

CHAPTER 9

REGIONAL DEVELOPMENT AND INVESTMENT OPPORTUNITY; AN ANALYSIS ON THE POSSIBILITY FOR LOCAL INDUSTRIALIZATION

by

Kunio Igusa*)

1 REGIONAL CHARACTERISTICS AND PATTERN OF INDUSTRIES IN INDONESIA

1-1 REGIONAL VARIATIONS

According to the statistics of BPS (Central Bureau of Statistics), the total population of Indonesia is recorded about 180 millions in 1990. They are dispersed to the thousands of islands which holds 1.9 million Km² of total area. The territorial boundaries, mostly covered by tropical sea, show the tremendous scale which covers the huge zone with the span of east-west 5400km and north-south more than 4000km. This means its total boundaries are almost equivalent to the Western Europe and the populations are almost the same scale with the all other parts of Southeast Asia .

Furthermore, its geographical conditions, which are characterized by tropical climate and oceanic feature, consist of another uniqueness of Indonesia with the varieties of people, language, religion, culture and life-style so on. According to the anthropologists, there are hundreds of ethnic groups in the country with its own language and culture. Economic situations are also very different by regions from primitive shifting shed-and burn agriculture, rather isolated forestry or small fishery villages areas to the modern industrial manufacturing urban areas.

With these respects, we can easily understand why Indonesian government has to be blaring persistently the concept of "Unity in diversity" as a motto for the nation building since its independence. It may symbolize the facts in which the diversity is one of the reality which Indonesian peoples have to face, and the unity is existing challenges and dreams for them on the contrary. In this mean, Regional Development may be the crucial issues for Indonesia and its role has existed in the delicate balance between the Central and Local, and Unity and Diversity.

*) Overseas Reserarch officer, Institute of Developing Economics, Tokyo.

1-2 DISTRIBUTION OF POPULATION

First of all, we examine the distribution of population among the major islands and regions. As we can see in the *table 9-1*, Java alone occupies about 70 % of 120 millions among the 180 millions population, even it holds only 6% of total land areas. Therefore, its population densities are counted on high ranks in the world standards. That is, 700 to 800 persons are living at per km² in spite of the average in Indonesia indicate only 90 persons. Sumatra ranks next, but it is far behind of Java in the population scale holding 30 million(20%) with its density of about 100 persons per km². These concentration has somehow reflected the facts which in Java very intensive development performance has been done since early periods with a well managed rice cultivation and various industries.

Kalimantan, Sulawesi and other Eastern areas, in spite of covering 70% of land area, hold only small portions of population in scarcely dispersed, rather isolated locations. That is, Kalimantan's population is about 9 millions, Sulawesi 12 millions, the others only 10 millions in total. The densities are also so low and display so much disparities among the provinces from 10 to 70 in averages. These areas show rather isolated features and form underdeveloped frontiers zone except for some important coastal urban centers.

1-3 GROSS REGIONAL DOMESTIC PRODUCTS

How about the distribution of production and economic activities measured by GRDP statistics ? According to the *Table (9-1)*, the aggregated GRDP figures of Java show us their predominant positions with its prominent ratio of population too. Four major Javanese provinces, Jakarta, West Java, Central Java, East Java, have been producing 20 to 25 trillion Rp. in 1989 respectively. These figures means each province has created about 8 times GRDP than other outside Java provinces in average. And total amount of Java (if includes Bali) has reached 110 trillion rupiahs which contribute to about 60% of GRDP in total Indonesia. Sumatra shares a secondary important position which has produced fairly big 43 trillion rupiahs (26%). Kalimantan comes next with producing 14 trillion rupiahs (8%). But, Sulawesi, Nusa Tenggara, Irian Jaya and so on, which consists of the Eastern Part of Indonesia, get a far small portion of GDP and only play a negligible role in the gross regional national production compared to Java and Sumatra. (*See Charts of Appendices*)

Furthermore, in this statistics, the GRDP amount includes big portion of Oil and Gas production which was located on the certain limited areas and merely extracts the wealth from the natural endowments there. So if we excludes this Oil and Gas sector(non-Migas), the discrepancies between Java and other regions are far more impressive.

TABLE 9-1
PROVINCIAL GDP AND DISTRIBUTION OF POPULATION IN INDONESIA (1989)

/Province	Area (Km2)	Population (1000)	Population Density (p/km2)	GRDP (Current Mil Rp)	N%Oil GRDP (1983 Pr)	GRDP Growth Rate (1983 Pr)
1. Aceh	55,392	3,416	62	7,232	2,555	8.10
2. North Sumatra	70,787	10,256	145	9,475	9,190	7.58
3. South Sumatra	49,778	3,999	80	2,899	2,899	5.24
4. Riau	94,561	3,306	35	11,635	2,381	3.10
5. Jambi	44,800	2,016	45	1,352	1,117	9.77
6. South Sumatra	103,688	6,277	61	7,180	5,575	5.65
7. Bengkulu	21,168	1,179	55	682	682	8.58
8. Lampung	33,307	6,006	180	2,839	2,839	9.24
9. Jakarta	590	8,254	13,990	18,771	18,771	6.75
10. West Java	46,300	35,381	764	26,032	23,863	8.30
11. Central Java	34,206	28,522	834	18,782	16,947	7.88
12. Yogyakarta	3,169	2,913	919	1,651	1,651	5.07
13. East Java	47,921	32,504	678	24,661	24,645	5.86
14. West Kalimantan	146,760	3,239	22	2,287	2,287	10.01
15. Central Kalimantan	152,600	1,396	9	1,272	1,272	7.51
16. South Kalimantan	37,660	2,598	69	1,975	1,944	5.88
17. East Kalimantan	202,440	1,877	9	8,884	3,787	4.54
18. North Sulawesi	19,023	2,479	130	1,287	1,287	4.22
19. Central Sulawesi	69,726	1,711	25	863	863	5.95
20. South Sulawesi	72,781	6,982	96	3,736	3,736	6.19
21. Southeast Sulawesi	27,686	1,350	49	723	723	7.44
22. Bali	5,561	2,778	500	2,593	2,593	8.80
23. West Nusa Tenggara	20,177	3,370	167	1,098	1,098	5.94
24. East Nusa Tenggara	47,876	3,269	68	1,040	1,040	4.88
25. Maluku	74,505	1,856	25	1,333	1,333	8.97
26. Irian Jaya	421,981	1,641	4	1,624	1,335	1.79
27. East Timor	14,874	748	50	231	231	7.28
SUMATRA	473,481	36,455	77	43,295	27,238	7.16
JAVA + BALI	137,747	110,352	801	92,490	88,470	7.11
KALIMANTAN	539,460	9,110	17	14,419	9,290	6.99
SULAWESI	189,216	12,522	66	6,608	6,608	5.95
OTHERS	579,413	10,884	19	5,326	5,037	5.77
INDONESIA	1,919,317	179,323	93	162,137	136,629	6.43

Source: Statistik Indonesia 1990 (BPS)

: Pendapatan Regional Propinsi-propinsi di Indonesia 1983-1989 (BPS)

From the figures of per capita GRDP, it can be drawn another picture, which demonstrates a relative low income of Javanese provinces because of big population pressures. On the contrary, the several provinces in scarcely populated but resource rich regions show us they have enjoyed the exceptionally big amount of per capita income like Riau and East Kalimantan. Of course, DKI Jakarta is positioned on the special position due to their metropolitan economic characters. Most of other provinces, in Sulawesi, Kalimantan, Nusa Tenggara and so on, share the lowest positions in terms of per capita with no exception.

Anyway, when we observe details of economic development levels and its characters the more, we could see the more their differences and diversities conditioned by its own geographies, demographic features, natural resources, and economic entities.

1-4 PROVISIONAL CLASSIFICATION OF THE PROVINCES

From the above mentioned features of each province, it might be useful to classify the provinces into groups according to several practical indicators in order to give some guidance for the possible alternatives for the regional development or local industrializations. Of course, it is very difficult to categorize the interrelated units of economic entities, which have many different faces and features, into simple monotype patterns. But it would still be possible to clarify their own characteristics.

In this section, we will try to classify them by using the scale of population and national income level. That is, by a distribution matrix of the population density and regional national products calculated by GRDP per area. The former may indicate the magnificence of human resources in each area, and the others may illustrate the productive value which has created in the certain extent regions measured by per-square intensity. ⁽¹⁾

In the *chart (9-1)*, X axis indicates the population density and Y axis shows the distribution of GRDP measured by per-square production level.

From this chart, it could be roughly drawn up about 5 zones according to their grades from A to E. (*See Chart*)

First of all, A Group is classified as a very high population density and high level

(1) These groupings are the results of provisional scheme by the distribution chart based on the simple statistical features, so this classification has only purposed to clarify the physical position of each province partly and not more than that. It sometimes alleviates the real conditions and unappropriated to make them grouping. *) Such as, East Nusa Tenggara province classified into B are probably more suitable to be grouped into D in their geographical position same as West Nusa Tenggara (NTB have classified B because of rather big population density of 100). Further example is the South Sumatra province which classified C because of high level of GRDP caused by oil sector, but in their character of industries and geographical positions it is more practical to be grouped in the same category as North Sumatra or Lampung.

However, these classification would contribute to analyze and understand the regional economic characters which are featured by each provinces some extent.

CHART 9-1
CLASSIFICATION OF REGIONS BY GRDP PATTERN
(GRDP per AREA vs POPULATION DENSITY)

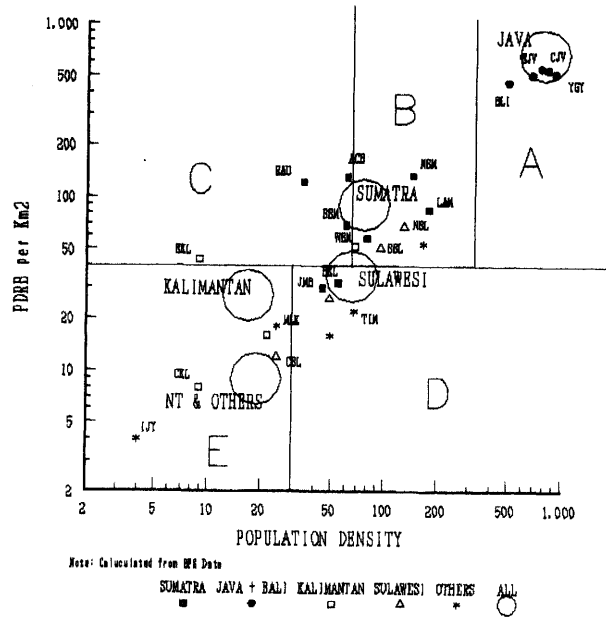


CHART 9-2
CLASSIFICATION OF REGIONS BY GRDP PATTERN
(NON OIL GRDP)

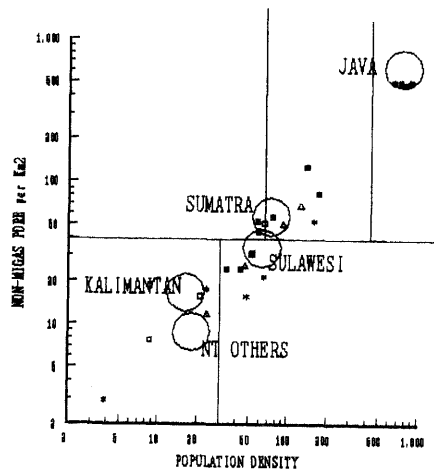


TABLE 9-2

PROVINCIAL GDP AND DISTRIBUTION OF POPULATION IN INDONESIA (1989)

/Province		Area	Population	Population Density	PDRB	N%Oil PDRB	PDRB/Km2	N-OIL PDRB/Km2	PDRB per	N%Oil
		(Km2)	(1000)	(p/km2)	(Current Mil Rp)		(Tous.Rp)	Capta		
A	Jakarta	590	8,254	13,990	18,771	18,771	31,815	31,815	2,274	2,274
A	West Java	46,300	35,381	764	26,032	23,863	562	515	736	674
A	Central Java	34,206	28,522	834	18,782	16,947	549	495	659	594
A	Yogyakarta	3,169	2,913	919	1,651	1,651	521	521	567	567
A	East Java	47,921	32,504	678	24,661	24,645	515	514	759	758
A	Bali	5,561	2,778	500	2,593	2,593	466	466	934	934
B	North Sumatra	70,787	10,256	145	9,475	9,190	134	130	924	896
B	Lampung	33,307	6,006	180	2,839	2,839	85	85	473	473
B	West Sumatra	49,778	3,999	80	2,899	2,899	58	58	725	725
B	North Sulawesi	19,023	2,479	130	1,287	1,287	68	68	519	519
B	West Nusa Tenggara	20,177	3,370	167	1,098	1,098	54	54	326	326
B	South Kalimantan	37,660	2,598	69	1,975	1,944	52	52	760	748
B	South Sulawesi	72,781	6,982	96	3,736	3,736	51	51	535	535
C	Aceh	55,392	3,416	62	7,232	2,555	131	46	2,117	748
C	Riau	94,561	3,306	35	11,635	2,381	123	25	3,519	720
C	South Sumatra	103,688	6,277	61	7,180	5,575	69	54	1,144	888
C	East Kalimantan	202,440	1,877	9	8,884	3,787	44	19	4,733	2,018
D	Bengkulu	21,168	1,179	55	682	682	32	32	578	578
D	Jambi	44,800	2,016	45	1,352	1,117	30	25	671	554
D	Southeast Sulawesi	27,686	1,350	49	723	723	26	26	535	535
D	East Nusa Tenggara	47,876	3,269	68	1,040	1,040	22	22	318	318
D	East Timur	14,874	748	50	231	231	16	16	309	309
E	Maluku	74,505	1,856	25	1,333	1,333	18	18	718	718
E	West Kalimantan	146,760	3,239	22	2,287	2,287	16	16	706	706
E	Central Sulawesi	69,726	1,711	25	863	863	12	12	504	504
E	Central Kalimantan	152,600	1,396	9	1,272	1,272	8	8	911	911
E	Irian Jaya	421,981	1,641	4	1,624	1,335	4	3	990	814
INDONESIA		1,919,317	179,323	93	162,137	136,629	84	71	904	762

Source : Statistik Indonesia 1990 (BPS)

: Pendapatan Regional Propinsi-propinsi di Indonesia 1983-1989 (BPS)

of GRDP as seen in *Chart and Table*. It completely coincident to the position of Java provinces and Bali, and shows very significant features compared to other areas.

B Group includes most of Sumatran provinces and some major Kalimantan or Sulawesi provinces which hold fairly high population density and medium level of GRDP.

C Group illustrates very interesting position which enjoys fairly good income level in spite of very low population density and vast lands. It includes Riau, East Kalimantan, Aceh and so on. The basic characters of these provinces are that all of the C provinces have been blessed by the existence of big oil wells and natural gas fields in their regions and most of the incomes originated by oil related sectors. It can be confirmed in the same Non-Migas *Chart 9-2* which displays the provinces categorized by C of chart 1 have already disappeared in C zone and classified into E Groups. But anyway, these C Group provinces have performed very rapid growth in recent years.

D Group are the provinces which keep fairly high population densities like B, but absolutely fails to have the sufficient production level of GRDP. It covers the rather isolated and backward regions like some parts of Sulawesi provinces, Nusa Tenggara, Kalimantan provinces and so on.

At last, E Group are the provinces which show very scarcely populated and low level of GRDP if calculated by the production of per-square. These provinces are consistent with the rather untouched new frontier areas, which includes Irian Jaya, Inland Kalimantan regions and Maluku et al.

The following lists and table T are just the plain explanations of the each categories.

1-5 MAJOR CHARACTERISTICS OF EACH PATTERN

For convenience in this section we have named each category A = Java type, B = Sumatra Agro type, C = Natural Resources Type, D = Sulawesi-NT Type, E = Kalimantan-Irian Type. (See *Table 9-3*)

The prominent characteristics of these types could be elaborated as follows:

(1) Java type

Very densely populating regions which hold over 500 persons per square km and show 400 thousands Rp GRDP scale. They are entirely located in Java or its adjacent islands, and their major industries are very intensive agriculture (mostly food crops) and well developed manufacturing. Condition of Infrastructure are rather good and their per capita income varies from 600 to 2500 thousands rupiah.

TABLE 9-3 (1)
CLASSIFICATION OF PROVINCES BY THEIR CHARATERS AND
DEVELOPMENT PATTERN(IBB vs IBT)

CL TYPE	PROVINCE	CHARAC- TERISTICS	REGION	TYPE OF INDUSTRIES	INFRA- STRUCTURE	GRDP per CAPITA
A	JAVA TYPE	JAKARTA	IBB (Mostly Java)	Manufacturing + Agriculture (Food Crop)	Good	Fair (GRDP/P 600-2500)
		W JAVA				
		C JAVA				
		YOGYAKARTA				
		E JAVA				
B	SUMATRA AGRI TYPE	BALI	IBB + IBT (Mostly Sumatra, Sulawesi)	Agriculture (Estate Commerical Crops)	Fair	Fair (GRDP/P 500-900)
		N SUMATRA				
		LAMPUNG				
		W SUMATRA				
		N SULAWESI				
C	SUMATRA MIGAS TYPE	N T B	IBB (Mostly Sumatra)	Oil & Gas Mining	Good (but Partly)	High (GRDP/P 1000-5000)
		S KALIMANT				
		S SULAWESI				
		ACEH				
		RIAU				
D	SULAWESI NUSATENGARA TYPE	S SUMATRA	IBT (Mostly Sumatra, Sulawesi, NT)	Agriculture (Food Crops)	Bad	Low (GRDP/P 300-600)
		E KALIMANT				
		BENGKULU				
		JAMBI				
		SE SULWESI				
E	KALIMANTAN IRIAN TYPE	N T T	IBT (Mostly Kalimantan, Irian)	Forestry Agriculture Fishery	Bad	Low (GRDP/P 500-900)
		E TIMOR				
		MALUKU				
		W KALIMANT				
		S SELAWESI				

(2) Sumatra Agro Type

Fairly populated regions with 50 to 150 persons per km² and relatively high degree of GRDP (50-150) which include most of Sumatra provinces, a part of Sulawesi and Kalimantan. Their major industries are mainly agriculture, especially growing estate type commercial crops or primary commodities. They are used to get fairly good per capita income in Indonesian standards which have showed the amount of 500 to 900 thousands rupiah per head. The conditions of infrastructure are still relatively lower than in the Java type area but kept fairly better compared to other undeveloped area.

(3) Sumatra Migas Type

Less populated regions with under 50 or 60 persons per km² but both of total

TABEL 9-3 (2)
FUTURE DEVELOPMENT PROSPECTS AND PROBLEMS

CL TYPE	PROVINCE	DEVELOPMENT DIRECTION	PRIMARY EFFORTS	INITIATIVES
A JAVA TYPE	JAKARTA	—Further Development Manufacturing Industries	– Absorbing Manpower	Private Orientation
	W JAVA C JAVA YOGYAKARTA E JAVA BALI	—Development of Labor Intensive Industries		
B SUMATRA AGRI TYPE	N SUMATRA	— Development of Agro-Industries (Primary Commodities, Food Processing Industries et al)	– Market Competetive – Consideration for Reserving Resources	Private Orientation
	LAMPUNG W SUMATRA N SULAWESI N T B S KALIMANT S SULAWESI	—Intensification of Wood Based Industries		
C SUMATRA MIGAS TYPE	ACEH	—Further Development Resources Industries (Oil, Mining)	– Linkage of Big Projects and Local Industries	Government + Private Orientation
	RIAU S SUMATRA E KALIMANT	—Creation of Supporting Industries for Strategic Resources Base		
D SULAWESI NUSATENGARA TYPE E TIMOR	BENGKULU	—Development of Local Based Industries	– Creation of New Industrial Fields – Social Welfare	Government Orientation (Esp. Infra-stracute)
	JAMBI SE SULWESI N T T	—Creation of Sutable Industries		
E KALIMANT. IRIAN TYPE	MALUKU W KALIMANT S SELAWESI C KALIMANT IRIAN JAYA	—Development of Resources Industries (Wood Processing, Mining, Fishery et al)	– Consideration for Reserving Resources	Government Orientation (Esp. Infra-strucute)

amount of GRDP and GRDP per square are big, which include some major Sumatran provinces like Aceh, Riau, South Sumatra and East Kalimantan. The prominent features of these provinces are their industrial structure and their high personal income scale.

That is to say, they enjoyed the Per Capita GRDP level of 2000 or 5000 thousand Rp. which means exceptionally high level of income in Indonesian standards. In addition, these incomes have been solely originated by very big and strategic Oil and Gas sectors or natural resources endowments.

(4) Sulawesi Nusa Tenggara Type

Medium populated regions with density of 50-80 persons per km² but holding very low level of GRDP, which include some backward development Sumatra provinces like Bengkulu or Jambi, or several provinces of the so called the Eastern part of Indonesia like South Sulawesi, NTT, East Timor.

TABLE 9-4
GRDP BY SECTOR (CURRENT AMOUNT) 1989
(Bil. Rp)

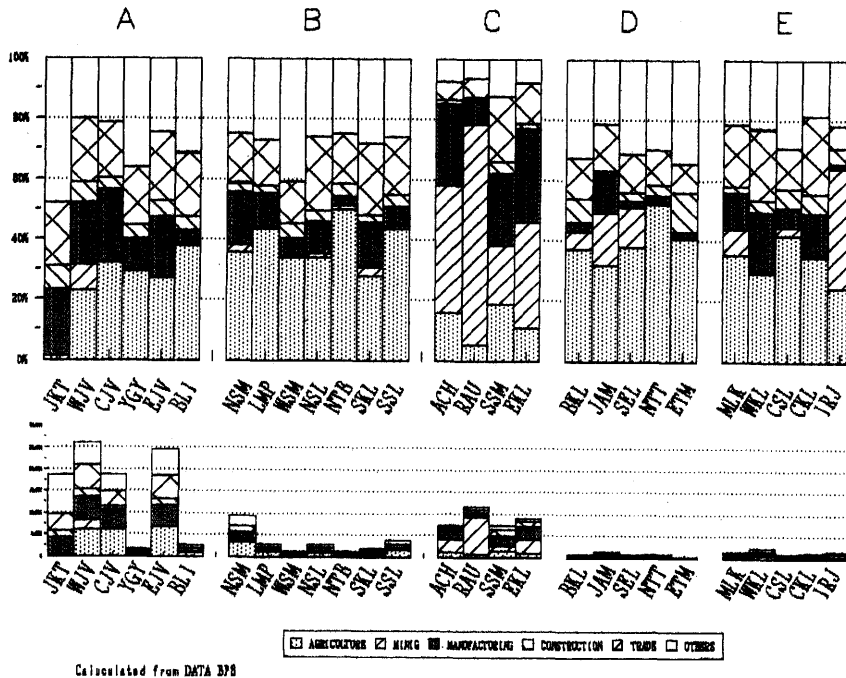
/Province	AGRI- CULTURE	MINING QUARRYING	MANUFAC- TURING	CONST- RUCTION	TRADE	SERVICE	TOTAL	(OIL & GAS)
1 A Jakarta	251	0	4,140	1,426	3,961	8,992	18,771	0
2 A West Java	5,973	2,242	5,312	1,740	5,614	5,151	26,032	2,169
3 A Central Java	6,016	99	4,465	751	3,436	4,016	18,782	1,835
4 A Yogyakarta	486	10	165	77	315	599	1,651	0
5 A East Java	6,692	133	4,854	1,364	5,589	6,028	24,661	16
6 A Bali	979	8	126	117	548	816	2,593	0
7 B North Sumatra	3,378	254	1,644	277	1,556	2,367	9,475	285
9 B Lampung	1,231	6	331	75	428	768	2,839	0
11 B North Sulawesi	436	11	71	64	177	528	1,287	0
12 B West Sumatra	982	43	308	104	706	755	2,899	0
13 B West Nusa Tenggara	549	15	32	46	183	273	1,098	0
14 B South Kalimantan	551	60	292	48	466	558	1,975	32
15 B South Sulawesi	1,630	31	246	140	717	972	3,736	0
8 C Aceh	1,154	3,040	1,947	102436	553	7,232	4,677	
16 C Riau	595	8,524	962	45	766	744	11,635	9,254
10 C South Sumatra	1,331	1,406	1,701	291	1,565	886	7,180	1,605
17 C East Kalimantan	974	3,126	2,735	144	1,215	690	8,884	5,097
18 D Bengkulu	253	40	20	55	92	223	682	0
19 D Jambi	429	238	169	15	211	291	1,352	235
20 D Southeast Sulawesi	274	95	14	21	94	225	723	0
21 D East Nusa Tenggara	543	6	20	39	122	310	1,040	0
22 D East Timur	94	1	4	30	22	80	231	0
23 E Maluku	470	115	162	27	277	284	1,333	0
24 E West Kalimantan	672	14	444	91	541	525	2,287	0
25 E Central Sulawesi	362	22	56	57	114	253	863	0
26 E Central Kalimantan	443	5	177	82	331	234	1,272	0
27 E Irian Jaya	395	649	18	90	119	354	1,624	289
INDONESIA	37,142	20,191	30,412	7,315	29,603	37,474	162,137	25,495

Source : *Pendapatan Regional Propinsi-propinsi di Indonesia 1983-1989 (BPS)*

(5) Kalimantan Irian Type

Unpopulated regions with density under 30 persons per Km² and very low production level which could gain only 50-80 thousand Rp per square or 500-900 per capita income. The main features are their untouched vast land and frontiers as Irian Jaya as the typical case. Their industries are still dominated by primitive agriculture or forestry. However, the potentialities are very big if intensive development has been done, because they seem to hold huge natural resources potentials. The condition of infrastructure are at far lower level than other areas too.

CHART 9-3
GRDP PATTERN BY SECTOR



1-6 TYPE OF INDUSTRIES

Subsequently, we will try to illustrate the several features of each type through the following tables and charts (*Chart 9-3 and Table 9-4*).

From the *Chart 9-3*, we could clearly observed the distinct characters of composition of industries of A type provinces in Java and Bali with their superiority position in terms of total GRDP.

In Java provinces, generally the agriculture has held dominant portion of GRDP value (20-30%), but it is noticeable the manufacturing sector shares important role (15-20%) too, and they are expanding now. Of coarse, DKI Jakarta stands on special portion as a big metropolitan industrial center among them. In addition, Bali has another story, in which agriculture is overwhelmed and manufacturing shares small. We have to also recognize all of provinces in category A display the fairly large portion of trade and service sector. This fact might reflect their lively and energetic economic activities.

Sumatra Agro Type of B shows a little bit different picture. These provinces hold only small limited rate of manufacturing industries, and, on the contrary, the agriculture's share is dominant (around 50%). Among these provinces, the things we have been impressed in *Chart* are the portion of North Sumatra. It holds rather big scale of GRDP, and rather big shares of manufacturing. This means North Sumatra's development stage is fairly high, and while it is producing a lot of primary commodities, its processing industries are progressed well.

With regard to the C type, it could be also noteworthy that the mining sector of each provinces counts over 50% dominant ratio in the composition of industries, with their relatively big GRDP scale as shown in chart X. Especially, Riau province in Sumatra shows significant rate of mining (Oil) sector in its economy. The manufacturing also shares fairly big portions in these provinces, but it may be concentrated on the certain limited fields because of holding the big petroleum refinery in the area. But, these provinces' role in the dynamic development may be strategically very important in future for both of national and own regional economy.

D and E type of provinces illustrate that the agricultural sector (includes fishery and forestry) dominates of the economy, which occupies around 50% of ratio of GRDP in each province. However, their production level is still neglectfully small as seen in *Chart 9-3*, and they are predominately occupied by their substantial agriculture. The backwardness of their economy and the discrepancy among the provinces are distinct. Moreover, these provinces coincident geographically to the so call Easter Part of Indonesia and are requested by the government for the special development target in order to narrow the regional gaps.

1-7 ANOTHER COMPARATIVE INDICATORS OF PROVINCES

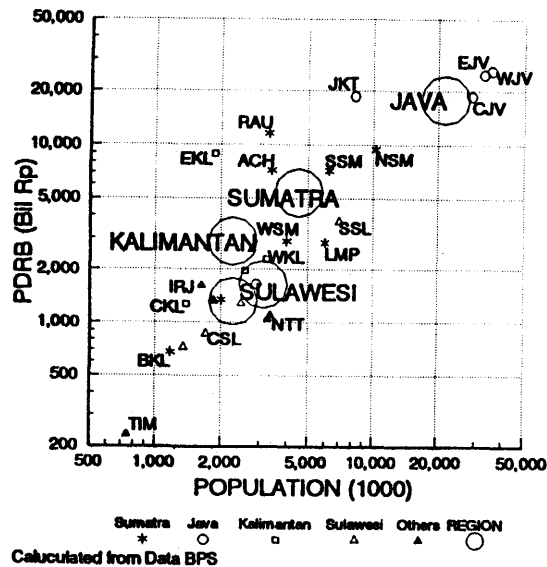
As we elaborated earlier, the varieties of the provinces in the economic structure, development level, demographic situation were obvious, and by the using several parameters, the characters of regions and provinces have been unclosed. Then, we will describe further the provincial economic conditions using some other indicators.

Chart 9-4 indicates the cross matrix of total GRDP vs population scales, and their distribution patterns. From this chart, we could display the absolute position of each provinces and regions in total scale.

Another *Chart of 9-5* displays the comparative status of economy of each provinces and regions applying the international standard, by using total GRDP or GDP scale and population indicators. In this chart, Java could place its economic positions at a compatible national level of other ASEAN countries, and Sumatra is just below the Malaysia and Philipinès. Kalimantan and other Easter part of provinces are located far below the level.

Furthermore, when we take per capita indicators like in *Chart 9-6*, it could be realized that absolute level of income in Indonesia is still at very low position in average internationally, but it varies by provinces and regions. Among them Kalimantan gets a little bit higher position than standards because it is contributed by abundant resources income in spite of small population.

CHART 9-4
GRDP AND POPULATION
(CURRENT PRICE, 1989)



2 THE STRUCTURE OF MANUFACTURING INDUSTRIES AND TRENDS OF PROGRESS

2-1 THE VALUE OF PRODUCTION OF L & M INDUSTRIES BY PROVINCE

In this part, we will highlight the structural features of manufacturing industries by provinces and try to project future prospects of them.

First of all, *Table 9-6* illustrates the structure of manufacturing industries on provincial base measured by value added of Large and Medium establishments in 1989. The classification of sectors has been used 2 digit of ISIS (Indonesian Standard of Industrial Classification) followings BPS definitions.

TABLE 9-5
COMPARATIVE STATISTICS ON GDP AND POPULATION DENSITY (1989)

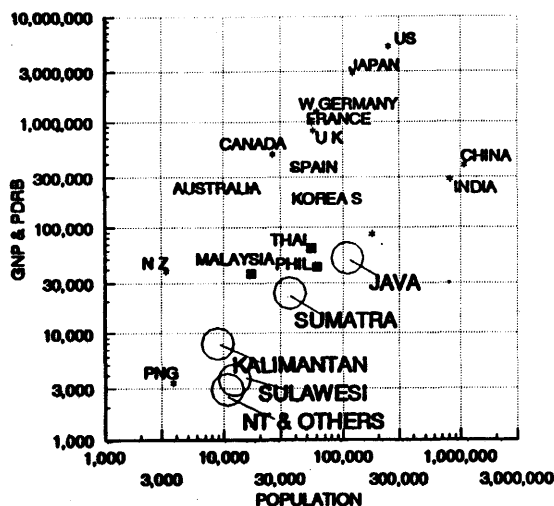
	GNP*) Mil \$	POP 1000	AREA 1000Km2	POP DENS	GNP/Km2*) (US\$)	GNP/CAPITA (US\$*)
U.S.	5,237,707	248,243	9,373	26	559	21,100
CANADA	500,337	26,302	9,976	3	50	19,020
W GERMANY	1,272,950	61,337	357	218	3,566	20,750
FRANCE	1,000,866	56,119	552	101	1,813	17,830
U.K.	834,166	57,270	244	234	3,419	14,570
SPAIN	358,352	39,161	505	77	710	9,150
JAPAN	2,920,310	123,045	378	329	7,726	23,730
CHINA	393,006	1,105,067	9,597	115	41	360
KOREA S	186,467	42,380	99	424	1,884	4,400
MALAYSIA	37,005	17,340	330	51	112	2,130
PHILIPPINES	42,754	61,224	300	196	143	700
THAILAND	64,437	55,200	513	106	126	1,170
INDIA	287,383	832,535	3,288	242	87	350
AUSTRALIA	242,131	16,765	7,687	2	31	14,440
NEW ZEALAND	39,437	3,343	271	12	146	11,800
PAPUA NEW GUINEA	3,444	3,812	463	8	7	900
INDONESIA	87,936	178,211	1,905	92	46	490
SUMATRA	24,323	36,455	473	77	51	667
JAVA	51,961	110,352	138	801	377	471
KALIMANTAN	8,101	9,110	539	17	15	889
SULAWESI	3,712	12,522	189	66	20	296
OTHERS	2,992	10,884	579	19	5	275

Source: The World Bank Atlas 1990

Pendapatan Regional Propinsi-propinsi di Indonesia 1983-89 (BPS)

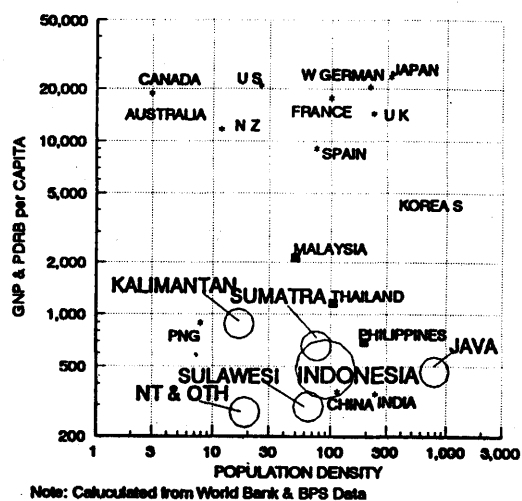
Note: *) Indonesia uses GDP figures calculated by exchange rate of 1980 Rp = 1 US\$ (1989)

CHART 9-5
INTERNATIONAL COMPARISON OF GNP
AND POPULATION



Note: Calculated from World Bank & BPS Data

CHART 9-6
INTERNATIONAL COMPARISON OF
PERCAPITA GNP AND POPULATION



Note: Calculated from World Bank & BPS Data

CHART 9-8
GRDP per CAPITA BY PROVINCE

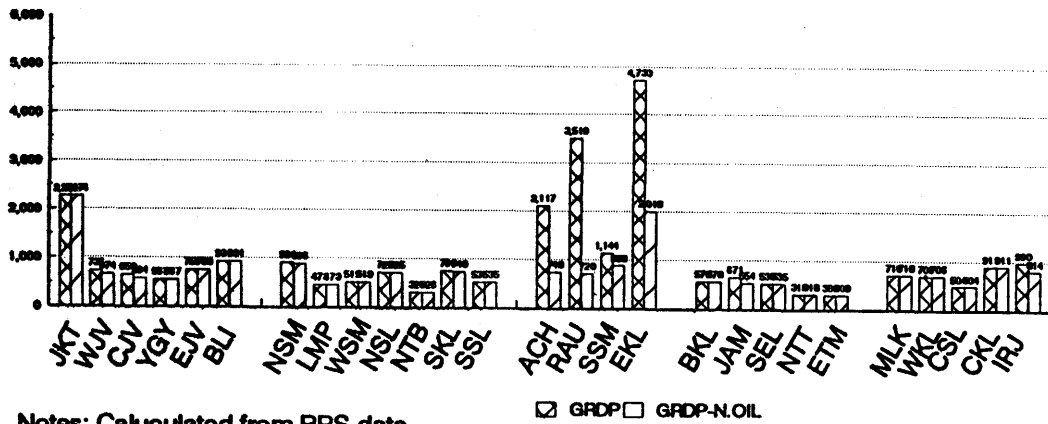


CHART 9-7
GRDP CURRENT AMOUNT AND GROWTH RATE BY PROVINCE

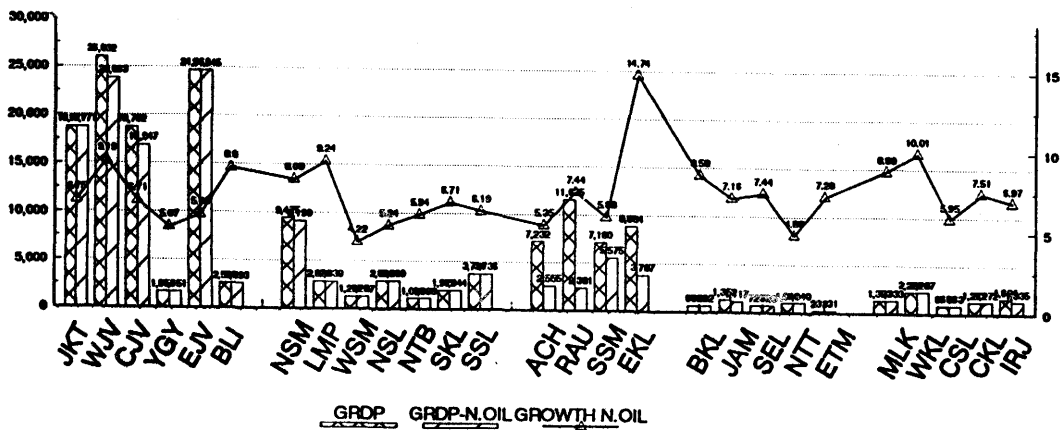


TABLE 9-6
TOTAL VALUE ADDED OF MANUFACTURING INDUSTRIES OF LARGE AND
MEDIUM ESTABLISHMENTS BY PROVINCE

(Unit Billion Rp)

	FOOD, BEVER- AGES et al	TEXTILE, APPAREL	WOOD & ITS PRODUCTS	PAPER & ITS PRODUCTS	CHEMI- CALS PRODUCTS	NON- METAL PRODUCTS	BASIC METAL	FABRI- CATED METAL & MACHINERY	OTHERS	TOTAL
ISIC Number	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(%)
1 Aceh	13	-	25	24	88	4	-	0	0	155 (0.81)
2 North Sumatra	442	8	88	13	244	9	396	86	1	1,287 (6.76)
3 West Sumatra	13	4	38	2	17	29	-	1	-	106 (0.56)
4 Riau	29	5	193	63	10	2	-	272	0	575 (3.02)
5 Jambi	2	-	130	-	37	0	-	0	4	173 (0.91)
6 South Sumatra	63	5	115	0	143	16	-	5	0	347 (1.82)
7 Bengkulu	1	0	3	-	2	0	-	-	-	6 (0.03)
8 Lampung	98	0	16	0	154	5	-	1	-	275 (1.44)
SUMATRA	662	24	607	103	695	65	396	365	6	2,924 (15.35)
9 Jakarta	335	560	52	177	538	88	77	1,629	39	3,494 (18.35)
10 West Java	544	1,424	101	176	629	253	979	764	38	4,909 (25.77)
11 Central Java	1,340	496	156	27	139	57	23	103	7	2,349 (12.33)
12 Yogyakarta	22	38	1	10	1	4	-	7	1	84 (0.44)
13 East Java	2,023	244	138	217	397	79	101	295	10	3,503 (18.39)
JAVA	4,264	2,762	448	607	1,704	481	1,181	2,797	95	14,339 (75.28)
14 Bali	17	38	6	3	0	1	-	1	2	67 (0.35)
15 West Nusa Tenggara	3	1	1	0	-	3	-	0	-	8 (0.04)
16 East Nusa Tenggara	0	0	0	0	2	2	-	0	-	4 (0.02)
17 East Timor	0	-	0	-	0	0	-	0	-	1 (0.00)
NUSATENGGA	20	39	7	3	2	6	-	1	2	81 (0.42)
18 West Kalimantan	27	-	210	0	42	-	-	11	0	289 (1.52)
19 Central Kalimantan	-	-	117	-	3	-	-	-	-	120 (0.63)
20 South Kalimantan	6	0	265	0	17	1	-	1	-	289 (1.52)
21 East Kalimantan	13	0	421	1	164	1	-	3	-	602 (3.16)
KALIMANTAN	46	0	1,013	1	225	1	-	14	0	1,301 (6.83)
22 North Sulawesi	30	0	8	1	0	0	-	3	-	43 (0.22)
23 Central Sulawesi	2	0	25	5	-	0	-	-	-	32 (0.17)
24 South Sulawesi	27	3	23	-	1	29	1	35	-	119 (0.62)
25 Southeast Sulawesi	6	-	4	-	-	0	-	0	-	10 (0.05)
SULAWESI	66	3	60	5	2	30	1	39	-	204 (1.07)
26 Maluku	2	-	148	0	16	0	-	1	-	167 (0.88)
27 Irian Jaya	19	-	10	0	-	0	-	1	-	30 (0.16)
OTHERS	21	-	158	1	16	0	-	2	-	198 (1.04)
TOTAL	5,080	2,828	2,293	721	2,644	584	1,577	3,219	102	19,046 (100)

Source: Calculated from BPS's annual survey 1991

TABLE 9-7
MAJOR 5 FIELDS OF MANUFACTURING INDUSTRIES BASED ISIS 2
DEGIT BY PROVINCE
(VALUE ADDED OF LARGE AND MIDIUUM ESTABLISHMENTS, 1989)

(Billion Rp)

		(1)		(2)		(3)		(4)		(5)
C Aceh	CHEMI	88.1	WOOD	24.9	PAPER	24.3	FOOD	13.0	NMETAL	4.3
B North Sumatra	FOOD	442.3	CHEMI	243.6	WOOD	87.6	MACHN	86.0	PAPER	13.3
B West Sumatra	WOOD	37.8	NMETAL	29.0	CHEMI	17.5	FOOD	13.3	TEX	4.4
C Riau	MACHN	272.0	WOOD	193.4	PAPER	62.8	FOOD	29.4	CHEMI	10.4
D Jambi	WOOD	130.0	CHEMI	36.7	FOOD	1.9				
C South Sumatra	CHEMI	143.0	WOOD	114.7	FOOD	63.3	NMETAL	15.9	TEX	5.1
D Bengkulu	WOOD	2.7	CHEMI	1.9	FOOD	1.1	NMETAL	0.2		
B Lampung	CHEMI	153.8	FOOD	98.2	WOOD	15.9	NMETAL	5.1	MACHN	1.0
A Jakarta	MACHN	1,628.7	TEX	560.1	CHEMI	537.7	FOOD	335.1	PAPER	176.9
A West Java	TEX	1,424.0	BASIC-M	979.3	MACHN	763.7	CHEMI	628.8	NMETAL	253.1
A Central Java	FOOD	1,340.5	TEX	495.6	WOOD	155.5	CHEMI	139.1	NMETAL	57.3
A Yogyakarta	TEX	38.40	FOOD	21.9	PAPER	9.8	MACHN	7.0	NMETAL	3.9
A East Java	FOOD	2,022.7	CHEMI	396.9	MACHN	294.6	TEX	244.1	PAPER	216.7
E West Kalimantan	WOOD	209.9	CHEMI	41.5	FOOD	6.9	MACHN	10.7	PAPER	0.2
E Central Kalimantan	WOOD	117.1	CHEMI	2.7						
B South Kalimantan	WOOD	265.4	CHEMI	17.0	FOOD	5.8	NMETAL	0.6	MACHN	0.5
C East Kalimantan	WOOD	420.5	CHEMI	164.0	FOOD	13.3	MACHN	2.6	PAPER	0.9
B North Sulawesi	FOOD	30.1	WOOD	8.0	MACHN	3.3	PAPER	0.7	CHEMI	0.4
E Central Sulawesi	WOOD	25.1	PAPER	4.5	FOOD	2.4	NMETAL	0.3		
B South Sulawesi	MACHN	35.3	NMETAL	28.9	FOOD	26.9	WOOD	23.0	TEX	2.7
D Southeast Sulawesi	FOOD	6.3	WOOD	3.6	NMETAL	0.4				
A Bali	TEX	37.8	FOOD	17.1	WOOD	5.5	PAPER	2.8	NMETAL	1.2
B West Nusa Tenggara	FOOD	2.9	NMETAL	2.7	TEX	1.1	WOOD	0.8	MACHN	0.2
D East Nusa Tenggara	CHEMI	1.9	NMETAL	1.6	WOOD	0.4	TEX	0.4		
E Maluku	WOOD	147.5	CHEMI	15.9	FOOD	2.3	MACHN	1.2	PAPER	0.2
E Irian Jaya	FOOD	19.2	WOOD	10.0	MACHN	0.8	PAPER	0.4		
D East Timor	NMETAL	0.5	FOOD	0.1						
INDONESIA	FOOD	5,079.6	MACHN	3,218.6	TEX	2,828.5	CHEMI	2,643.9	WOOD	2,292.6

Source : Biro Pusat Statistik

: Pendapatan Regional Propinsi-propinsi di Indonesia 1983-1989 (BPS)

es:

(1) FOOD, BEVERAGE and others: FOOD

(3) WOOD & its PRODUCTS: WOOD

(5) CHEMICALS: CHEMI

(7) BASIC METAL: METAL

(2)TEXTILE, APPAREKR: TEX

(4) PAPER & its PRODUCTS: PAPER

(6) NON-METAL PRODUCTS: NMETAL

(8) FABRICATED METAL & MACHINERY: MACHN

The next *Table 9-7* shows the sectoral distribution of manufacturing industries by listing top five major sub sectors from the above table.

Meanwhile, *Table 9-6* shows the outstanding characters in which most of the manufacturing industries have concentrated in Java, especially in Jakarta and adjacent areas in West Java provinces or East Java provinces. That is, West Java have gained 4.9 trillion Rp of total value added(26%), Jakarta 3.5 trillions (18%), East Java 3.5 trillion(18%), and Central Java 2.3 trillions(12%)respectively. Total shares of Java have counted 75% of whole Indonesian value added productions. This fact is evidenced by other indicators which showed the listing table of top 5 sub sectors.⁽²⁾

2-2 JAVA'S PROMINENT PERFORMANCE

If we look at the top shared of major manufacturing industries in Java, certain important implications are noted:

- In Jakarta, the metal & machinery industries enjoy first rank (1628 billion Rp) after the textiles at second (560 billion Rp) and chemical industries at third rank (537 billion Rp)
- West Java's main industries are the textile(includes garment)counted 1424 billion Rp, Basic metals (979 billion Rp) and machinery industries (155 billion Rp)
- East Java is the biggest in the food industries (2022 billion Rp), the second in chemicals (397 billion Rp) and in third rank comes machinery industries(295 billion Rp)
- In Central Java, the food industries rank first(1340 billion Rp), and the textile shares also important role at second(495 billion Rp)
- Yogyakarta's primary industries are textile but its these share is limited(38 billion Rp).

From these facts, Java's manufacturing industries are spreading out to almost all of the important fields in mixed combinations and hold extraordinary big shares. Especially, strategic sectors like machinery, textile, chemical industries are exclusively dominated by Java provinces.

(2) The manufacturing industries in Indonesia is consisted of small scale, household, medium scale and large scale industries by BPS's classification and their establishments reportedly totaled over millions, but among the establishments 90 percents are small scale or household industries. So, we cannot represent the whole features in these statistics. However, the detailed data on small scale industries have never been available after the 1986's Economic Sensus of BPS, especially provincial basis. So, we has to use these limited samples as one of indicators, but large and medium industries includes most of the important fields of business and the total production is comparatively bigger than small scale enterprises. Then we can observe the general trends and features of manufacturing industries by provinces through these data.

2-3 SUMATRA'S STRATEGIC FEATURES

Nevertheless, Sumatra's manufacturing industries seem to be more concentrated in chemical industries (especially in petrochemicals), and food stuff industries, and wood based industries. That means they have a little bit deviated to resources proceeding industries. In addition, total value added of top 3 sectors in each provinces occupies about rather big 14% shares even though they are far behind of Java provinces.

If we observe more details, North Sumatra is prevailed in food industries (442 billion Rp) or chemical industries(244 billion Rp) around Medan areas, and South Sumatra and Aceh are shared a big portion of chemical industries, especially fertilizer or other oil or natural gas processing industries (143 and 88 billion Rp respectively).

The province of Riau has machinery industries (272 billion Rp) and wood industries (193 billion Rp) with rather big rate. Jambi and West Sumatra hold comparatively big portion of wood industries(130 and 38).

In addition, the paper industry and non-metal industry can be observed in several provinces in Sumatra as one of the major industries. In Sumatra as a whole, the chemical industries are ranked first (692 billion Rp) followed by food industries (662 billion Rp) and wood process industries(607 billion Rp).

2-4 POTENTIAL INDUSTRIES FOR KALIMANTAN, SULAWESI AND OTHER REGIONS

Then, how about the Kalimantan's major industries ?.

In Kalimantan, the wood industries occupies predominantly heavy weight among their manufacturing in every provinces. Next sectors are chemicals like in East Kalimantan, because it hold huge petrochemical projects in the area (Balikpapan). Anyway, Kalimantan's total shares of manufacturing are not so big (9%), but as far as wood industries it occupies about 44 % of total Indonesia and enjoys superior position than any other provinces.

Concerning Sulawesi, the manufacturing industries shares only minimum scale (only 1 % in total) as shown in *Table 9-7*, but comparatively food industries and wood industries are well developed and leading other sectors. That is, South Sulawesi have comparatively well developed which includes some machinery industries (35 billion Rp), food industries (27 billion Rp) and wood industries (23 billion Rp).

In other regions, the manufacturing industries keep only negligible small rate as a total. Among them, the wood industries in Maluku shows exceptional large portions (148 billion Rp). So, it is the painful realities that the Eastern part of these provinces are absolutely lack of the promising manufacturing industries on their hands.

Then, it is quite reasonable the government has continuously urged to narrow the regional gap by promoting the industries in the area and want to give some intensive measures. But, at least the present conditions are far from hopes.

2-5 LOCATION OF INDUSTRIAL CENTERS AND INDUSTRIAL ESTATES

We have enumerated the general trends and characters of regional industries so far with focussing the sectoral inclinations of each provinces. Therefore, in this section we would validate these facts by analyzing the one available survey on the industrial estates.

This survey were conducted by JETRO Japan in 1990 and gave us useful picture concerning to industrial location and the situation of present active industrial estates. It also holds abundant statistical figures and maps which illustrate the location and area of estate, status, condition of infrastructure, construction stage and so on.⁽³⁾

According to this data, the industrial estates, if it includes planning and under construction stage, can score about 59 projects covering 28282 ha. Among these projects, the estates which have finished construction and in operating were 1631 ha and the remained estates in the under construction stage were 1944 ha in 1990. (See Table 9-8)

TABLE 9-8
INDUSTRIAL ESTATES IN INDONESIA

(Ha)

PROVINCE	NUMBER OF PROJECT	DEVELOPED	UNDER CONSTRUCTION	UNDER DEVELOPED	TOTAL
NORTH SUMATRA	1	79	-	142	220
RIAU	2	-	-	530	530
LAMPUNG	1	-	77	198	275
JAKARTA	9	811	-	823	1,633
WEST JAVA	26	336	931	11,107	12,424
CENTRAL JAVA	4	78	336	762	1,140
EAST JAVA	13	242	500	10,785	11,527
EAST KALIMANTAN	1	-	-	230	230
SOUTH SULAWESI	1	86	-	117	203
CENTRAL SULAWESI	1	-	100	-	100
INDONESIA	59	1,631	1,944	24,693	28,282

Source: JETRO "Industrial Estates in Indonesia" (1990, Tokyo)

(3) Because many projects of industrial estate have emerged after the investment rash in 1989 and 1990, it is dangerous to depend on this data alone. But, it would be enough to draw the general pictures concerning preference of industrial locations and estates.

TABLE 9-9 (1)
LIST OF SELECTIVE INDUSTRIAL ESTATES IN INDONESIA (1990)

PROVINCE	COMPANY	STATUS		LOCATION		TOTAL AREA	DEV AREA	INDUST LAND	OCP RATE (%)
N SUMATRA	PT Kawasan Industrial Medan	G	OP	Medan	Desa Mabar	220	78.5	56.1	95
RIAU	Batam Industrial Estates	P	AP	Batam	Sekupang	200			
	Suar Batam	P	AP	Batam	Kabil	330			
LAMPUNG	Lampung Industrial Estate Project	G	UC	Lampung Selatan		275	77.2	55.07	0
JAKARTA	PT JIEP	G	OP	Jakarta	Pulogadung	568.8	326.2	202.7	-
	PT Marunda	G	OP	Jakarta	Cilincing	410	410	100	40
	PT Kawasan Berikat Nusantara	G	OP	Jakarta	Tanjung Priok	183	183	163	100
	Cilandak Comercial Estates	P	OP	Jakarta	Cilandak	12	12	-	100
	BPPP Ancol	P	OP	Jakarta	Ancol	107.3	97.3	-	100
	Pulo Mas	P	OP	Jakarta		350	-	28	-
	Cempka Putih Project Authority	P	OP	Jakarta		14	14	-	100
	BPPL Muara Karang	P	OP	Jakarta		25	25	-	100
	BPPL Pluit	P	OP	Jakarta		285	25	-	100
West Java	PT Krakatau Industrial Estate Ciligon	G	OP	Ciligon		550	116	-	-
	Cirebon Industrial Estate Project	G	UC	Cirebon		61.8	41	52	-
	PT Kawasan Industri Kujang-Cikampek	G	AP	Karawang		-	-	-	-
	Daan Hogot	P	OP	Tangerang		40	40	-	10
	Anugrah Buaya Permai (JATAKE)	P	OP	Tangerang		190	180	-	65
	Gunung Cernai Inti	P	UC	Cibitung		1000	380	-	-
	East Jakarta Industrial Park	P	UC	Cibitung		210	-	-	-
	Japabeka	P	UC	Cibitung		510	150	-	-
	Langgeng Sahabat	P	UN	Serang		500	200	-	-
	Bekasi Fajar	P	PM	Cibitung		500	-	-	-
	Industrial Estate Hyundai Inti Joint Venture	P	PM	Cibitung		200	-	-	-
	Rana Intan	P	PM	Bekasi		300	-	-	-
	Hutan Lestari Pertiwi	P	PM	Karawang		3232	-	-	-
	Bekasi Metropolitan	P	PM	Karawang		700	-	-	-
	Maya Nova Indah	P	PM	Serang		500	-	-	-
	Sari Kurnia Nugraha	P	AP	Serang		250	-	-	-
	Wahana Garuda Lestari	P	AP	Serang		150	-	-	-
	Dasar Rezeki Graha Tera	P	AP	Serang		300	-	-	-
	Citra Habitat	P	AP	Tangerang		500	500	-	-
	Graha Mitra Santosa	P	AP	Tangerang		500	-	-	-
	Penta Binangun Sejatera	P	PM	Tangerang		150	150	-	-
	Putra Daya Perkasa	P	PM	Tangerang		300	300	-	-

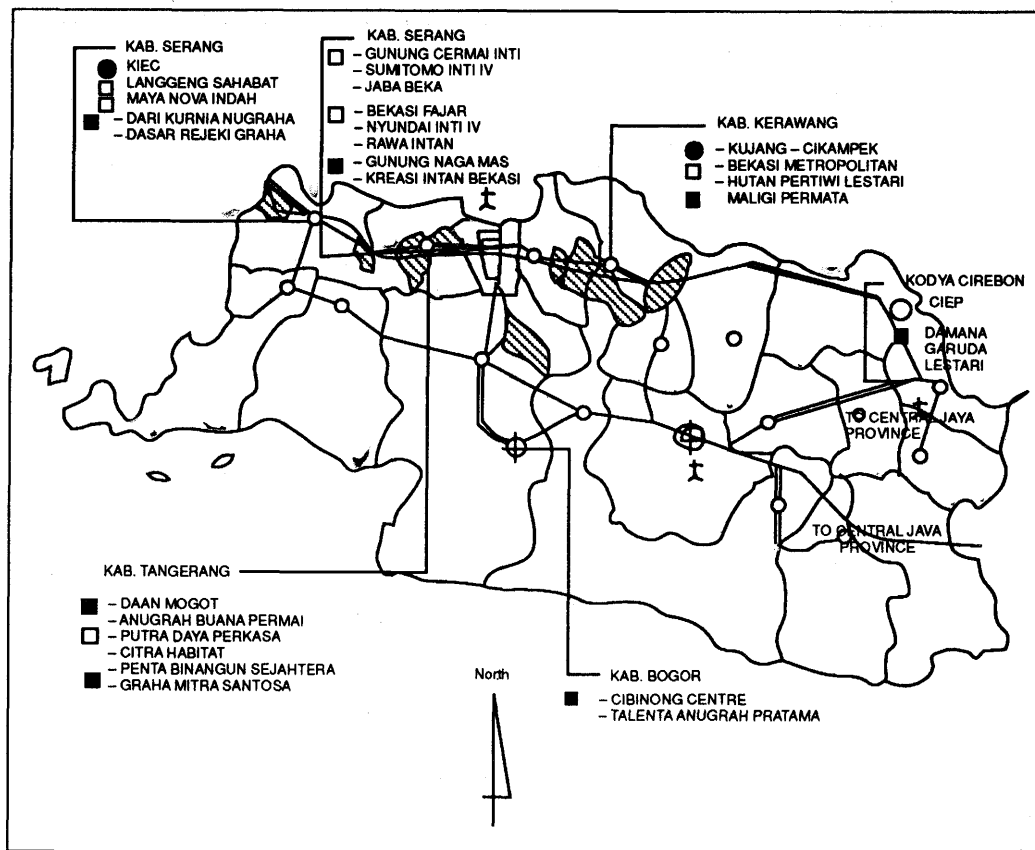
TABLE 9-9 (2)
LIST OF SELECTIVE INDUSTRIAL ESTATES IN INDONESIA (1990)

PROVINCE	COMPANY	STATUS	LOCATION AREA	TOTAL AREA	DEV LAND	INDUST (%)	OCP RATE
West Java	Cibinong Centre Industrial Estate	P AP	Bogor	250	-	-	-
	Gunung Naga Mas	P AP	Bekasi	300	-	-	-
	IMaligi Permata Industrial Estate	P AP	Karawang	500	-	-	-
	Kreasi Intan Bekasi Industrial Estate	P AP	Bekasi	300	-	-	-
	Talenta Anugrah Pratama	P AP	Bogor	300	-	-	-
	Tugu Indah Abadi	P UC	Semarang	300	300	-	-
	Guna Mekar	P PM	Semarang	300	-	-	-
Central Java	Merdeka Wirastama	P PM	Semarang	300	-	-	-
	PT Kawasan Industri Cilacap	G OP	Cilacap	240	78	75	-
	PT SIER	G OP	Surabaya	319	246.1	206	95
	Inti Mekanika Usaha	P PM	Pasuruan	500	500	-	-
East Java	SWIETS	P PM	Sidoardjo	318	-	-	-
	Maspion	P AP	Sidoardjo	500	-	-	-
	Indal Industrial Estate	P AP	Sidoardjo	500	-	-	-
	Dharma Sejatera Sakti	P AP	Mojokerto	200	-	-	-
	Altap Prima	P AP	Surabaya	500	-	-	-
	Alimindo	P AP	Surabaya	500	-	-	-
	Sinar Satelit	P AP	Gresik	1000	-	-	-
	PT Gresik Industrial Estate	G AP	Gresik	100	-	-	-
	Presindo Area	P AP	Gresik	6000	-	-	-
	PT Kawasan Industri Petro Klmia Gresik	G AP	Gresik	90	-	-	-
	Kawasan Industri Gresik	P AP	Gresik	1000	-	-	-
	PT Kawasan Pupuk Kalimantan Timur	G AP	Kutai	230	-	-	-
	PT KIMA	G OP	Ujung Pandang	203	86.1	59.5	73.4
	Lembah Hijau Nagoya	P UC	-	100	100	-	-

Source: Jetro "Industrial Estates of Indonesia" (Tokyo, 1990)

Note: P = Private, G = Government, AP = Application, PM = Permitted, UC = Under Construction,

CHART 9-9
LOCATION OF INDUSTRIAL ESTATE IN WEST JAVA



Furthermore, if we look at the geographical distribution, 9 projects are in Jakarta, 26 projects in West Java (Most of them concentrated in Jakarta adjacent area like Bekasi, Tangerang, Cikampek), 4 projects in Central Java, 13 project in East Java (most of them are gathered around Surabaya or northern coast). That is, 90 % of them are concentrated in Java, especially located in adjacent areas of big metropolitan cities like Jakarta or Surabaya.

In the outer regions these kind of projects are rare, besides rather sporadic basis in Sumatra, Kalimantan and Sulawesi (Medan 1, Riau 2, Ujung Pandang 1, Lampung 1, East Kalimantan 1, Central Sulawesi 1). Total area of estates clearly concentration to Jakarta, West Java and East Java. That is, they can register 1100, 930, 530 ha respectively, even other areas covers only 200 ha in total.

However, observing the other data, we also realize that Jakarta area is already saturated, and now begins to expand its area to other outskirts regions. It was evidenced by the facts that Jakarta has no projects of industrial estates under constructions at all, but in West Java the projects of underconstruction stage and planning stage are far bigger than the existing development projects (931 ha and 336 ha).

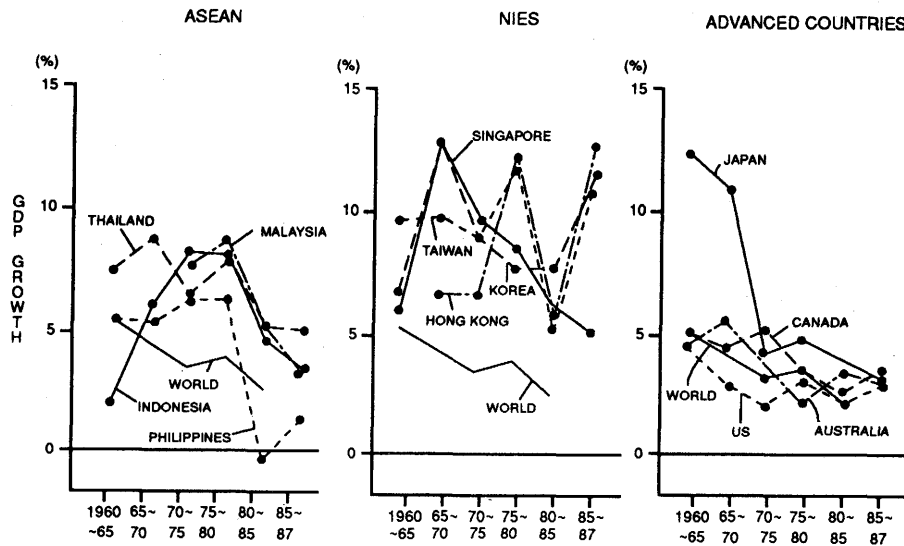
So, when we mark down the locations of these estates on the map of Jakarta and adjacent area, it is apparent these project areas spread out along the highway road of coastal East to West regions, and it has begun to appear the new dynamic Industrial Zone in Greater Jakarta area. In near future, the huge industrial belt zone of 300 km from Merak to Cikampek will be forthcoming. Even in the rather small scale, however, in the areas around Surabaya in East Java, the same phenomena could be observed.

Although many suggestions have been voiced in the necessity to relocate industries to the local area and endeavor to stimulate the regional industrialization, but, it is inevitable that the more industries will accumulate and concentrate to the convenient points at near the big metropolitan cities.

And it is also necessary to notice to the movement of pole-making strategic development area like Batam and so on as a new pattern of regional development. Because, in the course in which all of the economic activities are inevitably involved in the globalization, or internationalization beyond the national boundaries, the local regions themselves are forced to adjust them.

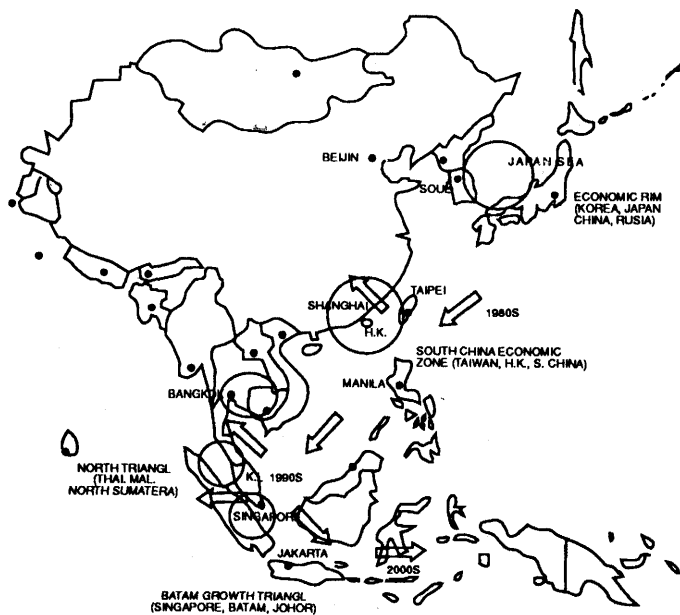
It is therefore feasible enough that certain regions contact other countries directly if they could enjoy the comparative advantage without central bureaucratic control. Batam region would be one of the good examples which is hoped to form the "Growth Triangle" in the Pacific involving Singapore, Indonesia and Malaysia. These trends could be observed in several regions of Asia Pacific which indicate very dynamic economic expansion and function as new growth center for the world economy. The many coastal areas along the West Pacific are now emerging the new economic zones

CHART 9-10
COMPARATIVE GROWTH RATE OF ASIA PACIFIC



Source : World Bank

CHART 9-11
DYNAMIC TRENDS OF ECONOMIC EXPANSION OF ASIA PACIFIC AND REGIONAL ECONOMY



Source : Nomura Research Institute

beyond the border as seen in *Chart 9-11*. Such as Southern China zone, Japan Sea Rim (already many prefectures in Japan facing Japan Sea have directly contacted to the certain cities in China, Korea, even Russia), Singapre-Batam-Johor Triangle zone and so on. This movement will further proceed from north to south involving the regional economy including Indonesia's various places.

Anyway, in this context, already the "region" will not mean only a part of country, but one of the components of the worldwide economy in the future.

3 RECENT TRENDS OF INDUSTRIAL INVESTMENT AND REGIONAL DEVELOPMENT

In this part, we will discuss about the subjects on investment activities concerning to the regional development by using several statistics on its yearly growing rate, sector and locations.

3-1 DOMESTIC INVESTMENT

Table 9-10 shows the trends of domestic and foreign investment amount after 1980 by provinces and regions on yearly basis. In this statistics, the domestic investment movement by regions are shown clearly.

CHART 9-12
TRENDS OF DOMESTIC INVESTMENT
(1980-1990)

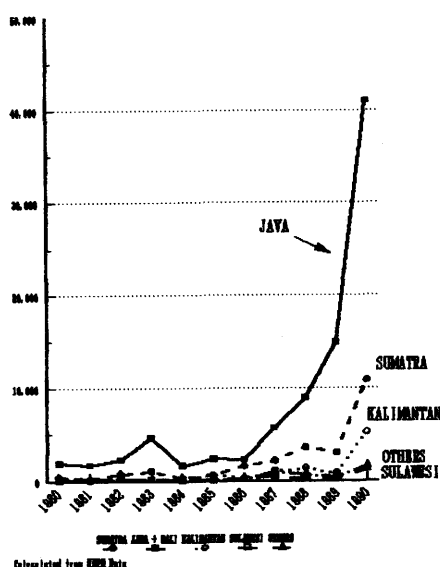
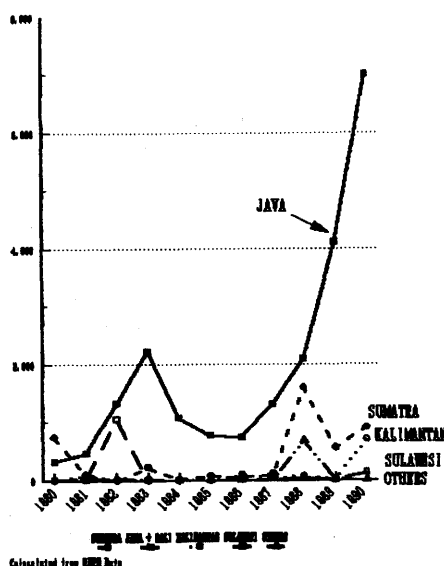


CHART 9-13
TRENDS OF FOREIGN INVESTMENT
(1980-1990)



Total domestic investment in Indonesia registered 2805 billion rupiahs in 1980, and it has gradually increased until mid-1980s with mild updown curve. But, after 1985 it begins to increase steeply, i.e., in 1986 counted 4456, in 87 doubled to 10000 billion rupiah, and in 90 it jumped to 60 trillion rupiah which means the investment on single year has exceeded the total amount of 1980s.

The so-called investment boom in 1989 and 90 could be evidenced by these figures. Due to the government's cool-off economic policy after 90, the realization of these permitted investment have experienced a shawdown, but still in comparison to the previous year.

CHART 9-14
TRENDS OF DOMESTIC INVESTMENT
(JAVA)

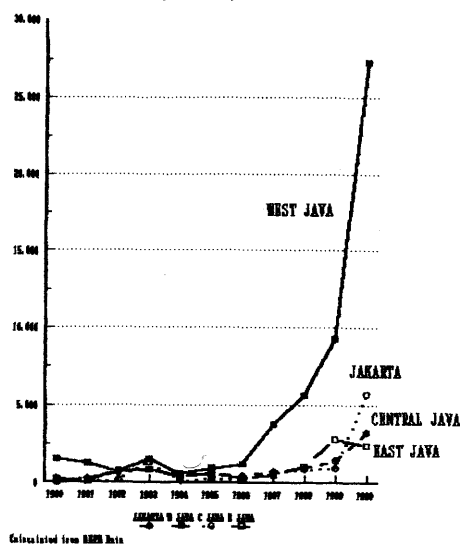
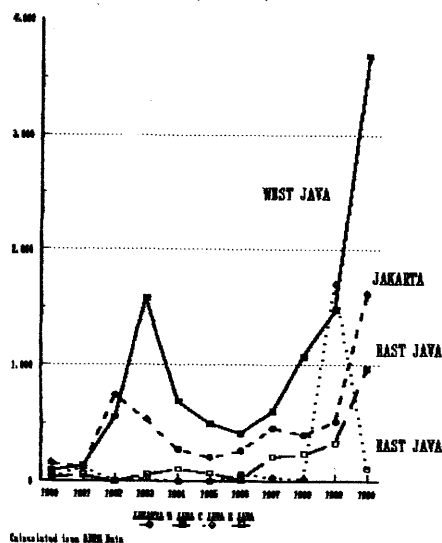


CHART 9-15
TRENDS OF FOREIGN INVESTMENT
(JAVA)



The further observation on regional distribution of these figures are illustrated in *Chart 9-12*. Among the major regions, Java occupied 65 % of total amount of Indonesia during 1980s which records 84 trillion Rp. Next regions are Sumatra (14%) and Kalimantan (8%), but other regions are just nominal.

Especially, in Chart we can observe the Java has recorded very steep and conspicuous increase rate after 1986. Furthermore, the phenomena of these increasing trends in Java could be more eye-catching if we look at the figures on provincial basis. That is, the most of the investors' favorite have concentrated in West Java followed by Jakarta and East Java. The boom of investment after mid-1980s have clearly shown the metropolitan oriented patterns, and most of the investments have centered on the suburbs of metropolitan Jakarta, i.e. Jabotabek area.

Besides Java, the meaningful investments have also been registered in Riau, East Kalimantan, West Kalimantan, South Sumatra, and North Sumatra. Especially, Riau and Kalimantan have experienced very outstanding development. These areas just coincide with the "C Group" which have defined in the preceding chapter.

The selected objects of investment of these provinces are mostly natural resources related sectors, agro processing or forestry, like oil and gas, wood processing, food stuff et al.

3-2 FLOURISHING FOREIGN INVESTMENT

How about the situation of foreign investment then ? As in the case of domestic one, the foreign investments have experienced steep increase during 1980s. The investment amount in 1980 counted at 1085 million dollars. However, after that year the investment have a little bit stagnated as we can see in the *Table 9-12*. But, in the succeeding years of 1987, Indonesia have been exposed flooding flow of foreign investment capitals, i.e. in 1988, 89 it recorded 4482 and 4719 million dollars respectively. Moreover, in 1990 its amount have suddenly jumped to remarkable double scale of the previous years with 8751 million dollars investments.

CHART 9-16
TRENDS OF DOMESTIC INVESTMENT
(OUT OF JAVA)

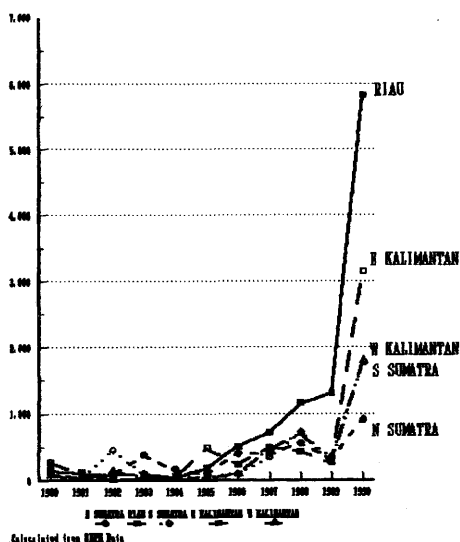


CHART 9-17
TRENDS OF FOREIGN INVESTMENT
(OUT OF JAVA)

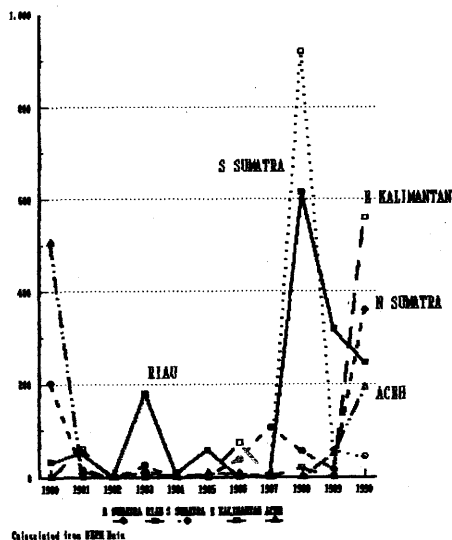


TABLE 9-10
TRENDS OF DOMESTIC INVESTMENT (AMOUNT)

(Bil. Rp.)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	TOTAL
Aceh	0	8	8	280	25	30	120	23	291	221	228	1,236
Sumatera Utara	87	32	99	370	165	85	396	396	552	317	913	3,413
Sumatera Barat	50	0	177	98	25	105	56	40	118	138	456	1,264
Riau	145	115	0	33	37	177	504	715	1,154	1,308	5,822	10,010
Jambi	17	10	9	22	20	19	243	402	298	145	620	1,805
Bengkulu	0	10	5	18	5	70	47	82	34	78	79	428
Sumatera Selatan	87	31	447	90	29	67	91	341	717	337	1,771	4,008
Lampung	12	15	40	130	26	71	117	153	465	489	891	2,409
SUMATERA	399	220	784	1,041	333	624	1,574	2,153	3,629	3,035	10,782	24,573
Jakarta	111	250	634	845	543	592	457	733	999	1,420	3,272	9,854
Jawa Barat	1,539	1,266	711	1,515	558	952	1,219	3,776	5,657	9,272	27,332	53,795
Jawa Tengah	33	62	147	1,315	129	223	206	589	870	937	5,715	10,225
Jawa Timur	208	99	773	835	405	565	318	476	1,038	2,822	2,425	9,963
Yogyakarta	0	13	6	25	7	12	44	44	167	52	420	790
JAWA	1,890	1,690	2,270	4,534	1,642	2,343	2,244	5,617	8,731	14,501	39,164	84,627
Karimantan Barat	76	7	128	65	9	31	88	461	706	269	1,793	3,634
Kalimantan Timur	266	102	85	89	49	482	232	494	425	256	3,149	5,629
Kalimantan Tengah	40	8	0	0	2	4	22	11	38	89	105	320
Kalimantan Selatan	50	59	38	15	5	112	0	79	186	215	174	933
KALIMANTAN	432	176	251	169	64	628	343	1,045	1,356	830	5,221	10,515
Sulawesi Utara	0	1	0	141	8	9	101	106	68	165	143	742
Sulawesi Selatan	17	2	157	41	57	40	87	132	121	69	547	1,270
Sulawesi Tengah	17	11	10	23	1	0	13	273	55	49	427	879
Sulawesi Tenggara	1	8	3	0	0	8	0	16	0	50	127	213
SULAWESI	35	21	170	205	67	57	201	527	243	333	1,244	3,104
Bali	1	22	2	88	12	16	23	107	216	460	1,844	2,792
Nusatenggara Barat	00	1	4	0	41	35	10	25	61	357	534	
Nusatenggara Timur	0	0	23	0	4	6	5	22	22	30	262	372
Timor Timur	0	0	0	0	0	0	1	0	1	0	23	25
NUSATENGARA	1	22	26	92	15	63	65	138	264	551	2,486	3,723
Maluku	10	75	41	35	3	17	22	37	329	197	808	1,572
Irianjaya	37	86	8	53	23	4	8	912	320	190	171	1,813
OTHERS	46	161	49	88	27	21	30	949	649	386	979	3,385
TOTAL INDONESIA	2,805	2,289	3,551	6,129	2,148	3,734	4,456	10,431	14,872	19,636	59,876	129,927

Source: BKPM

TABLE 9-12
TRENDS OF FOREIGN INVESTMENT (AMOUNT)

(Mil US \$)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	TOTAL
Aceh	506	13	-	13	-	9	8	-	-	50	192	791
Sumatera Utara	203	17	-	26	-	5	38	106	55	18	360	828
Sumatera Barat	6	16	-	-	9	1	12	1	6	5	2	58
Riau	32	52	-	180	9	58	1	1	614	319	247	1,512
Jambi	-	8	-	2	-	-	-	-	-	-	-	10
Bengkulu	-	-	-	-	-	-	-	-	-	41	-	41
Sumatera Selatan	-	-	3	3	-	-	1	2	920	57	44	1,030
Lampung	-	2	-	2	-	4	2	2	-	78	58	148
SUMATERA	747	108	3	226	17	78	62	112	1,595	567	903	4,419
Jakarta	163	125	745	539	279	208	264	460	408	521	1,619	5,333
Jawa Barat	91	139	557	1,581	694	497	413	605	1,073	1,476	3,692	10,816
Jawa Tengah	30	122	1	22	-	-	57	32	25	1,703	111	2,103
Jawa Timur	43	55	3	60	107	70	9	215	237	330	973	2,102
Yogyakarta	-	-	-	-	-	-	-	-	-	-	7	7
JAWA	326	440	1,307	2,202	1,079	775	744	1,313	1,743	4,031	6,401	20,362
Karimantan Barat	-	-	-	-	-	-	-	-	24	-	7	31
Kalimantan Timur	-	61	-	-	-	0	74	1	20	-	561	716
Kalimantan Tengah	-	-	-	0	-	-	22	9	18	6	11	66
Kalimantan Selatan	-	35	-	-	-	-	-	48	2	13	123	220
KALIMANTAN	-	95	-	0	-	0	96	58	64	19	701	1,034
Sulawesi Utara	1	-	-	-	-	-	-	25	-	2	8	37
Sulawesi Selatan	-	-	1,050	0	-	-	1	2	-	5	121	1,180
Sulawesi Tengah	-	-	-	-	-	-	-	-	24	4	1	30
Sulawesi Tenggara	-	-	-	-	-	-	-	-	20	-	4	23
SULAWESI	1	-	1,050	0	-	-	1	27	44	11	134	1,269
Bali	-	19	17	25	-	-	-	1	361	80	609	1,112
Nusatenggara Barat	-	-	-	-	-	-	3	2	-	-	-	5
Nusatenggara Timur	-	-	-	-	-	2	2	10	1	10	1	25
Timor Timur	-	-	-	-	-	-	-	-	-	-	-	-
NUSATENGGA	-	19	17	25	-	2	2	11	365	91	610	1,141
Maluku	-	-	-	-	-	-	-	-	-	-	0	0
Irianjaya	10	44	29	21	-	2	-	-	670	-	1	778
OTHERS	10	44	29	21	-	2	-	-	670	-	2	779
TOTAL INDONESIA	1,085	706	2,407	2,475	1,097	857	905	1,521	4,482	4,719	8,751	29,004

Source: BKPM

Regional distributions of these investments can be also observed in *Chart. 9-13*. That is, Java's roles are predominantly big and have experienced steep increase after mid-1980s. The shares of Sumatra, Sulawesi and other areas are far smaller than domestic investment one. Java occupies about 70 % of total investment which have realized during 1980s. Another feature of foreign investment trends is the fact they were very fluctuating year by year and region to region.

These phenomena are reasoned by some of the investment are very huge and sporadic ones during 1980s, such as oil related projects, mining projects in Sumatra and Sulawesi. These facts could be affirmed in *Chart 9-17* indicating the yearly trends of investment in major provinces outside of Java.

In Java, West Java has enjoyed constant and very steep increase during 1980s. Jakarta comes next, but scale is not compatible with West Java. Central Java and East Java are in the almost same situation.

3-3 SECTORAL DISTRIBUTION OF INVESTMENT

The sectoral data of these investments are indicated in the detailed statistics in *Table 9-13, 9-14 and Chart 9-18*. So, in this sections, we would simply introduce some of the noteworthy features by provinces.

<DOMESTIC INVESTMENT>

- (1) Agricultural Plantation projects are predominant in Sumatra, a part of Java and Kalimantan
- (2) Fishery projects are spread widely and they can observed in Java, Sumatra, Sulawesi and even in Eastern part of Indonesia with rather large scale.
- (3) Forestry projects are popular in Sumatra and Kalimantan, especially the performance of Kalimantan is vigorous.
- (4) Food industry projects are comparatively widely spread among the various provinces in Java, Sumatra, Kalimantan and Sulawesi.
- (5) Textile projects are exclusively concentrated in Java.
- (6) Chemical Projects and Basic metal projects are also concentrated in Java.
- (7) Some part of machinery projects and other strategic manufacturing projects are sporadically found in Sumatra, but they are predominantly located in Java.
- (8) Construction projects are concentrated in Java, especially Jakarta and West Java.

TABLE 9-13
DOMESTIC INVESTMENT AMOUNT TOTAL (1968-1990)

	01)-(03) AGR	04) FISH	(05) FORES	(06) MIN	(07)-(16) MANU	(17)-(22) OTHER	TOTAL
Aceh	733	43	60	24	893	32	1,786
Sumatera Utara	1,311	102	59	9	1,825	494	3,801
Sumatera Barat	492	4	15	71	643	117	1,341
Riau	4,088	22	412	327	5,287	268	10,403
Jambi	779	0	145	0	1,142	62	2,128
Bengkulu	315	13	2	20	72	0	422
Sumatera Selatan	1,434	61	16	618	2,264	140	4,533
Lampung	796	215	14	51	1,494	100	2,671
SUMATERA	9,948	460	724	1,120	13,620	1,212	27,085
Jakarta	15	77	31	0	4,846	6,903	11,872
Jawa Barat	645	548	0	178	52,797	4,207	58,375
Jawa Tengah	285	231	9	18	9,406	982	10,931
Jawa Timur	133	187	0	39	9,095	1,915	11,369
Yogyakarta	40	5	0	2	411	398	856
JAWA	1,117	1,048	40	237	76,554	14,406	93,402
Karimantan Barat	2,203	21	360	9	1,247	70	3,909
Kalimantan Timur	827	30	517	137	4,494	114	6,120
Kalimantan Tengah	153	8	208	28	106	5	510
Kalimantan Selatan	138	40	158	16	653	90	1,094
KALIMANTAN	3,321	99	1,243	190	6,500	280	11,633
Sulawesi Utara	515	352	37	19	121	49	1,093
Sulawesi Selatan	476	112	39	10	513	308	1,458
Sulawesi Tengah	620	60	85	3	200	14	981
Sulawesi Tenggara	22	143	2	481	39	0	687
SULAWESI	1,633	667	163	513	873	371	4,219
Bali	12	172	0	0	93	2,795	3,073
Nusatenggara Barat	38	72	4	0	2	456	572
Nusatenggara Timur	72	46	0	0	356	21	494
Timor Timur	0	1	0	0	15	9	25
NUSATENGGA	123	292	4	0	466	3,280	4,164
Maluku	779	131	211	2	392	185	1,701
Irianjaya	296	95	896	0	635	7	1,928
OTHERS	1,075	226	1,107	2	1,027	192	3,629
TOTAL INDONESIA	17,216	2,792	3,281	2,061	99,041	19,741	144,132

Source: BKPM

TABLE 9-14
FOREIGN INVESTMENT AMOUNT TOTAL (1967-1990) (#4)

	01)-(03) AGR	(04) FISH	(05) FORES	(06) MIN	(07)-(16) MANU	(17)-(22) OTHER	TOTAL
Aceh	7.5	9.3	-	50.0	1,058.5	-	1,125.3
Sumatera Utara	206.5	-	2.5	150.3	3,194.8	6.6	3,560.7
Smatera Barat	1.9	2.0	26.4	-	37.0	-	67.2
Riau	0.8	25.0	-	45.1	1,215.1	388.3	1,674.3
Jambi	-	-	-	-	23.8	-	23.8
Bengkulu	41.1	-	-	-	-	-	41.1
Sumatera Selatan	94.8	1.1	11.0	228.2	937.9	2.5	1,275.6
Lampung	505.9	12.5	-	-	84.9	-	603.3
SUMATERA	858.5	49.9	39.8	473.6	6,552.1	397.5	8,371.3
Jakarta	-	10.5	-	-	3,673.1	3,153.4	6,837.0
Jawa Barat	57.4	10.0	-	-	11,316.4	942.4	12,326.3
Jawa Tengah	8.3	1.0	-	-	2,297.3	2.8	2,309.3
Jawa Timur	122.8	5.3	1.0	-	2,509.3	105.0	2,743.3
Yogyakarta	-	-	-	-	2.0	4.9	6.9
JAWA	188.5	26.8	1.0	-	19,798.0	4,208.5	24,222.8
Karimantan Barat	-	16.3	16.3	72.4	6.9	-	111.9
Kalimantan Timur	-	11.9	159.1	767.0	645.8	21.9	1,605.7
Kalimantan Tengah	-	-	119.4	96.1	47.2	-	262.6
Kalimantan Selatan	-	-	21.6	39.6	73.1	113.8	248.1
KALIMANTAN	-	28.2	316.4	975.1	772.9	135.7	2,228.3
Sulawesi Utara	0.9	1.5	-	175.0	2.7	33.0	213.1
Sulawesi Selatan	9.2	2.0	-	1,306.0	26.1	1.0	1,344.4
Sulawesi Tengah	1.1	29.5	-	-	-	-	30.6
Sulawesi Tenggara	15.0	14.4	-	-	6.4	-	35.8
SULAWESI	26.2	47.4	-	1,481.0	35.2	34.0	1,623.8
Bali	-	3.4	-	-	128.8	1,151.0	1,283.1
Nusatenggara Barat	-	5.0	-	-	-	1.6	6.6
Nusatenggara Timur	3.3	21.0	-	-	-	2.6	27.0
Timor Timur	-	-	-	-	-	-	-
NUSATENGGA	3.3	29.4	-	-	128.8	1,155.2	1,316.7
Maluku	-	12.4	-	100.0	-	0.3	112.7
Irianjaya	17.8	68.3	41.6	240.0	687.9	-	1,055.6
OTHERS	17.8	80.7	41.6	340.0	687.9	0.3	1,168.4
TOTAL INDONESIA	1,094.4	262.4	398.8	3,269.8	27,975.0	5,931.0	38,931.3

Source: BKPM

(9) Hotel projects and other tourism projects are found in Java, but the majority are located in Bali.

<FOREIGN INVESTMENT>

(1) Plantation projects are found in North Sumatra and Lampung, but the other areas are seldom (Clear contrast with Domestic Investment)

(2) Fishery projects are laid in rather wide area of Eastern Indonesia, especially in Irian Jaya and Maluku.

(3) Forestry project are solely concentrated in Kalimantan

(4) Food Industry projects are found many in Java, a part of Sumatra, especially East Java has a big share.(The Projects are gathered in more selective locations than Domestic)

(5) Textile projects are concentrated in Java as same as Domestic.

(6) Wood Industry projects are widely dispersed among Java, Sumatra and Kalimantan.

(7) Paper Industry projects are found in some parts of Sumatra, Java, and Kalimantan.

(8) Chemical projects are found in Sumatra, but Java holds rather big share.

(9) Basic metal are concentrated in North Sumatra or major industrial centers in Java.

(10) Construction projects are concentrated in Java, especially in Jakarta.

From the above observation, we could generally conclude that most of the investment projects, both of Domestic and Foreign, are predominantly accumulated in Java (especially in Jakarta metropolitan area) with the leading manufacturing industries, but on the contrary the natural resources based projects, like oil and gas, forestry, mining projects are found many in outside Java, such as Sumatra and Kalimantan. In addition the fishery projects absorb wide investors as a potential industries even in local rather isolated Eastern Indonesian provinces.

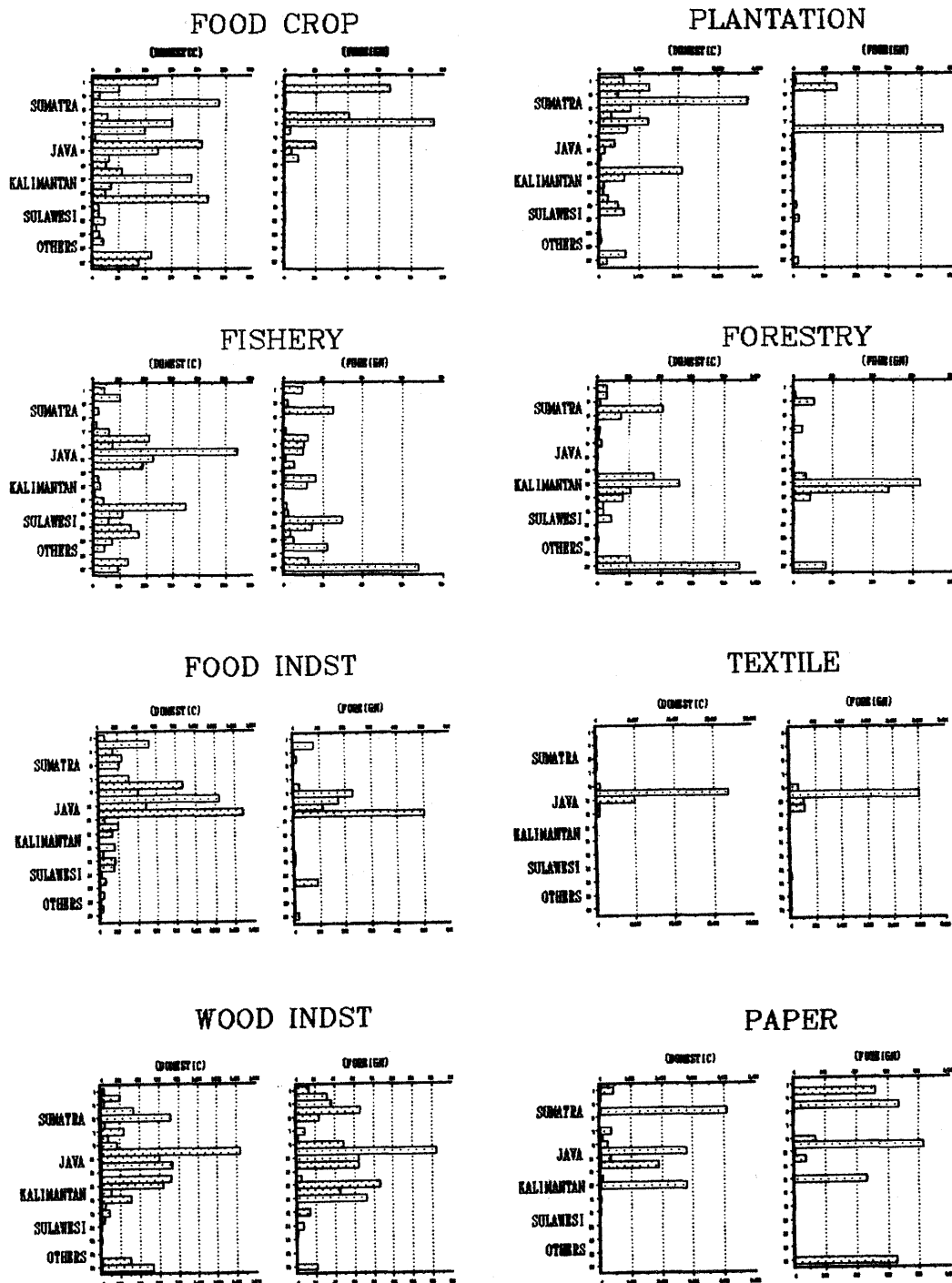
3-4 REGIONAL MAIN FEATURES

The following list are also indicating the main features of investment of regional basis.

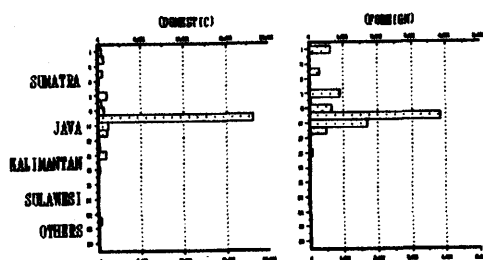
(1) Java and Bali case

The following fields of industries are outstanding in each province.

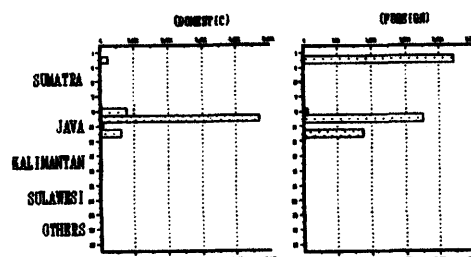
CHART 9-18
INVESTMENT AMOUNT BY SECTOR AND PROVINCE (1986-1990)



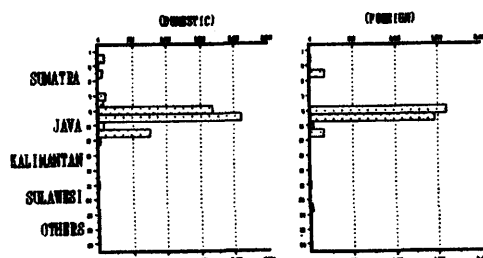
CHEMICAL



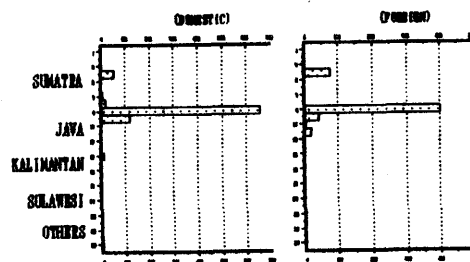
B. METAL



METAL GOOD



CONSTRUCTION



- Textile in West Java (D)(F)
- Chemicals in West Java and Central Java (F)(D)
- Basic metal in West java (D)(F)
- Paper in West Java, East Java (D)(F)
- Food in East Java (D)(F)
- Construction in Jakarta (D)(F)
- Real estate in West Java, Jakarta (D)(F)
- Hotel in Bali, Jakarta

(2) Sumatra case

The following fields of industries are outstanding in each province

- Oil & Gas in Riau, North Sumatra, South Sumatra (F)
- Plantation in North Sumatra, South Sumatra, Riau, Lampung (D)(F)
- Forestry in Riau (D)

(3) Kalimantan, Sulawesi and other Eastern provinces case

The following fields of industries are outstanding in each province

- Oil & Gas in East Kalimantan (F)(D)
- Forestry in East Kalimantan, Irian Jaya
- Fishery in Sulawesi
- Mineral ore in Irian Jaya

Note: (D) indicates Domestic Investment and (F) indicates Foreign Investment.

4. THEORETICAL APPROACH TO THE INVESTMENT DECISION CONCERNING REGIONAL INDUSTRIALIZATION

4-1 MEANING OF INDUSTRIAL INVESTMENT

We have elaborated earlier the industrial locations by provinces, distribution of sectors, and growing investments in recent years from the regional development angles.

According to these results, it is clear that the important Indonesian industrial sectors, especially manufacturing, are concentrated in Java, particularly, in very limited metropolitan areas like Jakarta or Surabaya. These trends and impetus seem to be strong more and more in recent years besides some resources based investment. These phenomena could also be endorsed by the new planning of industrial estates as seen in the previous data too.

It could be right to mention that the concentration or accumulation of strategic industries in a certain pin-pointed growing center is inevitable trends and even be beneficial for the rapid development. Another words, at least, only these accumulation could provide the precondition of meaningful industrialization process in the developing countries through the intensive investment. It would be applicable to Indonesia.

However, it is quite logical that the loose and unfabricated economy like Indonesian, which holds huge boundaries and heterogeneous characters, seeks more integrated and well balanced development as a hopeful diagram. Too much concentration and widening discrepancies among the regions, center and local, would create social frustration among the local peoples and might lead to uncertainty for the unity.

Economically, local initiative are deady needed too for further dynamic development. In that mean, the regional development, the promotion of local industries and diversity of economic structure, are important in order to narrow the regional gap and foster the local initiatives for strengthening the economy in future.

Government has continuously endeavored to elevate the local economic capability since 1970s and take necessary measures to advance them through the guidance, financial assistance, facilitating infrastructure and so on.

Nevertheless, the given assignments are too big to be solved in short range of periods, or it could not be hoped an easy answer at all. Maybe it could be tackled only after Indonesian economy attains a certain development level even if serious efforts have been made.

The reality is that the central power of economy gains more and more strong muscles compared to the local one and inclines to assimilate them like a big Black Hole throughout the entire development years as we have seen in the previous analysis.

But, time will come soon to restructure the appropriate balance between local and center, and distribution of wealth among the people to brisk the principles of "unity in diversity" in near future.

4-2 THEORETICAL ANALYSIS ON INVESTMENT DECISION IN PIONEER AREA

In this section, we would review the investment behaviors a little bit theoretically, in which the key issues are observed. That is, the local businesses and economic activities by indicating several factors concerning the investment cost, possible income, risk calculation, psychological factors and so on. The purpose of these analysis is to put it clear the several factors which would hamper the investment appetite in the local regions.

We can easily imagine, if entrepreneurs decide to invest some capitals into the certain fields for launching their business, it is only the case when they could firmly believe that investment would bring them enough profits exceeding cost and endeavor expenses necessary for investment. In general, the investment cost seems to comprise of the necessary fixed capital cost(land, factory facilities, machine, et al), labor expenses, raw materials and so on. However, the some investments in the backward developing economies (meaning in the frontiers areas) like Indonesia's remote areas, most of the case, inevitably have to burden a part of social cost which is not always necessary in the matured and developed economies.

Investors have to calculate their cost including development expenses for several infrastructures such as harbors, roads, land clearings, training of workers and so on. And in some cases, it would also request them the various uncertainty risks for the market prospects, transportation problems, social stabilities et al. On the otherhand, the profit of their business would variate much depend on the selected objects.

In order to simplify these phenomena, we have tried to make the following models. Of coarse, this models might be too much simplified ones for analyzing real behavior of investment, but, it could still contribute some to explain the possible factors which will give an impact investment behavior for local areas.

The following *Chart-9-19* is the outline of these models which indicates above mentioned balance sheets concerning investment decision. In this chart, X axis expresses the total value of costs or possible incomes (C or I) and Y axis represents the investment amount.

Further, among the costs, Fixed Capital is illustrated by parameter FC, raw materials or medium goods are RW, labor costs are displayed by LB respectively. And as additional factor, the necessary infrastructure cost for launching the projects are express by parameter NBI. The α represents various risks which the investors consider they

have to face in investment like Uncertainty of business, marketing, financial cost, government policy and so on.

Conceivable incomes or profits from the investment (I or I') depend on their own calculations or anticipations, and they would have a common range generally. We express this parameter as β which includes possible founder's profit, future prospects of market, technological innovations et al.

In this model, both cost and income seem to show the curved line of right-up shape with increasing investment amount. But, generally, because the increasing rate of C parameter is slower than I parameter, the break-even-point comes on a certain point from a smallest unit of investments to a meaningful large scale of investments as seen in Chart. The profits is express by the range between I (or I') and C in this case.

If the investments exceed the certain level, however, the profit would be declined sharply with market saturations or some other reasons, and also cost will increase because of resources limitations or other factors of pushing up cost. Then, the possible income will depends on the scale but can only expect it in between appropriate levels.

These assumptions are expressed in the following chart and explanations.

Meanwhile, how about when this model will be applied to the Indonesian economy, especially investment opportunities on Java and outside Java (IBT i.e. Eastern Part of Indonesia). The results are apparent and it can be observed well they show a sharp contrast between one and another like we can see in the *Chart 9-19* and *Chart Y*.

That is;

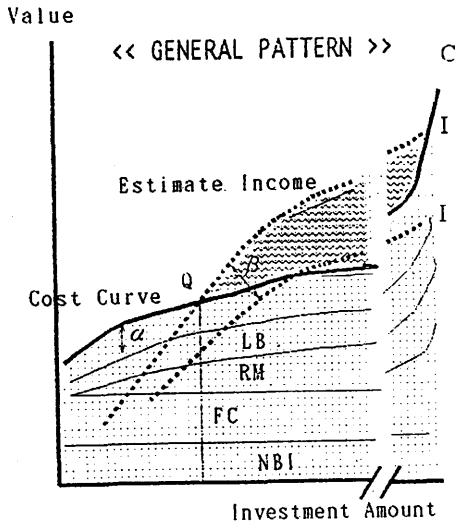
(1) NBI of IBT case is far bigger than Java case. Java has already enjoyed a certain level of infrastructure (especially around big metropolitan cities), then, the potential investors are not always required to provide infrastructures by own expenses comparing IBT. On the contrary in case of IBT, the investors have to entirely facilitate them by their own hands, so the NBI cost is very high.

(2) LB, RM, FC depend on the investment sector, but LB of Java case is smaller than IBT case. Available labor market in Java is far bigger than IBT, and also the level of education, labor skill are quite beneficial to the former case.

(3) RM of IBT case is occasionally smaller the Java case depending on the industrial fields (such as resources processing industries in outside of Java).

CHART 9-19 **POSSIBLE INVESTMENT ACTIVITIES** **IN THE FRONTIER AREAS OF INDONESIA**

SIMPLIFIED MODEL FOR INVESTMENT PATTERN
 IN THE FRONTIER AREAS (Hypothesis)



[Explanation of Parameters]

I, I' = Estimate Income of Investment
 C = Calculated investment Cost
 P = Available Profit
 (Upper Space of Break-even Point Q)
 $P = I(\text{ or } I') - C$

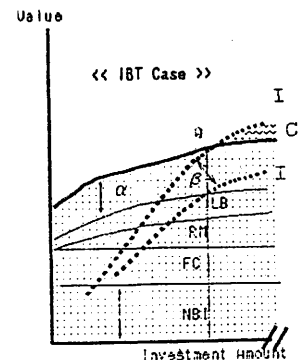
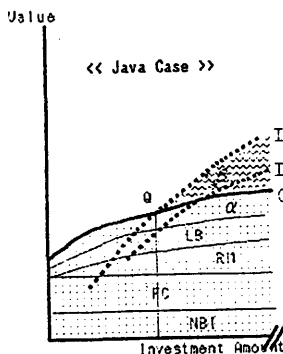
NBI = Necessary Basic Infrastructure
 FC = Fixed Capital
 RM = Raw Materials & Medium Goods
 LB = Labor Cost
 Q = Break-even Point

α = Risk Calculation Range
 (Uncertainty, Capital Cost, etc)
 β = Incentive Calculation Range
 (Founder's Profit, Future Market Prospects, Govt. Incentives, etc)

$$\text{DECISION OF INVESTMENT} \div \text{ESTIMATE INCOME (S,M,L)} - \begin{bmatrix} \text{COST}_1 \text{ (NBI)} \\ \text{COST}_2 \text{ (FC, RM, LB)} \\ \text{COST}_3 \text{ (} \alpha \text{)} \end{bmatrix} > 0$$

NOTE:

- (1) NBI of IBT Case is far bigger than Java Case
- (2) LB, RM, FC are depend on the Investment Sectors (See Next Page)
- (3) LB of Java Case is smaller than IBT Case
- (4) RM of IBT Case is Occasionally smaller than Java Case depending on the business fields (Resource based industries ?)
- (5) α, β of IBT are far bigger and more flexible than Java Case



(4) AA and BB of IBT are far bigger and more flexible than Java case. AA are depend on the available information concerning business and knowledge or technologies which they can handle. In case of IBT, the fundamental useful information on the area (including potentiality) are absolutely lack (at least for the people who live far from there), and uncertainties risk is seems to be big. They will push up the AA cost much and decrease the appetite for the potential investors. The flexibility of BB is big in IBT because the decision of investment of entrepreneurs are depends on their own prospects for the future, and generally it is split widely by psychological factors and their venturism. But in Java case the competition among new entries of potential investors would inclines to narrow them.

Anyway the possible outcomes from these models are as follows.

(1) Break-even Point (Q) of IBT Case is very high because of big NBI burden and risks. If special incentive for "I" is not available, no more additional investment could not be expected with the except in of some resources based advantageous projects.

(2) If we want to promote the entrepreneurs to lay more investment in IBT Case. Some advantageous incentives are required, such as tax, institutional supports etc, to make ∞ Range down to the reasonable level.

(3) Minimum NBI are requested in order to attract the investors in pioneer areas. Usually NBI is probably defined as "External Economic Cost" which consists of the basic needs for the industrial development, but at the present condition of IBT, Potential investors have to make this "cost" to 'internalize' with their own expenses. Some big entrepreneurs who could afford to trade off these expenses with their expected profit, could make decision to invest in selective fields in IBT (Comparative advantage of market, available resources etc). Some local oriented industries which need not so much NBI, are expected to develop up to the certain level

(4) Range are very wide in IBT Case. Therefore, only brilliant entrepreneurs who can get enough information on the area's potentialities, who is holding the accessible way to the good marketing chance and who can be available the suitable technological knowhow, might be expected to gain very large Founder's profit with venturesome performance. In this mean, the selective investment are required for the regional industrialization.

(5) In order to push down the α Risk Range and induce the potential investors, Government is required to conduct the thoroughly intensive studies and data collection on their economic potentials with effective assistants from the local community. The role of Provincial administration and participations of local business groups are very important for the regional industrialization.

TABLE 9-15
PATTERN OF THE COST EVALUATION AND THE RISK-INCENTIVE RANGE

Case	Patter	α	β	BNI	FC	RM	LB	Q Point
JAVA Case	A A	Small	Small	Small	Depend on Sector	Depend on Goods	Gener-ally Cheap	Fair
Mixed Case	B	Fair	Big & Flexi-ble	Fair	Depend on Sector	Depend on Goods	Fair	High
IBT Case	C D	Big & Fkexi-ble	Big & Flexi-ble	Big	Depend on Sector	Depend on Goods*	High Cost	Very High

*) In case Resources Based Industries, such as Woods products or some mineral products, the Cost of RM is very small protion

5 EXPERIENCE OF JAPANESE REGIONAL DEVELOPMENT

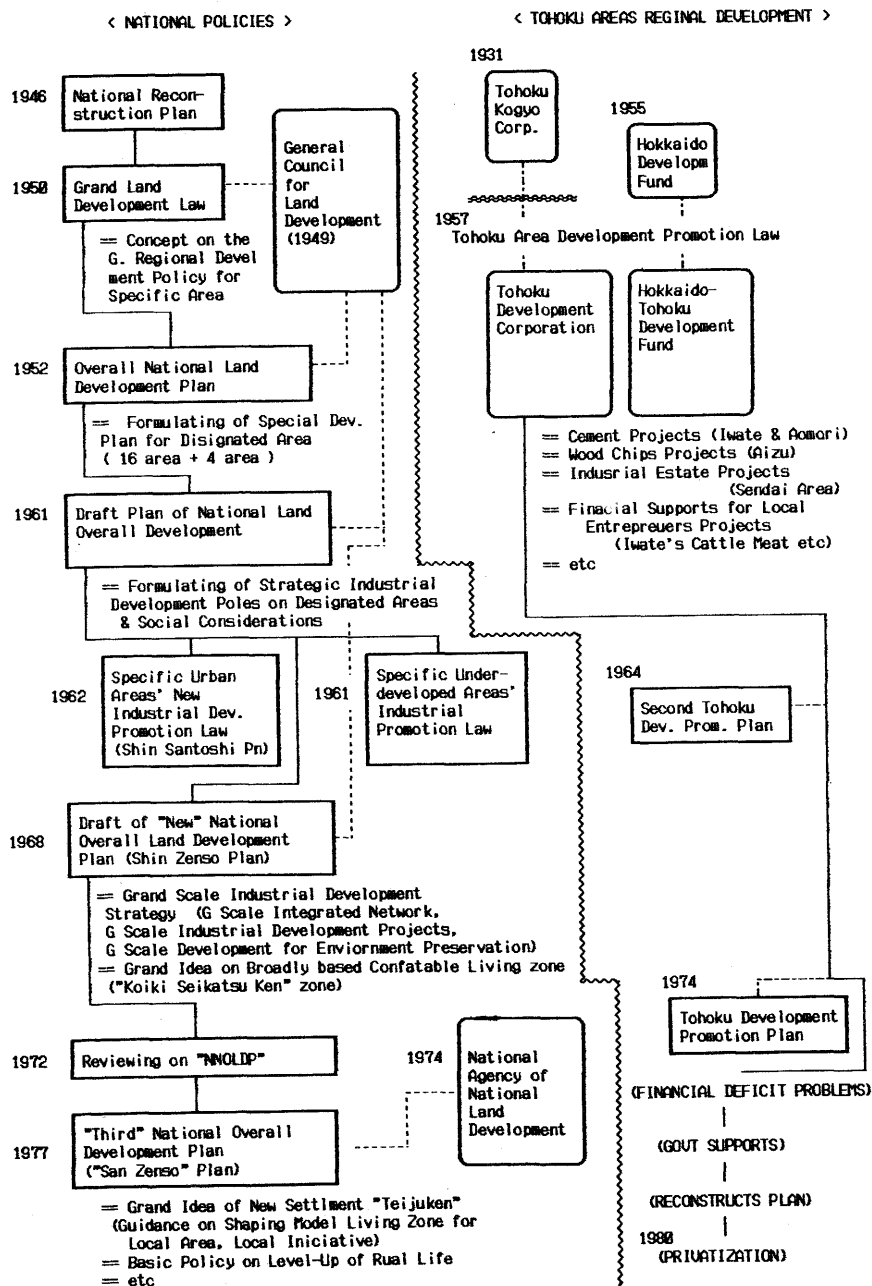
Finally, we will introduce several experiences in Japan concerning regional development efforts which have been made with intensive policies since World War II.

5-1 PRE-HISTORY OF REGIONAL DEVELOPMENT

The regional development, or local economic advancement efforts, have a rather long history in Japan if it includes Tohoku area development(Northern parts of Honshu island) and Hokkaido area development measures. The main purposes of these development were, first, the alleviation of poverty in the area. Secondly, the advancement of local industries and support the local population to engage them like in Indonesia. Because at least until the certain periods of post wartime, Tohoku areas have been under very backward conditions in development and always hand-to-mouth existence. Furthermore, they were sometimes raid by famine, especially in the snowy mountain villages when the agricultural production was not enough.

These situations have frequently caused social frustration of the local population and irritate instability in the area, although the government have taken serious effort to overcome is situation. That is the reason why the government has inclined to make the specific scheme for the regional development for the region. The Hokkaido was also under the same situation, but these areas are thought as a rather new frontiers parts

CHART 9-20 FLOW CHART OF JAPANESE REGIONAL DEVELOPMENT POLICIES



with huge uncultivated land with smaller population (Mostly migration from the populated Honshu island). These areas were another strategic target of regional development too.

5-2 POST WAR PLANNING STAGE

Even regional development in Japan has a long history, but it was only after the postwar time that integrated plan of regional development was started. It was commenced when the National Reconstruction Plan has been formulated in 1946 on purpose of reconstruction of the post-war devastated economy on a sound bases along with integrated national land utilization framework. After that, in 1950 the National Council of Land Utilization have launched and provided the Grand Land Development Law. The purposes of these consequent steps are to stir up the economy with mobilizing potential economic resources as much as possible and diversify the industrial bases throughout Japan.

Next step has come when the Overall National Land Development Plan was formulated based on the above Law which divided the country into 4 development regions and 4 special regions, and took measures to promote the various industries on these classified regions. The basic concepts of this measures were, first, to designate the specific industries to promote on each region as a strategic one and locate them properly. Secondly, they have sought the national integrated disposition of industries which have efficiently arranged. Thirdly, the local initiatives were recommended in the process.

After subsequent pre-stages of planning, the so-called "Shin Santoshi Plan" was drafted in 1960 by the new National Planning Agency (similar organization of BAPPENAS in Indonesia).

5-3. REGIONAL DEVELOPMENT EFFORTS

If we take up some examples of some regions like in Tohoku area, the performance of regional development are as like the followings.

In case of Tohoku area, the history of regional development has gone back to the prewar periods. In 1931, the Tohoku Kogyo Co.Ltd.had been launched designates to promote Tohoku area's industries. Therefore, after the War this company has changed its name and reorganized into Tohohoku Development Corporation under the Tohoku Development Promotion Law as one of the government subsidized agency in 1957. In addition to it, Hokkaido Tohoku Development Fund has been established in the same time as a financial body merged with Hokkaido Development Fund which had existed since 1955. Since the establishment of these two companies, the regional development of Tohoku area were eminently progressed. They have exected many projects such as the development of big scale industrial projects and funding, digging

up the potential local industries, arrangement of industrial locations, preparation of infrastructure. For examples, the Cement projects in Iwate and Aomori Prefecture (Northern part of Tohoku area), wood proceeding industries in Aizu Prefecture (mountainous inland area), industrial estates projects in Sendai City (a big coastal city) and so on.

One of the features of these developments was that the strong financial supports have been available along with the planning and implementation through the above mentioned special bodies.

Furthermore, in mid 1960s the Second Tohoku Development Plan was formulated and strengthened, along with the process in which Japan has experienced the unprecedented dynamic economic growth movement at the national level throughout 1960s. Consequently in 1974, Tohoku Development Promotion Law was enacted in order to adjust their development with national integrated disposition of industries. They have also purposed the intensified preparation of infrastructure like roads, harbor and electric power, and creation of the industrial centers and so on. In these performances, Tohoku Development Corporation and Tohoku-Hokkaido Development Fund have taken up very important roles.

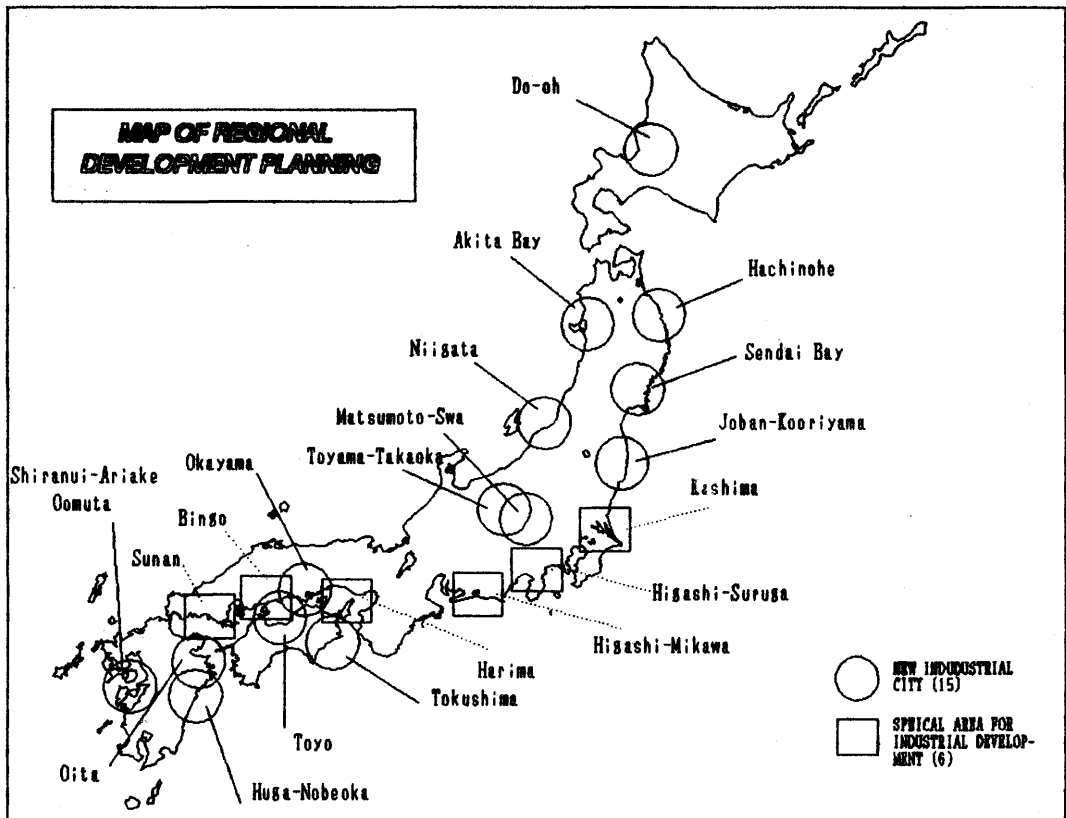
However, it was deniable trends too that the strategic function of these bodies for the development has gradually faded away and their cost burden or inefficiency became clear in the process where local business circles grew. In 1980s these phenomena have come up on the surface. The Tohoku Development Corporation is forced to be resolved and privatized in 1980 because of financial deficits. But, the regional development itself has advanced further by the prefectural local government and various business associations. Furthermore, in this stage, the regional development is not meant merely the promotion of backward economy, but it begins to show that the positioning industries on the regions give a certain comparative advantage for entrepreneurs, and that activities advanced their competitive strength in the process.

5-3 NATIONAL LEVEL DEVELOPMENT

How about the national level development ?

After the Shin Santoshi planning, the government has launched new landuse policy too. It was called "Shin Zenkoku Sogo Kaihatsu Plan" (New National Land Development Plan) which was drafted by the Economic Planning Agency in 1968. This main purposes are among others the construction of grand scale industrial development base throughout the country with integrated network and high technology in response to the rapid change of economic structure. In this course, the new concept has been introduced to the regional development like "comfortable amity living zone" with the consideration of environment preservation, improvement of living condition et al as well as the industrial development.

CHART 9-21
DESIGNATED AREAS AS "NEW INDUSTRIAL CITY"
AND "SPECIAL INDUSTRIAL DEVELOPMENT AREA"



In the administration side, the National Agency of National Land Development has established which assigned to exclusively coordinate the way of national land use throughout of the countries. Also, they have authority to handle the planning and management of the regional development.

From that on, the regional development itself has innovated to become the mature stage in which the target was not only industrial approach, but also designate to promote the living conditions, welfare of the people, cultural promotion and so on. The measures are also changed to one in which they are requested to intensify the advancement of the living infrastructure for the local people, rebounding the population to the local regions through attractive regional settings and so on.

These are the roughly observed reality of regional development efforts in Japan.

Japanese experience cannot always be applicable to other nations, but if it could say some in this experience, with both of some favorable success and failure, it will be as follows.

- (1) The intricate subjects like regional development policies probably need accumulations of enough experience to find the right way, so one could not expect a short answer at all. Japan itself has a quite long history of regional development policy over half century if including pre war stage.
- (2) Local initiatives and participations are desired. Especially the role of local governments and private bodies which are capable to coordinate the initiatives like chamber of commerce in the local level are quite useful.
- (3) The sufficient data and survey on the objected area have to be collected and prepared in advance with any plans or initiatives. In Japan, the accurate full detailed data have been prepared at least until 1960s concerning to the geographical conditions, industrial allocations, mapping their potentials and so on.
- (4) The strong financial supports are needed to promote the local industries and preparing necessary infrastructure. The special agencies like Development Corporation are to be prepared to initiate the development for certain backward region.
- (5) The continuous reviewing of the planning or initiative measures are needed in order to be consistent to the changing realities. In Japan itself, at least every five years, the plans have been reviewed and innovated.
- (6) Selective regional approach is needed because the objects are geographically too widely dispersed and huge financial supports are required to develop them. It cannot be expected all at once.

6 CONCLUSION

We have analyzed and tried to make clear the several factors which seems to give influence on the regional industrialization, like general inclinations, their major obstacles, their possibilities and so on. Therefore, from these results we would make some suggestions to promote them and explain the preconditions to further development as a conclusion.

(1) Intensive construction or improvement of basic infrastructures for backward regions were deady needed to animate the local economic activities and encourage local industries. But in this case, we have to evaluate the objects with strict calculation of priorities because the available fund are limited but the necessary objects are almost infinite. So, the feasibilities, the cost and benefit, efficiencies of these facilities are required to intensively surveyed. Furthermore, long strategic integrated planning based complete survey are requested.

(2) Strategic master plan for the regional industrial development is necessary. And it is beneficial to have a special body for coordinating regional industrialization in the government or in private. In this case, the participation of local entrepreneurs are necessary. The continuous follow-up the plan and revising are needed along with the changing condition of economy both in national and local.

(3) Strong incentive measures for pioneer investments are necessary in backward regions because the obstacles are too big to attract investors for that regions. And also the government has to give enough information and guidance on the potential industries which are suitable for investment based on scientific survey. It is better if special fund for regional development is made available to be able to promote investment at least on the initial stage.

(4) Local initiatives are always requested for regional development because it is merely the local people who have enough knowledge on potentials and limitations of each region.

(5) Even in the regional development of certain limited local places geographically, it is always need to open eyes wide to the outside world and to be conscious of the world wide market trends, because the undeniable global tides of international economic movement have been washing out every corner of groves in this century, even in the demoted areas.

—oooOooo—

REFERENCE

- Biro Pusat Statistik. *Pendapatan Regional Propinsi di Indonesia 1983–1989*. Jakarta, 1991.
- Biro Pusat Statistik. *Statistik Indonesia 1990*. Jakarta, 1991.
- Biro Pusat Statistik. *Statistik Industri 1989; Hasil Pengolahan Data Perusahaan Industri Besar dan Sedang*. Jakarta, 1991.
- Colin Barlow, Thee Kian Wie. *The North Sumatran Regional Economy; Growth with Unbalanced Development*. Singapore, ISEAS. 1988.
- Halim Levy ed. *Capital Investment and Financial Decisions*. Pritice Hall, 1986.
- Hall Hill. *Unity of Diversity; Regional Economic Development in Indonesia*. Oxford Univ. Poress, 1991.
- Huib Poot, et al. *Industrialisation and Trade in Indonesia*. Yogyakarta, Gadjah Mada Univ. Press, 1990.
- JICA. *The Study on the Integrated Regional Development Plan for the Southern Part of Sumatra* (Interim Report), Jakarta, 1992.
- Land Planning Agency (Japan) *History of Land Policy in Ten Years* (Kokudocho Junenshi). Tokyo, 1984. (in Japanese)
- Lee Tsao Yuan ed. *Growth Triangle; the Johor-Singapore-Riau experience*. Singapore, ISEAS, 1991.
- Ministry of Industry. *Prospects of Industrial Development in Indonesia; Final Report of the Industry Analysis Projects*. Jakarta, 1991.
- Ministry of Industry. *Toward Effective Policies for Regional Industrialisation; an East Indonesian Case Study*, by P.S.T. Wymenga. (Working paper No. 23) Jakarta, 1991.
- Robert B. Dickie, T.A. Layman. *Foreign investment and Government policy in the Third World; forging common interest in Indonesia and beyond*. MacMillan Press, 1988.
- UNCRD. *Local Social Development Planning*. Nagoya (Japan), 1988.
- World Bank. *Indonesia; Sustainable Development of Forests, Land and Water*. New York, 1990.