

The Territoriality of Domestic Branch Offices of Japanese Firms as a Noneconomic Principle Influencing the Choice of the Public Nursing Care Insurance System

著者	HINO Masateru
雑誌名	The science reports of the Tohoku University. 7th series, Geography
巻	49
号	1
ページ	1-22
発行年	1999-06
URL	http://hdl.handle.net/10097/45230

The Territoriality of Domestic Branch Offices of Japanese Firms as a Noneconomic Principle Influencing the Choice of Branch Office Location

Masateru HINO*

Abstract In Japan, as regional centers are referred to as cities with branch office economies, the agglomeration of branch offices has become an important component in the economies of major cities. To begin with, in order to demonstrate this situation, I counted the number of employees in branch offices and estimated the weight of branch offices as basic activities of the urban economy for major cities. As a result, the share of branch offices in basic activities of urban economy reached 20% or more for many of major cities. Next, I theoretically examined the location of branch office. The economic principles of location indicated by previous studies on the location of tertiary industry could be applied to the location of branch office. However, the branch offices are generally established under the territoriality of branch office, which is the institution to organize spatially marketing activities. In addition, branch office territories tend to be set up in parallel with the hierarchical system of administrative regionalization. Moreover, the establishment of branch office territories tends to precede the choice of branch office location. Thus, coupled with the economic principles of location, the territoriality of branch offices can be pointed out to lead to the concentrated agglomeration of specific branch offices in central cities at the regional and prefectural levels.

Key words : Japan, regional centers, branch office economy, agglomeration of branch offices, territoriality of branch office, Tokyo-based headquarters

1 Introduction

In Japan the term regional center is used for only the following four cities : Sapporo (in the Hokkaido region), Sendai (in the Tohoku region), Hiroshima (in the Chugoku region) and Fukuoka (in the Kyushu region) (Fig. 1). In the early 1960s, these four cities came to be evaluated as the regional centers distinct from other provincial cities (Kitagawa, 1962 ; Yoshida, 1972). Before that time, although they were certainly recognized as the largest cities among provincial cities, they had not yet established

* Institute of Geography, Tohoku University, Sendai 980-8578, Japan
Science Reports of Tohoku University, 7th Series (Geography)
Vol. 49, No. 1, June, 1999, 1-22

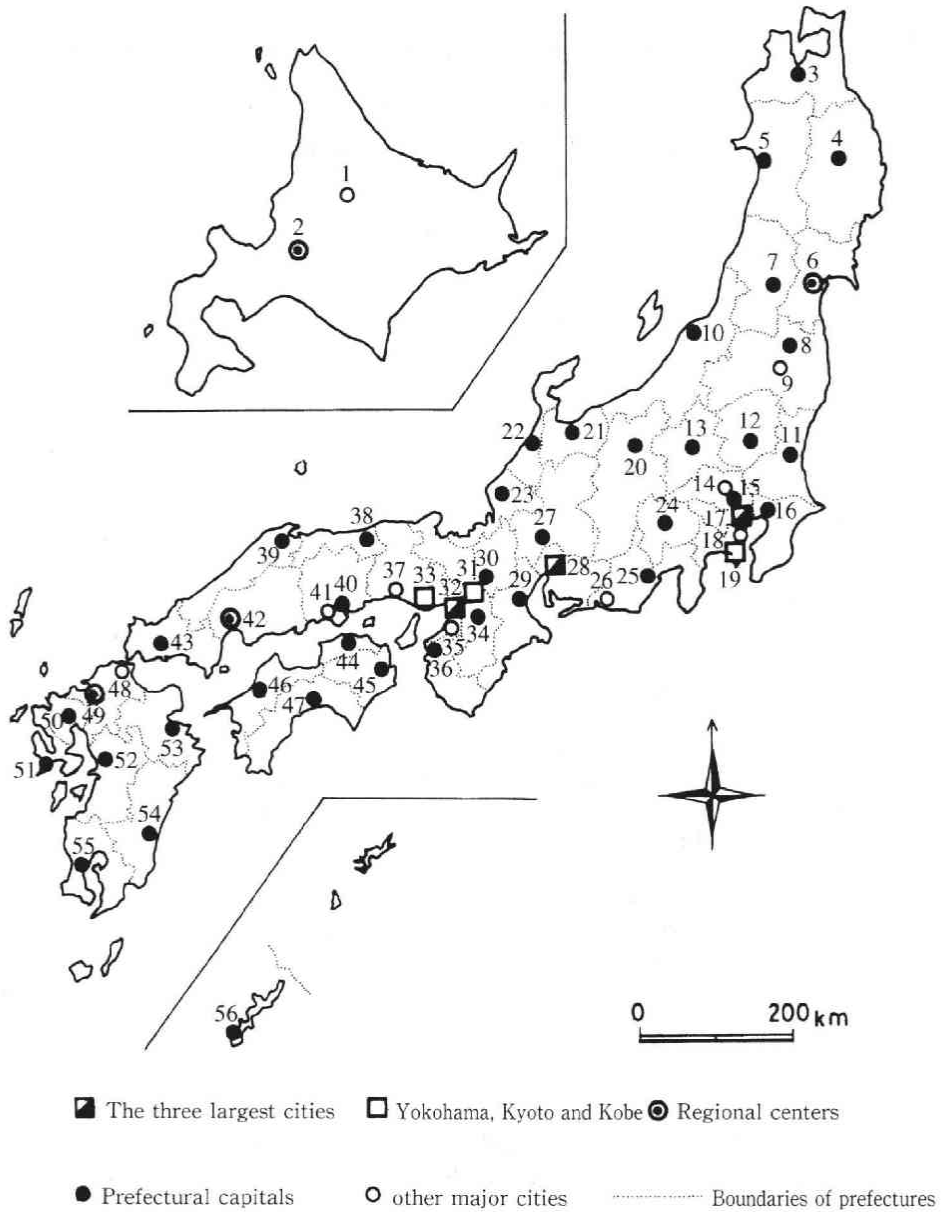


Fig. 1 Major cities in Japan referred to in this paper

Note: The numbers in the figure correspond to those in Table 1.

the status of prominent centers in economic powers within their respective regions. Therefore, apart from the six largest cities (Tokyo, Osaka, Nagoya, Yokohama, Kyoto and Kobe), all prefectural capitals tended to be equally classified as major provincial cities.

Since the late 1950s, the beginning of the period of postwar rapid economic growth, these four regional cities have grown remarkably, and the disparity between the six largest cities and them in population and centrality has decreased. In the 1970s, these four regional cities replaced the three cities of Yokohama, Kyoto and Kobe as the fourth tier in the hierarchy of wholesale centers (Hino 1994). Due to such rapid growth they came to be referred to as regional centers.

These regional centers grew with the concentrated agglomeration of the branch offices of large firms based in Tokyo and Osaka. As these cities had only a few large local firms with stocks listed at the Tokyo Stock Exchange, the branch offices were outstanding as economic powers leading urban growth. Thus, in the 1960s, the regional centers came to be referred to as "*shiten-keizai no machi* (cities with branch office economies)", which meant that the economies of these cities were supported by the activities of the branch offices. Moreover, the dependence of the urban economy on branch offices was also recognized in other major provincial cities.

The aim of this paper is to demonstrate that branch offices came to play a significant role of basic component in the economies of major cities in Japan and to present the location theory of domestic branch offices of Japanese firms. With respect to the latter, the territoriality of branch offices is stressed as a principle affecting the choice of branch office location. This paper is divided into four sections. In the first section (Chapter 2), the volumes of agglomeration of branch offices in the major cities are presented, and the weight of branch offices in the urban economy is evaluated based on the economic-base theory (Alexander 1954). The second section (Chapter 3) deals with specific cities that have considerably elevated their centrality by virtue of the agglomeration of branch offices. The third section (Chapter 4) discusses the economic principles of the branch office location and the territoriality of branch offices as a noneconomic principle. Finally, the main conclusions are summarized (Chapter 5).

2 The weight of branch offices in the economies of major cities

2.1. Calculation of employment in branch offices in major cities

Statistics on employment in multi-locational firm branches in prefectural capitals and cities over 300,000 residents have been available since 1981 in the Establishment Census of Japan. These statistics are divided into those related to industry (intermediate group at the second level of the Japanese Standard Industrial Classification) and those related to the location of head office. The branch establishments, however,

Table 1 Agglomeration of branch offices in major cities

City	Employment in branch offices in 1991 (thousand)	Composition of branch offices by location of headquarters (%)				Population in 1990 (thousand)	Number corresponding with that in Figure 1
		Tokyo pref.	Osaka pref.	Same pref.	Pref. with regional center in the same region		
Tokyo	379.0	3.3	48.5	—	—	8,164	17
Osaka	367.3	73.8	5.8	—	—	2,624	32
Nagoya	231.6	60.6	19.4	6.1	—	2,155	28
Yokohama	171.1	75.0	8.6	8.4	—	3,220	19
Fukuoka	170.9	59.9	18.4	3.7	—	1,237	49
Sendai	117.9	69.5	10.9	1.8	—	918	6
Sapporo	114.1	65.7	11.9	10.4	—	1,672	2
Hiroshima	88.5	56.2	20.7	5.7	—	1,086	42
Kobe	78.2	49.6	32.6	8.5	—	1,477	33
Chiba	69.1	74.2	8.5	6.0	—	829	16
Kawasaki	61.1	71.7	6.1	17.3	—	1,174	18
Kitakyushu	58.8	46.4	10.9	29.0	—	1,026	48
Kyoto	58.7	47.3	39.3	2.6	—	1,461	31
Omiya	45.9	72.1	9.2	6.5	—	404	14
Shizuoka	40.5	54.6	11.0	10.3	16.4	472	25
Niigata	37.6	58.8	8.1	13.1	—	486	10
Okayama	37.6	41.3	21.7	5.7	15.9	594	40
Takamatsu	35.1	56.6	21.1	3.1	—	330	44
Kumamoto	33.9	46.4	12.5	3.2	24.2	579	52
Hamamatsu	33.5	40.9	9.1	24.4	18.0	535	26
Kanazawa	33.4	54.3	14.7	3.9	6.3	443	22
Sakai	32.4	34.8	54.6	—	—	808	35
Himeji	30.7	43.7	27.0	20.3	—	454	37
Utsunomiya	27.8	65.0	11.8	5.1	—	427	12
Kagoshima	27.6	41.7	13.4	5.1	21.0	537	55
Mito	26.0	71.4	7.7	7.4	—	235	11
Kurashiki	25.9	31.5	14.1	24.0	11.1	415	41
Matsuyama	24.9	45.5	15.7	6.9	14.9	443	46

Sources: Hino (1995, 1996). The original data was obtained from *the Japanese Establishment Census, 1991*.

include factories, warehouses and shops in addition to offices. Therefore, differentiation of branch offices from branch establishments is necessary. Fortunately, the 1978 Establishment Census included statistics indicating the composition of branch establishments by type of establishment for the entire country. Based on the

City	Employment in branch offices in 1991 (thousand)	Composition of branch offices by location of headquarters (%)				Population in 1990 (thousand)	Number corresponding with that in Figure 1
		Tokyo pref.	Osaka pref.	Same pref.	Pref. with regional center in the same region		
Urawa	24.6	72.9	6.2	11.1	—	418	15
Oita	23.6	39.7	9.5	6.8	25.7	409	53
Toyama	23.3	51.6	10.4	10.1	4.6	321	21
Nagano	22.6	55.2	9.8	15.1	7.5	347	20
Koriyama	22.0	52.3	7.8	14.1	11.9	315	9
Gifu	21.2	41.0	11.2	12.9	30.1	410	27
Asahikawa	20.8	43.2	6.2	46.2	—	359	1
Nagasaki	20.7	50.6	9.9	10.5	19.3	445	51
Akita	19.8	49.4	6.7	5.4	18.5	302	5
Morioka	18.8	54.1	7.3	8.4	18.3	235	4
Miyazaki	17.6	40.6	9.8	7.8	21.2	287	54
Maebashi	17.5	63.2	9.4	10.2	—	286	13
Aomori	17.0	50.9	9.5	8.4	13.2	288	3
Fukui	16.7	44.5	15.2	6.4	4.1	253	23
Wakayama	16.3	43.1	43.2	7.2	—	397	36
Yamagata	14.2	51.7	7.1	7.3	19.0	250	7
Tsu	13.9	44.0	14.0	11.3	24.1	157	29
Kochi	13.7	46.2	13.9	6.3	16.0	317	47
Nara	13.5	47.1	44.2	3.9	—	349	34
Tokushima	13.0	46.6	15.9	4.6	21.1	263	45
Saga	12.3	42.8	6.3	6.4	34.2	170	50
Fukushima	12.1	45.2	5.5	16.7	22.5	278	8
Kofu	11.9	73.5	7.7	7.3	—	201	24
Otsu	11.6	40.7	28.6	8.6	—	260	30
Matsue	11.1	45.7	11.1	8.4	19.2	143	39
Naha	10.6	57.4	13.9	16.1	2.2	305	56
Tottori	8.0	33.4	15.4	11.7	15.2	142	38
Yamaguchi	7.8	37.9	8.9	21.6	23.9	129	43

statistics, I defined branch offices as all branch establishments in specific industries in which the ratio of employment in branch offices to that in all branch establishments was 60% or more. As a result, 32 intermediate groups of industry were selected¹⁾. At the same time, I treated only branch establishments having headquarters in other

municipalities. In other words, we excluded the branch establishments of local firms based in the same cities.

2.2. The agglomeration of branch offices in major cities

Table 1 shows the numbers of employees in branch offices in sixty major cities as of 1991. Tokyo and Osaka were the top ranked cities in the agglomeration of branch offices, having around 370,000 employees in branch offices. The large number of employees in branch offices in Tokyo reflects the fact that many province-based firms, including those based in Osaka, had their main branch offices in Tokyo. In addition, the high percentage of Osaka-based firms, about 49%, indicates that Osaka has the second largest agglomeration of large firms. In contrast, about 74% of employees in branch offices in Osaka belonged to Tokyo-based firms. This is another manifestation of the remarkable concentration of large firms in Tokyo (Abe, 1984, 1991).

Next to Tokyo and Osaka, Nagoya had the largest number of employees in branch

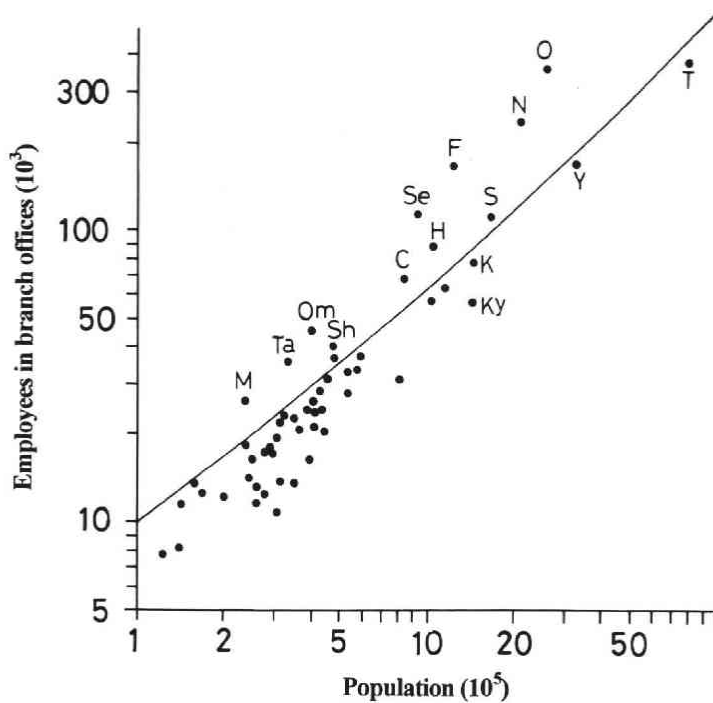


Fig. 2 Correlation between employment in branch offices and population in major cities
 Note: T: Tokyo, O: Osaka, N: Nagoya, Y: Yokohama, F: Fukuoka, Se: Sendai, S: Sapporo, H: Hiroshima, K: Kobe, C: Chiba, Ky: Kyoto, Om: Omiya, Sh: Shizuoka, Ta: Takamatsu, M: Mito.
 Regression equation: $Y = 0.056X + 9.92$, Correlation coefficient: 0.87.

offices (232,000 workers). As Nagoya is situated between Tokyo and Osaka, the market area for Nagoya tends to be limited to the Tokai region²⁾ in central Japan. For this reason, Nagoya is sometimes regarded as a regional center, as is the case with Fukuoka. With respect to the number of employees in branch offices, however, there is still a large disparity between Nagoya and Fukuoka. In addition, about 80% of branch office employees in Nagoya were employed by firms based in Tokyo (61%) or Osaka (19%).

Yokohama and Fukuoka also had a large number of branch office employees, about 171,000 employees. In the case of Yokohama, however, the number of branch office employees was smaller than expected based on population (Fig. 2). Based on the composition of branch offices classified by location of the head office, Yokohama seems to have a large number of branch offices of Tokyo-based regional firms. Although this finding may be interpreted as simply a neighborhood effect, the number of employees in branch offices of Osaka-based firms is relatively few. This is because branches located in Tokyo can take charge of administration and coordination around the Tokyo Metropolitan Area, including Yokohama. This may be referred to as a reverse neighborhood effect. Largely due to this reverse neighborhood effect, the number of employees in branch offices in Yokohama was smaller than expected based on population. The same phenomenon was recognized in the cases of Kobe and Kyoto within the Osaka Metropolitan Area.

Fukuoka, on the other hand, was revealed to have a larger number of branch office employees than expected based on population. This is because part of the demand in the Kyushu region was gathered in Fukuoka. In other words, the demand in Fukuoka consists of not only that in Fukuoka but also that in the region. The other three other regional centers are similar in this respect. These cities, therefore, had more employees in branch offices than expected based on population. Moreover, although a large difference was observed in branch office employees between Fukuoka and the other three regional centers, this difference can be explained as being due, to a certain extent, to the differences in the volume of demand in the respective regions. For example, although Sapporo is larger than Fukuoka in population, the number of branch office employees in Sapporo was smaller than that in Fukuoka. This finding can be attributed largely to the difference in the volume of demand between Kyushu and Hokkaido: the population of Kyushu was 13,423,000³⁾, whereas that of Hokkaido was 5,692,000 in 1995.

The number of branch office employees in other cities showed a good correlation with population as a whole (Fig. 2). However, several cities, including Chiba, Omiya, Shizuoka, Takamatsu and Mito, were found to have more branch office employees than expected based on population. As for Takamatsu, the same explanation presented for the four regional centers can be applied. Takamatsu is the center of the

Table 2 Weight of branch offices in urban economies of major cities in 1991

City	Percent- age of employ- ment in branch office to the total employ- ment	Percent- age of basic employ- ment in branch office to the total basic employ- ment	Percent- age of employ- ment in manu- facturing	City	Percent- age of employ- ment in branch office to the total employ- ment	Percent- age of basic employ- ment in branch office to the total basic employ- ment	Percent- age of employ- ment in manu- facturing
Tokyo	5.1	2.9	16.8	Urawa	16.2	26.0	13.5
Osaka	13.5	16.9	18.1	Oita	12.0	24.8	14.6
Nagoya	15.1	25.2	17.0	Toyama	11.7	20.2	19.7
Yokohama	13.1	27.5	18.4	Nagano	11.9	21.0	18.8
Fukuoka	22.1	37.8	6.6	Koriyama	13.5	30.1	18.7
Sendai	22.5	42.1	7.8	Gifu	9.7	14.5	16.6
Sapporo	13.2	22.9	7.0	Asahikawa	12.1	24.2	11.4
Hiroshima	14.9	27.9	14.9	Nagasaki	10.3	14.7	10.6
Kobe	10.1	12.7	17.7	Akita	12.6	21.9	11.8
Chiba	18.9	32.5	11.4	Morioka	14.8	22.3	6.2
Kawasaki	11.4	13.4	31.9	Miyazaki	12.4	19.6	5.6
Kitakyushu	11.6	10.9	17.8	Maebashi	10.3	15.1	10.3
Kyoto	7.1	8.2	20.5	Aomori	12.1	23.7	9.1
Omiya	23.9	45.0	13.2	Fukui	10.5	18.0	19.1
Shizuoka	14.8	26.1	19.5	Wakayama	8.9	14.5	24.2
Niigata	13.7	22.6	12.3	Yamagata	10.7	18.8	18.5
Okayama	12.0	18.4	15.4	Tsu	14.1	24.6	17.3
Takamatsu	17.1	29.1	12.3	Kochi	8.3	11.0	9.5
Kumamoto	10.9	16.1	9.0	Nara	12.4	28.0	8.3
Hamamatsu	10.9	15.8	32.7	Tokushima	8.8	12.4	16.1
Kanazawa	12.5	20.4	14.6	Saga	12.8	19.5	10.5
Sakai	10.5	4.2	27.1	Fukushima	8.4	8.0	21.2
Himeji	12.1	20.5	25.1	Kofu	9.7	15.2	16.0
Utsunomiya	11.4	20.3	19.7	Otsu	9.8	18.0	20.8
Kagoshima	11.0	16.4	8.0	Matsue	13.6	22.7	9.9
Mito	17.5	25.0	8.3	Naha	6.6	7.8	3.9
Kurashiki	12.5	21.4	31.3	Tottori	9.8	13.2	23.8
Matsuyama	11.4	18.9	13.7	Yamaguchi	12.8	18.7	9.8

Sources: see Table 1

Shikoku region including four prefectures. The other cities were prefectural centers having larger populations within their prefectures. The relatively large numbers of branch office employees in these cities seem to reflect the large demand of the respective prefectures.

2.3. The weight of branch offices in the urban economy

Table 2 shows the percentages of employment in branch offices compared to the total employment in respective major cities according to the 1991 Establishment Census. Percentage of branch office employees had already reached the level of 10% or more in many major cities. In particular, the percentages of branch office employees in Fukuoka and Sendai were higher than 22%. Moreover, even in the case of Osaka, generally known as the center of Western Japan with the largest agglomeration of headquarters of large firms next to Tokyo, the percentage of branch office employees reached 13%. In addition, in regional centers and some prefectural capitals such as Niigata, Takamatsu, Kumamoto, Mito, Asahikawa, Akita, Morioka, Miyazaki, Aomori, Saga, Matsue and Yamaguchi, the percentages of branch office employees surpassed those of manufacturing employees. The above figures indicate that branch offices have come to be an important component in the economies of major cities.

It is necessary to measure the weight of branch offices as basic activities in urban economies in order to evaluate the importance of branch offices. I have attempted to measure the importance of branch offices employing the idea of location quotient method explored in the studies of the urban economic-base theory. The operational procedures are as follows⁴⁾: initially, for each industrial group at the second level of industrial classification, the expected employment of a major city was calculated using the ratio of the population of the city to the national population multiplied by national employment. If actual employment is larger than expected, the difference between the actual and expected employment was regarded as basic employment. The same calculation was performed for branch office employees by industry. If basic employment in branch offices was larger than that in all types of establishments in a particular industry, basic employment in the industry was replaced by basic employment in branch offices. Then, basic employment was summed up by industry, to get the total basic employment for the industry and the basic employment in branch offices.

The third and seventh columns of Table 2 indicate the percentages of basic employment in branch offices to the total basic employment in major cities. Excluding a few cities such as Tokyo, the percentages of basic employment in branch office were on the average about 10% larger than the percentages of branch office employees. The percentages for Omiya, Sendai, Fukuoka and Chiba were remarkably high: 45%, 42%, 38% and 33%, respectively. These data supported an expression of “*shiten-*

keizai no machi" (cities with branch office economies). In addition, in the case of Sapporo and Hiroshima, the percentages of basic employment in branch offices were also relatively high, 23% and 28%, respectively. Nagoya, the third largest city, also showed a high percentage of 25%. In this respect, Nagoya is similar to the regional centers. Furthermore, many prefectural capitals had relatively high percentages of 20% or more. Consequently, the weight of branch offices in urban economies is actually higher than expected based on the percentage of branch office employment out of total employment.

3 The relationship between the agglomeration of branch offices and the centrality of cities

3.1. The primacy of Sendai as a wholesale center in the Tohoku region

Table 3 shows the percentage of total wholesale sales in the Tohoku region for Sendai. The regional share held by Sendai has increased steadily over the past 40 years: 31% in 1960, 40% in 1970, 44% in 1980 and 46% in 1991. In particular, the increase in the 1960s was remarkable. It was during this period that the agglomeration of branch offices progressed rapidly in Sendai.

In a previous study, Yoshida (1972) explained the increase of regional share of wholesale sales held by Sendai in relationship to the agglomeration of branch offices. According to his survey, in 1957 wholesale establishments in Sendai included 1,082 local wholesalers and 450 branch offices of firms based in other cities. The percentage of branch offices among wholesale establishments was 29%. In 1969 the number of wholesale branch offices increased to 1,498 and exceeded the number of local wholesalers, 1,436, and the percentage of branch offices reached 51%. Moreover, most of the branch offices carried out marketing activities around the entire Tohoku region

Table 3 Percentage of total wholesale sales within Tohoku Region for Sendai and those of Koriyama and Fukushima within the Fukushima prefecture.

Period	Percentage for Sendai in the total wholesale of the Tohoku region	Percentage in the total wholesale of Fukushima prefecture	
		Koriyama	Fukushima
1960	31.1	29.5	26.3
1970	40.0	34.9	30.1
1980	44.4	35.3	26.1
1991	46.2	42.4	22.2

Sources: Hino (1993, 1996). The original data was obtained from *the Japanese Commercial Census*.

Table 4 Territories of wholesale branch offices in Sendai

Territory	Number of branch office	Percentage
Tohoku region	2,056	76.1
Tohoku and Hokkaido	99	3.7
Tohoku and Niigata pref.	50	1.9
South Tohoku region	76	2.8
Miyagi pref.	123	4.6
Sendai and vicinity	26	1.0
Others	247	9.1
Unknown	25	0.9
Total	2,702	100.0

Source: Tohoku Keizai Chosa-Kenkyu sho (1990): "*Kaisha Eigyosho Meikan in 1990*". This is the directory of branch offices in Sendai. The data in this directory were obtained through questionnaire survey.

(Table 4). Therefore, the agglomeration of wholesale branch offices in Sendai was reported to be the main cause of the remarkable jump in the status of Sendai as a wholesale center in the Tohoku region. A similar phenomenon was observed in other regional centers (Hino, 1994).

3.2. The emergence of Koriyama as the prominent wholesale center in Fukushima prefecture

The increase in centrality in wholesaling due to the agglomeration of branch offices is also seen at the prefectural level. An outstanding example is the case of Koriyama City in Fukushima Prefecture. The capital of Fukushima Prefecture is Fukushima City, a city of about 300,000 (1995) which is situated in the northern part of the prefecture. Although the capital of the prefecture is not only administrative center but also an economic center in most prefectures, Fukushima City is not the economic center of the prefecture. Rather, Koriyama, a city of about 340,000 (1995) that is situated in the central part of the prefecture, is the prefectural wholesale center.

Table 3 shows the respective shares of wholesale sales for Koriyama and Fukushima, excluding sales of agricultural goods and fish. Before the early 1970s, there had been no large disparity between these two cities. In 1970 Fukushima had a 30% share of wholesale sales, only 5% less than that of Koriyama. After that, however, the difference between these two cities grew and reached 20% in 1991 (42% for Koriyama versus 22% for Fukushima). During that period, the agglomeration of branch offices had expanded in Koriyama (Ikezawa and Hino, 1992).

According to the 1991 Establishment Census, the number of wholesaling establishments in these two cities were 1,598 and 918, respectively, among which local whole-

salers were 724 in Koriyama and 612 in Fukushima. The numbers of branch offices were 874 in Koriyama and 306 in Fukushima. In addition, the branch offices classified as wholesale branch offices included many branch offices of manufacturers⁹⁾. Thus, a large part of difference in the number of wholesaling establishments is due to a disparity in the number of branch offices. Moreover, many branch offices of nationwide manufactures located in Koriyama had territories that covered the entire prefecture. Therefore, branch office sales of large firms tend to be larger than local wholesale sales. Consequently, the disparity in the share of wholesale sales mentioned above can be attributed to the difference in the agglomeration of branch offices. In other words, Koriyama has attained the status of prefectural wholesale center by the agglomeration of branch offices.

According to a questionnaire survey (Ikezawa and Hino, 1992), 97% of branch offices located in Koriyama indicated the advantage in accessibility to the entire prefecture as the primary and secondary reason for selecting the location (Table 5). The other main reasons were the large volume of demand in the city and the convenience for contacting main trading companies. Sixty-three percent of branch offices reported these two reasons. Moreover, Fig. 3 shows the relative evaluation of cities as a location for the first branch office based on the accessibility to the entire prefecture.

Table 5 Reasons of choosing Koriyama as the site of a branch office

Reason	First reason		Second reason	
	Number of respondent	Percentage	Number of respondent	Percentage
Advantage in situation within the prefecture and convenience for travelling	133	85.3	18	11.5
Large volume of demand in the city	12	7.7	42	26.9
Convenience for contacting with the prefectural government and other administrative organizations	0	0	6	3.8
Convenience for contacting with main trading companies	8	5.1	37	23.7
Location of branch offices of competing companies	2	1.3	24	15.4
Location of relating companies	0	0	13	8.3
Others	1	0.6	1	0.6
No response	0	0	15	9.6
Total	156	100.0	156	100.0

Source: Ikezawa and Hino (1992). The data were obtained through the questionnaire survey in 1990.

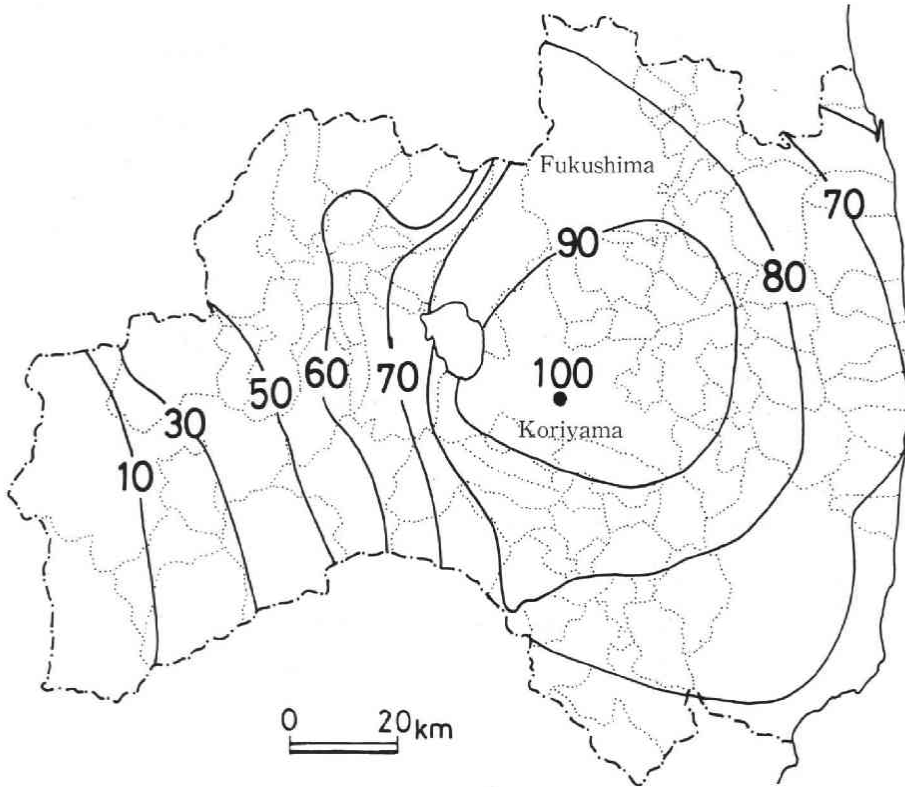


Fig. 3 Relative evaluation of cities as potential location of the first branch office based on accessibility within Fukushima Prefecture

ture⁶⁾. Koriyama is ranked highest. In this Figure, the large difference in the evaluation between Koriyama and Fukushima is evident.

In general, prefectural capitals tend to be chosen as sites for branch office locations that have territory which covers the entire prefecture. Fukushima prefecture, however, shows that prefectural capitals are not always chosen as the site of branch offices unless they offer the advantage of accessibility to all parts of the prefecture.

4 Principles of branch office location

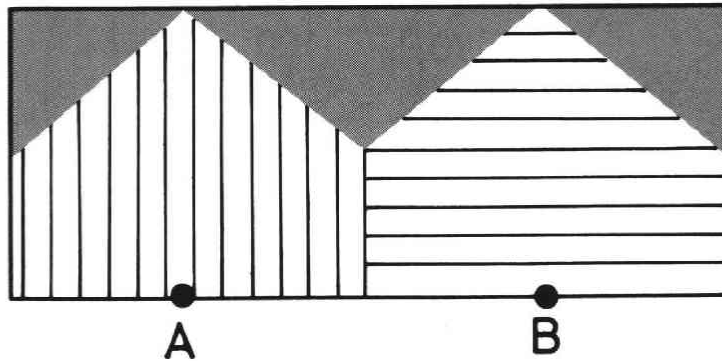
4.1. Economic principles of branch office location

Three economic principles of location indicated by previous studies on the location of tertiary industry can be applied to the location of branch office.

The first principle is the threshold requirement: there must be some minimum

demand, below which a branch office is not feasible (Berry and Garrison, 1958 ; Beabon, 1977 ; Hayashi, 1986). In other words, a necessary condition for selecting the location of a branch office is that the firm should offer potential sales that would adequately compensate for the costs occurred by establishing a branch office in that area. In Chapter 2.1, the agglomeration of branch offices in Fukuoka was considerably larger than that in other regional centers. The primary reason for this was the differences in the volume of demand among regions. Many branch offices required a

a) Christaller's model



b) Hotelling's model

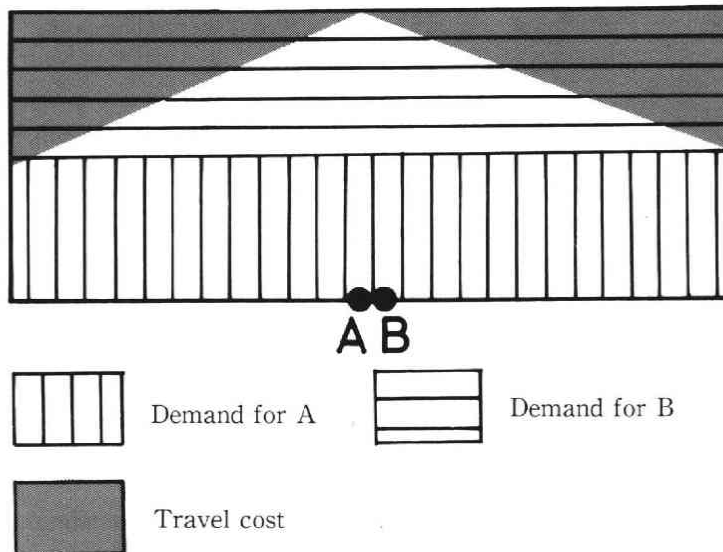


Fig. 4 Location model of sales establishments

demand equal to that of the entire Kyushu region.

The second principle is the minimization of travel costs. This is also referred to as the spatial efficiency. According to Christaller's central place theory (Christaller, 1933), the central functions are located so as to minimize the total travel distance for consumers. It is also the location to maximize total demand. In other words, the increase in travel cost for consumers corresponds to the decrease in demand (Fig. 4-a). The lower the cost, the greater the demand. In the context of branch office location, minimization of travel cost means a reduction in travel cost associated with sales activities. This is one of the most important factors upon which firms base their decision about branch office location. As mentioned in Chapter 3.2, the advantage in accessibility to the entire prefectures was the reason that many branch offices were concentrated in Koriyama. Koriyama was the site which offered the lowest travel costs, as shown in Fig. 3.

The third principle is the maximization of demand. This corresponds to the behavior of merchants in Hotelling's model (Fig. 4-b). In general, oligopolists which compete in the same market or territory tend to locate their sales outlets not in a way that minimizes travel cost for consumers, but rather in a way that maximizes demand. If the market is assumed to be linear, the locations of branch offices should be concentrated in the center point of the line. Then the competition would take place not in terms of marketing area but rather in terms of market share.

Moreover, the site having the maximum demand and that having minimum travel cost do not always coincide, as these criteria are defined by the different formulas as follows:

$$S = \min \{S_i, i=1, n\}, S_i = \sum_{j=1}^n P_j \cdot D_{ij}$$

$$T = \max \{T_i, i=1, n\}, T_i = \sum_{j=1}^n P_j / D_{ij}^\alpha$$

Where S is the optimal site evaluated in terms of travel cost, T is the optimal site in terms of maximum demand, P_j is the demand in area j , D_{ij} is the distance between area i and area j , n is the number of areas and α is a parameter of distance.

Consequently, when firms choose a site for a branch office, they must synthetically evaluate the branch office criteria taking into consideration the above two principles⁷⁾.

Domestic branch offices of Japanese firms and regional offices of transnational corporations differ significantly in terms of locational factors. The following factors are determinants for the choice of location for regional offices (Dunning and Norman, 1983; Yeung, 1996): availability of professional workforces, high level producer services (for example, finance and accounting, etc), and infrastructure that includes elements such as international airports and telecommunications. However, these factors appear to be less determinate for the location of domestic branch offices of

Japanese firms. The administrative employees of branch offices are generally employed directly by the head office through the national labor market and tend to be transferred to other offices after several years. Only female clerks, who are usually made to perform routine tasks, are generally employed through the local labor market by branch offices. Therefore, the difference among major cities in terms of worker availability is not significant. As for producer services, buying sources of special services tend to be decided by the head office. It is some kind of producer services, which are fully supplied in most of major cities, that branch offices have the responsibilities for procuring. For that reason, the availability of producer services is not regarded as important in determining the location of domestic branch offices. The availability of highways and railways is important in the case of domestic branch offices. However, no large difference exists among major cities with respect to this factor.

4.2. Territoriality of branch offices

A large number of branch offices have territories in which they are responsible for sales and management of agencies. These territories are assigned by the head office in order to make a spatial organization of marketing. For example, nationwide firms systematically divide the country into several sales territories so as to cover the entire country with their marketing networks and maximize sales.

Management requirements can also take priorities over economic rationality when firms assign branch office territories. In other words, the sales territory boundary is not always the mid-point of the two nearest branch offices. In fact, many of the boundaries of branch office territories are established in parallel with administrative boundaries such as prefectural boundaries. Only when the regionalization of administrative areas is extremely impractical with respect to spatial efficiency, the boundaries are adjusted partially in order to improve the spatial efficiency.

Why do firms use the regionalization of administrative areas to establish territories for their branch offices? First, the regionalization of administrative areas is the only systematic way to cover all parts of the country. Large firms do not like to leave an area without sales coverage, because market share must be maintained at some level in order to get the scale economy in the entire operation. This idea leads the firms to constant efforts toward expansion of sales areas and the creation of new markets. And the entire country is covered with their network of branch offices.

Secondly, large firms are generally characterized by the hierarchical structure of management, in addition to multi-functional or multi-divisional structures. As for the marketing departments of large firms, top management at the head office generally makes sales strategies in coordination with the plans proposed by other departments, and has overall control of the marketing activities. The second tier of management

at the main branch offices is responsible for the sales assigned by top management. In addition, this level of management plans sales within its territory. The third tier of management at lower ranked branch offices carries out marketing activities within their respective territories and supports the agencies that are under the supervision of the second tier of management. Consequently, branch office territories must be organized so as to correspond to the above-mentioned hierarchical management system. The territories of lower ranked branch offices should be established by dividing up that of the high ranked office (Hino, 1984). For the formation of territories with the above conditions, the regionalization of administrative areas having a pyramid structure consisting of nation, regions, prefectures and municipalities is the only appropriate model for Japan.

Thirdly, the regionalization of administrative areas is the only system of regionalization that the people recognize, and is stable in time. When conflicts between sales territories arise among members of the same group, it is necessary to confirm the range of responsibilities and the boundaries of the sales territory. The conflicts are easily resolved if boundaries are recognized by all members and are stable in time. The regionalization of administrative area possesses such advantages.

Fourthly, when firms estimate the demand in market areas, make sales strategies and assign branch offices attainable sales, statistics aggregated by administrative area are used. It is convenient for them to use such statistics when branch office territories are established in parallel with the regionalization of administrative areas.

In Japan, the prefecture system has a history of a hundred years and the division of the nation into prefectures is based on ancient administrative regionalization. As a result, the people are familiar with prefectural regionalization as a means of dividing the nation. For that reason, customers seem to be agreeable to divisions of areas in parallel with the boundaries of prefectures. In addition, for industries such as construction and mass media, the public sector is the main customer and supplier. So these industries tend to locate their branch offices in the administrative centers of prefectures and establish the territories of these offices so as to correspond with prefectural boundaries.

4.3. Are the branch office territories determined before or after the determination of branch office location ?

According to the theory of central place system, the market area of central function is delineated along lines of equivalent attractive power between adjacent central functions. If the territory of the branch office is set up as the market area of central function, the location of the branch office should be decided before the establishment of its territory. As mentioned above, however, firms tend to set up branch office territories by hierarchically dividing the entire county into sales territories in

parallel with the regionalization of administrative areas. In this case, the determination of territory precedes the choice of branch office location.

To explain the locational patterns of the branch offices in the San-in region, a subregion of Chugoku, the establishment of branch office territories precedes the choice of branch office location. The San-in region consists of two prefectures: Shimane and Tottori prefectures. In 1990, the region includes three cities at the top tier of hierarchy of cities: Matsue (pop. 143,000), Tottori (pop. 142,000) and Yonago (pop. 131,000) (Table 6). The former two cities are the capitals of Shimane and Tottori prefectures, respectively.

Table 7 shows the number of branch offices in these three cities in 1986. There were large differences among the cities⁸⁾. The number of branch offices in Matsue was considerably larger than that in Tottori and Yonago. Table 8 shows the respective branch office territories in three cities. Comparing these tables, the large difference in

Table 6 Characteristics of Matsue, Tottori and Yonago

City	Area (km ²)	Population in 1990 (thousand)	Sales of wholesaling in 1991 (100 million yen)	Sales of retailing in 1991 (100 million yen)
Matsue	175	143	5,242	1,974
Tottori	237	142	4,380	1,961
Yonago	98	131	4,017	1,927

Source: Hino(1991, 1996). The original data was from *the Japanese Population Census in 1990* and *the Japanese Commercial Census in 1991*.

Table 7 Number and composition of branch offices by industry in Matsue, Tottori and Yonago

Industry	Matsue		Tottori		Yonago	
	Number	%	Number	%	Number	%
Wholesaling	287	41.0	212	42.2	281	48.6
Construction	155	22.1	91	18.1	87	15.1
Services	98	14.0	73	14.5	71	12.3
Banking and insurance	89	12.7	72	14.3	66	11.4
Transport and communications	32	4.6	26	5.3	36	6.2
Retailing	26	3.7	23	4.6	28	4.8
Others	13	1.9	5	1.0	9	1.6
Total	700	100.0	502	100.0	578	100.0

Source: Hino(1991, 1996). The original data was from the directories of establishments in Shimane and Tottori prefectures.

Table 8 Territories of branch offices in Matsue, Tottori and Yonago

Territory	Matsue		Tottori		Yonago	
	Number of respondent	%	Number of respondent	%	Number of respondent	%
San-in region	77	27.0	4	1.8	56	23.6
Prefecture and a part of adjacent pref.	30	10.5	8	3.6	28	11.8
Prefecture	99	34.7	78	35.1	31	13.1
Sub-area of prefecture	39	13.7	73	32.9	56	23.6
City and vicinity	14	4.9	8	3.6	10	4.2
Others	23	8.1	47	21.2	56	23.6
Unknown	3	1.1	4	1.8	0	0
Total	285	100.0	222	100.0	237	100.0

Source: Hino (1991, 1996). The data were obtained through the questionnaire survey in 1987.

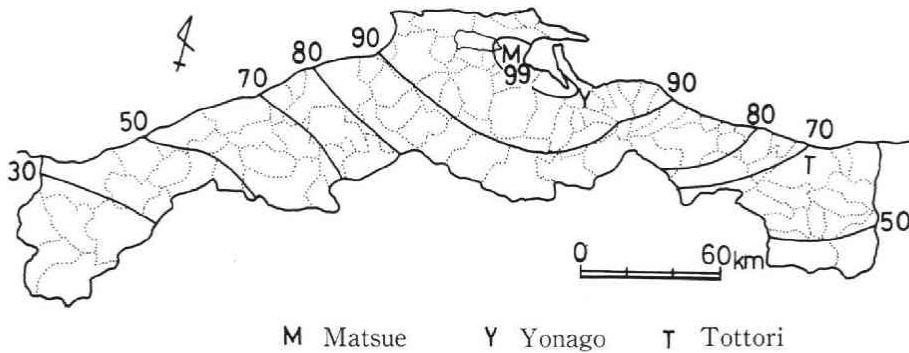


Fig. 5 Relative evaluation of cities to determine the location for the first branch office based on accessibility within the San-in region

the number of branch offices between Matsue and Tottori is understood to be mainly due to the difference in the agglomeration of branch offices having territories covering the entire San-in region. While Matsue had many branch offices of this type, Tottori had only a few such branch offices. Tottori is situated along the east edge of San-in, so that it is impractical to locate branch office taking charge of sales over the entire San-in region for the high travel cost associated with sales activities. In contrast, Matsue is located in the central area of the region, and so is evaluated as the best location for the above branch offices (Fig. 5). This is why Tottori had few branch offices having territories covering the entire San-in region whereas Matsue many.

The difference between Matsue and Yonago in the number of branch offices was

largely due to the difference in the agglomeration of branch offices having territories covering their respective prefectures. Yonago is situated in the central area of the San-in region, as is Matsue. In addition, since Yonago is a traffic nodal point connecting other regions, this city is more convenient than Matsue in terms of connection with other regions. That is why Yonago also had relatively more branch offices covering the San-in region. However, the branch offices that have territories covering the Tottori prefecture were established in number in Tottori, but not in Yonago. Tottori was the prefectural capital and was evaluated higher compared to Yonago as a branch office location having a territory covering the entire prefecture.

Based on these findings, Matsue or Yonago is chosen as the branch office location when the San-in region is established as a branch office territory. In contrast, Matsue or Tottori is chosen when prefecture is established as the branch office territory. Therefore, the assignment of a branch office area can be said to precede the choice of the branch office location.

5 Concluding remarks

We reconfirmed that the agglomeration of branch offices had already come to be an important component in the economies of major cities in Japan. In addition, the remarkable growth of regional centers in post-war Japan have been recognized to be largely due to the agglomeration of branch offices of large firms based in Tokyo and Osaka. Since most branch offices in regional centers have territories that cover the entire respective regions, the agglomeration of such branch offices has increased the centrality within their regions. A similar relationship exists between the agglomeration of branch offices and the centrality of prefectural centers. The centrality of prefectural centers has increased as the agglomeration of branch offices having territories covering prefecture.

Large firms tend to divide the country into territories that are similar to these defined by the hierarchical system of administrative regionalization. This is the territoriality of branch offices. As the territoriality is introduced in order to organize marketing activities spatially, territories were required to meet several conditions: coverage of the entire area (not leaving any area without sales), correspondence with the hierarchical structure of management, familiar regionalization among the people and stability in time. The hierarchical system of administrative areas is the only regionalization that meets with the above requirements. This is why large firms established branch office territories in parallel with the regionalization of administrative areas.

We described the three economic principles of branch office location: the threshold requirement, the minimization of travel cost for sales, and the tendency to

maximize demand. These principles were presented in previous studies on the central place system and the behavior of oligopolistic firms. Coupled with these principles, the setting up of territories in parallel with administrative areas can be said to be the primary factor in the concentrated agglomeration of specific branch offices in central cities at regional and prefectural levels.

Notes

- 1) The 32 intermediate groups selected are as follows: four groups in wholesaling, six groups in banking and insurance, two groups in real estate, seven groups in transport and communications, three groups in construction, seven groups in services and five groups in other industries.
- 2) The Tokai region is a sub-region of the Chubu region, which faces the Pacific Ocean.
- 3) The population of Kyushu did not include Okinawa prefecture.
- 4) More details are provided in Hino (1995, 1996).
- 5) According to the Japanese Standard Industrial Classification, the branch offices of manufacturers are classified in as belonging to the wholesaling category.
- 6) The accessibility of each city (municipality) to the entire prefecture was calculated as follows:

$$S_i = \sum_{j=1}^n P_j \cdot D_{ij}$$

$$S_{\min} = \min \{S_i, i=1, n\}$$

$$S_{\max} = \max \{S_i, i=1, n\}$$

$$A_i = \{(S_{\max} - S_i) / (S_{\max} - S_{\min})\} \times 100$$

Where A_i is the accessibility value of area i , S_i is the total travel distance from area i to all areas within the prefecture, P_j is the demand (visiting frequencies) in area j , D_{ij} is the distance between area i and area j , and n is the number of areas. In Fig. 3 the value of 100 shows the optimal area in terms of accessibility to the entire prefecture.

- 7) An example method for synthetically evaluating the branch office location is shown in Hino (1983, 1996).
- 8) More details are shown in Hino (1991, 1996)

References

- (*in Japanese, **in Japanese with English abstract)
- Abe, K.** (1984): Head and branch offices of big private enterprises in major cities of Japan. *Geographical Review of Japan (Ser. B)*, **57**, 43-67.
- Abe, K.** (1991): *Nihon no toshi-taikai no kenkyu*.* Chijin-shobo, Kyoto.
- Alexander, J.W.** (1954): The basic-nonbasic concept of urban economic functions. *Economic Geography*, **30**, 246-261.
- Beabon, K.S.O.** (1977): *Central place theory: A Reinterpretation*. Longman, London.
- Berry, B.J.L. and Garrison, W.L.** (1958): Recent development of central place theory. *Papers and Proceedings of the Regional Science Association*, **4**, 107-120.
- Christaller, W.** (1933): *Die Zentralen Orte in Süddeutschland*. Fischer, Jena. Japanese edition translated by Ezawa, J. (1969): *Toshi no ricchi to hatten*. Taimei-do, Tokyo.
- Dunning, J.H. and Noyman, G.** (1983): The theory of the multinational enterprise: an applica-

- tion to multinational office location. *Environment and Planning A*, **15**, 675-692.
- Kitagawa, K.** (1962): Nihon ni okeru kouiki-chushin-toshi no hattatsu to igi.** *Jinbun-chiri*, **14**, 242-262.
- Hayashi, N.** (1986): *Chushinchi-iron kenkyu*.* Taimei-do, Tokyo.
- Hayashi, N. and Hino, M.** (1988): Spatial patterns of the distribution system in Japan and their recent changes. *Geographical Review of Japan (Ser. B)*, **61**, 120-140.
- Hino, M.** (1984): The location of head and branch offices of large enterprises in Japan. *The Science Reports of the Tohoku University, Ser. 7 (Geography)*, **34**, 41-60.
- Hino, M.** (1986): Toshi no kyoten-sei ni tsuite.* Nishimura, M. and Morikawa, H. (ed.): *Chushinchi kenkyu no tenkai*. Taimei-do, Tokyo 30-43.
- Hino, M.** (1991): San-in chiho ni okeru kigyou no shiten haichi ni tsuite.** *Tohoku-chiri*, **43**, 245-263.
- Hino, M.** (1993): Tohoku-chiho ni okeru kigyou no shiten-haichi to toshi no kaisou-sei.* *Chiri-kagaku*, **48**, 50-59.
- Hino, M.** (1994): Changes in the spatial system of wholesaling in Japan. *The Science Reports of the Tohoku University, Ser. 7 (Geography)*, **44**, 77-97.
- Hino, M.** (1995): Waga-kuni shuyo-toshi ni okeru shiten no shuseki to douko.** *Keizai-chirigaku-nenpo*, **41**, 192-207.
- Hino, M.** (1996): *Toshi hattenn to shiten ricchi*.* Kokon-shoin, Tokyo.
- Hotteling, H.** (1929): Stability in competition. *Economic Journal*, **39**, 41-57.
- Ikezawa, H. and Hino, M.** (1992): Fukushima-ken ni okeru kigyou no shiten haichi ni tsuite.** *Chirigaku-hyoron (Ser. A)*, **65**, 529-547.
- Yeung, H.W.H.** (1998): Competing for transnational corporations?: The regional operations of foreign firms in Hong Kong and Singapore, in Cook, I.G., Doel, M.A., Li, Y.F. and Wang, Y. eds: *Dynamic Asia: Business, trade and economic development in Pacific Asia*, Aldershot, Ashgate, 78-119.
- Yoshida, H.** (1972): Kouiki-chushin-toshi-ron josetsu: Sendai-shi wo rei to shite.** *Chigaku-zasshi*, **81**, 224-241.