau- Rompin National Park and Gunung Ledang resort;

(iii) develop agro- tourism at selected sites;

(iv) develop riverine tourism with priority to riverine or historical tours to Johor River and Muar River;

(v) develop sports tourism at Johor Bahru and Muar and adventure sports at Desaru, Mersing/ Islands

Besides that, over the years, the government has played an active role in promoting tourism as it is a main source of foreign exchange. The government, through the Department of Tourism, has carried out systematic and well- funded joint advertising and promotional campaigns in selected primary target markets. These include informing and educating the tour and travel trade, especially in Singapore and Indonesia, about new attractions, shopping facilities and events in Johor. The state has also undertaken vigorous promotion of domestic tourism to Johor through public awareness programs. In addition, efforts have been made to improve ground transport facilities, especially taxi services and public transport services .

The tourism sector probably offers the widest and most promising scope for bilateral and trilateral inter- government cooperation under the growth triangle concept (will be discussed later). The strengthening of existing mechanisms of consultation and coordination could increase the volume of international tourism for mutual benefits.

Table 16 Johor: Foreign Arrival, 1996- Oct 1998

Country	1996 number	%	1997 number	%	1998 (Jan -Oct) number	%
Singapore	9,891,966	91.6	8,822,354	91.8	10,435,940	81.8
Thailand	57,413	0.5	45,754	0.5	16,759	0.1
Japan	370,627	3.4	279,999	2.9	75,856	0.6
Indonesia	247,223	2.3	241,445	2.2	153,549	1.2
Taiwan	52,831	0.5	35,699	0.4	8,151	0.1
Brunei	6,373	0.1	3,083	0.1	492	0.1
United Kingdom	8,322	0.1	71,306	0.7	17,572	0.1
China	80,214	0.7	69,924	0.7	181,685	1.4
Australia	54,183	0.5	40,169	0.4	1,835,588	14.4
Hong Kong	27,432	0.3	26,424	0.3	23,260	0.2
Total	10,796,584	100.0	9,609,157	100.0	12,748,852	100.0

Source: Economic Report, Johor, 1998-1999

Table17 Johor: Number of Hotels and Rooms & Occupancy Rate

Year	Number of hotels	Number of rooms	Occupancy rate
1994	137	7,245	58.9%
1995	144	8,469	59.8%
1996	134	7,386	55.4%
1997	137	8,276	56.5%
1998	156	8,826	49.9%

Source: Tourism Department, Johor

3.7 Supporting Infrastructure and Services

3.7.1 Ports

The rapidly expanding economy of Johor has necessitated the development of infrastructural projects. In this regard, facilities such as efficient access roads, communication links, ports and shipping services are essential. Although such facilities and services may exist, it may be useful to look at their capacity and role from a wider perspective as the need for greater linkages between support facilities and the industries that use their services is well recognized. In view of this, in the seventh Malaysia Plan itself, the Federal government has allocated RM335,092,000 for the development of ports in Johor through the Port Unit of the Transport Ministry.

Johor Port has been in operation in providing services in tandem with the industrial development of the state. It is, however, recognized that the limits to the expansion of facilities were fast approaching. Thus, the port expansion of Tanjung Pelepas was identified. The new port at the south western tip of Peninsular Malaysia will be the new gateway for Malaysia which will be an important port facility supporting the economic growth of Malaysia, in general, and Johor, in particular.

The government, in designing policies to rectify the current situation of strong dependence on Singapore as a major import and export port, stresses not only on the ports as mere facilities, but as core centers for the growth of shipping and trade related expertise that will have an indigenous base. Knowing the fact that it is no use building ports that are merely efficient feeder ports to Singapore, both

Pasir Gudang Port and Tanjung Pelepas Port would, in their own right, be major southern gateways for Malaysia.

3.7.2. Highways and Access Roads

An efficient and high quality transport network is essential for achieving the economic development goals set by the state. The container haulage acts as the main transporting system for the manufacturing sector by providing means of carrying goods from the factories to the ports and vice versa. Table 18 shows that the road distribution has increased more than 50 per cent during the period 1985-1995. However, the lack of proper planning in constructing roads and poor coordination of their accessibility to the ports poses a challenge to the haulage industry. Thus, the state government needs to play a more active role in improving inter urban linkages, alleviate capacity restraints and increase road network to open up new growth centers as well as rural areas.

Table 18 Johor: Road Distribution by Type, 1985-1995 (kilometers)

	1985		1990		1995	
	federal	state	federal	state	federal	state
Johor	798	3399	2003	3960	2463	4021

Source: Public Works Department, Johor

3.7.3. Telecommunication and Information Technology (IT)

Revolution in IT has made it possible to acquire knowledge and disseminate IT at cheaper and faster paces, thereby increasing the productivity of the manpower. Expanding and upgrading telecommunications infrastructure and skills are the pre- requisite to make use of IT. Under the seventh Malaysia Plan,

telecommunication infrastructure is modernized using fibre optics, satellite, wireless and digital technology. Johor state government has planned to develop Johor Information Infrastructure (JIT) in which it visualizes establishing an electronic government and thereby making Johor a southern hub for IT.

3.8 Human Resource Development (HRD)

Johor is in the transition phase from labor intensive towards knowledge based high- tech industrial development. As such, the education and training systems need to be revamped so that the school system and the training institutions are equipped to prepare the workforce to meet the skills needed in high- tech industries, as well as building capabilities for future research and development.

It has been identified that there are shortages of students in science and maths stream. Consequently, there is a lack of trained science teachers, trainers and instructors in skills training institutions. Also, engineering graduates coming out from local universities are still unable to fill the gap between demand and supply. Hence, with the coordination and cooperation from the Ministry of Education, it is hoped that interest in science can be created from the primary level.

The state government has also targeted the UTM as the focal point for the state's HRD efforts. To ensure consistency and effective execution of the UTM's roles, UTM is to work closely with all related parties; private and public, local and international via various committees, working groups and task forces.