CHAPTER 5

STRUCTURE OF JAPANESE-RELATED FIRMS IN KEDAH STATE

5.1 Introduction

In this chapter we used data obtained from fourteen Japanese firms in Kedah that answered our survey questionnaire in 1993. Here our target was to analyse the character of the Japanese firms in Kedah, including the determinants, investment, employment, sales, purchases, subcontracts, adoption of the Japanese style of management and workers' salaries. In order to comprehend all these features, we shall divide the fourteen respondent Japanese firms into several groups and examine the character of the each group of companies. Then we shall proceed to analyse each element separately (determinants, investment, employment, etc.) and identify relations between them.

Among the 14 Japanese firms that offered us their information, there were seven electronics/electrical firms, two textile firms, one metal products, one wood products and one chemical products firm. Six of the 14 Japanese firms are located in Bakar Arang, five are located in Kulim, two are in Tikam Batu and one firm is situated in Sungai Petani.

5.2 Determinants

There are two groups of factors that brought the Japanese Direct Investment to Malaysia. "Pull" factors come from the Malaysian side, "push" factors are from the Japanese companies' side. The concept of the "push" and

"pull" factors was introduced in Yoshihara's research.[1] It is useful to explore these two groups of factors.

5.2.1 Pull Factors

The labour force in Malaysia is comparatively cheap while its quality is high. This may be one of the most attractive factors for the Japanese companies to invest in Malaysia. Besides, compared with some other ASEAN or Asian countries, Malaysia has an excellent civil administration and stable government. Its economic situation is also stable. All these points are no doubt the advantages for foreign investors. Another element that can not be omitted is the availability of materials. Kojima's (1978) observation that the Japanese investment tended to be "material exploitative" was valid for Malaysia while the availability of the local materials, especially in the 1960s and 1970s, was a crucial point for the Japanese investors.[2]

Malaysia also needs foreign capital to carry out its development vision called "Vision 2020". Malaysia is not a capital-rich country, its population resource is also limited. So, the Malaysian Government has decided to introduce the liberal policy towards foreign direct investment and to beef up infrastructure for foreign investors.[3] At the same time the Malaysian Government has simplified the application procedure for the potential foreign investors and visa application requirements.

What attracted the Japanese investors most to invest in Kedah? Their determinant may be different from that of the Japanese firms that invested in urban areas, such as Penang or Selangor. We asked the Japanese companies to choose some the following five elements that have influenced their choice to invest in Kedah state:

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[1] Yoshihara, K. (1978), *op.cit.*

[2] Kojima, K. (1978), *op.cit.*

[3] *The Star*, February 12, 1992.

1) availability of cheap and quality labour force

2) political and economic stability

3) availability of materials

4) fiscal incentives

5) infrastructure and the government policy on FDI.

5.2.2 Estimation of Pull Factors

Among fourteen Japanese companies surveyed in Kedah, ten firms answered that the cheap and high quality labour force was the main attraction for them to invest in Malaysia. One executive of an electronics/electrical firm said that workers' salaries were still competitive. A Japanese director of a company said that it was important for them that there were no communication problems, for almost all Malaysian workers could speak English. One manager said that though salaries of workers were still competitive in Malaysia, it was difficult to predict the situation in the future, thus showing that some Japanese firms were concerned about the possible rise of the wage rates.

Eleven Japanese companies said that the political and economic stability in Malaysia was an important matter for them. A Japanese executive said that Malaysia with its political and economic stability was probably one of the best countries in Asia to bring investments to. Some directors were quite confident that this situation will not change in the future, while others were more cautious in their opinions on this matter.

It is surprising that only two of the fourteen Japanese firms mentioned that the availability of materials was a motivation for them to shift factories to Malaysia. In the past, this factor played a more important role for the Japanese companies to invest abroad, but now the situation is different.

Seven Japanese companies said that they were attracted by the incentives. A Japanese executive said that before choosing a country to bring their investment to, they attended a seminar to learn more about incentives and finally decided to invest in Malaysia. One manager told us that the Investment

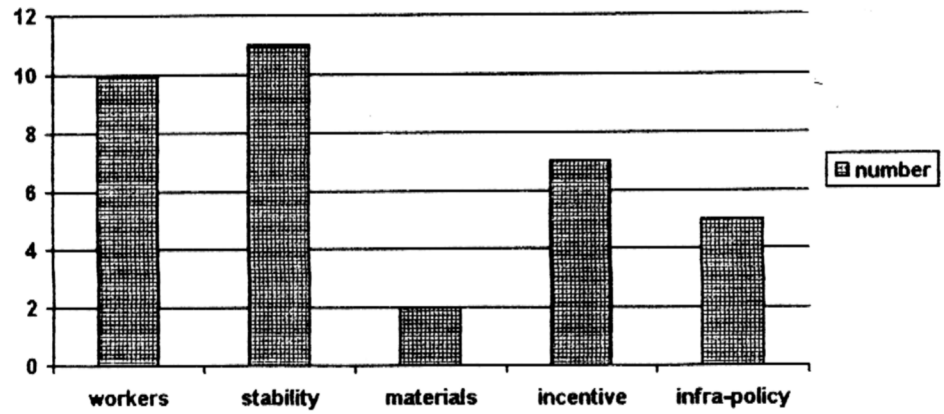
Promotion Act was very beneficial for them, because it made getting work permits easier, thus allowing to work more efficiently. Some executives of the Japanese companies said that the government incentives were generous enough to attract foreign investors to Malaysia, not to other Asian countries. However, some of the Japanese directors and managers wondered what the situation would be like in the future, especially concerning the ownership requirements and work permits.

Five Japanese companies said that they were attracted by a good infrastructure and the efficient government administration. Many firms mentioned that a well-established industrial zone was the most important factor that made them to choose Malaysia. Some companies said that the Kedah State Economic Development Corporation was of a big help for them.

CHART 5.1

ESTIMATION OF PULL FACTOR

BY 14 JAPANESE FIRMS IN KEDAH



Note: "Worker" - Availability of cheap and quality labour force

"Stability" - Political and economic stability

"Materials" - Availability of materials

" Infra-policy" - Infrastructure and the government policy

Source: Survey questionnaire

As shown in Chart 5.1, the most important determinant for the Japanese firms is the political and economic stability. The second important factor is the availability of a cheap and quality labour force. The third attractive point for them is incentive. This result is similar to the Chee's and Lee's (1979) findings on determinant of Japanese firms.[4]

5.2.3 Push Factors

The end of 1980s became the turning point for the internationalization of Japanese firms. At that time Japanese companies faced a number of serious problems that were caused by the appreciation of the Japanese Yen after the Plaza Agreement (1985).[5] A lot of Japanese firms were losing or had lost the international competitiveness and decided to invest in foreign countries. In addition, the continuous economic expansion has exhausted the labour market in Japan and many firms suffered a serious shortage of workers.

Some Japanese firms have invested abroad following an international strategy for their production. For example, Nissan Motor had plans to introduce an "ASEAN Car" project, according to which car parts would have been produced in ASEAN countries and the final car assembling would take place in one of these countries.[6] Some Japanese electrical/electronics firms also had a special strategy that brought their investment to Malaysia.

The Malaysian domestic market is limited due to its population of 17 million. However, the income level of the population is on the rise and this fact also attracts Japanese firms.

Japan has very limited natural resources and needs to constantly import materials from abroad. Some Japanese companies have decided to invest in

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[4] Chee, P.L. and Lee, P.P. (1979), *op. cit.*

[5] *Yomiuri Shinbun,* July 17, 1992.

[6] *La International,* August, 1988.

Malaysia in order to be closer to the materials necessary for their production. We singled out the following five most prominent "push" factors and asked the Japanese companies to choose those of them which had influenced their decision to invest abroad:

1) appreciation of the Japanese Yen
2) shortage of labour force in Japan
3) pursuing the international strategy
4) aim to the local market
5) the need for materials.

5.2.4 Estimation of Push Factors

After the Plaza Agreement, the value of the Japanese Yen against the US Dollar has increased by 50-70 percent. For seven of the fourteen Japanese companies in Kedah this was one of the most important reasons to invest in Malaysia. Among the fourteen Japanese firms in Kedah, eight were established in Malaysia after 1985. Six of the above mentioned firms said that the appreciation of the Japanese Yen was the key element for investing abroad. That means that the change in the value of the Japanese currency after 1985 became the most important push factor. A Japanese director told us that the appreciation of the Japanese Yen changed the fate of their firm. Another Japanese manager confessed that without a Plaza Agreement he would never come to Malaysia.

The labour shortage in Japan was the most important factor to invest in Malaysia for six Japanese firms. Among the eight newly established firms, four have also mentioned this factor. A Japanese executive said that they could no longer employ workers in Japan, because their factory could not pay a higher salary than other factories were paying. A Japanese managing director said that

the younger generation of Japanese was reluctant to work at the factories, so their company simply could not find workers in Japan.

Four of the fourteen Japanese firms invested in Malaysia, following the global strategy of their companies. A Japanese manager said that their company put an emphasis on the scale of production to get bigger profits. A Japanese executive said that ASEAN had a big potential, and their company wanted to establish a production base in ASEAN countries. One Japanese director said that their company had big plans for the internationalization of production, so they allocated some industries to particular countries. The above-mentioned companies conducted their own R&D abroad, had own plans and exported their production all over the world. It is interesting to notice that all the four companies with the international strategy are big companies.

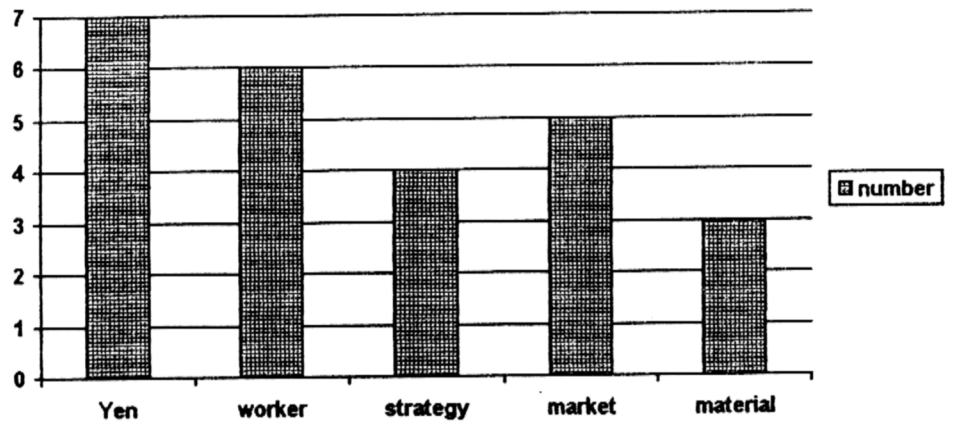
Only five Japanese companies have come to Malaysia with the intention to aim at the local market, since Malaysia's tariff is relatively low and its market is small. Among these five firms three are electronics/electrical and two are transport equipment firms. Four of the above-mentioned five companies were established in Malaysia before 1986. One Japanese executive said during an interview: "We came here (to Malaysia) and established a joint-venture more than ten years ago. At that time we just aimed at the local market. However, now we have started to export some production abroad".

Only three among the fourteen Japanese firms in Kedah invested in Malaysia because they needed materials. A director of a Japanese company said that they needed to stabilize the supply of materials, that was the reason why their company had invested in Malaysia. However, at the present time this type of investment is smaller than it was before.

CHART 5.2

ESTIMATION OF PUSH FACTORS

BY 14 JAPANESE FIRMS IN KEDAH



Note: "Yen" - appreciation of the Japanese Yen

"Worker" - shortage of labour force in Japan

" Strategy" - pursuing the international strategy

"Market" - to aim at the local market

" Material" - the need for materials

Source: Survey questionnaire

As shown in Chart 5.2, the most important determinant for the Japanese firms in Kedah is the appreciation of the Japanese Yen. The second important factor is a shortage of workers in Japan. The third important factor is to aim at the local market. It shows that the appreciation of the Japanese Yen and a shortage of workers in Japan were the main reasons why the Japanese firms had lost competitive advantage in Japan and decided to invest abroad.

5.3 Financial Condition

We tried to examine the financial situation of the Japanese firms in Kedah. For a company, the amount of investment or the ownership structure is an important issue which is kept secret from the outsiders. We got the information concerning the firms' financial condition through the interviews that were carried out in 1993. However, some Japanese firms, especially the small ones, were reluctant to give certain information. The JDI in Malaysia is often being criticized for its small size (by international standards) in terms of paid-up capital.[7] What is the situation with the JDI in Kedah?

5.3.1 Investment

In this research, the firms' investment was divided into the three following types: 1) authorized capital; 2) paid-up capital; 3) total investment. The authorized capital is the expected amount of investment that has been approved by MIDA. However, this figure does not always reflect the real financial situation in a firm, because some firms have a high authorized capital although their real investment is small. The paid-up capital shows a financial situation in a firm more truly. The total investment consists of the paid-up capital, loans, investment to assets, land payment, etc. The total investment provides us with a general information and is helpful to ascertain a financial condition of a firm.

We divided the 14 respondent Japanese firms in Kedah by the amount of investment into several groups: 1) small-size firms (investment less than RM 2.5 million); 2) medium-size firms (investment between RM 2.5 million to RM 5 million); 3) large-size firms (investment between RM 5 million to RM 10 million); 4) very-large-size firms (investment more than RM 10 million).

In terms of the authorized capital, there are 9 very large, 2 large, 1 medium and 2 small firms in Kedah. The smallest size firm in terms of the authorized capital has invested just RM 1 million. The largest investment in terms of the

[7] Chee, P. L. and Lee, P.P. (1979), *op. cit.*

authorized capital is more than RM 100 million. The average amount of the authorized capital per a firm is RM 21 million with a standard deviation (SD) amounting RM 30 million.

In terms of the paid-up capital, there are 6 very large, 6 large firms and 1 medium, 1 small firm in Kedah. The smallest size firm in terms of the paid-up capital has invested less than RM 1 million. The largest firm has invested more than RM 200 million. The average amount of the paid-up capital per a firm is RM 20 million with an SD of RM 30 million. It is interesting to notice that the data on the average amount of investment and SD in terms of the authorized and paid-up capital are almost same.

In terms of total investment, which comprises the investments for fixed assets such as building, machines and other equipment and working capital, there is 1 small- and 1 medium-size firm, 3 large-and 9 very-large-size firms. The average amount of total investment per a firm is RM 30 million with an SD of RM 40 million.

TABLE 5.1

AUTHORIZED CAPITAL, PAID-UP CAPITAL AND TOTAL INVESTMENT OF 14 JAPANESE FIRMS IN KEDAH (RM MILLION)

Capital	less RM2.5 million	RM2.5 ~ 4.9million	RM5.0 ~ 10million	More RM10 million
authorised	2	2	2	9
paid-up	1	1	6	6
total	1	1	3	9

Note: "Authorized" - authorized capital

"Paid-up" - paid-up capital

"Total" - total investment

Source: Survey questionnaire

5.3.2 Ownership Structure

The Malaysian Government requires some Malaysian participation equity in foreign firms. This pre-requisite is set by the Industrial Coordination Act, 1975 (see Appendix Three). Only few among the Japanese firms established before 1985 are allowed to be the wholly-Japanese-owned companies. Due to this regulation many Japanese firms do not disclose their ownership structure to outsiders. Some firms, especially small firms, are reluctant to reveal who has shares in their firm and amount of shares. Therefore, the information on this matter, which we obtained through the interviews, may be not fully correct.

We have used the Japanese Equity Ratio (JER) to analyse the ownership structure of the Japanese firms. JER is expressed as:

JER = Japanese equity ÷ total equity

We divided the fourteen respondent Japanese firms in Kedah into the four groups according to their JER:

1) Japanese over-majority firms (from 76 percent to 100 percent of JER),
2) Japanese majority firms (from 51 percent to 75 percent of JER),
3) Japanese minority firms (from 25 percent to 50 percent of JER),
4) Japanese under-minority firms (less than 25 percent of JER).

Among the fourteen Japanese firms, there are ten Japanese over-majority firms and one Japanese majority firm. There is one Japanese minority firm and two Japanese under-minority firms. The average level of the Japanese ownership is 75 percent.

As shown in Table 5.2, there is a clear dependence of JER on the period of firm's establishment. Two Japanese firms established in 1990 are the Japanese over-majority firms. There are 9 firms in Kedah which were established in the 1980s, and 7 of them are the Japanese over-majority firms. Two of the three firms established in the 1970s are the Japanese minority firms.

TABLE 5.2

OWNERSHIP STRUCTURE AND YEAR OF ESTABLISHMENT OF 14 JAPANESE FIRMS IN KEDAH

	1970s	1980s	1990s
JUMI	1	0	0
JMI	1	1	0
JMA	0	1	0
JOMA	1	7	2

Note: "JOMA" - Japanese over-majority ownership

"JMA" - Japanese majority ownership

"JMI" - Japanese minority ownership

"JUMI" - Japanese over-minority ownership

Source: Survey questionnaire

Let us compare the Japanese ownership structure of the Japanese firms established before 1986 and in or after 1986. We supposed that the firms established before 1986 have a low JER, while the firms established in or after 1986 have a high JER. This is because after the implementation of the Investment Promotion Act (1986), many Japanese firms were allowed a high Japanese ownership.

There are six firms in Kedah established before 1986 and 8 firms that were established in or after 1986. The average JER of the six Japanese firms which were established before 1986 is 48 percent and the SD is 28 percent. The average JER of the eight Japanese firms established in or after 1986 is 90 percent, with an SD of 10 percent. It seems that the Japanese firms established in or after 1986 have a higher JER than the those established before 1986. These findings coincide with our expectations.

5.4 Workforce

Here we shall discuss the employment structure of the fourteen respondent Japanese firms in Kedah. We examined the following four factors: 1) total employment, 2) Japanese workers, 3) Malay workers and 4) non-Malay workers.

Employment creation is important, especially in rural areas, such as Kedah. There is some criticism that the Japanese firms do not contribute much to the employment creation, while the relative number of the Japanese expatiates is big.[8] In this chapter we shall try to see whether this criticism is fair or not. We have also made an attempt to check the trend of employment by industries and location. Then, it is interesting to know the share of Malay and non-Malay workers at the Japanese firms.

5.4.1 Total Employment

We shall divide the fourteen respondent Japanese firms into the four categories according to the employment:

1) small-size firms (less than 49 workers);
2) medium-size firms (between 50 to 99 workers);
3) large-size firms (between 100 to 300 workers);
4) very large firms (more than 300 workers).

Among the 14 Japanese firms, there is 1 small-size and 1 medium-size firm. There are 3 large-size firms and 9 very large firms. The average total employment by the Japanese firms in Kedah is 566 persons per a firm, the SD being 731 persons. This means that the majority of the Japanese firms in Kedah are not SMIs.

Let us compare the total number of workers at the Japanese firms established before 1985 and those established in or after 1985. We expected that the Japanese firms which were established before 1985 employed more

[8] Jomo, K.S. (ed.) (1988), *op.cit.*

workers than the firms established in or after 1985. It is said that the second wave of JDI in Malaysia, that is investment after 1985, mainly consists of SMIs.

There are 6 firms which were established before 1985 and 8 firms which were established in or after 1985. The average employment of the 6 Japanese firms established before 1985 is 639 workers per a firm, and the SD is 813 workers. On the other hand, the average employment of the 8 Japanese firms which were established in or after 1985 is 470 workers with an SD of 594 persons. It seems that the Japanese firms which were established in or after 1985 have a lower total employment than the firms established before 1985. These findings confirm our expectations.

TABLE 5.3

EMPLOYMENT CREATION BY LOCATION

OF 14 JAPANESE FIRMS IN KEDAH (WORKERS)

employment	Kulim	Tikam Batu	Arang Bakar	Sungai Petani
less than 50	1	0	0	0
50 ~ 99	0	0	1	0
100 ~ 300	1	1	3	0
more than 300	3	1	2	1

Source: Survey questionnaire

Now we shall try to investigate the relationship between employment and location. As shown in Table 5.3, in Kulim, three of the total five firms employ more than 300 workers. In Tikam Batu, one of the total two firms employs more than 300 workers. In Bakar Arang, two of the six firms employed more than 300 workers, and the only firm in Sungai Petani also employed more than 300 workers. All these are very large firms according to their employment.

There are only two small-size firms. One is located in Kulim and the other is in Bakar Arang.

Let us compare the 5 firms in Kulim with the 6 firms in Bakar Arang. We conjecture that the Japanese firms in Bakar Arang are bigger according to their employment than the Japanese firms in Kulim. This is because the shortage of workers in Penang prevents the firms that intend to employ a large number of workers from locating their factories in the industrial estates near Penang. Instead, they set up their factories in remote areas. On the other hand, the firms which do not intend to employ a large amount of workers can set up factories near Penang.

The total employment by the 6 Japanese firms in Bakar Arang is 3,692 workers, the average number of workers per a firm is 615, with an SD of 844. The total amount of employment by the 5 Japanese firms in Kulim is 1,556 workers. The average number of workers per a firm is 311, with an SD of 207. It shows that the firms in Bakar Arang have a bigger employment than the firms in Kulim. These findings are in conformity with our expectations.

5.4.2 Japanese Workers

The Malaysian Government allows the newly coming foreign firms (i.e., application received between October 1, 1986, to December 31, 1990) to get automatically five expatriate posts, provided that the foreign paid-up capital is RM 2 million and above (see appendix Two).

Two Japanese electronics/electrical giants in Kedah employ more than 10 Japanese expatriates each. Other firms have less than 10 Japanese workers. Thus, three firms employ between 5 to 9 Japanese expatriates, five firms have 3-4 Japanese workers each and three firms' Japanese staff is 1-2 employees. There is one Japanese firm which has no full-time Japanese workers, that is a Japanese employee comes to supervise the factory's operation several times a week on a part-time basis. The average number of the Japanese workers is 5 persons per a firm and the SD is 4.2 persons. This means that the number of

Malaysian workers per a Japanese worker is 113. This number is not very small.

5.4.3 Malay and Non-Malay Workers

The population ratio of Malays to non-Malays in Kedah is 7:3. That means that the ratio of Malay workers to non-Malay workers should be close to 7:3 proportion, that is if the employment reflects the population structure of the state. The total number of Malay workers employed by the Japanese firms is about 5,200 people. On the other hand, the total number of non-Malay workers is about 2,600 people. This means that the ratio between the Malay and non-Malay workers in all Japanese firms in Kedah is 7:3.5 = 2:1. This figure shows that the non-Malays' share in employment by the Japanese companies is relatively high.

The Japanese electronics/electrical firms in Kedah employ totally about 4,000 Malay and 2,300 non-Malay workers. This means that the ratio between Malay to non-Malay workers in the electronics/electrical firms is 5:3. This data show that the share of non-Malay workers working in electronics/electrical firms is higher than the share of Malay workers relative to their population size. On the contrary, in non-electronics/electrical firms, the ratio between Malay and non-Malay workers is 4:1. This data show that Malay workers often prefer to work in non-electronics/electrical firms, while non-Malay workers often choose the electronics/electrical companies.

Now, we shall divide the Japanese firms in Kedah into the following three categories: 1) the share of Malay workers is more than proportional (>70 percent); 2) the share of Malay workers just proportional (70 percent); 3) the share of Malay workers is less than proportional (<70 percent). There are 9 firms in the category "One", which is 65 percent of the total number of the Japanese companies in Kedah. One Japanese firm belongs to the category

"Two", this is 7 percent of the share. Four firms are in the category "Three" (25 percent of the share).

TABLE 5.4

SHARE OF MALAY AND NON-MALAY WORKERS IN ELECTRONICS/ELECTRICAL AND NON-ELECTRONICS/ELECTRICAL JAPANESE FIRMS IN KEDAH

category	Electronics/Electrical	Non-Electronics/Electrical
category One	4	5
category Two	0	1
category Three	3	1

Note: Category "One" - the share of Malay workers is higher than 70 percent
Category "Two" -the share of Malay workers is 70 percent
Category "Three" - the share of Malay workers is less than 70 percent

Source: Survey questionnaire

As shown in Table 5.4, there are 5 non-electronics/electrical firms in category "One", accounting for 71 percent of the total number of the Japanese electronics/electrical firms in Kedah. One non-electronics/electrical firm belongs to the category "Two" and one firm belongs to the category "Three", which represents 15 percent of the firms. By contrast, 4 of the electronics/electrical firms belong to the category "One", 3 firms belong to the category "Three". This data suggests that the non-Malay workers prefer to work in electronics/electrical firms.

5.4.4 Location and Malay and Non-Malay Workers

In the section above, we used the population ratio of Malay and non-Malay workers in the whole Kedah state. Here we shall continue to analyse in more detail the employment structure of the Japanese firms in four industrial estates in Kedah, namely in Kulim, Bakar Arang, Tikam Batu and Sungai Petani. Firms with different location within the same state may have different ratio of Malay and non-Malay workers.

Kulim industrial estate is located in Kulim district, while the other three above-mentioned estates are located in Kuala Muda district. Forty-nine percent of the Kulim's population are Malays and 51 percent are non-Malays. Kuala Muda district has a higher share of Malays - 57 percent of the total population. Kulim and Kuala Muda districts have a relatively higher ratio of non-Malays, compared with the population ratio of the whole Kedah state. This is because Kulim district is located near Penang state, and Kuala Muda district includes the commercial city Sungai Petani, where many non-Malays live.

Let us take a look at Kulim industrial estate. There are five Japanese firms in Kulim industrial estate which answered the survey questionnaire. The total employment by these Japanese firms is 1,556 workers, of which 1,200 workers are Malays and 356 are non-Malays. Four Japanese firms in Kulim industrial estate belong to the category "One" (see above 5.4.3), one firm is in the category "Two". There are no firms in the category "Three". This data show that the Japanese firms in Kulim industrial estate have a high ratio of Malay workers.

There are just two Japanese firms in Tikam Batu industrial estate which answered the survey questionnaire. The total employment by these firms is 699 workers. Among them 649 workers are Malays and 50 workers are non-Malays. Both of the two firms belong to the category "One" (see above 5.4.3). Japanese firms in Tikam Batu industrial estate have a high share of Malay workers in the total employment.

Bakar Arang industrial estate is located very near the commercial town of Sungai Petani. There are 6 Japanese firms in Bakar Arang which answered the survey questionnaire. Together, they employ 3,700 workers, of which 1,700 workers are Malays and 2,000 workers are non-Malays. The share of non-Malay workers in Bakar Arang is very high. Only two Japanese firms in Bakar Arang industrial estate belong to the category "One" (see above 5.4.3). One firm belongs to the category "Two", three firms are in the category "Three", two firms employ more non-Malay than Malay workers.

Sungai Petani industrial estate is still underdeveloped. Our information on the employment by the Japanese firms in Sungai Petani is insufficient, because only one Japanese firm answered the survey questionnaire. Due to the limited data on the Japanese firms in Sungai Petani industrial estate, it is quite difficult to make general conclusions about the situation there. However, the Japanese firms in Sungai Petani totally employ more than 1,200 workers. Malays have about 93 percent of the employment's share, while the non-Malays' share is just 7 percent. Although information on employment in Sungai Petani is scarce, clearly the share of Malay workers in employment by the Japanese companies is high.

5.5 Sales

Here we shall investigate sales by the Japanese firms. This research was carried out in 1993. Fourteen Japanese firms provided us with information on their operations in Malaysia, including data on the destination of export and the main customers. We have divided the fourteen respondent Japanese firms in Kedah into the four groups according to their sales:

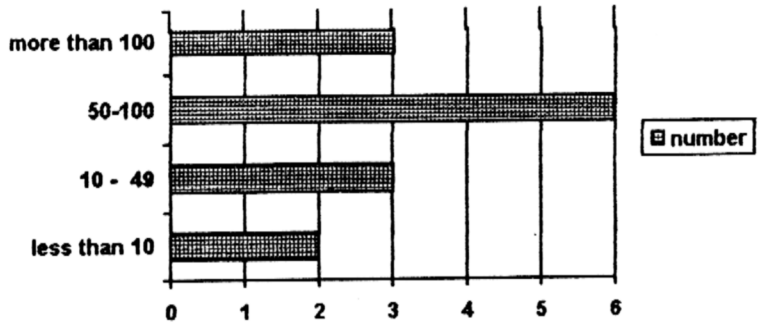
1) small firms (sales less than RM 9 million);
2) medium firms (sales between RM 10 million to RM 49 million);
3) large firms (sales between RM 50 to RM 100 million);
4) very large firms (sales more than RM 100 million).

In terms of sales, there are 2 small, 3 medium, 6 large and 3 very large firms. The average sales per a firm are RM 95 million, with the SD of 80 million.

CHART 5.3

SALES BY 14 JAPANESE FIRMS

IN KEDAH (RM MILLION)



Source: Survey questionnaire

5.5.1 Sales by Industry

Among the Japanese companies electronics/electrical firms and automobile makers are the most famous. Among the JDI in the South-East Asia electronics/electrical companies play the most important and leading role. The number of the electronics/electrical companies is large, while the size of their investments is also big.[9]

Here we have categorized sales of the Japanese firms in Kedah by industries. Among those fourteen Japanese companies which answered the survey questionnaire, 7 were electronics/electrical and 2 textile companies. There were 2 transport equipment firms, 1 wood company, 1 metal and 1 chemical firm.

[9] *La International*, August, 1988.

Having divided the Japanese firms in Kedah into two groups: 1) electronics/electrical and 2) non-electronics/electrical companies, we compared the sales of these two groups. We expected that firms in group "One" have higher sales than firms in group "Two", because it is said that Japanese electronics/electrical firms, being internationally famous, have strong position in the market.

In 1992, the total sales by 7 electronics/electrical companies in Kedah accounted for RM 1,025 million. The average sales per a firm was RM 146 million, where the SD was RM 188 million. The total sales of 7 non-electronics/electrical firms accounted for RM 450 million. The average sales per a firm was RM 65 million, with an SD of RM 31 million. This means that the electronics/electrical firms enjoyed higher sales than the non-electronics/electrical firms. These findings confirm our expectations.

5.5.2 Sales by Location

Whether a firm is successful in its operation or not depends on a number of factors, such as workers, infrastructure, utilities, management, economic situation, government policy, etc. All these factors influence each other and their interrelations are not easy to analyse. However, location of a firm may be one of the most important elements that affect the factory's operation. Even if a firm has an excellent management, but its location is unfavourable, this firm may not be able to find quality workers. Sometimes it cannot find a good material supplier either.

For Japanese companies, location of a factory is a very important matter. Some Japanese expatriates refuse to stay in rural areas, so a factory must be located in or near the cities. Some export-oriented Japanese companies prefer to be situated near the international airports in order to save the transportation costs and time.

We shall analyse the interrelation between a company's location and its sales. Among the fourteen Japanese companies in Kedah which answered the questionnaire, 5 firms are located in Kulim, 2 are located in Tikam Batu, 6 firms are in Bakar Arang and 1 firm is in Sungai Petani. We compared the 5 firms in Kulim with the 6 firms in Bakar Arang to know the general tendencies of the Japanese firms in Kedah. We expected that the firms located near the place with a well-established infrastructure, such as seaport, airport, main roads or railways, have more chance to succeed in business. Conversely, the firms located in remote area may face difficulties in their operation. Therefore, firms in Kulim should enjoy better sales than the firms located in Bakar Arang.

In 1992, the total sales by the 5 firms in Kulim amounted to RM 225 million. The average sale per a firm was RM 45 million; the SD was RM 25 million. Total sales by the 6 firms in Bakar Arang amounted to RM 839 million; the average sale per firm was RM 139 million; the SD was RM 198 million.

It is interesting to compare the firms' productivity. However, we were not able to get the data on the value-added of the each of firms. Here we use the sales per worker (SPW) to compare the condition of the 5 Japanese firms in Kulim with the 6 Japanese firms in Bakar Arang.

SPW = Total sales ÷ Total employment

In 1992, the average of SPW in the 5 Japanese firms in Kulim was RM 550 thousand per worker, the SD was RM 890 thousand. The average SPW in the 6 Japanese firms in Bakar Arang was RM 333 thousand per worker; while the SD was RM 293 thousand. This result shows that the 5 Japanese firms in Kulim have a higher SPW than the 6 Japanese firms in Bakar Arang. These findings coincide with our expectations.

5.5.3 Export-Sales Ratio

Malaysia has adopted the export-oriented industrialization policy and encourages the export-oriented FDI to invest in Malaysia. However, there is criticism against the JDI in Malaysia stating that the import-substitution activities comprise a large amount of the Japanese firms in Malaysia.[10] What is the situation with the JDI in Kedah?

Generally, Japanese firms have a tendency to export their production abroad, and the Japanese firms in Kedah are no exceptions. We have examined the interrelation between the export-sales Ratio (ESR) and the year of establishment, as well as relations between export sales ratio and location.

The majority among the fourteen respondent Japanese firms in Kedah were engaged in exports.

Here we divided the fourteen Japanese firms into the four categories:

1) Firms with a very high ESR (75 percent to 100 percent);
2) Firms with a high ESR (50 percent to 74 percent);
3) Firms with a low ESR (25 percent to 49 percent);
4) Firms with a very low ESR (less than 25 percent).

Two of the fourteen Japanese firms in Kedah belong to the category "Four" and one firm is in the category "Three". Two firms belong to the category "Two" and the remaining nine firms are in the category "One". The average ESR of the fourteen Japanese firms in Kedah is 68 percent where the SD is 35 percent.

5.5.3.1 Export-Sales Ratio and Vintage

Let us examine the relationship between the year of the firms' establishment and the export-sales ratio. Among the 14 Japanese firms in Kedah that answered the survey questionnaire, 3 firms were established in the

[10] Jomo, K.S. (ed.) (1988), *op. cit.*

1970s. Among these 3 firms, 1 firm was in the category "One" (see above 5.5.3), 1 firm belonged to the category "Two", 1 firm was in the category "Three". Among the 9 firms established in the 1980s, 6 firms belong to the category "One". There is 1 firm in the category "Two", one firms in the category "Three" and one firm in the category "Four". Three of the 2 firms established in the 1990s belong to the category "One".

TABLE 5.5

EXPORT-SALES RATIO AND VINTAGE OF

14 JAPANESE FIRMS IN KEDAH

Category	1970s	1980s	1990s
category One	1	6	2
category Two	1	1	0
category Three	0	1	0
category Four	1	1	0

Note:Category "One" - firms with a very high ESR (75 percent to 100 percent)
Category "Two" - firms with a high ESR (50 percent to 74 percent)
Category "Three" - firms with a low ESR (25 percent to 49 percent)
Category "Four" - firms with a very low ESR (less than 25 percent).

Source: Survey questionnaire

To discuss the interrelation between ESR and establishment year in greater detail. we shall divide the 14 Japanese firms that answered questionnaire into the two groups by their establishment year: 1) firms established before 1985 and 2) firms established in and after 1985. There are 6 firms in group "One" and 8 firms in group "Two". We anticipate that the firms established before

1985 have a lower ESR than those established in or after 1985, because there was a big inflow of the export-oriented JDI after the Plaza Agreement (1985) and the implementation of the Investment Promotion Act (1986).

The average ESR of the 6 Japanese firms established before 1985 is 65 percent (SD=42 percent). The average ESR of the 8 Japanese firms established in or after 1985 is 90 percent (SD=20 percent). This result shows that the firms which were established in and after 1985 have a higher ESR than those established before 1985. These findings coincide with our expectations.

5.5.3.2 Export-Sales Ratio and Location

Some states in Malaysia, for example Penang and Selangor, have established FTZs. FTZ is an industrial estate for the export-oriented firms only. The overall pattern for the country is that the export-oriented firms are located in the FTZs, while the firms outside the FTZs are domestic market-oriented. There is no FTZ in Kedah, hence to trace the relations between a location of a firm and its export ratio is not very easy. Location is one of the most important factors for the firms which export their production. If the airport is far from a factory, the export-oriented firms may bear a higher cost and need more time for the transportation of their production. This means that the export-oriented firms are reluctant to invest in the areas which are remote from the international airports.

There are four industrial estates in Kedah. It takes about one hour to reach the airport from Kulim industrial estate, which is situated near Penang. Tikam Batu industrial estate is situated in about 20 km from Butterworth, and it takes one and a half hour to reach the airport from Tikam Batu. The other two industrial estates - Bakar Arang and Sungai Petani - are located in approximately two and a half hour drive from the airport.[11]

[11] Interviews were taken before the North-South Highway was completed.

Among the 14 Japanese firms which answered the questionnaire, 5 firms are located in Kulim. There are 2 firms in Tikam Batu, 6 firms in Bakar Arang and 1 firm in Sungai Petani. Here we compared the ESR of the 5 Japanese firms in Kulim and the 6 firms in Bakar Arang. We expected the firms in Kulim to have a higher ESR than the firms in Bakar Arang.

The average ESR of the 5 Japanese firms in Kulim is 94 percent (SD=9 percent). The average ESR of the 6 Japanese firms in Bakar Arang is 63 percent (SD=34 percent). This means that the ESR of the 5 Japanese firms in Kulim is higher than that of the 6 Japanese firms in Bakar Arang. These results are consistent with our expectations.

5.5.4 Exports to Japan

The relations between the Japanese parent companies and their subsidiaries are usually very tight. Japanese subsidiary firms are controlled by their headquarters in Japan. A parent company also chooses the customers for its subsidiaries. Japan is an important market for the Japanese firms operating abroad. A Japanese executive said: "Our production is effected by the economic situation in Japan". A director of a Japanese company commented: "We would like to find a customer outside Japan, however it is difficult to do so. Japan remains our main customer". A Japanese manager said: "Our firm's production is mainly exported to Japan, because it is easier for us to arrange product for the Japanese customers' taste".

Among the 14 respondent Japanese firms in Kedah, 12 firms were engaged in export activities and many of them exported their production to Japan. To analyse the intensity of exports to Japan in the total value of exports, we used the ratio of export to Japan (REJ), which is expressed by:

REJ = Exports to Japan ÷ Total exports.

The average export ratio to Japan of the 14 Japanese firms in Kedah is 33 percent (SD=35 percent). This amount is much smaller than we expected. This

may mean that the Japanese firms in Kedah have customers in different countries and do not necessarily export the production to Japan only.

Next, we shall compare the REJ of electronics/electrical firms with the REJ of non-electronics/electrical firms. There are 7 electronics/electrical firms and 5 non-electronics/electrical firms in Kedah that are engaged in export activities.

The average REJ of the electronics/electrical firms is 32 percent (SD=35 percent). The average REJ of the non-electronics/electrical firms is 35 percent (SD =37 percent). This suggests the REJ of the electronics/electrical firms and that of the non-electronics/electrical firms are almost identical.

5.5.5 Exports to Other Countries

Many Japanese companies in Kedah are looking for new customers for their production. A director of a Japanese company said that the economic situation in Japan was bad and they were trying to find new customers outside Japan. A Japanese executive said: "Last year (1992) we could export to Japan only about one-quarter of our production. This year we expect the further decrease of export. We need new customers". On the other hand, one executive said: "Our company's production is exported all over the world. If the economic situation in Japan is bad, we will export to foreign countries more". Another Japanese manager said that they were trying to expand their sales to the local market or to the other ASEAN countries.

The main destinations of Japanese companies' export were Singapore, Taiwan, the USA and Europe. Among the 12 Japanese firms engaged in export, 6 firms exported their production to US, 5 firms exported it to Europe, 4 firms had customers in other ASEAN countries, 3 firms exported their production to NIEs (Newly Industrial Economies).

To analyse the intensity of export, we use the ratio of export to other countries (REOC):

REOC =Total value of exports to other countries ÷ Total value of exports.

The average REOC of the Japanese firms in Kedah is 67 percent (SD=33 percent). This rate is higher than we expected. Three firms exported 100 percent of their production to the US or Europe. These data show that the Japanese firms in Kedah export their production all over the world, not to Japan only.

Next, we shall compare the REOC of the electronics/electrical firms with the REOC of the non-electronics/electrical firms. There are 7 electronics/electrical and 5 non-electronics/electrical firms that export their output.

The average REOC of the electronics/electrical firms is 68 percent (SD=35 percent). The average REOC of the 5 non-electronics/electrical firms is 65 percent (SD=35 percent). This shows that REOC of the electronics/electrical firms is almost same as that of the non-electronics/electrical firms.

5.6 Purchases

We examine the purchases of firms in order to know the situation at the firms. For a firm, sales are important for the revenue, while purchases are important from the cost point of view. After the appreciation of the Japanese Yen, many firms began to look for the local supplier for their production. Some companies could find a good local supplier and some of them could not. The workers' wages are approximately same at all the Japanese subsidiaries in Malaysia. That makes the amount of purchases a key issue for production. However, quality, and not price, is important for the Japanese firms that purchase parts or materials locally. A Japanese executive said:

> We cannot buy cheap but low-quality parts. Because if we do so, the percentage of rejected production will be high. We shall not only lose money but customers as well.

If Japanese firms can find good local suppliers, it will benefit both sides. Japanese firms will be able to save production cost, while Malaysia will be able to reduce import from Japan. Moreover, contacts between the Japanese and local firms create a good base for the transfer of technology to the local firms.

Thus, the network between the Japanese and local companies can be regarded as a step towards the further industrialization of Malaysia.

We categorized the 14 respondent Japanese firms in Kedah by the total purchase in 1992 into the four groups:

1) small firms (purchases less than RM 9 million);

2) medium firms (purchases between RM 10 million to RM 49 million);

3) large firms (purchase between RM 50 to RM 99 million);

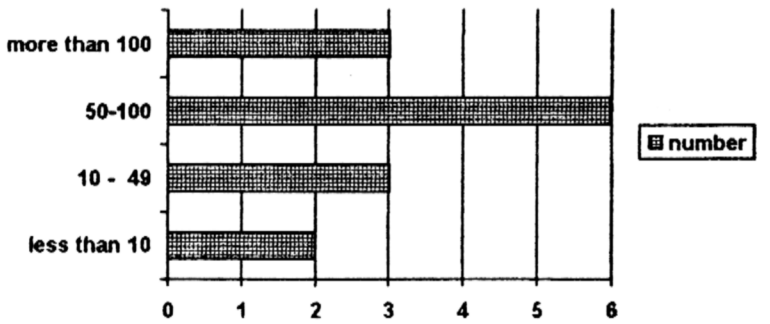
4) very large firms (purchase more than RM 100 million).

In terms of purchases, there are 2 small, 6 medium, 4 large and 2 very large firms. The average purchases per a firm in Kedah is RM 43 million (SD=RM 35 million).

CHART 5.4

THE PURCHASES BY 14 JAPANESE FIRMS IN KEDAH

(RM MILLION)



Source: Survey questionnaire

5.6.1 Purchases by Industry

Among the 14 Japanese firms in Kedah that answered our survey questionnaire, 7 were electronics/electrical firms. Here we shall compare the

value of purchases by industrial groups. Generally, the electronics/electrical firms are bigger than the non-electronics/electrical firms in terms of employment, investment and sales. Is it same with purchases?

In 1993, the total value of purchases by the 7 electronics/electrical firms accounted for RM 489 million. The average amount of purchases per a firm was RM 69 million (SD=RM 43 million). In 1993, the total value of purchases by the 7 non-electronics/electrical companies amounted to RM 190 million. The average amount of purchases per a firm was RM 27 million (SD=RM 14 million). These data show that the purchases by the electronics/electrical firms are more than twice bigger than the purchases by the non-electronics/electrical companies. It can be explained by the fact that there are some giant firms among the electronics/electrical firms, which greatly contribute to the total purchases.

5.6.2 Purchases by Location

Location is a very important matter for manufacturing firms. Good location can bring big profits. Conversely, if a company chose a wrong place to invest, it could badly affect the operation of a factory and increase the cost of production. In the case of sales, it was seen that the 6 Japanese firms in Bakar Arang have higher sales than the 5 Japanese firms in Kedah. Is it same with purchases?

The total purchases by the 5 firms in Kulim accounted for RM 79 million. The average amount of purchases per a firm was RM 16 million (SD=RM 8 million). The total purchases by the 6 firms in Bakar Arang accounted for RM 389 million. The average amount of the purchases per a firm was RM 65 million (SD=RM 97 million). This result shows that the purchases of the 6 Japanese firms in Bakar Arang are higher than the purchases of the 5 firms in Kulim.

Next, we shall see the difference in the amount of sales and purchases. For this purpose, we use the sales-purchase differential (SPD). The SPD is expressed by:

SPD = Sales - Purchase

The average sales of the 5 Japanese firms in Kulim are RM 49 million per a firm and their average purchase is RM 16 million per a firm. The average sales of the 7 Japanese firms in Bakar Arang are 139 million per firm, the average purchase is 67 million per a firm. The average SPD is RM 33 million in Kulim and RM 72 million in Bakar Arang. This amount will be further divided by the total number of workers employed by the Japanese firms in both industrial estates. The total employment by the Japanese firms that answered questionnaire in Kulim estate is 1,556, the total employment by the Japanese firms in Bakar Arang is 3,692. The SPD per a worker in Kulim is RM 21,000. The SDP per a worker in Bakar Arang is RM 19,000. This shows that the average SDP for Bakar Arang is slightly lower than that for Kulim.

5.6.3 Local Content Ratio

We used the local content ratio (LCR) to analyse the character of the Japanese firms in Kedah. The fourteen respondent Japanese firms were divided by their LCR into the following four groups:

1) Firms with a very high LCR (75 percent to 100 percent);
2) Firms with a high LCR (50 percent to 74 percent);
3) Firms with a low LCR (25 percent to 49 percent);
4) Firms with a very low LCR (less than 24 percent).

There are 2 firms in the category "One", 9 firms in the category "Two". One firm belongs to the category "Three" and the remaining 2 firms are in the category "Four". The average LCR per a firm is 48 percent (SD=33 percent). This figure is high. This shows that the Japanese firms in Kedah network with other Japanese firms in Malaysia.

Next, we shall compare the LCR between 7 electronics/electrical firms and 7 non-electronics/electrical firms. We expect the LCR of the electronics/electrical firms to be higher than that of the non-electronics/electrical firms, because the local electronics/electrical firms are more developed than the local firms in other industrial sectors.

The average LCR of the 7 Japanese electronics/electrical firms in Kedah is 57 percent (SD=14 percent). The average LCR of the 7 non-electronics/electrical firms is 45 percent (SD=26 percent). This means that the LCR of the electronics/electrical firms is higher than the LCR of the firms belonging to the other industrial groups. These findings lend support to our expectations.

The LCR may be effected not only by the type of industry, but also by other elements, such as vintage or location. Let us compare the LCRs of the firms established before 1985 and those established in or after 1985. We expect the firms which have been operating in Malaysia for a longer period to have a bigger LCR.

Among the 14 Japanese firms, 8 firms were established in or after 1985. The average local content of the 6 firms which were established before 1985 is 52 percent (SD=21 percent). The local content of the 8 firms which were established in or after 1985 is 50 percent (SD=26 percent). These data show that there is no big difference between the local content of the earlier and the later established firms. These results do not coincide with our expectations. This means that the LCR is effected by the various factors, but vintage is not the main factor which determines it.

5.6.3.1 Local Content Ratio and Export-Sales Ratio

Generally, the export-oriented firms tend to import materials from Japan and do not establish any production network with local firms. The relationship

between the LCR and ESR may therefore be negative. This means that the firms with a high ESR should have a low LCR.

Here the 14 respondent Japanese firms are divided into the four groups by their ESR (see above 5.5.3). There are 9 firms in the category "One", 2 firms in the category "Two", 1 firm in the category "Three" and 2 firms in the category "Four". Both firms in the category "Four" have a high LCR. One firm in the category "Two" has an average LCR, while the other firm has a high LCR.

To analyse the interrelationship between the ESR and LCR, we divided the 14 Japanese firms into the two groups: 1) firms with a very high ESR (more than the 68 percent average) and 2) firms with a low ESR (ESR is less than the 68 percent average). There are 9 Japanese firms in the group "One" and 5 firms in the group "Two". The average LCR of the 9 firms with a very high ESR is 45 percent (SD=23 percent). The average LCR of the other 5 firms is 64 percent (SD=12 percent). This means that the firms with a very high ESR have a lower LCR. These findings are in conformity with our expectations.

5.6.3.2 Local Content Ratio by Location

The location of a firm may affect its LCR. This happens because some places are abundant with suitable suppliers of materials, while in other places it may be very difficult to find a suitable partner. Let us presume that generally it is easier to find a supplier in the industrial estates located near the big cities with developed small- and medium-size industries.

To investigate this relationship, let us examine the 14 firms that answered our survey questionnaire. Here we shall compare the LCR of the 5 firms in Kulim (near Penang) with the LCR of the 6 firms in Bakar Arang (far from Penang).

The average LCR of the 5 firms in Kulim is 54 percent (SD=16 percent). The average LCR of the 6 firms in Bakar Arang is 45 percent (SD=28

percent). So, the firms located near Penang (the firms in Kulim) seem to have a higher local content than the firms located far from Penang (the firms in Bakar Arang). These results are consistent with our expectations.

5.6.4 Purchases from Japan

All the fourteen Japanese companies in Kedah that answered our questionnaire imported materials or intermediate products from Japan. That means that the purchases from Japan have a big share.

Here we use the term "Ratio of purchases from Japan (RPJ)" in order to analyse the intensity of the purchases from Japan. This ratio is expressed by:

RPJ = Total value of purchases from Japan ÷ Total value of purchases from abroad

In 1992, the average RPJ was 68 percent (SD=25 percent), the maximum was 100 percent, the minimum was 20 percent. There were 4 firms which imported all their materials from Japan, and 7 firms imported more than 50 percent of their inputs and materials from Japan.

We shall compare the RPJ of the electronics/electrical firms with the RPJ of the non-electronics/electrical firms. All 7 electronics/electrical firms and all 7 non-electronics/electrical firms imported their materials or inputs.

The average RPJ of the electronics/electrical firms is 69 percent (SD=26 percent). The average RPJ of the non-electronics/electrical firms is 67 percent (SD=22 percent). This means that the RPJ of the electronics/electrical firms is almost same with that of the non-electronics/electrical firms. These findings prove that the Japanese firms in Kedah depended on imported materials or inputs from Japan, regardless whether they were electronics/electrical or non-electronics/electrical companies.

5.6.5 Purchases from Other Countries

Among the 14 Japanese companies that answered our survey questionnaire, 10 firms imported materials or parts for their production. The main sources of import were Singapore, Taiwan, USA and Europe. Among those Japanese firms that imported materials and parts, 9 firms imported them from Singapore and 7 firms imported materials/parts from Taiwan besides imports from other countries.

Here we use the ratio of the purchases from other countries (RPOC) in order to analyse the intensity of purchases from other countries. This ratio is expressed by:

RPOC = Total value of purchases from countries other than Japan ÷ Total value of purchases from abroad including Japan

The average RPOC of the Japanese firms in Kedah is 31 percent (SD=25 percent) with a maximum of 80 percent and a minimum of 0 percent.

We shall next compare the RPOC of the electronics/electrical firms with the RPOC of the non-electronics/electrical firm. All 7 electronics/electrical firms and all 7 non-electronics/electrical firms imported their materials or inputs.

The average RPOC of the electronics/electrical firms in Kedah is 31 percent (SD=28 percent). The average RPOC of the non-electronics/electrical firms is 29 percent (SD=26 percent). This shows that the RPOC of the electronics/electrical firms and the RPOC of the non-electronics/electrical firms are almost the same. This means that the Japanese firms in Kedah imported about one-third of materials or inputs from other countries excluding Japan, regardless whether they were electronics/electrical or non-electronics/electrical firms.

5.7 Subcontracting

It is a well-known fact that Japanese firms have special relations within the production network, which is called "keiretsu".[12] For example, Sony keiretsu firms never buy inputs from non-Sony keiretsu firms, even if the letters' price is lower or quality is better. For a firm in Japan, keiretsu is everything. If a firm does not belong to keiretsu, no allocation comes to it. That's why so many SMIs in Japan prefer to belong to some production network.

However, outside Japan, keiretsu is less wide-spread, because if firms try to stick to this practice they would have to spend more money. Thus, keiretsu is not an advantage for a Japanese firm abroad. There is a possibility that some Japanese firms have set up a production network outside the keiretsu, possibly with a local partner. For Malaysian firms, especially for the parts suppliers, it is a big advantage to get a contract with Japanese firms.

It is important to notice that many of the Japanese SMIs have established factories in Malaysia after the appreciation of the Japanese Yen in 1985. This fact may reinforce the production network between the Japanese MNs and local SMIs.[13]

In this section we have made an attempt to analyse a subcontracting network of the 14 Japanese firms in Kedah that answered our survey questionnaire.

There are 2 Japanese firms in Kedah that have more than 30 local subcontracting partners and 1 firm has between 20 to 30 subcontractors in Malaysia. Three firms have between 10 to 19 subcontracting firms and the remaining 8 companies have less than 10 subcontracting partners. The average number of subcontractors per a Japanese firm is 12.7 (SD=9.4).

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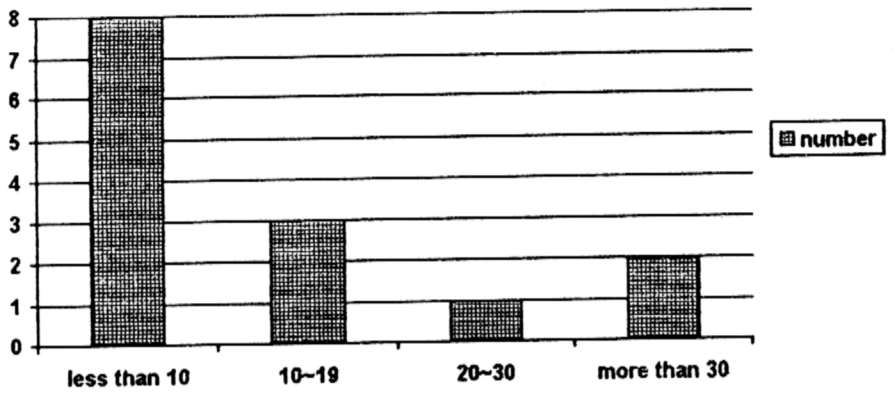
[12] *Economic Dictionary* (1980), Hutaba Publisher, Tokyo.

[13] Ariff, M. (1992), *op. cit.*

CHART 5.5

THE NUMBER OF SUBCONTRACTING FIRMS

OF 14 JAPANESE FIRMS IN KEDAH



Source: Survey questionnaire.

5.7.1 Subcontracting by Location

Location of a firm may affect subcontracting activities. It is easier for a firm located near the industrial area to find a supplier, than for a firm situated in a rural area. From this point of view the Kulim industrial estate, which located near the well-developed Prai industrial estate, must be the most favourable place to build a factory. The next best places to establish a factory should be Bakar Arang industrial estate and Sungai Petani industrial estate, which are located near the commercial city Sungai Petani. Tikam Batu industrial estate is the least favorable place to set up a factory, for this industrial estate is situated far from the major cities and developed areas and it must be difficult to find a supplier there. Are these suppositions true or false?

To analyse the interrelationship between the number of subcontracting firms and location of a firm, we shall again compare the 5 Japanese firms in Kulim (near Penang) with the 6 Japanese firms in Bakar Arang (far from Penang).

The total number of subcontractors of the 5 Japanese firms located in Kulim is 35. The average number of subcontracting partners per a firm is 7 (SD=3). The total number of subcontractors of the 6 Japanese firms located in Bakar Arang is 80. The average number of subcontracting partners per a firm is 13 (SD=10). This shows that the average number of subcontracting firms is higher in Bakar Arang than in Kulim. These findings do not support our suppositions. So, we can conclude that the number of subcontractors depends on many factors, but location is not the most important among them.

5.7.2 Subcontracting by Industry

There are 7 electronics/electrical firms, 2 transport equipment, 2 textile firms and one each chemical, wood and metal company among the 14 Japanese firms that answered the survey questionnaire.

To analyse the interrelations between the number of subcontracting firms and industries, we divided the 14 respondent Japanese firms into the two groups: 1) electronics/electrical firms; 2) non-electronics/electrical firms.

The total number of the subcontracting firms of 7 electronics/electrical firms is 113. The average amount of partners per a firm is 16 (SD=9). The total number of the subcontracting firms of 7 non-electronics/electrical firms is 65. The average amount of partners per a firm is 9 (SD=7). These data show that the electronics/electrical firms have a bigger number of subcontractors than the firms engaged in other industries. This may be due to the fact that the electronics/electrical firms are more developed in Malaysia than firms in other industrial groups, so that the Japanese electronics/electrical firms in Kedah can easily find a local subcontractor.

5.7.3 Subcontracting and Export-Sales Ratio

Generally, the export-oriented firms seem to have less local suppliers, because they import materials and parts from foreign countries, hence their subcontracting network in the host country is not developed. We shall examine the relations between the ESR and the number of subcontractors. Our analysis is based on the data we received from 14 Japanese firms in Kedah.

We divided the 14 respondent Japanese firms into the four groups according to the ESR (see above, 5.5.3). There are 9 very highly export-oriented firms (ESR is more than 75 percent), 2 highly export-oriented firms (ESR is between 50 percent and 75 percent). One firm has a low export orientation (ESR is between 25 percent to 50 percent), 2 firms have a very low export orientation (ESR is less than 25 percent).

Two Japanese firms with a very low export orientation have totally 40 subcontractors and the average number of subcontracting per firms is 20 . One firm with a low export-orientation has 15 subcontracting firms. On the other hand, 9 very highly export-oriented Japanese firms have totally 85 subcontractors. The average amount of partners per a firm is 9.

In order to analyse the interrelationship between ESR and the number of subcontracting firms, we divided the 14 Japanese firm in Kedah into the two groups: 1) firms with a high ESR (their ESRs is more than the 68 percent average), 2) firms with a low ESR. There are 9 Japanese firms in the group "One" and 5 firms are in the group "Two". The average number of the subcontractors of the 9 firms with a very high ESR is 8 (SD=9). The average number of the subcontractors of the other 5 firms is 18 (SD=8). This means that the firms with a very high ESR have a smaller number of subcontractors. These findings are in conformity with our expectations.

5.7.4 Local and Japanese Subcontractors

At the end of 1980s, an increasing number of the Japanese SMIs invested in Malaysia. These firms decided to shift their factories to the countries with lower wages and cheaper cost of land after they have lost the international competitiveness as a result of the appreciation of the Japanese Yen. At the same time, some firms decided to follow their customers abroad in order to keep business with their subcontractors. This means that the Japanese companies' subcontracting network has developed within the Japanese companies not only in Japan but also in Malaysia.

We shall next examine the ratio of the local and Japanese subcontractors of the Japanese firms in Kedah. For example, 1 Japanese electronics/electrical firm has seven subcontractors in Malaysia, three of them are the Japanese and four are local companies. A textile firm has fifteen subcontractors in Malaysia, six of them are the Japanese and nine are local companies. One Japanese chemical company has twenty-one subcontractors in Malaysia, nine of them are the Japanese and the rest are Malaysian partners.

The total number of the Japanese subcontractors which operate in Malaysia of the Japanese firms is 80. The total number of the local subcontractors is 98. The ratio of the Japanese subcontractors to the local ones is 80:98 = 8:10.

Next, we shall look at the ratio of the local and the Japanese subcontractors of the Japanese firms in the each industrial estate in Kedah. In the Kulim industrial estate, the ratio of the local and Japanese subcontractors of the Japanese firms is 3:4. In the Tikam Batu industrial estate, this ratio is 5:6, in the Bakar Arang industrial estate, it is 5:6. This means that this ratio is different in each industrial estate. However, the difference is not very big, and these ratios cluster around the overall average ratio of subcontractors.

It seems that the number of the local subcontractors of the Japanese firms is slightly higher than the number of their Japanese suppliers in Malaysia. However, the difference is small. This means that the local and the Japanese

suppliers have developed their production network and there is no monopoly situation so far.

5.7.5 Malay and Non-Malay Subcontractors

The fourteen Japanese firms in Kedah have totally 98 local subcontractors. It is surprising that among them only 16 subcontractors are companies owned by Malays, the rest are the non-Malay subcontractors.

This means that in Kedah the ratio of Malay to non-Malay subcontractors suppliers is 16:82 = 1:4. Let us see the situation in the Bakar Arang and Kulim industrial estates. In the Bakar Arang industrial estate, the ratio of Malay to non-Malay subcontractors is 3:8, in Kulim this ratio is 1:5. This means that non-Malay subcontractors are predominant as suppliers of the Japanese firms in Kulim and Bakar Arang.

In order to improve this situation the Malaysian Government should take measures and give incentives to the SMIs owned by Malays, so that these SMIs can network with MNs. This would not only accelerate the development of SMIs owned by Malays, but also expedite the economic development of Kedah.

5.8 Adoption of Japanese-Type Management

It is not easy to define precisely what the Japanese type of management is, because each Japanese firm has its own ideas on management which other Japanese firms may not share. However, we can outline the general tendencies of the Japanese type of management. In Malaysia, a country with a colonial past, people's ethics - including business ethics - are influenced by the European standards. It is different in Japan. For example, Japanese businessmen are nor used to a business agreement in the form of a contract, because there is a "silent agreement" between the business partners in Japan.

Then, a Japanese employee considers his company a community, and once a worker starts his job he intends to stick to it his whole life and does not quit without serious reasons. It is different in Malaysia. Malaysian workers consider their companies a place to earn money, so they quit their jobs when they find a better paid opportunities. These are the psychological differences. Then, there is a communication problem between the Japanese executives and Malaysian workers, because some Japanese executives do not speak foreign languages. The communication problem which the Japanese staff may face in Malaysia will be discussed later.

5.8.1 Japanese Management

As it was said above, it is not very clear what the Japanese type of management actually is. However, there are some features of management as practiced by many Japanese companies. Among them are:

1) seniority system
2) lifetime employment
3) trade union
4) job rotation
5) collective decision making
6) tendency to equalize the status of workers and managers.

We shall exclude from our later discussion the trade union issue, because of its sensitivity and the lack of information.

5.8.2 Estimation of Japanese-Type Management

Among the 14 respondent Japanese companies in Kedah, 5 companies adopted the seniority system. A Japanese director said that his company practiced the seniority system, because it gives an equal chance for promotion to all employees. Another director of a Japanese firm said that their firm did

not adopt a seniority system, because it did not fit in Malaysia, where the system of employment was not as stable as it was in Japan.

Only 3 Japanese firms in Kedah practiced a lifetime employment. A director of an electronics/electrical company said that some of their workers stayed with the company for ten or more years and brought benefits to the firm. Another director of a Japanese company said that their company succeeded to stop the workers from job-hopping, and some of the workers continued to work at the factory for more than fifteen years. However, these cases are exceptional and the majority of the Japanese companies in Malaysia cannot adopt this practice. One Japanese executive remarked that it was impossible to stop Malaysian workers from job-hopping. Another director said that all workers looked for a better paid jobs, for that reason a system of lifetime employment was not suitable for Malaysia.

Four Japanese firms in Kedah adopted a job rotation practice. A director of a Japanese company said that their company required from all its workers to know the production cycle, that's why they practiced the job rotation. Another Japanese manager told us the same. However, many Japanese companies cannot accept this practice. They explain it by the fact that Malaysian workers are reluctant to switch their jobs. Another manager told us that the workers were not skilled enough, for that reason the job rotation could not be practiced.

Seven Japanese firms practiced a collective decision making. A manager of a transport equipment firm said that before making a final decision it was a practice in their company to collect as many opinions as it was possible. A director of a company said that they did not know much about Malaysia, so it was very important to hold discussions and collect information before making decisions. On the other hand, a director of a textile firm said that it was difficult for the local staff to comprehend the Japanese mentality, therefore all decisions were taken by the two or three Japanese directors.

There are 9 Japanese firms in Kedah that adopted the practice of equalization of workers' and executives' status. One Japanese director said:

"We work together and we eat together". A Japanese executive said that it was important to establish good relations between the workers and executives and to equalize their status. There is a different opinion on this matter as well. For example, a company director said that their managing staff would not be respected by the workers if they mixed too much with them, in addition to giving rise to a lot of problems. One Japanese director said that the idea of the status equalization was not supported by the workers at their factory, that was the reason why the company did not practice it.

TABLE 5.6

THE ADOPTION OF JAPANESE-TYPE MANAGEMENT

BY 14 JAPANESE FIRMS IN KEDAH

Type of management	electronics/electrical	non-electronics/electrical
Seniority system	2	3
Life-time employment	2	1
Job rotation	3	1
Collect. decision making	4	3
Equal. status of staff	4	5

Source: Survey questionnaire

The most wide-spread type of the Japanese management in the 14 Japanese firms in Kedah was the equalization of workers' and managers' status. Nine of the 14 firms adopted this practice. Next comes the collective decision making, 7 of 14 firms adopted this type of management. However, both types of management are not quiet tangible, because of their specific non-conceptual nature. If we had sent the same questionnaire to the workers, not to the executive staff, the answer might have been different.

The third most often practiced type of the Japanese style of management is seniority system. Five companies, or 35 percent of the firms that answered the survey questionnaire, adopted this system. Compared with other types of the Japanese management, this practice may raise some opposition, especially from the local executives, who were educated in Western countries. One of the local executives at a Japanese firm said: "Our boss does not appreciate my abilities. The increase of salaries is same for those who work hard and those who don't". The seniority system is based on the Japanese mentality which was influenced by the Confucian ethics, where junior must respect and follow his senior, even if the latter is less talented or proficient. Seniority system may not be received well in Malaysia where people are used to the Western business ethics.

The lifetime employment and job rotation practices are not very popular in Malaysia. Even in Japan nowadays these customs are less prevalent than they used to be. Especially, after the recession of the Japanese economy, many Japanese firms started to dismiss or lay-off their workers.

5.9 Salaries

There are many reasons why Japanese firms invested in Malaysia. Availability of the cheap labour force is one of the most important factors that attracted the Japanese investors. A Japanese executive said that their company could save a lot of money in Malaysia, because the workers' salaries were just one-fifth or one-fourth of those in Japan, while the productivity was not much different.

As a result of a strong economic expansion, Malaysia faces a serious shortage in the labour market. Consequently, the workers' salaries started to increase quickly. A manager of a Japanese firm said that he could hardly believe that they could no longer find workers for their factory in Malaysia,

especially skilled workers and, unlike in the past, all workers demanded higher salaries.

5.9.1 Salaries by Type of Jobs

In order to analyse the structure of salaries, we divided the workers at the Japanese firms into the following five categories:

1) ordinary workers (production line) with working experience of 3-4 years;

2) technicians (production line) with a higher level of education and more than 5-year working experience;

3) engineers (production line) with a relevant education and with more than 5 years of working experience;

4) managers (production line or administration) with a higher education and more than 10 years of working experience; and

5) directors (production line or administration) with a higher education and more than 10 years of working experience.

We have information on the current and previous salaries at the 14 Japanese firms in Kedah. It seems that the salaries do not differ much between the companies. This is because the salaries are based on the agreement between the big Japanese companies and are usually same in different firms.

Malaysian workers are more flexible compared with the Japanese workers in changing jobs. Malaysian workers often quit their jobs in favour of better pay. Generally, salary is the most important point for a Malaysian worker when he chooses a job. The average increase of salaries in Japan is about 4 percent annually. In Malaysia salaries increase by more than 8 percent annually.

In this research, we have remuneration data from the 14 Japanese firms in Kedah. The average salary of an ordinary worker with 2-3 years of experience is RM 359 per month (SD=RM 68) with a maximum of RM 450 and a minimum of RM 200. Technician with a higher level of education and usually with more than 5 years of experience can get an average salary gross of RM

877 per month (SD=RM 176) with a maximum of RM 1,200 and a minimum of RM 550. Engineer with a relevant education and usually a long experience gets a salary of RM 2,396 per month (SD=RM 809) with a maximum of RM 4,000 and a minimum of RM 1,000. Manager who has worked on line or in administration for more than ten years can get a salary gross of RM 2,443 per month (SD=RM 535) with a maximum of RM 3,300 and a minimum of RM 1,800. A director with a long experience and a high ability can get an average salary gross RM 3,411 per month (SD=RM 918) with a maximum of RM 5,200 and a minimum of RM 1,900.

The increase of salaries in 1991 was 5.9 percent (SD=3.4 percent), maximum increase being 10 percent and minimum increase being 2 percent. The increase of salaries in 1992 was 8.3 percent (SD=4.2 percent), maximum increase being 15 percent, minimum increase being 5 percent. The increase of salaries in 1993 was 7.0 percent (SD=2.5 percent), with a 10 percent maximum and 1 percent minimum increase.

5.9.2 Salaries and Location

Of the 14 Japanese firms, 6 are located in Bakar Arang, 5 in Kulim, 2 firms are located in Tikam Batu and 1 firm is in Sungai Petani.

The average salary of an ordinary worker in Bakar Arang is RM 379; in Kulim it is RM 418. In Tikam Batu, an ordinary worker earns RM 410.

The average salary of an engineer in Bakar Arang is RM 3,679; in Kulim it is RM 3,240; in Tikam Batu - RM 2,100. The average salary of a director in Bakar Arang is RM 3,533; in Kulim it is RM 4,120; in Tikam Batu - RM 3,150. Next, we shall compare the increase of salaries in 1991 by industrial estates. In Bakar Arang the increase of salary was 5 percent, same as in Kulim; in Tikam Batu salaries increased by 6.5 percent. In 1993, the increase of salary in Bakar Arang was 6 percent, same as in Kulim; in Tikam Batu salary increased by 5.5 percent.

It seems that the salaries do not differ much in different industrial estates, but there are differences in some categories. The salaries in Kulim are generally higher than in other industrial estates. The salary of an ordinary worker in Kulim is 10 percent higher than the salary of an ordinary worker in Bakar Arang. The salary of a director in Kulim is 25 percent higher than the salary of a director in Tikam Batu.

5.9.3 Salaries and Industry

Of the 14 Japanese firms in Kedah, 7 are electronics/electrical firms, 2 are textile firms, 2 are transport equipment companies. There is 1 chemical, 1 wood and 1 metal Japanese firm in Kedah. Here we divided the 14 respondent Japanese firms into the two groups: 1) electronics/electrical firms; 2) non-electronics/electrical firms.

The average salary of an ordinary worker at the electronics/electrical firms is RM 449 (SD=RM 85). The average salary of an ordinary worker at the non-electronics/electrical firms is RM 370 (SD=RM 34).

The average salary of a manager of an electronics/electrical firm is RM 2,687(SD=RM 613). The average salary of a manager of the non-electronics/electrical firms is RM 2,700 (SD=RM 988).

In 1991, at the electronics/electrical firms, the increase of salaries was 6.1 percent (SD=2.67 percent), whereas the increase of salaries at the non-electronics/electrical firms was 5.7 percent (SD=4.2 percent). In 1993, at the electronics/electrical firms, the salary increase was 7.5 percent (SD=1.6 percent) compared with the salary increase of 6.4 percent(SD=3.3 percent) at the non-electronics/electrical firms. These data show that there are differences in the salaries in different industrial estates, although the trend of these differences is not clear.