STRUCTURAL CHANGE OF REGIONAL ECONOMY IN JAPAN

—Based on comparison between central and local areas—#

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CONTENTS

1 INTRODUCTION

The structural changes of regional economy in Japan in the last decades have been examined through direct comparisons among interregional input-output data[1]. This work is limited being from 1965 to 1985 because the latest data for 1990 is now being processed in the Ministry of International Trade and Industry(MITI) [2] . In this study national land in Japan is divided into nine regions, which are aggregated into three areas, central and north & south local areas, depending on development situation of regional economy as shown in Figure 1. The central area consists of Kanto, Kinki and Chubu, and north and south local areas consist of Hokkaido and Tohoku,and Chugoku,Shikoku,Kyushu and

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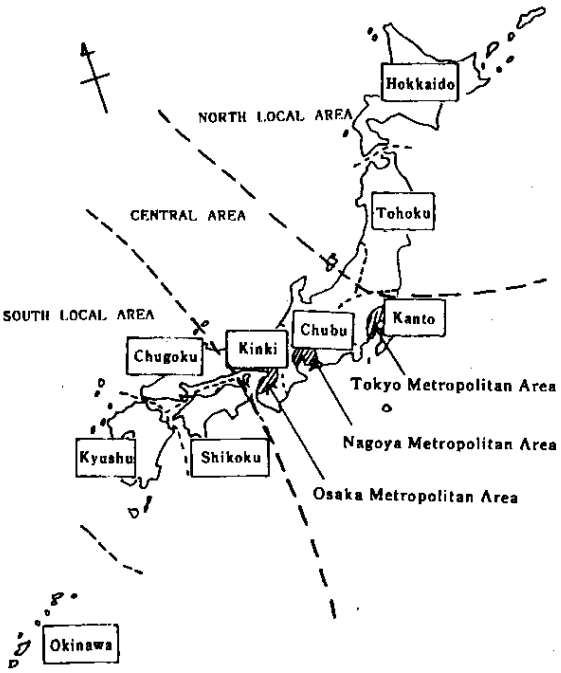

Figure 1 Zoning System and Metroplitan Areas

Okinawa,respectively.

In the preceding study,the following changes of regional economy was clarified [1] :

(1) From 1965 to 1985,interregional trade in Japan has been activated and the geographical sphere for each regional economy is enlarged,

(2) Regional transactions between central and local regions have been increased,although production share in central area is becoming large and local economy is becoming obliged to live upon central area,

(3) Changes in Kanto(including Tokyo) are distinguished, where technology-intensive industries such as transport, electrical and general machineries have been concentrated and they have usually high added value and most of them are exported to foreign countries. Their contribution to the growth of regional economy in Kanto is significant.

(4) Even if the petentiality of Kinki is still large,its relative share of domestic economy is transfered to the Kanto region. This transfer began in the mid-1970s, when the Tokaido Shinkansen was first operated and the Japanese economy was linked directly with the international economy after the yen's appreciation.

The aim of this paper is to analyse the structural changes in regional economy in more detail. The development policy of each region, especially in local areas, can not be examined neglecting this drastic transitions. This paper consists of three parts. In the first part the typical dominant transaction flows are selected and their changes from 1960 to 1985 are analysed. The second part treats foreign trade as well as domestic trade pattern in 1985 and their relations will be examined. Finally, in the third part trading business functions which support foreign and domestic transactions will be analysed.

2 TRENDS IN DOMINANT TRANSACTION FLOWS

2—1 Selection of Dominant Transaction Flows

Table 1 shows commercial transactions among ten industrial sectors in 1985, from which dominant transactions are classified as shown in Table 2. The criteria for this classification are indicated as a note below this table. The main transaction flows are recognized as follows:

(1)Pulp & Paper Products/Metals & Machinery → Foods Products → Final Demand,

(2)Petroleum & Coal Products → Chemicals → Textiles → Final Demand,

(3)Steel/Chemicals/Ceramic, Stone & Clay Products/Non-ferrous Metals/Petroleum & Coal Products → Metals & Machinery → Final Demand.

Although all of these flows might be treated, clear results will not be expected. Therefore, the following types of flows are selected from each stream, considering the volume of transactions and difference of their roles for the whole economy. This idea was originally proposed by Yada [3] .

Table 1 Transaction between Industrial Sectors in 1985

(unit:¥ million)

From \ To	Food products	Textiles	Pulp and Paper products	Chemicals	Petroleum and Coal products	Ceramic, Stone and Clay products	Steel	Non-Ferrous Metals	Metals and Machinery	Others	Final Demand
Food products	6067391	29900	14309	184306	462	3234	35	1	0	134414	26293482
Textiles	30198	4828455	19745	14327	3708	20240	9108	11213	166239	399466	6938154
Pulp and Paper products	552599	115972	2919404	398106	0	109764	3151	8235	309131	1716252	147244
Chemicals	396906	947436	281095	7868656	41021	185765	168628	1881	1379652	3156634	2386760
Petroleum and Coal products	259406	160987	326540	1775222	1175734	449028	1410487	109474	579081	152532	2386650
Ceramic, Stone and Clay products	283015	2552	1274	121566	15959	1126158	169665	95962	1068743	185192	466322
Steel	11	0	0	535	0	80529	14486231	5175	5323199	194548	108485
Non-Ferrous Metals	36156	424	2216	94020	753	22626	260777	2158689	3526133	244376	649191
Metals and Machinery	761894	99723	51137	428460	201382	204921	314268	85850	38824121	720531	37583317
Others	675738	325976	878919	352405	29969	113422	74192	24486	4175196	5068064	7176450

Table 2 Dominant Transactions between industrial Sectors in 1985

From \ To	Food products	Textiles	Pulp and Paper products	Chemicals	Petroleum and Coal products	Ceramic, Stone and Clay products	Steel	Non-Ferrous Metals	Metals and Machinery	Others	Final Demand
Food products	◎										◇
Textiles		◎									◇
Pulp and Paper products	○		◎							◎	○
Chemicals		○		◎					◎	◎	○
Petroleum and Coal products				◎	◎				○		
Ceramic, Stone and Clay products						◎			◎		
Steel							◎		◎		
Non-Ferrous Metals								◎	◎		
Metals and Machinery	○								◎	○	◇
Others	○								◎	◎	◇

note: ◇ :more than 50 billion yen, ◎ :10-50 billion yen
○ :5-10 billion yen

<Flow I> Foods → Final Demand,

<Flow II> Chemicals → Textiles → Final Demand,

<Flow III> Steel → Metals & Machinery → Final Demand.

2—2 Trends in Major Transaction Flows

Trends in interregional transaction flows are summarized as shown in Tables 3—7. Input-output data in 1960 and 1970 are processed refering Yada's work[3] and those in 1985 are processed originally for this paper. All of them are aggregated into five regions.

(1) Flow I: Foods Products → Final Demand (see Table 3)

The index SSR, which means self-sufficiency rate, is rather large, and this value is decreasing in every region, especially in central area (including Kanto, Chubu and Kinki). This means that Final Demand in the central area is satisfied by the supply of Foods from north and south local areas and the economical connections within central area are being strengthen, that is, the demand of each area within central area is satisfied to each other. The former situation can also be explained by the gap between output and input in each area.

Table 3 Interregional Transaction from Foods to Final Demand in 1960,1970 and 1985

From \ To		Final Demand																					
		N.L.A.			Kanto			Chubu			Kinki			S.L.A.			Total			Output			
																				-Input			
		'60	'70	'85	'60	'70	'85	'60	'70	'85	'60	'70	'85	'60	'70	'85	'60	'70	'85	'60	'70	'85
Foods	N.L.A.	114	105	91	21	22	41	2	7	6	6	8	12	2	8	5	145	150	155	+9	+18	+31
	Kanto	16	19	24	305	303	290	8	10	15	9	6	20	7	12	19	345	350	368	-10	-16	-26
	Chubu	2	4	2	6	10	19	82	75	58	4	7	12	2	5	5	96	101	96	-5	-5	-3
	Kinki	3	2	4	16	20	20	7	8	11	150	157	109	11	14	17	187	201	162	+6	+12	-21
	S.L.A.	1	2	2	7	11	24	2	6	8	12	11	30	205	168	154	227	198	219	0	-9	+19
	Totals	136	132	124	355	366	394	101	106	99	181	189	183	227	207	200	1000			—		
	SSR(%)	84	80	74	86	83	74	81	71	59	83	83	60	91	81	85	—			—		

Table 4 Interregional Transaction from Chemicals to Textiles in 1960,1970 and 1985

From \ To		Textiles																					
		N.L.A.			Kanto			Chubu			Kinki			S.L.A.			Total			Output			
																				-Input			
		'60	'70	'85	'60	'70	'85	'60	'70	'85	'60	'70	'85	'60	'70	'85	'60	'70	'85	'60	'70	'85
Chemicals	N.L.A.	5	2	5	2	—	2	8	5	6	4	2	2	—	1	—	19	10	15	-5	-22	-15
	Kanto	4	9	7	31	70	51	45	52	35	29	33	52	4	27	17	113	191	162	-26	+35	+7
	Chubu	4	6	5	38	21	36	75	58	95	51	50	41	14	6	9	182	141	186	-210	-206	-119
	Kinki	4	6	1	18	21	27	49	39	41	149	84	161	11	17	13	231	167	243	-100	-184	-156
	S.L.A.	7	9	12	51	44	39	214	193	128	98	182	143	85	63	53	455	491	375	+341	+377	+283
	Totals	24	32	30	139	156	155	272	347	305	331	351	399	114	114	92	1000			—		
	SSR(%)	21	6	17	22	45	33	28	17	31	45	24	40	75	55	49	—			—		

Table 5 Interregional Transaction from Textiles to Final Demand in 1960,1970 and 1980

From \ To		Final Demand																					
		N.L.A.			Kanto			Chubu			Kinki			S.L.A.			Total			Output			
																				-Input			
		'60	'70	'85	'60	'70	'85	'60	'70	'85	'60	'70	'85	'60	'70	'85	'60	'70	'85	'60	'70	'85
Textiles	N.L.A.	13	29	31	5	17	18	—	—	1	—	1	4	—	—	1	18	47	55	-109	-74	-65
	Kanto	38	32	19	175	207	201	16	19	11	17	13	36	22	18	15	268	289	282	-62	-87	-127
	Chubu	35	18	11	87	71	40	94	59	49	35	21	31	55	36	19	306	205	150	+174	+98	+53
	Kinki	31	25	54	48	51	129	15	20	29	122	133	55	45	66	72	261	295	339	+75	+103	+156
	S.L.A.	10	17	5	15	30	21	7	9	7	12	18	57	103	90	85	147	164	178	-78	-46	-17
	Totals	127	121	120	330	376	409	132	107	97	186	186	183	225	210	192	1000			—		
	SSR(%)	10	24	26	53	55	49	71	55	51	66	72	30	46	43	44	—			—		

note : (1) N.L.A.means North Local Area,and S.L.A.means South Local Area,

(2) SSR indicates self sufficiency rate,

(3) Final Demand includes consumption,investment and government purchases,excluding export.

(2) FlowII: Chemicals — Textiles — Final Demand (see Table 4 & Table 5)

This flow can be divided into two stages. The first stage is that from Chemicals to Textiles as shown in Table 4. This table explains that supply of Chemicals from south local area to central area, especially to Chubu and Kinki,is distinguished,although its volume is decreasing. Within cenral area,supply of Chemicals from Kinki is fairly large compaired with that from Kanto.

The second stage is a flow from Textiles to Final Demand.The supply from Kinki and Chubu are large,although these areas show contrast trends to each other. The supply from Kinki is increasing,though that from Chubu is decreasing. As a whole, self-sufficiency rate in central area is becoming small, especially the rate of Kinki is reduced to half and insufficient volume of Textiles is supplied by south local area.

(3) FlowIII: Steel—Metals & Machinery—Final Demand (see Table 6 ,Table 7)

This flow is also divided into two stages.The first one is that from Steel to Metals & Machinery. The supply from south local area to central area is large,and self-sufficiency rate in Kinki and Chubu is increasing,although that in Kinki is decreasing. The supply from north local area to Kanto can not be neglected in 1960,which has decreased.

The second stage is the flow from Metals & Machinery to Final Demand.The flow from Kanto to Kanto is increasing,which is a striking contrast to that from Kinki to Kinki.The self-sufficiency rate in Kanto is fairly large and the supply from Kanto to other areas is becoming large considerably.The supply from Chubu to other areas is also large.

Table 6 Interregional Transaction from Steel to Metals and Mechinery in 1960,1970 and 1985

From \ To		Metals and Machinery																					
		N. L. A.			Kanto			Chubu			Kinki			S. L. A.			Total			Output -Input		
		'60	'70	'85	'60	'70	'85	'60	'70	'85	'60	'70	'85	'60	'70	'85	'60	'70	'85	'60	'70	'85
Steel	N. L. A.	11	12	11	30	23	11	2	2	2	8	3	3	2	2	—	53	42	27	+32	+13	-10
	Kanto	4	10	12	256	259	290	18	21	13	25	25	18	11	9	15	314	324	348	-155	-115	-80
	Chubu	1	2	4	33	35	33	50	90	117	10	11	22	2	5	9	96	143	185	-25	-13	+2
	Kinki	4	5	5	75	62	53	27	18	26	201	184	132	30	27	29	337	296	245	+63	+44	+33
	S. L. A.	1	—	5	75	60	41	24	25	25	30	29	37	70	81	86	200	195	194	+85	+71	+55
	Totals	21	29	37	469	439	428	121	156	183	274	252	212	115	124	139	1000			—		
	SSR (%)	52	41	30	55	59	68	41	58	64	73	73	62	61	65	62	—			—		

Table 7 Interregional Transaction from Metal and Machinery to Final Deamand in 1960,1970 and 1985

From \ To		Final Demand																					
		N. L. A.			Kanto			Chubu			Kinki			S. L. A.			Total			Output -Input		
		'60	'70	'85	'60	'70	'85	'60	'70	'85	'60	'70	'85	'60	'70	'85	'60	'70	'85	'60	'70	'85
Metals and Machinery	N. L. A.	16	18	20	3	8	13	—	1	2	1	2	3	—	1	2	20	30	40	-73	-59	-53
	Kanto	43	37	39	295	315	277	41	33	44	55	49	67	62	63	75	496	497	502	+82	+87	+79
	Chubu	11	17	14	36	28	59	48	61	49	21	24	26	14	27	28	130	158	176	+12	+36	+53
	Kinki	16	11	13	51	38	48	22	20	18	120	100	61	33	37	37	242	206	177	+30	+11	+8
	S. L. A.	7	6	7	29	21	26	7	7	10	15	19	12	54	56	52	112	109	107	-51	-75	-87
	Totals	93	89	93	414	410	423	118	122	123	212	195	169	163	184	194	1000			—		
	SSR (%)	17	20	21	71	77	65	41	50	40	57	51	35	33	30	27	—			—		

note : (1) N.L.A.means North Local Area,and S.L.A.means South Local Area,

(2) SSR indicates self sufficiency rate,

(3) Final Demand includes consumption,investment and government purchases,excluding export.

3 DOMINANT DOMESTIC AND FOREIGN TRADE in 1985

Trends in dominant transaction flows from 1960 to 1985 have been clarified. In this chapter the same transaction flow in 1985 is examined more closely using a different zoning system with nine regions. Three types of flows in Chapter 2 are also adopted.

3—1 Dominant Flow from Foods to Final Demand (Flow I)

Interregional transactions from Foods to Final Demand is summarized as shown in Table 8, which is standardized in three types as Tables 9-11.

Table 9 shows the ratio of each amount for total outputs in each region. Each region is placed in order according to the ratio of domestic export as follows: Shikoku (52.5%), Hokkaido(48.2%), Chugoku(43.5%), Tohoku (41.5%) and so on. These regions are included in local areas and Foods produced in these areas are supplied to Kanto and Kinki.

The share of demand in central area is 67.6%.

Then, Table 10 standadized each cell to obtain ratio of each amount for total inputs in each region. This table enables us to place each region in order according to the ratio of domestic import as follows: Chubu(41.1%) and Kinki(40.3%). However, the ratio of domestic import in Kanto(26.3%) is fairly small.

Table 11 shows the ratio of each amount for total amount, which is basic information to describe Figure 2. The indices in right column show that local areas supply Foods to central area, as a whole. In Figure 2, dominant interregional transactions are described, which supports the results as mentioned above.

Finally, Table 12 shows foreign export and import of Foods in each region. The share of export and import for total demand is 1.1% and 9.1%, respectively. The foreign trade is distinguished in Kanto and Kinki.

Table 8 Interregional Transaction from Foods to Final Demand in 1985 (real amount)

To Final Demand (Unit : ¥10 billion)

From Foods	Hokaido	Tohoku	Kanto	Chubu	Kinki	Chugoku	Shikoku	Kyushu	Okinawa	Total
Hokaido	853	67	380	71	194	26	11	45	–	1647
Tohoku	64	1415	685	88	109	13	13	30	1	2418
Kanto	278	353	7637	399	532	163	72	238	16	9688
Chubu	22	42	487	1527	323	49	23	63	1	2537
Kinki	39	68	538	292	2865	157	102	182	8	4251
Chugoku	9	11	156	57	289	1000	86	159	4	1771
Shikoku	6	8	170	85	158	70	506	59	3	1065
Kyushu	11	16	308	74	326	109	28	1872	14	2758
Okinawa	–	–	8	1	4	1	–	3	142	159
Total	1282	1980	10369	2594	4800	1588	841	2651	189	26294

Table 9 Interregional Transaction from Foods to Final Demand in 1985 (Ratio of each amount for total outputs in each region)

To Final Demand (Unit : %)

From Foods	Hokaido	Tohoku	Kanto	Chubu	Kinki	Chugoku	Shikoku	Kyushu	Okinawa	Total
Hokaido	51.8	4.1	23.1	4.3	11.8	1.6	0.7	2.7	–	100.0
Tohoku	2.6	58.5	28.3	3.6	4.5	0.5	0.5	1.2	0.0	100.0
Kanto	2.9	3.6	78.8	4.1	5.5	1.7	0.7	2.5	0.2	100.0
Chubu	0.9	1.7	19.2	60.2	12.7	1.9	0.9	2.5	0.0	100.0
Kinki	0.9	1.6	12.7	6.9	67.4	3.7	2.4	4.3	0.2	100.0
Chugoku	0.5	0.6	8.8	3.2	16.3	56.5	4.9	9.0	0.2	100.0
Shikoku	0.6	0.8	16.0	8.0	14.8	6.6	47.5	5.5	0.3	100.0
Kyushu	0.4	0.6	11.2	2.7	11.8	4.0	1.0	67.9	0.5	100.0
Okinawa	–	–	5.0	0.6	2.5	0.6	–	1.9	89.3	100.0
Total	4.9	7.5	39.4	9.9	18.3	6.0	3.2	10.1	0.7	100.0

Table 10 Interregional Transaction from Foods to Final Demand in 1985
(Ratio of each amount for total inputs in each region)

To Final Demand (Unit : %)

From Foods	Hokaido	Tohoku	Kanto	Chubu	Kinki	Chugoku	Shikoku	Kyushu	Okinawa	Total
Hokaido	66.5	3.4	3.7	2.7	4.0	1.6	1.3	1.7	–	6.3
Tohoku	5.0	71.5	6.6	3.4	2.3	0.8	1.5	1.1	0.5	9.2
Kanto	21.7	17.8	73.7	15.4	11.1	10.3	8.6	9.0	8.5	36.8
Chubu	1.7	2.1	4.7	58.9	6.7	3.1	2.7	2.4	0.5	9.6
Kinki	3.0	3.4	5.2	11.3	59.7	9.9	12.1	6.9	4.2	16.2
Chugoku	0.7	0.6	1.5	2.2	6.0	63.0	10.2	6.0	2.1	6.7
Shikoku	0.5	0.4	1.6	3.3	3.3	4.4	60.2	2.2	1.6	4.1
Kyushu	0.9	0.8	3.0	2.9	6.8	6.9	3.3	70.6	7.4	10.5
Okinawa	–	–	0.1	0.0	0.1	0.1	–	0.1	75.1	0.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 11 Interregional Transaction from Foods to Final Demand in 1985
(Ratio of each amount for total amount) (Unit : %)

	Hokaido	Tohoku	Kanto	Chubu	Kinki	Chugoku	Shikoku	Kyushu	Okinawa	Total	Outputs-Inputs
Hokaido	32.4	2.5	14.5	2.7	7.4	1.0	0.4	1.7	–	62.6	13.8
Tohoku	2.4	53.8	26.1	3.3	4.1	0.5	0.5	1.1	0.0	92.0	16.7
Kanto	10.6	13.4	290.4	15.2	20.2	6.2	2.7	9.1	0.6	368.4	-25.9
Chubu	0.8	1.6	18.5	56.1	12.3	1.9	0.9	2.4	0.0	96.5	-22
Kinki	1.5	2.6	20.5	11.1	109.0	6.0	3.9	6.9	0.3	161.7	-20.9
Chugoku	0.3	0.4	5.9	2.2	11.0	38.0	3.3	6.0	0.2	67.4	7
Shikoku	0.2	0.3	6.5	3.2	6.0	2.7	19.2	2.2	0.1	40.5	8.5
Kyushu	0.4	0.6	11.7	2.8	12.4	4.1	1.1	71.2	0.5	104.9	4.1
Okinawa	–	–	0.3	0.0	0.2	0.0	–	0.1	5.4	6.0	-1.2
Total	48.8	75.3	394.3	98.7	182.6	60.4	32.0	100.8	7.2	1000.0	

Table 12 Export and Import of Foods in Each Region

	Export	Import
Hokaido	22 7.6%	-110 4.6%
Tohoku	20 6.9%	-165 6.9%
Kanto	140 48.1%	-956 40.0%
Chubu	14 4.8%	-229 9.6%
Kinki	63 21.6%	-472 19.7%
Chugoku	11 3.8%	-137 5.7%
Shikoku	2 0.7%	-71 3.0%
Kyushu	17 5.8%	-235 9.8%
Okinawa	2 0.7%	-17 0.7%
Total	291 100.0%	-2392 100.0%

3-2 Dominant Flow from Chemicals to Textiles (Flow II-1)

Interregional transactions from Chemicals to Textiles is shown in Table 13, from which Tables 14-16 are produced. Table 14 shows the ratio of each amount for total outputs in each region, which explains that the demand of Chemicals for Textiles production is distinguished in Kinki(40.6%) and Chubu(31.1%). The

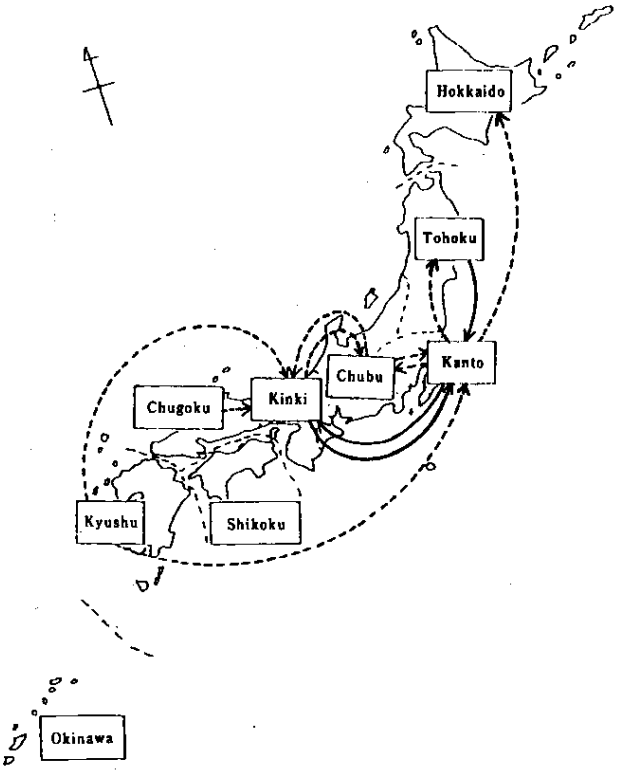

Figure 2 Dominant Interregional Transaction from Foods to Final Demand in 1985
note : real lines indicate more than 20% and broken lines indicate 10–20% in Table 11

Table 13 Interregional Transaction from Chemicals to Textiles in 1985
(real amount)

To Textiles (Unit : ¥10 billion)

From Chemicals	Hokaido	Tohoku	Kanto	Chubu	Kinki	Chugoku	Shikoku	Kyushu	Okinawa	Total
Hokaido	1	–	–	–	–	–	–	–	–	1
Tohoku	–	4	2	5	2	–	–	–	–	13
Kanto	1	6	49	33	49	4	4	8	–	154
Chubu	1	3	34	90	39	2	2	4	–	175
Kinki	–	1	26	39	153	3	4	5	–	231
Chugoku	2	5	14	57	67	2	7	16	–	170
Shikoku	–	4	10	39	38	3	9	3	–	106
Kyushu	–	1	12	26	30	3	1	7	–	80
Okinawa	–	–	–	–	–	–	–	–	–	–
Total	5	24	147	289	378	17	27	43	–	930

Table 14 Interregional Transaction from Chemicals to Textiles in 1985
(Ratio of each amount for total outputs in each region)

To Textiles (Unit : %)

From Chemicals	Hokaido	Tohoku	Kanto	Chubu	Kinki	Chugoku	Shikoku	Kyushu	Okinawa	Total
Hokaido	100.0	–	–	–	–	–	–	–	–	100.0
Tohoku	–	30.8	15.4	38.5	15.4	–	–	–	–	100.0
Kanto	0.6	3.9	31.8	21.4	31.8	2.6	2.6	5.2	–	100.0
Chubu	0.6	1.7	19.4	51.4	22.3	1.1	1.1	2.3	–	100.0
Kinki	–	0.4	11.3	16.9	66.2	1.3	1.7	2.2	–	100.0
Chugoku	1.2	2.9	8.2	33.5	39.4	1.2	4.1	9.4	–	100.0
Shikoku	–	3.8	9.4	36.8	35.8	2.8	8.5	2.8	–	100.0
Kyushu	–	1.3	15.0	32.5	37.5	3.8	1.3	8.8	–	100.0
Okinawa	–	–	–	–	–	–	–	–	–	–
Total	0.5	2.6	15.8	31.1	40.6	1.8	2.9	4.6	–	100.0

Table 15 Interregional Transaction from Chemicals to Textiles in 1985
(Ratio of each amount for total inputs in each region)

To Textiles (Unit : %)

From Chemicals	Hokaido	Tohoku	Kanto	Chubu	Kinki	Chugoku	Shikoku	Kyushu	Okinawa	Total
Hokaido	20.0	–	–	–	–	–	–	–	–	0.1
Tohoku	–	16.7	1.4	1.7	0.5	–	–	–	–	1.4
Kanto	20.0	25.0	33.3	11.4	13.0	23.5	14.8	18.6	–	16.6
Chubu	20.0	12.5	23.1	31.1	10.3	11.8	7.4	9.3	–	18.8
Kinki	–	4.2	17.7	13.5	40.5	17.6	14.8	11.6	–	24.8
Chugoku	40.0	20.8	9.5	19.7	17.7	11.8	25.9	37.2	–	18.3
Shikoku	–	16.7	6.8	13.5	10.1	17.6	33.3	7.0	–	11.4
Kyushu	–	4.2	8.2	9.0	7.9	17.6	3.7	16.3	–	8.6
Okinawa	–	–	–	–	–	–	–	–	–	–
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	–	100.0

Table 16 Interregional Transaction from Chemicals to Textiles in 1985
(Ratio of each amount for total amount)

From Chemicals To Textiles (Unit : %)

	Hokaido	Tohoku	Kanto	Chubu	Kinki	Chugoku	Shikoku	Kyushu	Okinawa	Total	Outputs-Inputs
Hokaido	1.1	–	–	–	–	–	–	–	–	1.1	-4.3
Tohoku	–	4.3	2.2	5.4	2.2	–	–	–	–	14.0	-11.8
Kanto	1.1	6.5	52.7	35.5	52.7	4.3	4.3	8.6	–	165.6	7.5
Chubu	1.1	3.2	36.6	96.8	41.9	2.2	2.2	4.3	–	188.2	-122.6
Kinki	–	1.1	28.0	41.9	164.5	3.2	4.3	5.4	–	248.4	-158.1
Chugoku	2.2	5.4	15.1	61.3	72.0	2.2	7.5	17.2	–	182.8	164.5
Shikoku	–	4.3	10.8	41.9	40.9	3.2	9.7	3.2	–	114.0	85
Kyushu	–	1.1	12.9	28.0	32.3	3.2	1.1	7.5	–	86.0	39.8
Okinawa	–	–	–	–	–	–	–	–	–	–	–
Total	5.4	25.8	158.1	310.8	406.5	18.3	29.0	46.2	–	1000.0	

total share of two regions is more than 70%. Table 15 shows the share of Chemicals imported in each region for Textiles production. Most of regions import Chemicals to each other except for Hokkaido, Tohoku and Okinawa.

Table 16 shows the ratio of each amount for total amount, in which the right column explains central area besides Kanto imports Chemicals from south local area. Finally, Figure 3 shows dominant interregional transactions.

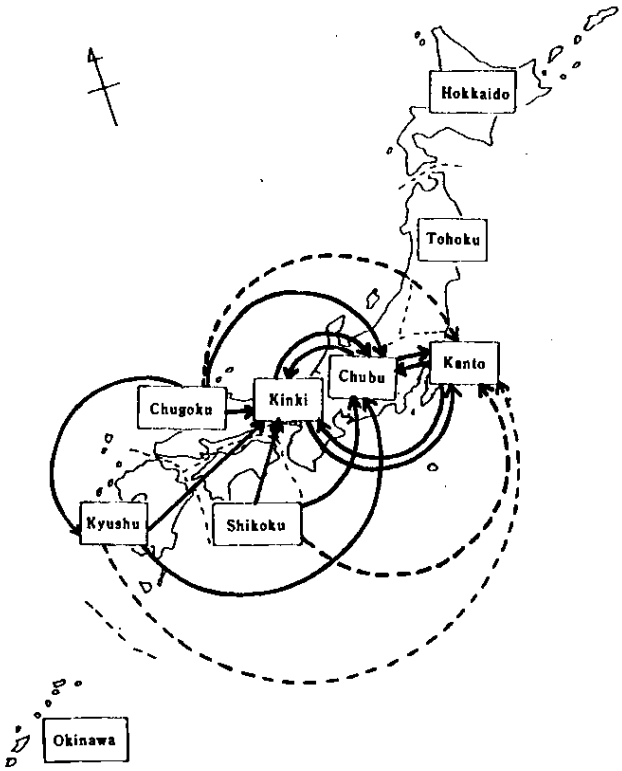

Figure 3 Dominant Interregional Transaction from Chemicals to Textiles in 1985

note : real lines indicate more than 20% and broken lines indicate 10−20% in Table 16

3-3 Dominant Flow from Textiles to Final Demand (Flow II-2)

Interregional transactions from Textiles to Final Demand is shown in Table 17, and Tables 18-20 are produced from this table. Table 18 shows share of Final Demand exported from each region. The demand in Kanto and Kinki is distinguished and most of regions imported Textiles from Kinki at a high ratio. On the other hand, Table 19 shows the share of Textiles imported to each region for Final Demand. The ratio imported from Kinki is fairly high.

Table 20 shows the ratio of each amount for total amount, where the right column explains that central area supplies Textiles to north and south local areas. Dominant interregional transactions are shown in Figure 4, which is described using Table 20.

Table 17 Interregional Transactions from Textiles to Final Demand in 1985 (real amount)

To Final Demand (Unit : ¥10 billion)

From Textiles	Hokaido	Tohoku	Kanto	Chubu	Kinki	Chugoku	Shikoku	Kyushu	Okinawa	Total
Hokaido	45	2	4	1	1	−	−	−	−	53
Tohoku	7	165	120	9	26	2	−	3	−	332
Kanto	67	66	1394	78	253	24	5	74	−	1961
Chubu	36	37	274	343	212	37	25	64	7	1035
Kinki	154	218	893	201	381	148	69	265	21	2350
Chugoku	11	10	68	14	256	176	10	45	1	591
Shikoku	2	3	49	17	74	9	109	11	5	279
Kyushu	3	2	29	15	66	13	2	194	4	328
Okinawa	−	−	−	−	−	−	−	1	7	8
Total	325	503	2831	678	1269	409	220	657	45	6937

Table 18 Interregional Transaction from Textiles to Final Demand in 1985
(Ratio of each amount for total outputs in each region)

To Final Demand (Unit : %)

From Textiles

	Hokaido	Tohoku	Kanto	Chubu	Kinki	Chugoku	Shikoku	Kyushu	Okinawa	Total
Hokaido	84.9	3.8	7.5	1.9	1.9	–	–	–	–	100.0
Tohoku	2.1	49.7	36.1	2.7	7.8	0.6	–	0.9	–	100.0
Kanto	3.4	3.4	71.1	4.0	12.9	1.2	0.3	3.8	–	100.0
Chubu	3.5	3.6	26.5	33.1	20.5	3.6	2.4	6.2	0.7	100.0
Kinki	6.6	9.3	38.0	8.6	16.2	6.3	2.9	11.3	0.9	100.0
Chugoku	1.9	1.7	11.5	2.4	43.3	29.8	1.7	7.6	0.2	100.0
Shikoku	0.7	1.1	17.6	6.1	26.5	3.2	39.1	3.9	1.8	100.0
Kyushu	0.9	0.6	8.8	4.6	20.1	4.0	0.6	59.1	1.2	100.0
Okinawa	–	–	–	–	–	–	–	12.5	87.5	100.0
Total	4.7	7.3	40.8	9.8	18.3	5.9	3.2	9.5	0.6	100.0

Table 19 Interregional Transaction from Textiles to Final Demand in 1985
(Ratio of each amount for total inputs in each region)

To Final Demand (Unit : %)

From Textiles

	Hokaido	Tohoku	Kanto	Chubu	Kinki	Chugoku	Shikoku	Kyushu	Okinawa	Total
Hokaido	13.8	0.4	0.1	0.1	0.1	–	–	–	–	0.8
Tohoku	2.2	32.8	4.2	1.3	2.0	0.5	–	0.5	–	4.8
Kanto	20.6	13.1	49.2	11.5	19.9	5.9	2.3	11.3	–	28.3
Chubu	11.1	7.4	9.7	50.6	16.7	9.0	11.4	9.7	15.6	14.9
Kinki	47.4	43.3	31.5	29.6	30.0	36.2	31.4	40.3	46.7	33.9
Chugoku	3.4	2.0	2.4	2.1	20.2	43.0	4.5	6.8	2.2	8.5
Shikoku	0.6	0.6	1.7	2.5	5.8	2.2	49.5	1.7	11.1	4.0
Kyushu	0.9	0.4	1.0	2.2	5.2	3.2	0.9	29.5	8.9	4.7
Okinawa	–	–	–	–	–	–	–	0.2	15.6	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 20 Interregional Transaction from Textiles to Final Demand in 1985
(Ratio of each amount for total amount)

From Textiles To Final Demand (Unit : %)

	Hokaido	Tohoku	Kanto	Chubu	Kinki	Chugoku	Shikoku	Kyushu	Okinawa	Total	Outputs-Inputs
Hokaido	6.1	0.1	0.8	0.1	0.2	0.1	0.1	0.1	–	7.6	-29.3
Tohoku	1.1	12.3	12.7	1.4	2.4	0.8	0.3	1.0	0.0	32.0	-22.7
Kanto	16.0	23.0	275.3	43.3	67.0	27.3	13.1	31.5	2.7	499.1	78
Chubu	5.7	8.0	59.1	48.4	26.0	9.0	5.1	13.5	0.6	175.4	54.1
Kinki	5.1	7.4	47.8	18.0	60.7	16.3	5.9	13.6	1.0	175.7	2.9
Chugoku	1.3	2.3	13.9	5.4	9.3	16.1	1.4	4.8	0.2	54.7	-18.9
Shikoku	0.3	0.5	3.5	1.4	2.4	1.3	4.2	1.3	0.0	15.0	-15.9
Kyushu	1.3	1.1	8.2	3.2	4.9	2.8	0.8	17.9	0.1	40.2	-43.5
Okinawa	–	–	–	–	–	–	–	–	0.3	0.3	-4.7
Total	36.9	54.7	421.1	121.3	172.8	73.6	30.9	83.7	5.0	1000.0	

Table 21 Export and Import of Textiles in Each Region

	Export	Import
Hokaido	–	-34
	–	3.0%
Tohoku	6	-62
	0.5%	5.4%
Kanto	244	-405
	22.2%	35.3%
Chubu	279	-171
	25.4%	14.9%
Kinki	501	-275
	45.5%	24.0%
Chugoku	33	-75
	3.0%	6.5%
Shikoku	16	-36
	1.5%	3.1%
Kyushu	21	-84
	1.9%	7.3%
Okinawa	–	-5
	–	0.4%
Total	1100	-1147
	100.0%	100.0%

Finally, Table 21 shows foreign export and import of Textiles in each region. Both volumes of export and import are balanced and the share of them for total demand is about 16%. Then, most of export(93.1%) and import(74.2%) are concentrated in central area.

3-4 Dominant Flow from Steel to Metals & Machinery (Flow III-1)

Table 22 shows interregional transactions from Steel to Metals & Machinery and Tables 23-25 are produced from this table. Table 23 shows the ratio of each amount for total outputs in each region, which explains that the demand of Steel for the production of Metals & Machinery is distinguished in central areas, including Kanto(42.8%), Chubu(18.4%) and Kinki(21.2%). Each region is placed in order according to the ratio of domestic export as follows: Chugoku(67.9%) and Kyushu(61.6%). Steel produced in these regions are supplied for central area.

Table 24 explains the share of Steel in each region for the production of Metals and Machinery. The supply from Chugoku(11.4%) besides central area(64.6%) is distinguished.

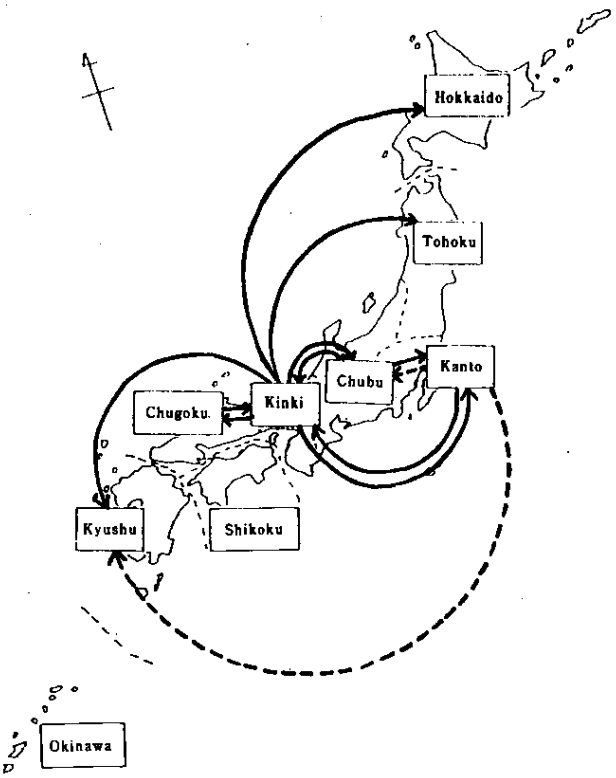

Figure 4 Dominant Interregional Transaction from Textiles to Final Demand in 1985

note : real lines indicate more than 20% and broken lines indicate 10–20% in Table 20

This table enables us to place each region in order according to the ratio of domestic import as follows: Kanto(32.1%), Chubu(36.4%) and Kinki(37.6%). Kanto and Chubu import steel mainly from Kinki, and Kinki imported that from Chugoku and Chubu.

Table 25 is produced from table 22 and the general feature of interregional transaction is described as in Figure 5.

Table 22 Interregional Transaction from Steel to Metals and Machinery in 1985 (real amount)

To Metals and Machinery (Unit : ¥10 billion)

From Steel	Hokaido	Tohoku	Kanto	Chubu	Kinki	Chugoku	Shikoku	Kyushu	Okinawa	Total
Hokaido	35	5	27	11	13	–	–	1	–	92
Tohoku	3	48	60	9	12	1	–	1	–	134
Kanto	24	76	2350	105	143	52	24	41	1	2816
Chubu	6	28	265	948	175	32	22	17	–	1493
Kinki	9	30	428	214	1071	93	73	63	2	1983
Chugoku	5	15	196	144	197	297	50	19	1	924
Shikoku	–	–	2	4	7	2	25	1	–	41
Kyushu	6	12	135	55	99	46	20	234	3	610
Okinawa	–	–	–	–	–	–	–	–	1	1
Total	88	214	3463	1490	1717	523	214	377	8	8094

Table 23 Interregional Transaction from Steel to Metals and Machinery in 1985 (Ratio of each amount for total outputs in each region)

To Metals and Machinery (Unit : %)

From Steel	Hokaido	Tohoku	Kanto	Chubu	Kinki	Chugoku	Shikoku	Kyushu	Okinawa	Total
Hokaido	38.0	5.4	29.3	12.0	14.1	–	–	1.1	–	100.0
Tohoku	2.2	35.8	44.8	6.7	9.0	0.7	–	0.7	–	100.0
Kanto	0.9	2.7	83.5	3.7	5.1	1.8	0.9	1.5	0.0	100.0
Chubu	0.4	1.9	17.7	63.5	11.7	2.1	1.5	1.1	–	100.0
Kinki	0.5	1.5	21.6	10.8	54.0	4.7	3.7	3.2	0.1	100.0
Chugoku	0.5	1.6	21.2	15.6	21.3	32.1	5.4	2.1	0.1	100.0
Shikoku	–	–	4.9	9.8	17.1	4.9	61.0	2.4	–	100.0
Kyushu	1.0	2.0	22.1	9.0	16.2	7.5	3.3	38.4	0.5	100.0
Okinawa	–	–	–	–	–	–	–	–	100.0	100.0
Total	1.1	2.6	42.8	18.4	21.2	6.5	2.6	4.7	0.1	100.0

Table 24 Interregional Transaction from Steel to Metals and Machinery in 1985 (Ratio of each amount for total inputs in each region)

To Metals and Machinery (Unit : %)

From Steel	Hokaido	Tohoku	Kanto	Chubu	Kinki	Chugoku	Shikoku	Kyushu	Okinawa	Total
Hokaido	39.8	2.3	0.8	0.7	0.8	–	–	0.3	–	1.1
Tohoku	3.4	22.4	1.7	0.6	0.7	0.2	–	0.3	–	1.7
Kanto	27.3	35.5	67.9	7.0	8.3	9.9	11.2	10.9	12.5	34.8
Chubu	6.8	13.1	7.7	63.6	10.2	6.1	10.3	4.5	–	18.4
Kinki	10.2	14.0	12.4	14.4	62.4	17.8	34.1	16.7	25.0	24.5
Chugoku	5.7	7.0	5.7	9.7	11.5	56.8	23.4	5.0	12.5	11.4
Shikoku	–	–	0.1	0.3	0.4	0.4	11.7	0.3	–	0.5
Kyushu	6.8	5.6	3.9	3.7	5.8	8.8	9.3	62.1	37.5	7.5
Okinawa	–	–	–	–	–	–	–	–	12.5	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 25 Interregional Transaction from Steel to Metals and Machinery in 1985 (Ratio of each amount for total amount)

From Steel To Metals and Machinery (Unit : %)

	Hokaido	Tohoku	Kanto	Chubu	Kinki	Chugoku	Shikoku	Kyushu	Okinawa	Total	Outputs-Inputs
Hokaido	4.3	0.6	3.3	1.4	1.6	–	–	0.1	–	11.4	0.5
Tohoku	0.4	5.9	7.4	1.1	1.5	0.1	–	0.1	–	16.6	-9.8
Kanto	3.0	9.4	290.3	13.0	17.7	6.4	3.0	5.1	0.1	347.9	-79.9
Chubu	0.7	3.5	32.7	117.1	21.6	4.0	2.7	2.1	–	184.5	0.4
Kinki	1.1	3.7	52.9	26.4	132.3	11.5	9.0	7.8	0.2	245.0	32.9
Chugoku	0.6	1.9	24.2	17.8	24.3	36.7	6.2	2.3	0.1	114.2	49.6
Shikoku	–	–	0.2	0.5	0.9	0.2	3.1	0.1	–	5.1	-21.3
Kyushu	0.7	1.5	16.7	6.8	12.2	5.7	2.5	28.9	0.4	75.4	28.8
Okinawa	–	–	–	–	–	–	–	–	0.1	0.1	-0.9
Total	10.9	26.4	427.8	184.1	212.1	64.6	26.4	46.6	1.0	1000.0	

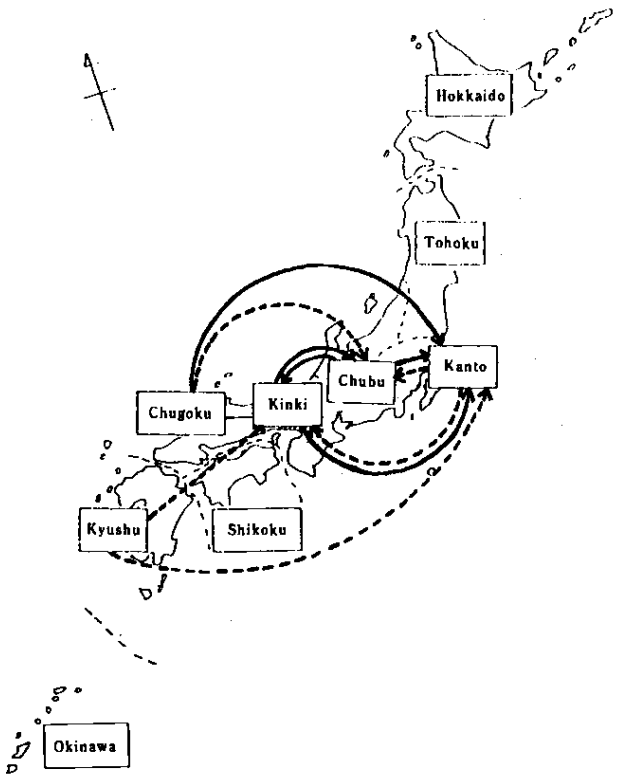

Figure 5 Dominant Interregional Transaction from steel to Metals and Machinery in 1985

note : real lines indicate more than 20% and broken lines indicate 10−20% in Table 25

3-5 Dominant Flow from Metals & Machinery to Final Demand (Flow III-2)

Interregional transactions from Metals & Machinery to Final Demand is shown in Table 26, from which Tables 27-29 are processed. Table 27 shows the share of Final Demand exported from each region. The demand in Kanto(42.1%) is predominant and those in Chubu(12.1%) and Kinki(17.3%) are also large. The share of central area is more than 70%, which excludes export. Table 28 shows the share of Metals & Machinery imported to each region for Final Demand. The ratio of Kanto(49.9%) is also distinguished. The share of import from central area is 85.0%, which is partly supplied to local areas.

Table 29 shows the ratio of each amount for total amount, whose right column explains that most of Metals & Machinery is supplied from Kanto. Dominant interregional transactions are shown in Figure 6.

Finally, foreigh export and import are summarized in Table 30, which show clear characteristics of trading pattern. The ratio of export and import of Metals & Machinery for total domestic demand is 76.4% and 8.6%, respectively.

Table 26 Interregional Transaction from Metals and Machinery to Final Demand in 1985 (real amount)

To Final Demand (Unit : ¥10 billion)

From Metal and Machinery	Hokaido	Tohoku	Kanto	Chubu	Kinki	Chugoku	Shikoku	Kyushu	Okinawa	Total
Hokaido	231	5	29	3	9	2	5	4	−	288
Tohoku	41	464	478	54	89	29	12	39	1	1207
Kanto	604	868	16398	1637	2529	1030	495	1190	101	18852
Chubu	216	302	2231	1830	982	340	193	509	24	6627
Kinki	193	278	1804	680	2292	615	223	514	37	6636
Chugoku	49	88	524	204	352	610	52	180	7	2066
Shikoku	11	20	133	54	92	49	158	48	1	566
Kyushu	48	40	309	119	184	106	31	677	5	1519
Okinawa	−	−	−	−	−	−	−	−	13	13
Total	1393	2065	15906	4581	6529	2781	1169	3161	189	37774

Table 27 Interregional Transaction from Metals and Machinery to Final Demand in 1985
(Ratio of each amount for total outputs in each region)

To Final Demand (Unit : %)

From Metal and Machinery	Hokaido	Tohoku	Kanto	Chubu	Kinki	Chugoku	Shikoku	Kyushu	Okinawa	Total
Hokaido	80.2	1.7	10.1	1.0	3.1	0.7	1.7	1.4	–	100.0
Tohoku	3.4	38.4	39.6	4.5	7.4	2.4	1.0	3.2	0.1	100.0
Kanto	3.2	4.6	55.2	8.7	13.4	5.5	2.6	6.3	0.5	100.0
Chubu	3.3	4.6	33.7	27.6	14.8	5.1	2.9	7.7	0.4	100.0
Kinki	2.9	4.2	27.2	10.2	34.5	9.3	3.4	7.7	0.6	100.0
Chugoku	2.4	4.3	25.4	9.9	17.0	29.5	2.5	8.7	0.3	100.0
Shikoku	1.9	3.5	23.5	9.5	16.3	8.7	27.9	8.5	0.2	100.0
Kyushu	3.2	2.6	20.3	7.8	12.1	7.0	2.0	44.6	0.3	100.0
Okinawa	–	–	–	–	–	–	–	–	100.0	100.0
Total	3.7	5.5	42.1	12.1	17.3	7.4	3.1	8.4	0.5	100.0

Table 28 Interregional Transaction from Metals and Machinery to Final Demand in 1985
(Ratio of each amount for total inputs in each region) (Unit : %)

From Metal and Machinery	Hokaido	Tohoku	Kanto	Chubu	Kinki	Chugoku	Shikoku	Kyushu	Okinawa	Total
Hokaido	16.6	0.2	0.2	0.1	0.1	0.1	0.4	0.1	–	0.8
Tohoku	2.9	22.5	3.0	1.2	1.4	1.0	1.0	1.2	0.5	3.2
Kanto	43.4	42.0	65.4	35.7	38.7	37.0	42.3	37.6	53.4	49.9
Chubu	15.5	14.6	14.0	39.9	15.0	12.2	16.5	16.1	12.7	17.5
Kinki	13.9	13.5	11.3	14.8	35.1	22.1	19.1	16.3	19.6	17.6
Chugoku	3.5	4.3	3.3	4.5	5.4	21.9	4.4	5.7	3.7	5.5
Shikoku	0.8	1.0	0.8	1.2	1.4	1.8	13.5	1.5	0.5	1.5
Kyushu	3.4	1.9	1.9	2.6	2.8	3.8	2.7	21.4	2.6	4.0
Okinawa	–	–	–	–	–	–	–	–	6.9	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 29 Interregional Transaction from Metals and Machinery to Final Demand in 1985
(Ratio of each amount for total amount) (Unit : %)

	Hokaido	Tohoku	Kanto	Chubu	Kinki	Chugoku	Shikoku	Kyushu	Okinawa	Total	Outputs-Inputs
Hokaido	6.5	0.3	0.6	0.1	0.1	–	–	–	–	7.6	-39.3
Tohoku	1.0	23.8	17.3	1.3	3.7	0.3	–	0.4	–	47.9	-24.6
Kanto	9.7	9.5	201.0	11.2	36.5	3.5	0.7	10.7	–	282.7	-125.4
Chubu	5.2	5.3	39.5	49.4	30.6	5.3	3.6	9.2	1.0	149.2	51.5
Kinki	22.2	31.4	128.7	29.0	54.9	21.3	9.9	38.2	3.0	338.8	155.9
Chugoku	1.6	1.4	9.8	2.0	36.9	25.4	1.4	6.5	0.1	85.2	26.2
Shikoku	0.3	0.4	7.1	2.5	10.7	1.3	15.7	1.6	0.7	40.2	8.5
Kyushu	0.4	0.3	4.2	2.2	9.5	1.9	0.3	28.0	0.6	47.3	-47.4
Okinawa	–	–	–	–	–	–	–	0.1	1.0	1.2	-5.3
Total	46.9	72.5	408.1	97.7	182.9	59.0	31.7	94.7	6.5	1000.0	

Table 30 Export and Import of Metals and Machinery in Each Region

	Export	Import
Hokaido	43	-74
	0.1%	2.3%
Tohoku	956	-139
	3.3%	4.3%
Kanto	14092	-1893
	48.8%	58.1%
Chubu	5706	-371
	19.8%	11.4%
Kinki	4512	-590
	15.6%	18.1%
Chugoku	1986	-97
	6.9%	3.0%
Shikoku	782	-11
	2.7%	0.3%
Kyushu	785	-76
	2.7%	2.3%
Okinawa	3	-6
	0.0%	0.2%
Total	28865	-3257
	100.0%	100.0%

3-6 Additional Remarks to Understand Transaction Flows

(1) Shipment Distribution of Industrial Sector

Figure 7 shows the shipment distribution by industrial sector in 1983, which help us to understand the results of transaction flows as mentioned above. The shipment patterns of three industrial sectors are rather different; (i)Light industry (including foods product and textiles) are located in Kinki and local areas, (ii) Basic materials, heavy & chemicals

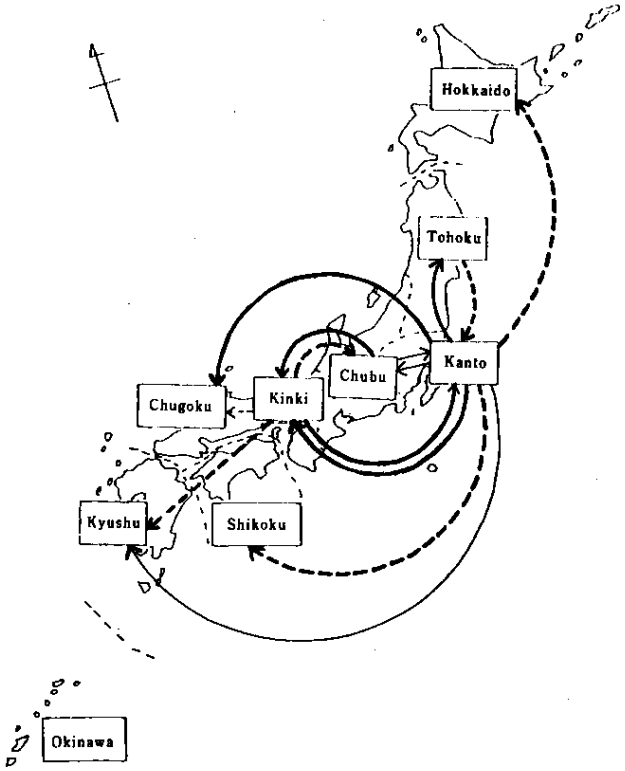

Figure 6 Dominant Interregional Transaction from Metals and Machinery to Final Demand in 1985

note : real lines indicate more than 20% and broken lines indicate 10−20% in Table 29

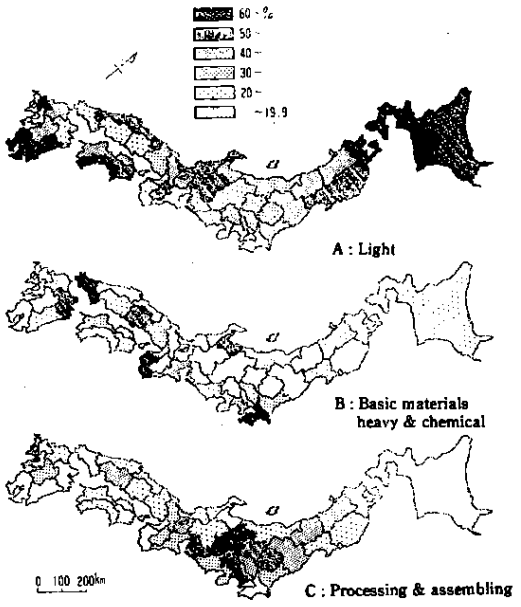

Figure 7 Shipment Distribution by Industrial Sector in 1983

(Source : Reference [4])

(including chemicals and steel) are concentrated in central area and partly Chugoku and Kyusyu, and (iii) processing and assembling (including metals and machinery) are also concentrated in central area, especially in Kanto.

(2) Production induced by Final Demand

The production rate in each region induced by its own final demand is explained in Figure 8, which shows that production rates in central area (Kanto, Chudu and Kinki) is a little larger and have been increased from 1960 to 1985. This means that economic productivity and multiplier effect in central area is more effective than those in local area.

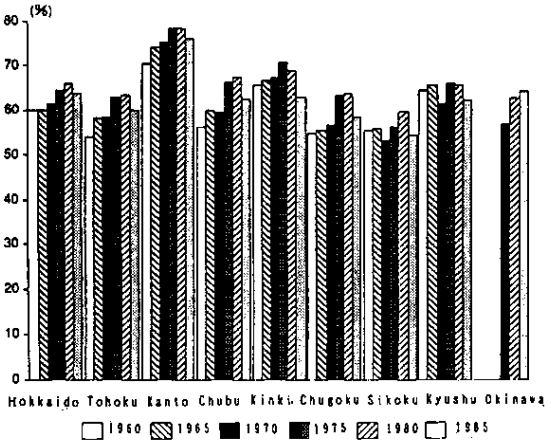

Figure 8 Production Rate in Each Region induced by its own Final Demand

(Source : Reference [5])

(3) Export in Foreign Trade

Figure 9 explains ratio of export for final demand in each region, which is generally increasing from 1960 to 1985, except for Hokkaido, Kyushu and Okinawa. These regions are included in local area and the ratio of export is small in itself in every region. In contrast to this situation, the ratio of export in central area is fairly large.

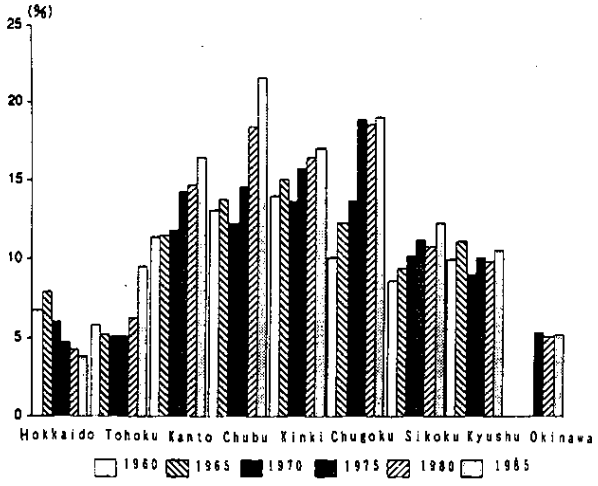

Figure 9 Ratio of Export for Total Final Demand in Each Region

(Source : Reference [5])

Table 31 Ratio of Export by Region and Product in 1985

(Unit:%)

Area / Product	Constitution ratio			Area Ratio				
	Kanto	Chubu	Kinki	Kanto	Chubu	Kinki	Others	Total
Food products	0.9	0.2	0.8	57.9	3.5	5.8	12.8	100.0
Textiles	0.5	0.9	11.0	7.9	4.6	82.8	4.7	100.0
Chemicals	3.1	3.0	7.2	36.0	11.5	38.9	13.6	100.0
Steel	5.8	4.7	10.6	30.6	9.2	29.0	31.2	100.0
Machinery and Equipment	80.0	84.1	57.2	52.0	18.3	17.5	12.2	100.0
Total	100.0	100.0	100.0	-	-	-	-	-

The ratio of export by region and product in 1985 is shown in Table 31. According to constitution ratios, Kanto and Chubu have similar export structure, both of which have large share in machinery & equipment. On the other hand the ratios of textiles and steel in Kinki is more than 10%.

Then the export from Kanto and Kinki is distinguished, and the export from Kanto is biased toward foods product and machinery & equipment, and that from Kinki is biased toward textiles.

4 DOMINANT FUNCTIONS FOR FOREIGN AND DOMESTIC TRADES

4-1 Dominant Functions for Foreign Trade

The number of trading companies in Japan is 4,300 thousand and 2% of them (8,700 companies) take part in foreign trade. They are classified into two groups, specialized trading company and general trading company. The latter one has a unique style of management in Japan and is considered as a multi-national enterprize.

Figure 10 shows the share of general trading companies for export and import activities. The share of import is increasing and that of export is decreasing. This trend is due to type of commodities treated by general trading companies. Figures 11 & 12 explain trends in export and import classified by type of product. The share of finished-products including machinery and equipment, chemical products imported to Japan is increasing. On the other hand, the share of metal products exported from Japan decreased drastically. Table 32 shows that metal products are fairly large, which supports the trends as shown in Figure 10.

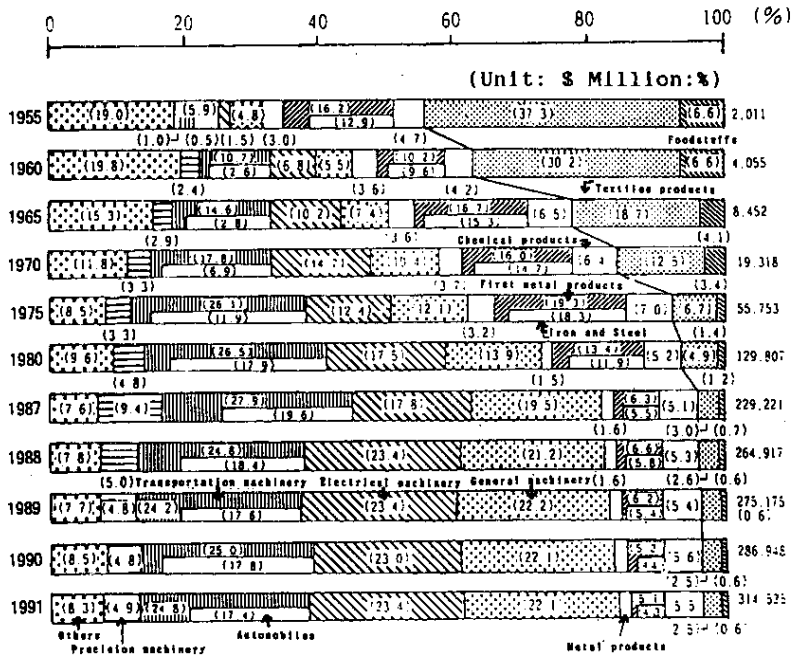

Figure 11 Japanese Exports,classified by Type of Product

Note : Number in parenthesis indicates constitution ratio of each product.

(Source : Reference [7])

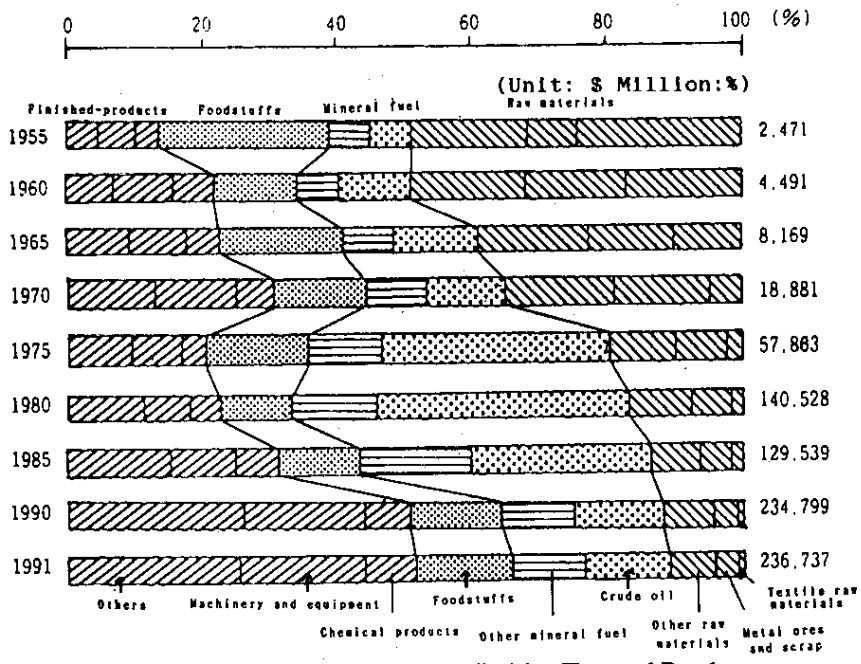

Figure 12 Japanese Imports,classified by Type of Product

Note : Number in parenthesis indicates constitution ratio of each product.

(Source : Reference [7])

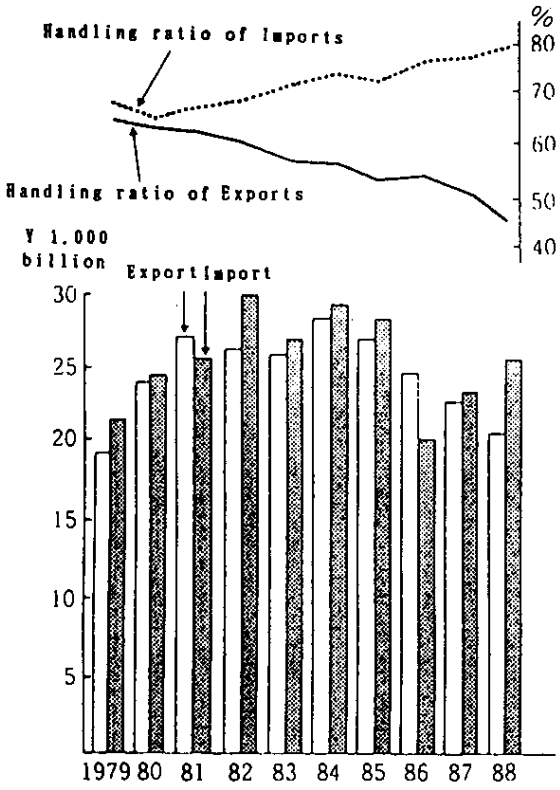

Figure 10 Trading Activities of Genereal Trading Companies
(Source : Reference [6])

Table 32 Total Sales through 9 Major Trading Companies by Commodity and Style (1986,Unit:%)

Commodity		Style	
Fuel	12.5	Export	1.95
Metal Products	24.5	Import	17.8
Machinery	27.1	Inter-third	
Chemical Products	10.5	countries	18.0
Foodstuffs	10. 9	Domestic sales	44.7
Textile Products	8.4		
Others	6.1		
Total	100.0	Total	100.0

(Source : Reference [6])

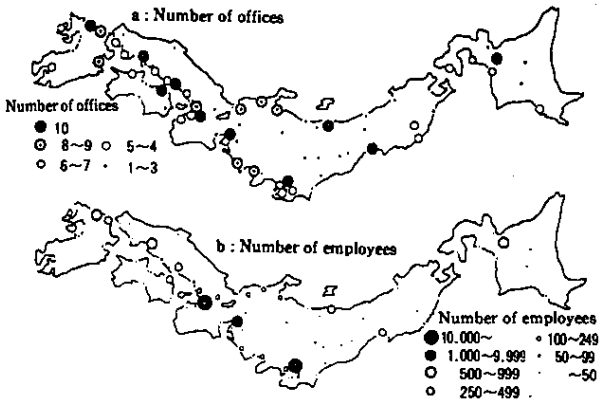

Figure 13 Office and Employment Distribution of General Trading Companies
(Source : Reference [8])

Figure 13 explains locational pattern of general trading companies. The number of offices is distributed in large or middle scale of cities especially in western part of Japan as shown in upper figure. However, in the lower figure large scale of officies are concentrated in Tokyo, Osaka and Nagoya in central area. In local area a number of employees are recognized in Sapporo in Hokkaido, Hiroshima in Chugoku and Fukuoka in Kyushu.

4-2 Dominant Functions for Domestic Trade

The location of officies is analysed using the Establishiment Census [9] in order to clarify the dominance structure of domestic trading functions. Office is usually defined as an establishment for nonoperational work, and interregional relationship between head-office and branch-office is important.

Figure 14 shows the ratio of branch offices of all officies in major cities, which show that they have been concentrated in Tokyo, Osaka and Nagoya in central area, and Fukuoka,Sapporo, Sendai and Hiroshima in local area. The percentages of office employment in three metropolitan areas are 44.5% in 1963 and 49.1% in 1986.

Table 33 shows large difference of office employment between central and local areas. The companies who have head-offices in Tokyo, Aichi (including Nagoya) and Osaka have large nation-wide market area. However, other head-offices in Hokkaido(Sapporo), Miyagi(Sendai), Hiroshima and Fukuoka have limited influential area, even if those number is increasing.

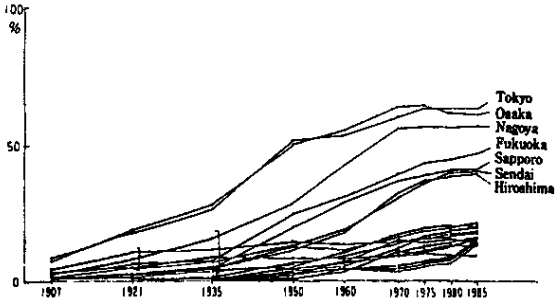

Figure 14 Ratio of Branch Offices for All Offices in Major Cities
(Source : Reference [4])

Therefore, whole system for domestic trade is generally determined by head-offices in central area, especially in Tokyo and Osaka. Table 34 explains percentages of offices originated in Tokyo or Osaka, which show that the influence of Tokyo is larger than that of Osaka.

Figures 15-20 are produced in order to understand an influential sphere of head-offices in Tokyo, Osaka and Aichi(including Nagoya). In Figures 15 & 16 number of employment of branch-officies in central area is becoming large, and that in local areas is decreasing relatively. Osaka shows similar trends in Figures 17 & 18,that is, the employment in Kinki has increased from 50.0% in 1963 to 51.4% in 1986, and that in Kanto has also increased from 15.2% to 19.6% in the same period. On the other hand head-offices in Aichi has been keeping their territory and most of them have not an intention to enlarge their sphere as shown in Figures 19 & 20.

Table 33 Number of Employees in Each Region whose Head Office is Located in Major 7 Cities

(Unit:Thousand Persons)

	Tokyo			Aichi			Osaka			Hokaido			Miyagi			Hiroshima			Fukuoka		
	1963	1975	1986	1963	1975	1986	1963	1975	1986	1963	1975	1986	1963	1975	1986	1963	1975	1986	1963	1975	1986
Hokaido	162	180	173	1	4	4	11	19	25	115	193	249	–	1	1	–	–	–	–	1	1
Miyagi	36	87	103	–	2	3	4	12	17	1	1	1	19	52	79	–	–	–	–	1	1
Tohoku Excluding Miyagi	125	175	222	1	3	4	9	18	20	2	2	3	18	29	35	–	–	–	–	–	–
Tokyo	592	978	1268	19	30	37	105	186	196	7	6	7	1	2	2	1	3	5	3	8	9
Kanto Excluding Tokyo	667	1312	1739	3	13	25	37	114	146	2	3	4	–	1	2	1	2	3	2	10	15
Kosin-etsu	121	158	191	6	10	12	11	16	19	–	–	1	4	4	5	–	–	–	–	1	–
Hokuriku	56	68	79	1	5	8	22	31	28	–	–	–	–	–	–	–	–	–	–	–	–
Aichi	146	225	243	156	348	461	44	73	71	1	1	1	–	–	–	–	1	2	–	2	3
Tokai Excluding Aichi	150	231	274	29	82	84	57	75	77	–	–	–	–	–	–	–	1	1	1	1	1
Osaka	163	304	361	7	16	20	293	461	573	2	1	1	–	–	–	2	4	4	3	6	6
Kinki Excluding Osaka	180	230	266	3	5	8	173	285	323	–	1	–	–	–	–	–	2	2	1	2	3
Hiroshima	66	120	110	–	2	3	25	41	35	–	–	–	–	–	–	32	92	134	–	3	3
Kyugoku Excluding Hiroshima	91	127	130	1	4	5	43	68	83	–	–	–	–	–	–	17	31	41	2	7	8
Sikoku	44	74	82	1	2	2	37	56	49	–	–	–	–	–	–	1	3	4	1	2	2
Fukuoka	174	211	194	1	5	7	26	51	51	–	–	–	–	–	–	1	4	5	84	155	195
Kyushu Excluding Fukuoka	105	135	161	1	6	6	35	51	49	–	–	–	–	–	–	1	4	5	20	61	80
Total	2876	4615	5596	230	517	689	932	1575	1742	130	210	267	42	89	124	56	148	206	135	258	327

Table 34 Ratio of Offices originated in Tokyo or Osaka for All Offices in Major Cities

		Tokyo	Osaka	Nagoya	Sapporo	Sendai	Hiroshima	Fukuoka
Offices originated in Tokyo	1960		58.8	50.6	53.8	53.0	38.8	52.6
	1970		55.7	53.8	57.3	56.3	50.7	53.1
	1980		53.9	50.0	56.0	53.9	50.0	51.9
	1985		52.6	50.1	46.7	53.1	48.0	51.3
Offices originated in Osaka	1960	24.8		17.0	13.1	6.7	14.0	12.1
	1970	20.7		16.1	13.8	12.7	14.0	14.5
	1980	18.4		14.4	12.7	13.2	13.8	14.4
	1985	17.5		14.3	11.2	13.4	14.4	13.6

(Source : Reference [4])

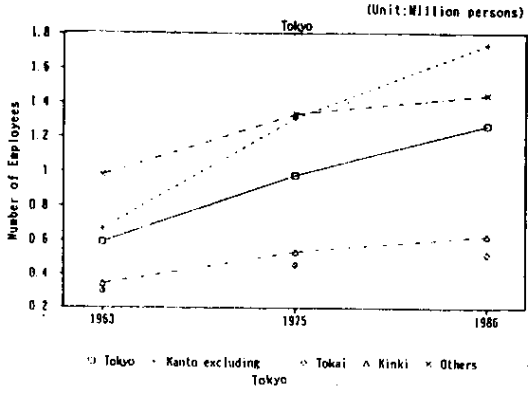

Figure 15 Number of Employees of Branch Offices whose Head Office is located in Tokyo-To

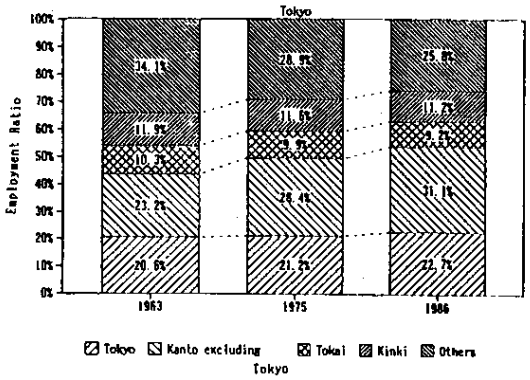

Figure 16 Employment Distribution of Branch Offices whose Head Office is located in Tokyo-To

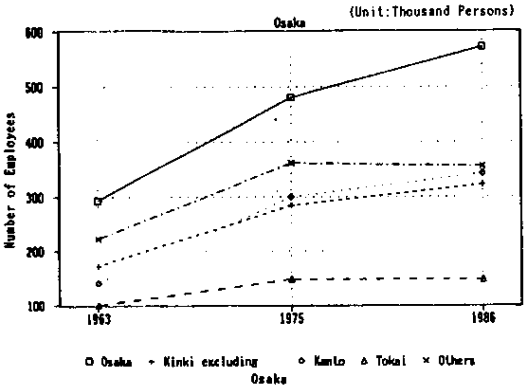

Figure 17 Number of Employees of Branch Offices whose Head Office is located in Osaka-Fu

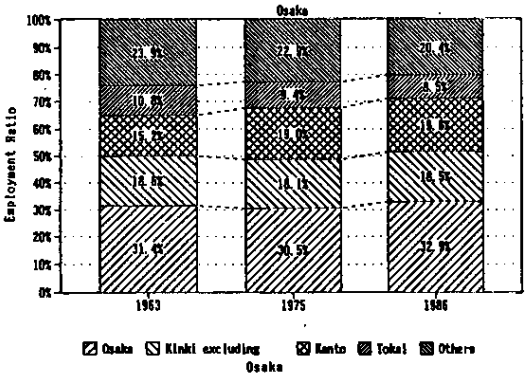

Figure 18 Employment Distribution of Branch Offices whose Head Office is located in Osaka-Fu

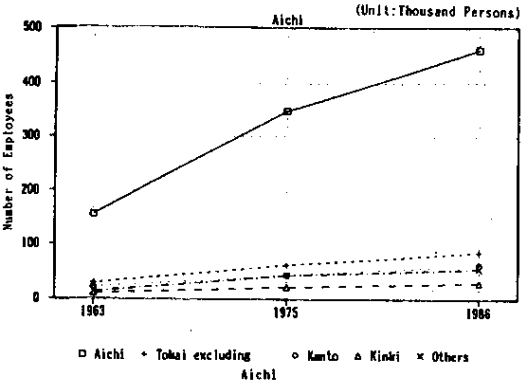

Figure 19 Number of Employees of Branch Offices whose Head Office is located in Aichi-Ken(including Nagoya city)

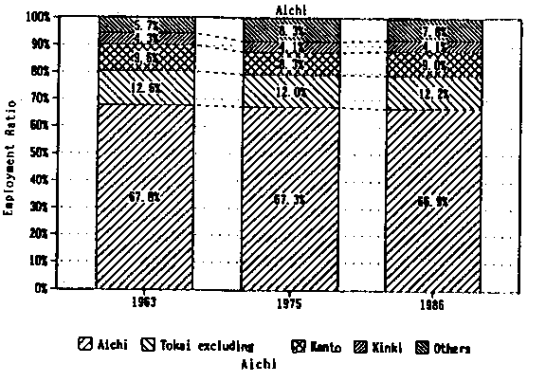

Figure 20 Employment Distribution of Branch Offices whose Head Office is located in Aichi-Ken(including Nagoya city)

5 CONCLUSIONS

Some simple analyses are carried out to consider structural changes of regional economy in Japan. Major results obtained in these practical work are summarized as follows:

(1) Foods, Chemicals and Steel are supplied from north and south local areas, and finished product such as Textiles and Metals & Machinery are produced in central area and most of them are consumed, invested or exported in central area and partly supplied to local areas. As a whole self-sufficiency rate of transactions is becoming large within central area, especially within Kanto area.

(2) Foreign trade is mainly carried out through Kanto and Kinki. In particular export from Kanto is biased toward Machinery & Equipment, and that from Kinki is biased toward Textiles.

(3) Major general trading companies, who have important role for foreign trade, are cocentrated in central area. Furthermore the whole system for domestic trade is also determined by head-offices in central area, especially in Tokyo.

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