

# Spatial Patterns of the Distribution System in Japan and Their Recent Changes

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The spatial pattern of the Japanese wholesale system had for a long time been characterized by a bipolar structure with Tokyo and Osaka as major wholesale centers. Since the 1960s, however, with the changes in industrial structure and the agglomeration of head offices of large enterprises, wholesale traders have become concentrated in Tokyo. As a result, the spatial pattern of wholesaling has been transformed into a single polar system. At the same time, regional centers such as Sapporo, Sendai, Hiroshima, and Fukuoka have become important wholesale centers in the regions to which they belong.

Generally, there has been a remarkable increase in freight volume and transportation systems have undergone considerable development in the course of post-World War II economic growth. Distribution facilities such as warehouses and wholesale fresh food markets have moved from inner cities to metropolitan suburbs in parallel with the development of truck transportation. The location of truck terminals and wholesale estates in the suburbs of main cities promoted the relocation of wholesale establishments from CBDs to surrounding areas.

The most striking change in Japan's retail system has been brought about by the rapid development of supermarket chains on national and regional scales since the early 1960s. These stores are characterized by self-service and chain store systems which are diffused throughout the urban hierarchical system. With the development of retail activities in suburban areas, patterns of competition such as suburb vs. downtown area emerged within metropolises.

Motorization is another element which has brought about a restructuring of shopping areas at every level of the urban hierarchy. While newly developed commercial areas attract consumers arriving by car, existing and small-sized shopping areas are declining in the face of severe competition from the former. Spatial patterns of shopping centers which once corresponded to the hierarchical central place system have gradually lost their hierarchical features.

## I. Introduction

Distribution activities can be thought of as comprising a sub-system to a large system such as socio-economic activities. This sub-system consists of many functions including wholesaling, retailing and other related activities. Commodities are supplied not only to consumers but also to industrial users for the purpose of production. Firms and establishments performing such activities are themselves considered as unit systems. These systems, interrelating through the medium of goods, money and information, form a larger system known as the distribution industry. Distribution activities, which constitute a hierarchical system, can thus be analyzed at several hierar-

chically related levels.

The distribution system is closely related to its environment and, in order to reorganize, must constantly adapt to environmental changes. For example, it adapts to spatial changes in population and income distribution as well as to the introduction of new production and transportation systems. In Japan, these environmental changes occurred to a great extent during the period of postwar economic development in the 1960s and 70s. Interregional migration from countryside to metropolitan areas or regional centers, increase in the concentration of income in urbanized areas, and motorization are thought to be the main factors which have accelerated changes in the distribution system on a national scale.

With such environmental changes taking place,

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the distribution system has developed by restructuring and reorganizing itself. Many kinds of innovations including multiple-branch systems, self-service systems, and new transportation systems have always played major roles in promoting this development. The distribution system in Japan, therefore, is thought to have evolved by adapting to environmental changes and by adopting innovations in management, selling and transportation.

Most Japanese geographers regard distribution activities as a spatial system and have analyzed these activities from a spatial viewpoint. This paper attempts to clarify the spatial patterns of the distribution system in Japan and some recent changes therein, and especially emphasizes the manner in which geographers grasp the spatial characteristics of distribution activities taking place in this country. In this paper, the distribution system will be divided into two stages, wholesaling and retailing, and is analyzed in terms of the spatial pattern of these systems. First, however, the two sections immediately following provide an overview of some environmental factors which influence the distribution system and of the main distribution channels in Japan.

## II. Changes in the Environment of the Distribution System

### 1. Changes in the socio-economic environment

According to SIMMONS, who discusses locational changes pertaining to retail activities, the indirect factors influencing the location of retail activities are the development of the urban system, the level of technology involved, and income level (SIMMONS, 1964). Although SIMMONS restricts his conceptual framework to retail activities, this framework may also be applied to a wider area of commercial activities including wholesaling. Hence we would like to discuss the ways in which these three factors influence distribution activities in this country.

First, the urban system influences the distribution system through population growth and changes in transportation networks. The population in Japan increased from 100.56 million in 1966 to 117.78 million in 1982, which meant that the increase rate of the total population was 17.1

percent. Notably, in medium-sized cities around the three largest metropolitan areas, the average rate of increase reached 65.3 percent during the same period. Both houses and industrial establishments were located in these medium-sized cities because spatial development in the metropolises brought about the expansion of the population and attracted factories to these areas. On the other hand, major cities with a population of more than one million showed only a 1.9 per cent increase in population during the period under question. In these circumstances, retail activities developed rapidly on the outskirts of metropolitan areas from the latter half of the 1960s to the mid-1970s. We shall call this the suburbanization of commercial activities.

Another type of area which experienced a rapid increase in population was the regional center, whose rate of increase amounted to 36.1 percent. The cities in this type of area are characterized by a wide-spreading centrality overlaying their own respective prefectural areas. In Japan, economic development was restricted to the larger cities located along the main transportation route connecting Tokyo with Osaka. But since the introduction of the 'bullet train' (*shinkansen*) and the completion of nationwide highway and airline networks, larger cities located even in other regions have enjoyed economic growth because the main transportation system for physical distribution has changed from railways to trucks, as will be later discussed.

Physical facilities for transportation have been constructed around highway interchanges, and physical distribution has come to be operated on a large scale and at a higher speed than ever before. In Japan, the total warehouse area increased from 8,047,200 Km<sup>2</sup> in 1965 to 21,335,000 Km<sup>2</sup> in 1984, the rate of increase being 265.1 per cent. Development of transportation along with innovations in communication technology have made regional centers more attractive, not only where wholesale activities are concerned, but also for the locating of control functions of government offices and large private companies, whose headquarters are located, for the most part, in Tokyo.

### 2. Changes in the composition of consumption

The distribution system which supplies goods

and services cannot exist without the demand for those goods and services. The attributes of consumers who originate such demands consist of many elements, i.e., occupation, income level, sex, age, and so on, and are thought to determine the level and content of consumption. Not only the income of consumers, but also consumer spending, increased with the growth of Japan's national economy over the period of the 1960s and 70s. Annual expenditure per household, for example, increased from 630,000 yen in 1966 to 3,040,000 yen in 1982—a rate of 382.5 per cent. The rate of increase in provincial cities and towns was higher than that in the three metropolitan areas; hence it may be concluded that regional differences in expenditure have gradually decreased. While the percentage of expenditure relating to food has decreased, that relating to services has grown with the increase of income in Japan, as has happened in other developed countries. The expenditure rate for food decreased from 38.1 per cent in 1966 to 28.3 per cent in 1982, and that of culture and communication increased from 16.0 per cent to 20.7 per cent (Fig. 1). As to restaurants and shops, the ratio of eating and drinking establishments, as well as clothing stores, has decreased both in wholesaling and retailing, while that of culture- and leisure-related businesses has increased.

Another important factor which has affected

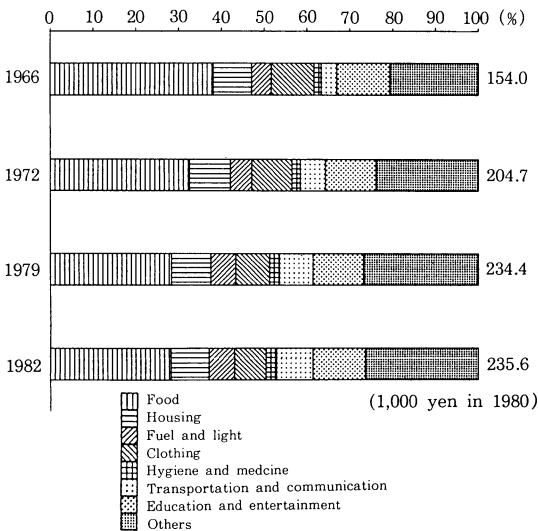


Figure 1 Trends in composition of household expenses per month

Source: Annals of Household Statistics

consumer behavior is the automobile. With cars being frequently used for shopping, the rate of automobile use increased from 26.0 per cent in 1965 to 46.2 per cent in 1984. In 1984, 65.9 per cent of all households in Japan owned cars, and the automobile ownership rate is higher in provincial cities than it is in metropolitan cities. Within metropolitan areas, the ratio is higher in the suburbs, because consumers in these areas tend to do their shopping by car. If the ratio for farming households is compared with that of non-farming households, the latter is found to have been higher than the former in the late 1960s; today, however, the situation is reversed.

Consumer behavior related to the use of automobiles has accelerated 'one-stop' shopping, whereby many kinds of goods are purchased at one time. Refrigerators were owned by only 44.1 per cent of all households in 1965, but are now owned by over 99.1 per cent. In addition, increasing numbers of women who have hitherto traditionally done most of the shopping have begun to hold down jobs outside the home and have, consequently, enlarged the demand for one-stop shopping. Moreover, in Japan's aging society, consumers choose goods according to their taste and the quality of the goods. In order to adapt to social and environmental changes such as these, a reforming of the structure of the distribution system was carried out by changing the locational patterns of stores and the modes or ways of selling. Consequently, over the past few years, the distribution system in Japan has become highly diversified.

### 3. Advances due to technical innovations

As with other economic activities in Japan, the distribution system has evolved in parallel with many technical innovations. These innovations range from hardware, such as various types of machinery, to software such as the self-service selling system and multiple organization of stores. Not only directly related techniques such as these but also general innovations now widely accepted in society affect the distribution system. We will now discuss technical innovations which have strongly influenced distribution activities.

Technical innovations in hardware systems were introduced mainly in the fields of transportation, stocks, and packaging. In order to trans-

port commodities more efficiently, transportation vehicles operating with the aid of electronics, computer-based management and control systems, and communication techniques have been introduced. Automatic warehouses and automatic distribution systems utilizing robots have also been adopted in order to automate the loading processes and make them more efficient. In addition, computers and facsimile machines have recently been introduced at many stages of distribution. In 1974, the total number of computers used in industry was 23,443, 25.5 per cent of which were used in distribution. This total number rose to 106,344 in 1982, in which the share of distribution showed an increase to 43.0 per cent (45,689).

Distribution activities networking began with multiple-branch organization where regular chain, franchise chain, and voluntary chain systems were established. From the 1960s to the 1980s, efforts have continuously been made to stabilize management in these chain systems by organizing distribution activities. Chain systems with the aim of gaining economies of scale by organizing numerous stores have influenced locational patterns of distribution activities. Independent stores depend on selling in one spot, while chain stores operate on the basis of the total balance produced by stores located in many different places. The most drastic change in selling modes is that of the adoption of the self-service system, a style of selling nowadays utilized by most supermarkets and superstores (large stores, which are not department stores, but which sell miscellaneous goods.) This style of selling is suited to one-story stores and is comfortable for shoppers and shopping; moreover, the stores are designed to be located on the outskirts of unbanized areas where land rents are not as high as in central areas.

In addition to these trends, networking with the aid of communication systems started in earnest during the latter half of the 1970s. The POS (Point of Sale) system, which is now the most popular, was used in more than 7,900 stores in 1985. This system, which directly connects selling to a considerable amount of stock at hand, has given rise to a new type of establishment called a 'convenience store'. As new information systems affect many aspects of traditional management, it is expected that new kinds of com-

mercial activities such as non-store retailers and VAN (Value Added Networks) will increase. Moreover, research on consumer behavior based on data obtained through the means of CATV and videotex is expected to prevail and distribution activities may assume new locational patterns.

### III. The Japanese Distribution System

#### 1. Distribution channels and functions

Most Japanese distributors consist of small-sized outfits, although there are several large trading companies, called *sogo shosha*, whose sales occupy nearly 20 percent of the total sales by wholesale, and there are also large retailers with nationwide store networks. However, the number of large distributors such as these is extremely limited. According to the Commercial Census of 1982, there were 428,858 wholesale establishments and 1,721,465 retail stores in existence throughout the country. This means that there were thirty-six wholesale establishments and 145 retail stores, respectively, per 10,000 people. These figures are larger than those for other advanced countries. For example, in the United States, the number of wholesale and retail stores per 10,000 people were fifteen and sixty-eight, respectively, in 1977 (TAJIMA and MIYASHITA, 1985). That is, in Japan, the number of consumers per distributor is less than half that of the United States. The smallness of scale of Japanese distributors can be clearly realized from the size of their establishments and also in terms of the number of employees. In the wholesale sector, nearly half the establishments have four employees or less. The average number of employees was about ten in 1982. In the retail sector, about 60 percent of all stores have two employees or less, and the average number of employees is about four.

It is generally said that the small scale of the distributors causes Japanese distribution channels to be long, narrow and complex. Figure 2 shows the aggregate distribution channels as reported by the Commercial Census of 1982. Wholesale establishments are classified into three categories, with some types defined by stage of distribution. The first category contains two types of primary wholesale establishment. The first type (*jikitorihiki-oroshi*) buys mainly from

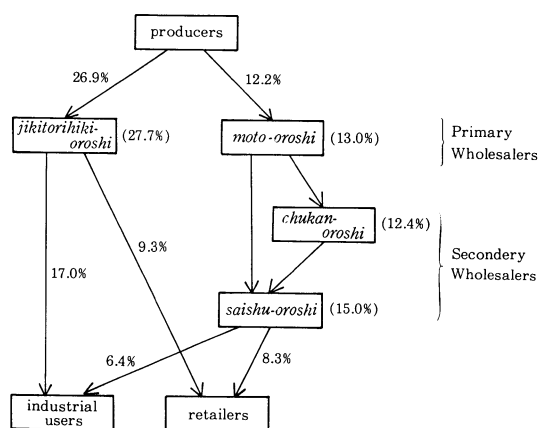


Figure 2 Aggregated distribution channels in Japan (1982)

Note: 1) Percentages show ratios of trade to total wholesales.  
2) Head offices of wholesalers selling to their branches and selling branch establishments of manufacturers buying from their head offices are not shown. These two groups sell 32 percent of the total sales by wholesale.

producers and sells to industrial users and retailers. This type of establishment sells nearly 28 per cent of all sales by wholesale: however, its main sales targets are industrial users. A large part of producers' goods and capital goods are distributed from producers to users only through primary wholesalers. Moreover, there are also direct channels between producers and large industrial users where the distribution of these goods is concerned, but these are not shown in Figure 2. From these facts, we are able to see that distribution channels for producers' foods and capital goods are relatively short. The second type of primary wholesale establishment (*moto-oroshi*) buys mainly from producers and sells to wholesalers. Its sales occupy about 13 percent of the total amount of sales.

The second category is formed of two types of secondary wholesale establishments. The first type (*chukan-oroshi*) buys from primary wholesalers and sells to other wholesalers and its sales account for about 12 per cent of the total sales. The second type (*saishu-oroshi*) buys from primary and intermediary wholesalers and sells to retailers and industrial users. Its sales account for about 15 percent of the total. Thus the market share of secondary wholesalers in the distribution of consumer goods is considerably large and, as the above situations indicate, the distribution channels are considerably long-ranging.

Other wholesale establishments form the third category. The following two kinds of establishments are characterized by trading that takes place between an establishment's head office and its branches, in other words, between a wholesaler's head office and its own branch offices, which are its principal buyers and, secondly, between branch establishments of manufacturers and wholesalers and their head offices.

Although the features of Japanese distribution channels as a whole are as depicted above, they naturally differ according to the kinds of goods being handled; hence a survey of distribution channels by kinds of goods is called for (HASEGAWA, 1984). For this reason, the distribution channels of two contrasting types of consumer goods will be briefly considered at this point. The first, namely, fresh goods, has one of the longest-ranging of the distribution channels due to the fact that producers and consumers are small-scale, dispersed and numerous and hence require a 'gathering' process. For example, vegetables and fruits produced in places far from market areas are collected together, first by producers' cooperative societies or other assemblers. Next, these two types of assemblers ship products to central wholesale markets in large cities and consign commission merchants there to sell them to jobbers by auction. The jobbers not only sell the products to retailers but also send some of the goods to local wholesale markets in adjacent areas and to central wholesale markets in other main cities.

The second type of goods consists of consumer durables such as electrical appliances and automobiles. These goods are produced by a small number of large manufacturers under mass-production systems and sold to consumers through nationwide marketing networks individually organized by the producers. For example, Matsushita Electric Corporation, the largest maker of electric appliances in Japan, owns at least one local marketing company for making sales by wholesale to retailers in each prefecture. In addition, the company has organized many retailers affiliated with its marketing network (HINO, 1979).

Consumer goods are transferred from wholesaler to retailer, and the latter in Japan, can be classified into three or four types in terms of its

method of selling. The first type comprises department stores established in the early 1900s and which developed along with the economic expansion that took place mainly in cities. While many department stores in metropolitan areas have grown in size, department stores in smaller cities have had to compete with supermarket chains for markets. The second type, consisting of supermarkets and superstores, has a relatively short history and has developed on the basis of low-cost buying and selling. These two types are called large-scale retailers.

Most medium and small-scale retailers, that is, the third type of retailer, are independent merchants. These retailers number over one million and range widely from solid enterprises to set-ups by merchants working on the side. Specialty stores included in this group, however, are distinguished from other independent retailers, not only by the particular kinds of goods they deal with, but also by their sales methods and the image they establish in the minds of their customers. Convenience stores comprise another kind of small-scale retailer, but most of them operate under the chain system. There are other types of retailers, including mail order houses, door-to-door sales, and automatic vending establishments. The last-mentioned three types of retailers share one feature in common, in that they operate without the aid of the store system.

While nearly all retailers buy goods from wholesalers, some retailers such as supermarket chains design their own goods and order the production of these goods directly from the manufacturers. As, where retailers are concerned, joint buying is an effective and profitable method of buying goods from wholesalers, not only supermarket chains but also department stores organize buyers' groups. Through this process, major department stores have drawn small-sized local department stores into their sphere of influence. Moreover, while major department stores have commenced the management of supermarkets and are moving towards merchandizing conglomerates, leading supermarket chains have strengthened their chain operations by means of vertical integration and the diversification of goods.

## 2. Changes in the wholesale system

In the early 1960s, the distribution revolution

theory which implied that small and medium wholesalers would be expelled from distribution channels in the future roused social interest in the distribution system (HAYASHI, 1962). The forecast was based on the following two points: First, as the supermarket chains that emerged in the late 1950s became bigger, they would buy goods directly from producers and large wholesalers; and, secondly, large-scale producers utilizing mass-production systems would construct their own marketing networks, which would correspond to their production and thus dispense with the need for small and medium, ordinary wholesalers. As far as the number of wholesale establishments are concerned, however, the drastic changes anticipated by this theory have not yet occurred. Certainly there has been a remarkable increase in supermarket chains over the past two decades, and large national retail enterprises with many branch stores have emerged among them. Moreover, the organization of distribution channels by large-scale makers has also taken place. However, the actual number of small wholesale establishments, contrary to expectations, has not decreased but, in fact, has shown an increase. Consequently, the proportion of small wholesale establishments to the total number of wholesale establishments decreased only slightly during this period. For example, wholesale establishments having four or less employees accounted for 51 percent of the total in 1960 and 49 percent in 1982.

We can, however, find structural changes in the wholesale system when we consider wholesalers by types. Sales by small wholesalers without branches have steadily decreased. On the other hand, the number of wholesalers with branch offices and the number of sales branches of large manufacturers have increased, in comparison to the total number of wholesalers. For example, among incorporated wholesalers, the proportion of wholesalers without branches decreased from 27 percent in 1968 to 19 percent in 1982. The proportion of sales of both multilocal wholesalers and the selling operations of manufacturers has increased by about 5 percent in the same period. We find the large wholesalers capitalized at 100 million yen or more have increased their market share. Moreover, large wholesalers and manufacturers have organized many small- and

medium-sized wholesalers, although this aspect is not covered in the Commercial Census. It can be said that large wholesalers and branches of large manufacturers have become more important in the Japanese wholesale system than was made evident in the Commercial Census statistics.

The postwar wholesale system in Japan underwent yet another great change in the shape of the remarkable transformation in the composition of wholesaling activities. Textile products accounted for the largest sales by wholesale in 1960. However, textile sales decreased drastically in proportion to the total sales, from 18 percent in 1960 to only 4 percent in 1982, due to the increased weight of heavy-chemical industrialization after the Second World War. On the other hand, the proportion of sales by wholesale of ores, metal materials and machinery have greatly increased, with the market shares of the big trading companies (*sogo shosha*) in these goods also being large.

### 3. Changes in the retail system

The most striking change in the postwar retail system in Japan has been the emergence and remarkable growth of nationwide retail enterprises handling supermarket chains. Until the early 1960s, the only large retailers were department stores located in metropolises such as Tokyo and Osaka. After the mid-1960s, a new type of large enterprise, incorporating the innovations of multiple-organization systems emerged; this was referred to as the nationwide supermarket chain. At present, the top five retailers in sales in Japan belong to this type, and the economic power of department stores has relatively declined. In addition, many regionally distributed supermarket chains have grown up alongside the nationwide chains. According to the Commercial Census of 1982, retail trade-related general merchandise, consisting of nationwide and regional supermarket chains and department stores, occupies nearly 15 per cent of total retail sales although, in terms of numbers, these stores comprise only 0.3 percent of the total existing stores.

The supermarket chains were the first to adopt the self-service system, then an innovation in selling techniques. The number of self-service stores increased from 4,790 in 1966 to 22,217 in 1982. With this change, the percentage of turnover for these stores increased from 5.4 percent to 19.2

percent. The system was adopted early on by the *shokuhin supa* (supermarkets selling only foods), and then gradually into other kinds of stores such as *iryohin supa* (large stores selling clothing as well as foods), superstores (large stores dealing in miscellaneous goods), hypermarkets, and so on.

Moreover, specialty chain stores have developed on national and regional scales, and the share of retailers with branches in the total retail sales outlets has shown a remarkable increase during the last two decades. For example, the market share of retailers with ten or more stores increased from 19 per cent in 1970 to 36 percent in 1982. On the other hand, the share of retailers having no branches decreased from 42 percent to 29 percent during the same period. All of these trends show that the enlargement and organization of business has proceeded along the lines of a pursuit of scale merits of trading in the retail sector. Small retailers, however, still occupy a large part of the retail sector, although their share in the total sales has decreased as seen above.

## IV. The Spatial Structure of the Wholesale System

### 1. The Hierarchy of wholesale centers

The Japanese wholesale system is spatially organized so as to correspond to the hierarchy of cities (KUWAJIMA, 1981a). In other words, the spatial system of wholesaling is one of the important elements sustaining the national urban system in Japan. However, it was only after the Second World War that the present spatial system of wholesaling actually came into being.

Tokyo is at present the primary center of wholesaling (Fig. 3) but, until the early 1960s, the level of wholesale activities in Osaka was on a par with Tokyo. The main market area of Tokyo was limited to eastern Japan, while western Japan was dominated by Osaka. That is, the country was divided into two market areas for Tokyo and Osaka respectively. This spatial composition was referred to as the bipolar structure of Japanese spatial economy and was a carry-over from feudal times. But, with the rapid growth of the Japanese economy contingent on the heavy-chemical industrialization after the late 1950s, a large disparity in wholesaling arose between Tokyo and Osaka. While in 1960, Tokyo and Osaka respectively

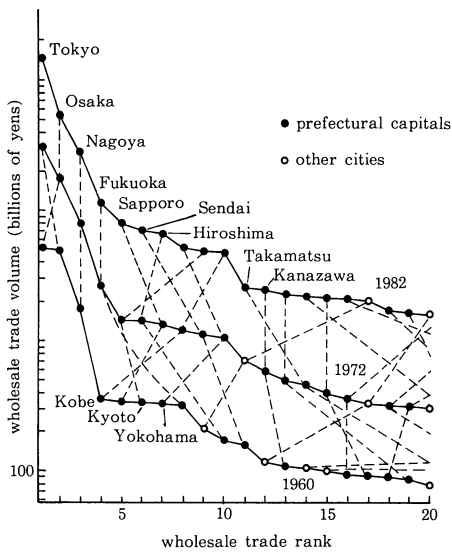


Figure 3 Rank and size of the top twenty wholesale centers in Japan

Source: The Japanese Commercial Census, 1960, 1970, 1982

occupied an equal 27 percent of the national wholesale total, after that time, the national share of Tokyo steadily increased, reaching 37 percent in 1982. In the same year, that of Osaka, on the other hand, sharply decreased to a mere 14 percent. Thus Tokyo became the primary national center with Osaka now relegated to second place.

The following reasons can be pointed out as causes of the large disparity between Tokyo and Osaka. The latter city was the national trade center for textile products (HINO, 1978), and a large part of the decrease in its national share is due to the relative decline in textile wholesales. Whereas Tokyo was the wholesale center for heavy-chemical industry goods, and the heavy-chemical industry gained in importance in the national industrial structure after the late 1950s, thus bringing on an increase in Tokyo's share in the national sales by wholesale. Particularly, the big trading companies (*sogo shosha*), which have a large market share in the trade of ores, metal materials and machinery have played a major role in raising the status of Tokyo (TAGUCHI, 1980). Hence it may be said that the postwar concentration of large enterprise headquarters in Tokyo is another important reason for the rise of Tokyo's national share (ABE, 1984).

Nagoya is the third ranked wholesale center

after Osaka. As the city is situated between Tokyo and Osaka, its market area has been limited mainly to the Tokai region in central Japan. This region also ranks next to the two largest metropolitan areas in size of population and number of industries. For this reason, the volume of demand in this region is rather large; although Nagoya's national share has decreased by 3 per cent since 1960, it still accounted for 7 percent of the sales by national wholesales in 1982.

At present, four regional centers constitute the fourth tier in the hierarchy of wholesale centers as follows: Sapporo in the Hokkaido region, Sendai in the Tohoku region, Hiroshima in Chugoku, and Fukuoka in Kyushu. The former two regions are located in northeast Japan, and the latter two in southwest Japan, and all these regions consolidated their status during the decade of the 1970s. Even before that period, Yokohama, Kobe and Kyoto, which are sub-centers in the two largest metropolitan areas, had the largest volume of sales by wholesale, next to Nagoya. For example, Hiroshima with the smallest volume of sales among the four regional cities had only one half of the sales by wholesale of Kobe in 1960. However, wholesaling in Hiroshima became one and half times the wholesaling in Kobe in 1982. In addition, this growth occurring in regional centers had no small influence on the decreases in the national shares of Osaka and Nagoya (TAGUCHI, 1980). That is, a part of the shares of the sales of the two latter cities was transferred to the increase in shares of regional cities. The concentrated agglomeration of sales outlets operated by large manufacturers and wholesalers has been pointed out as the main reason for the growth of regional cities as wholesale centers. Many large enterprises have located their sales establishments in regional centers since the late 1950s, in order to develop provincial markets and increase their market shares; they aimed to take advantage of the fact that the field for markets had expanded under the rapid economic growth of postwar Japan, although this expansion was later and smaller than that of the three largest metropolitan areas. In addition, many sales establishments located in regional centers acquired regional territories (HASEGAWA, 1984). With the agglomeration of sales outlets of large enterprises in regional cit-



ies, the latter were able to consolidate their status as regional wholesale centers (YOSHIDA, 1972). On the other hand, there were not as many branches of large enterprises located in Yokohama, Kobe and Kyoto as there were in regional cities; these three cities are located near either Tokyo or Osaka and many of the large enterprises felt no need to locate branches within the territories of Tokyo or Osaka. This state of affairs eventually brought about the change of status involving the three cities of Yokohama, Kobe and Kyoto and regional cities, as explained above. However, the three cities still do have comparatively large volumes of sales by wholesale, and thus may be ranked as the fifth tier in the hierarchy of wholesale centers.

Other prefectural capitals and a few sub-centers in large prefectures constitute the sixth tier in the hierarchy of wholesale centers. Although there are some differences in volume in their respective sales, their market areas equally cover their own prefectures or sub-regions of their own prefectures. After these cities, sub-centers within each prefecture constitute the lowest tier of the hierarchy of wholesale centers.

## 2. Spatial patterns of trade and physical distribution

Inter-regional commodity flows in Japan are classified into nationwide and regional patterns (MITSUHASHI, 1978; HINO, 1978) (Fig. 4). The national flow is comprised of commodity flows among the three largest metropolitan areas and is

characterized by the largeness of the volume of the commodities, reflecting the fact that the three areas, with their large agglomerations of industries and population, are the main buying sources and sales targets for one another (MORIKAWA, 1977; HINO, 1978; MURAYAMA, 1984). Other nationwide flows consist of industrial products moving from Tokyo and Osaka to regional centers. However, flows in the reverse direction are fewer, due to the fact that regional centers function only as intermediate centers of commodity flows from Tokyo and Osaka to the rest of the country. In addition, there are national flows of agricultural and fishing products from the provinces to the three largest cities, particularly to Tokyo. These flows indicate that the function of central wholesale markets for fresh foods in the three largest cities is the gathering of goods from around the country and distributing them, not only in their own, but also to other regions (ANDO, 1972; KOBAYASHI, 1976).

On the other hand, regional flows form trade and transport spheres at three different levels. The first-level spheres represent eastern and western Japan, respectively, and Tokyo and Osaka are the respective centers. In trade distribution, this pattern emerges at the stage of wholesale buying (HINO, 1978). Where physical distribution is concerned, the primary transportation by ship of petroleum products and steel corresponds to these two spheres, large manufacturers of these goods having built factories in each sphere in order to increase their market shares (YADA, 1977; MURAKAMI, 1979). In addition, the

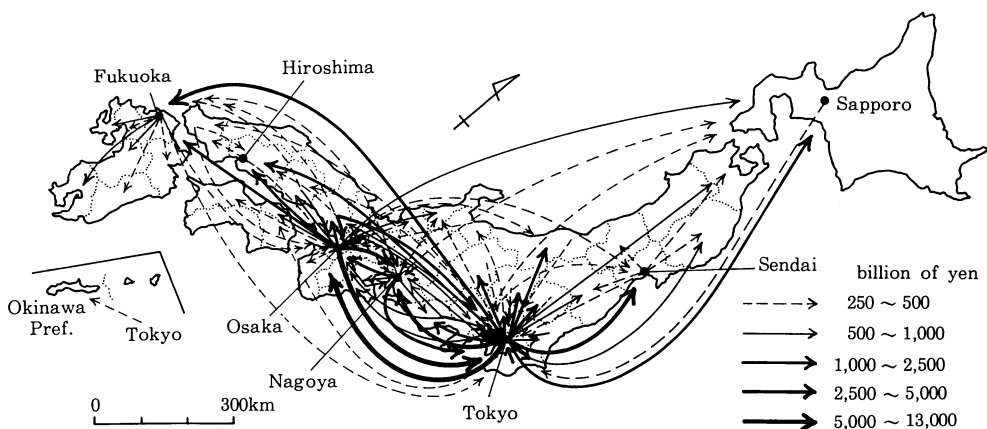


Figure 4 Main inter-prefectural trade flows in wholesale buying (1982)

Source: The Japanese Commercial Census, 1982

physical distribution of imported grains dictates the form assumed by eastern and western transportation areas whose respective centers are Yokohama and Kobe, the two largest seaports in Japan (MURAYAMA, 1984). The second-order spheres correspond with the general regionalization of Japan into nine districts, namely, Hokkaido, Tohoku, Kanto, Tokai, Hokuriku, Kinki, Chugoku, Shikoku and Kyushu. In trade distribution, this spatial division has been strengthened with the agglomeration of branch sales establishments of large manufacturers and wholesalers in each regional center (MORIKAWA, 1977; HINO, 1978). With regard to physical distribution, a similar spatial division can be recognized. The third-level spheres comprise the largest metropolitan areas. Here, one-way flows from metropolises to surrounding areas are dominant in the trade distribution of industrial products. Mutual flows, however, have come to be characteristic of physical distribution (HAN, 1984). These circumstances are related to the fact that wholesale establishments have principally been concentrated and factories and population have been dispersed around metropolitan areas.

### 3. The location of wholesale establishments and related facilities

Wholesale establishments have traditionally been concentrated in Central Business Districts (CBDs) within cities in Japan, just as in other countries. Many of them perform the functions of storage and delivery along with trading; that is, places of trading are not separated from places of storage and delivery. Hence, with the remarkable increase in amount and number of goods under the postwar rapid economic growth, wholesalers early on needed to enlarge the size of their establishments. However, land rents in CBDs of major cities have risen enormously in concomitance with urban growth. As a result it became difficult for small and medium wholesalers to expand their premises within CBDs. Moreover, with motorization rapidly proceeding at the same time, traffic congestion within CBDs became a serious problem, and the prompt and efficient delivery of goods has become difficult (NAKAGAWA, 1972; HASEGAWA, 1984). Small and medium-sized wholesalers were unable to solve the problem by themselves. On the other hand, with the devel-

opment of a postwar society characterized by mass production and mass consumption, the construction of a nationwide express transport system became a social necessity (HAYASHI, 1962). To satisfy this need, the national government invested a large amount of money in the expansion of road network, including highways. Consequently, with the ensuing motorization and the increase in preference for the transportation of goods by truck, a system which has greater flexibility in terms of time and space, by the late 1960s, the amount of freight transported by road surpassed that transported by train.

With this structural change in the freight transportation system, the national government promoted a number of policies aimed at the modernization of the distribution system. The most important of these was the construction of distribution centers (specialized areas for distribution activities) in the suburbs of major cities (NAKAGAWA, 1972; HASEGAWA, 1984). Suburbs selected as locations for distribution centers had the following characteristics: relatively low land rents, open spaces, and good access to main roads, such as highways, for example. In distribution centers, facilities such as wholesale estates, central wholesale fresh food markets, warehouse estates, and truck terminals were built. At present several large-scale distribution centers are located near crossing of main roads (highways and ring roads) and besides ports within the three largest cities. In addition, many wholesale estates with warehouse estates and truck terminals were established in regional centers and other major cities. In 1983, there were 160 wholesale estates altogether in the country (SUZUKI, 1985).

As a result of the construction of these distribution centers, the relocation of wholesale establishments and warehouses from CBDs to suburbs took place in many cities (NAKAGAWA, 1972; AZUMI, 1973; NISHIHARA, 1978; TAKAHASHI and SHIOKAWA, 1984; SUZUKI, 1985). However, wholesale establishments specializing only in trade and management functions (i.e., head and branch offices of large wholesalers and manufacturers) remain located within CBDs of large cities, and are the main elements of CBDs (NISHIHARA, 1978; NISHIHARA and TANABE, 1978).

On the other hand, large transportation facilities were also constructed for important ports in

large cities. The main ports were bases serving not only import and export activities, but also the domestic transportation of producers' goods such as petroleum products, cement, steel, imported grains, and processed foods. For this reason, they were equipped with large oil tanks, steel yards, cement silos, grain silos and refrigerator warehouse (KONNO, 1970; AZUMI, 1977; TANAKA, 1980; SHIOKAWA, 1982; NOJIRI, 1987). In addition, motor pools were constructed for vehicles awaiting export, as well as for long-distance transportation within the country (AZUMI, 1983; HOSHIAI, 1983). It is noteworthy that wharves specially constructed for the handling of container cargoes have been built at a few large ports with the progress of containerization, after the late 1960s. The influence of containerization on the hierarchy of the major ports was discussed apropos of the increase of the functional powers of Japan's three largest ports, Kobe, Yokohama, and Tokyo (ENDO, 1981, 1985).

### V. The Spatial Pattern of the Retail System

#### 1. The retail system on the national and regional levels

Retailing in Japan has undergone a rapid development over the last three decades. The rates of increase in the number of employees and amount of sales are larger than the rate of increase in the number of retail stores, a factor that underlines

the growth of retail activities during this period (Fig. 5). When retailing is analyzed on the national level, it would be useful to consider the following two points. The first, which concerns the spatial pattern of retailing, is that the three metropolitan areas, Tokyo, Osaka, and Nagoya, have a far larger number of retail stores than other regions do (KUWAJIMA, 1981b). The next larger agglomerations of retailing are in Kita-Kyushu (the northern part of Kyushu), Setonaikai (the Seto Inland Sea), the northern part of Kanto, and the southern part of Tohoku, where a large number of cities are located adjacent to the three

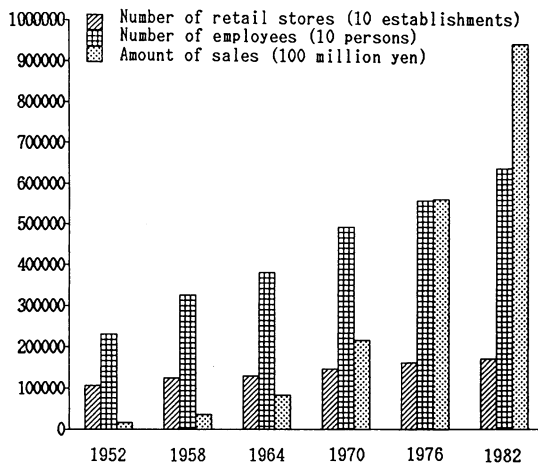


Figure 5. Growth in retail activities for the last three decades

Source: The Japanese Commercial Census for each respective year

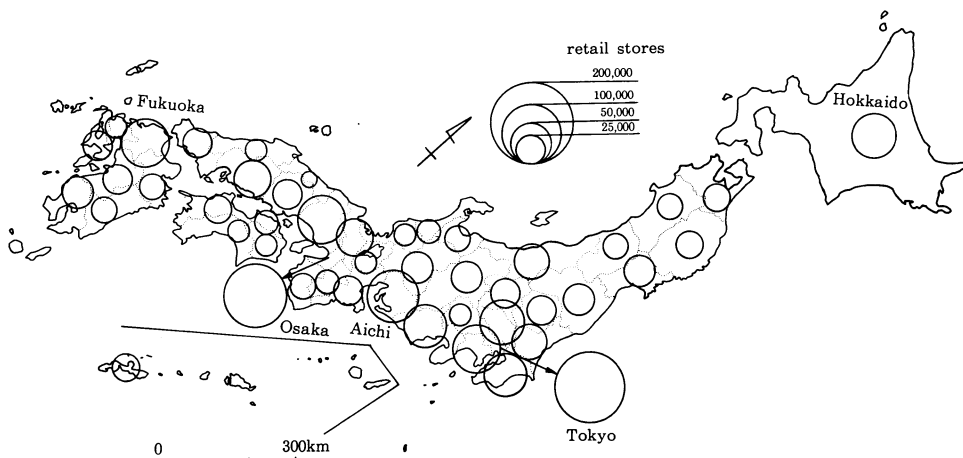


Figure 6 Number of retail stores by Prefecture

Source: The Japanese Commercial Census, 1985

metropolitan areas in Japan (Fig. 6). The size of retail stores differs among regions, and the annual turnover per store is the largest in regional cities such as Sapporo, Sendai Hiroshima, and Fukuoka, which exceed the national average by 40 per cent. Core cities in the three metropolitan areas, which are comprised of the cities of Tokyo, Osaka, Nagoya, Yokohama, Kawasaki, Kyoto and Kobe, are next. Conversely, other cities below the prefectural city level in the national urban system have smaller turnovers than the national average.

Secondly, retail stores are widely organized into chain systems on the national level. Although retailing is an economic activity depending mainly on the local demand for goods, it becomes necessary to incorporate it into a nationwide economic activity with the advance in the organization and establishment of chain stores, accelerated by mass production and mass consumption. Large-scale retail stores which are generally called 'supers' in this country and which first appeared in the early 1960s were, in the beginning, located in large cities (Itoh, 1978a). These supers continue to develop, and some of them have diffused their organizations from the regional to the national level. The major supers promoted their own national development by mergers and the acquisition of other supers, in the mid-1970s. The location of supers during this period followed the urban hierarchical system. In the early 1960s, supers were found only in cities with populations of over one million; but, by the mid-1970s, they were to be found in 40 percent or more of cities with a population of 50,000. The rapid development of supers, however, has slowed down, owing to their regulation by law in 1974, and changes in consumption after the oil crisis.

Some characteristics of retailing reflecting areal differences can be found in retail systems at the prefectured level. In Japan, most prefectural capitals form the population centers of their prefectures. These cities are commercial as well as administrative centers, and have the largest agglomerations of retail stores in the prefecture concerned. In almost every prefecture, other commercial centers next to the prefectural capital in the urban system have large market areas including the countryside. There are numerous

manufacturing cities along the coast in the Pacific belt zone, where many of Japanese industries are located. In these cities, the density of retail stores in relation to their populations is low. A similar situation exists in newly developed areas bordering on metropolises and prefectural capitals where, owing to the spatial extension of the cities involved, a rapid expansion of both the population and housing is taking place (KUWAJIMA, 1973). Retailing developed considerably in prefectures where incomes showed a large increase in proportion to the economic growth. Most of these prefectures are to be found in the industrialized region facing the Pacific Ocean, and it is in these regions that retail activities were organized and large-scale retail stores were first introduced. Industrialization, however, proceeded to take place in other regions during the latter half of the high economic growth period, and retailing methods underwent modernization. Regional differences in income have decreased since the mid-1970s, when regionalism was stronger, and regional differences in consumption have also diminished. In provincial prefectures, where public transportation is less developed, the expansion of motorization has enabled consumers to travel further distances in order to shop. This has resulted in the decline of small shopping centers and the growth of large centers of medium and high level.

Apart from studies on retailing based on data categorized according to administrative area, there are a number of empirical studies carried out within the framework of the central place theory. For the purposes of study, in the case of inter-urban levels, cities, towns, and villages as administrative units, or other smaller settlements were chosen as central places (ISHIZAWA, 1984). Also, reflecting the trend whereby central place studies were carried out in homogeneous areas, Japanese geographers selected certain plains as study such as, for example, the southwestern part of Niigata (FUJIMAKI, 1976), the eastern plain of Lake Biwa (MATSUDA, 1984), and the Ichinomiya region (HAYASHI and ITOH, 1976). Some other studies, however, were conducted in regions consisting not only of plains but also of mountains and islands (HAYASHI 1973; TSUTSUMI, 1975; USUI, 1979). In every study made, retailing was selected as one of the indices of central function, and the agglomeration of stores and their trading areas were

analyzed, in order to classify the central place according to size and field of influence.

When retailing is treated as a central function, the number of stores and the number of kinds of stores indicate the sizes and characteristics of the centers under study. At the same time, although these factors are related to the population of centers, there are some exceptions. Settlements that have more stores than might have been expected, judging from the settlement sizes, are considered to be commercial centers having wide hinterlands; but settlements having fewer stores are considered to be industrial centers or satellite towns. In most of these studies, a kind of hierarchy was discovered in the size pattern of the agglomeration of central functions, including retail stores. However, it is by no means easy to verify the principles of spatial organization according to Christaller's central place model. Although some regions may be explained on the basis of the transportation principle, other display characteristics resembling that of the market principle. Location patterns of centers deviate from a theoretically ideal regularity, due to heterogeneous components such as physical conditions and industrial activities (HAYASHI and ITOH, 1976).

The interaction between central places and consumer behavior are also referred to in these studies. Although hierarchical patterns are found not only in the agglomeration of central functions but also in trading areas, it is not unusual to find a spatial overlapping, one with the other, of trading areas belonging to the same level. Trading areas formed around central places undergo changes at the time of the location of new stores, especially large-scale retail stores. The changes are related to consumer behavior involving traveling longer distances by car for the purpose of 'one-stop' shopping and to the tendency to patronize larger retail stores.

## 2. Spatial structure of retailing within metropolitan areas

The main aspect of geographical studies on retailing within metropolitan areas is the observation of dynamic changes in the location pattern of activities. The population that flowed out of the countryside during the period of high economic growth settled, for the most part, in the three largest cities of Japan, that is, Tokyo, Osaka,

Nagoya, and the areas surrounding them. These large cities began to grow further and form metropolitan areas; and the process of this expansion attracted the attention of numerous geographers interested in the location processes of retail stores which, respectively, reflected the differences in size and structure of the metropolitan areas.

Since the early 1960s, several studies have been carried out on the spatial structure of retailing within the Tokyo metropolitan area. All kinds of retail activities belonging to all the hierarchical levels are located in the Tokyo metropolitan area, the largest urbanized area in Japan. Because of its complexity, an analysis of its spatial structure is no easy task. Unlike other metropolises, sub-central commercial districts such as Shinjuku, Shibuya, and Ikebukuro saw development with spatial extensions of suburban areas respectively constituting their hinterlands (KAWAGUCHI, 1985). On the other hand, in the Keihanshin metropolitan area, where Osaka, Kyoto and Kobe underwent a historical development as core cities, the location pattern of retailing was formed around these large cities (TSUGAWA, 1982; FUJII, 1983). In Keihanshin area consumers are able to travel widely by means of the convenient inter-city mass transportation system. The third largest metropolitan area, having Nagoya as its core, has comparatively simple structure in which intermediate-sized cities are located, in the capacity of commercial centers, at regular intervals around Nagoya (HAYASHI, 1974; TOMITA, 1977).

Although the structure of each metropolitan area is unique, it is possible to point out certain features that are held in common among them. One such feature is that, for a short period of time, retail stores were located on a large scale in suburban areas. Consequently, the relative share of downtown areas in commercial sales decreased in direct proportion to the increased location of commercial facilities in suburban areas. Central areas, however, have not suffered an advanced decline as in the case of North American cities, due to the highly developed public transportation system available in the central areas. The advanced decline of retailing, caused as it was mainly by the outflow of dwellers to the suburbs, is observable in areas surrounding the metropolitan cores.

Another common feature is that the location of

retail stores did not keep pace with the increase in population. While the fact that, at one time, the supply of goods and services in suburban areas was insufficient constituted a serious problem, this situation has gradually improved with the passage of time. It was mainly large-scale retail stores, such as 'supers' that supplemented the shortness of supplies, and shopping centers were constructed one after another to attract consumers who utilized cars to do their shopping.

Some researchers engaged in the study of location patterns in retailing in metropolitan areas consider the application of the central place theory to these areas. While general features of retailing and locational arrangement predicted by the theory can actually be discovered at the macro level, there are certain micro-level phenomena for which the theory cannot fully account. For example, there are cases where neither the nighttime nor the daytime population can fully account for certain location patterns because of spatial discrepancies on the part of these populations in metropolitan areas. In addition, when shopping, consumers tend to behave stochastically in urbanized areas having good transportation systems, and this produces spatial patterns of market areas that differ from a predicted theoretical pattern based on the assumptions of some form of deterministic behavior. As to the retail stores themselves, their locations are such that they tend to encourage a foot-loose style of shopping on the part of the consumers, and it is therefore difficult to obtain a clear view of the hierarchical structures in the distribution of commercial centers.

### 3. The spatial structure of retailing within cities

In the analysis of metropolitan areas, the city is usually treated as a point; but the agglomeration center of retailing may, in fact, be considered an area. We can classify studies in retailing at the city level into four types. The first type confines the studies within a framework consisting of the central place theory; the second applies factor analysis to a set of data matrix in order to extract spatial patterns; the third comprises studies that lay emphasis on the location pattern and the morphological structure of retailing; and the fourth analyzed the development of large-scale retail stores and their impact on the existing commer-

cial structure.

In the first type of study, geographers search for a hierarchy in the rank-size distribution of retail agglomeration and try to determine whether or not a central place system exists within urbanized areas. Three, four or five levels are observable in the hierarchical system of retail activities, according to studies in Osaka (MASAKI, 1976), Kyoto (NISHIMURA, 1979), Hiroshima (MORIKAWA, 1981), and Kanazawa (TSUGAWA, 1978). While each study refers to hierarchical classes of retail types and trading areas of commercial centers, the spatial arrangement of retail agglomerations is not sufficiently discussed. This is probably because the clear spatial regularity that the theory leads the researcher to expect does not in fact exist and, hence, the analyses are mainly limited to non-spatial aspects.

The second type of study aims at revealing the spatial structure of retail activities through the application of factor analysis, and is influenced by factorial and ecological studies. Here in these studies, while groups of retailing types are extracted as factors, retail agglomerations are classified into spatial types by their factor scores. Two main factors corresponding respectively to higher and lower levels are extracted in the study of two regional cities, Sapporo and Fukuoka (Itoh, 1982). In a study of Sendai, on the basis of comparative analyses carried out in 1972 and 1981, it was concluded that, while retail activities continued to agglomerate more in central areas, a dispersed pattern appeared in surrounding areas (NEDA, 1985). The classification of commercial centers was also attempted in factorial studies of this kind and, moreover, the existence of a hierarchical central place system was discovered. However, non-central place types, ribbon development commercial areas, and specialized shopping areas, which were empirically reduced from case studies conducted in North America, were not verified. This was not because no such type of commercial area existed; but there may have been some discrepancies between areal units of study and the real distribution of retail agglomerations.

The third type of study emphasizes the horizontal and vertical arrangement of retail activities within cities. The annual turnover in retailing by types was chosen as an index of store size and was used to reveal the temporal fluctuations in the

commercial structure of Nagoya (HAYASHI, 1977). It was concluded from this particular study that the suburbanization of retailing proceeded in accordance with the spatial shift of dwellers to the suburbs, as a result of which the central area and its neighboring areas suffered either a relative or absolute decline in annual turnover (Fig. 7). Besides population, there are several factors which affect the commercial structure within cities. On the side of supply, as will be discussed later, large-scale retailings, which accelerate the modernization of retail activities contribute a great deal to the changes in the above-mentioned commercial structure. We should also point out the development of transportation, which plays an important part in connecting demand with supply, as another factor. In large cities, where subways and railways have a more important role than buses and streetcars in the transportation system, accessibility with regard to shopping is strengthened near terminal stations, hence the agglomeration of retail stores in these areas. On the other hand, in the suburbs, most of the consumers have recourse to cars when shopping, due to the less developed state of public transporta-

tion; hence, commercial areas are formed along the main streets.

Several studies are available which aim at revealing the morphological features of commercial areas, the composition of types of retail stores, and their spatial arrangement (TOMIOKA, 1973; HATTORI and SUGIMURA, 1974; SUGIMURA, 1975, 1977, 1978; KUI, 1975). While most traditional commercial districts in Japanese cities are formed along streets, central commercial areas within cities are spatially extended and formed at the points of convergence of a number of shopping streets. Apart from central commercial areas, in medium- and large-sized cities, as mentioned above, shopping areas have formed around the terminal or main stations of inter-urban railways. These developed relatively recently, after the extension of residential areas which are connected by railways to central cities, and consist of commercial facilities patronized mainly by consumers who utilize the railways. Moreover, terminal station shopping areas are formed in front and at the back of the stations in an asymmetrical arrangement that extends across the railway.

Commercial centers have developed not only

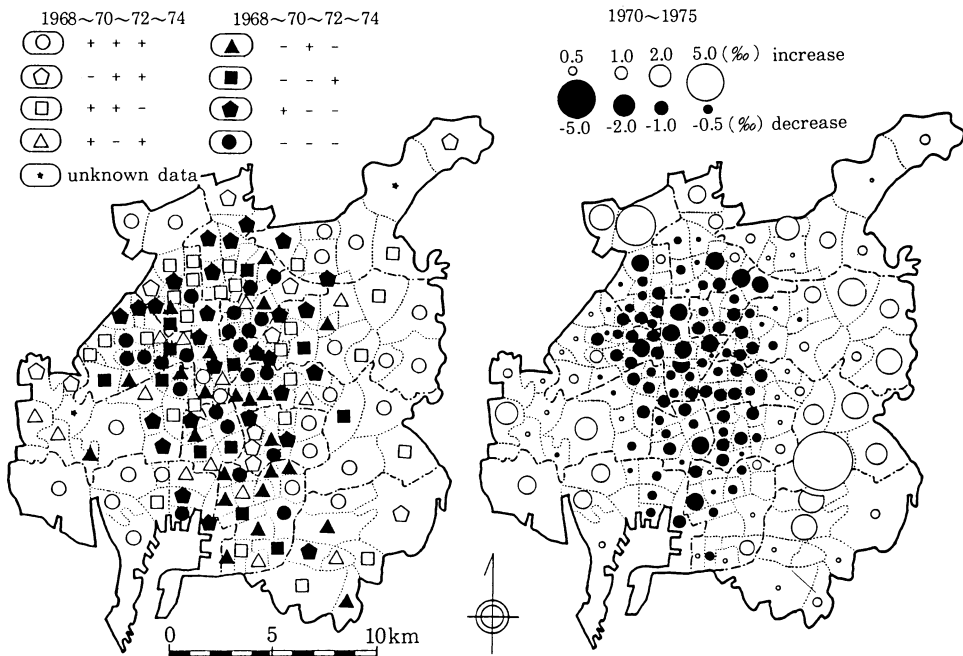


Figure 7 Changing patterns in retail sales and population in the City of Nagoya (by per mileage share)

Source: Statistics of Nagoya 1968, 1970, 1972, 1974, 1975

horizontally but also vertically, with the aid of advanced architectural technology. Apart from department stores located in central areas before World War II, underground shopping centers and high-rise commercial buildings have been constructed in recent years in city centers (TODOKORO, 1975, 1979, 1986; SUGIMURA, 1983). Most of the underground shopping centers in large cities were built at the time of the construction of the subway systems, and consist mainly of specialty stores. The average turnover per unit of selling area of these stores is very high. Moreover, old commercial districts in and around central areas have been renewed under urban planning, the latter also involving the addition of large-scale retail stores in order to attract an increasing number of consumers.

We have also mentioned that large-scale retailers play an important role in the modernization of commercial activities. Large-scale retail stores have a great deal of influence on other stores, especially small-scale specialty stores in medium- and small-sized cities. The competition between already established retailers and newcomers to the commercial scene is the subject of debate and discussion, and several monographs describe the influence wielded by large-scale retail stores and their locational impact on other commercial establishments (ITO, 1978b; MURAKAMI, 1979; TODOKORO, 1981; ETSUKI, 1987). The drawing power of large-scale retail stores is so strong that small-scale retail stores selling goods selected for their affordable prices sustain a considerable loss of business. On the other hand, retail stores offering high-quality goods and services suffer almost no damage. There are also cases of stores, which, due to their being located near large-scale retail stores, attract a considerable number of shoppers and increase their sales. Because of this, a movement protesting the establishment of large-scale retail stores gradually dwindled, especially since regulation by law moved in to control the establishment of such stores.

Large-scale retail outlets, established as core stores in planned shopping centers, supply goods and services to the outflow population from central cities and contribute to the shaping of new commercial districts. On the other hand, certain large-scale retailers, attempting to penetrate the markets of provincial cities, locate their stores a

long way from existing commercial centers; hence the spatial pattern of consumer behavior becomes complicated. Subject to the location pattern of stores available in the provincial cities, consumers commence to go shopping by car, instead of on foot or by means of public transportation. Meanwhile, after the mid-1970s, large-scale retail stores that had developed through buying and selling goods on a large scale had trouble increasing their sales turnovers with the slowdown of the national economic growth subsequent to the oil crisis. Hence some of the above retail stores commenced to reform and reorganize their establishments by diversifying their activities and incorporating high-quality goods for sale.

#### **4. Changes in consumer behavior and trade areas**

Since it is not appropriate to separate studies on retail location from studies on trading areas forming around stores or commercial centers (NISHIMURA, 1977), we will refer to consumer behavior and trading areas which are considered to be the place or products created by the suppliers and the consumers (ISHIZAWA, 1978; HAYASHI, 1979). An important clue to the understanding of the nature of trading areas is the concept of hierarchical orders of goods and services. While retailers are classified by the range of the goods and services they supply, consumers also behave in accordance with their own orders; the range of goods and services is related to the temporal intervals of demand on their part (KOHSAKA, 1970). Consequently, a kind of interrelation exists among orders of retailing, the frequency in buying goods, and the distance traveled in order to shop. These relationships are reflected in the hierarchically structured spatial patterns of trade areas. Regularities of this kind pertaining to trading areas are generally confirmed in central place studies carried out in Japan, as well as in other countries. However, some researchers consider trading areas not only as fields in which stores supply goods and services, but also as fields in which consumers make decisions as to which kind of transportation, stores and goods they are going to choose.

This trend of thought is mainly caused by the criticism of the hypothesis that consumers buy at the stores nearest to their homes; hence it



becomes necessary to take note of the fact that consumers do not necessarily conform to the nearest center hypothesis (KOHSAKA, 1976; UENO, 1977; TOMITA 1978; ARAI, 1979). One explanation of this fact lies in the popularity of cars for shopping purposes; consumers choose one-stop shopping, utilizing cars by which they can transport the goods they buy to their homes. Behavior such as this constitutes an obstacle to the formation of hierarchical trade areas. In addition, the stochastic choice of stores in urbanized areas, where the locational density of stores is very high, further serves to complicate the arrangement of trading areas. Commercial facilities for one-stop shopping are mainly comprised of large-scale retail stores, which, in spite of the distance, consumers patronize because of the variety of goods and services they are able to find there. To sum up, the development of retailing and the changes in consumer behavior are operative factors in the construction of non-hierarchical trading areas.

Changes in consumer attributes do not consist only of behavioral changes induced by motorization. The extension of spatial discrepancies between work-place and residence, the increase of population migration, and the changes in consciousness caused by rises in income are other factors that must be taken into consideration. Owing to these changes, the behavior of consumers becomes ever more variegated and difficult to analyze. Should we wish to understand the reasons underlying the behavior of consumers, it becomes necessary to investigate the psychological aspects and the spatial perception of consumers (IKUTA, 1979; WAKABAYASHI, 1982); apropos of this, it would be preferable to employ stochastic rather than deterministic models in order to explain the manner in which trading areas are formed (FUJIME, 1981). Studies of trading areas have recently come to be carried out within the framework of human behavior, as well as that of retail activities.

## VI. Concluding Remarks

In this paper, we have discussed spatial patterns of the distribution system in Japan and some recent changes. The distribution system in this country has undergone a gradual change over the past years in conformity with the high economic

development of the past two decades. This economic development has played an important role in transforming the nationwide transportation system and has given rise to regional differences in production methods and styles of living on a national scales; this, in its turn, has led to changes in the urban system. Economic activities have been developed over a wider area than ever before. People who migrated from the countryside to the metropolitan areas have contributed to the forming of new markets and suburban areas are not only places for the relocation of urban functions, but are also residential areas that are still in the process of development. With the increase in incomes resulting from the high level of economic development, people are now able to enjoy an amply supply of a variety of consumer goods manufactured on a large scale. The advance of technical innovation, moreover, vastly contributes to the promoting of productivity and efficiency at each stage of production, distribution, and consumption.

With these rapid changes in the socio-economic environment, the enlargement, organization, and diversification of distribution activities is taking place at an equally rapid pace. It could be pointed out that the rise in economic rank for Tokyo in wholesaling and the rise in the four regional cities has served to increase their influence in provincial areas. These changes have been caused, in the main, by the establishment of nationwide markets and the horizontal and vertical organization of large-scale wholesalers whose head offices are located chiefly in Tokyo. The nationwide relocation of manufacturing and the expansion of the transportation network, including bullet trains, highways, and airlines, have provided the infrastructure for these developments. The changes in the wholesale system as an important element of the urban system have reinforced the hierarchy of the urban system.

In the field of retail systems, large-scale retail stores represented by supers appeared as innovative establishments, and came to occupy an important role in retail activities. They are responsible for having developed the organization location of stores on local, regional, and national scales, and exert a strong influence on existing small-scale retail stores. The outer parts of metropolitan areas have evinced a rapid increase in

population and new kinds of retail stores, such as large-scale retail stores, are now located in those areas. Retail stores adopting the self-service system have expanded throughout the country. It should be added that the diffusion of the automobile in shopping has accelerated the construction of planned shopping centers for the purpose of one-stop shopping and the formation of transportation-oriented commercial areas.

With the appearance of new kinds of retailers, the regional structure of retail activities has undergone changes on an inter-urban and intra-urban scale. While commercial centers corresponding to the concept of the central place system still remain contained within urbanized areas, new types of commercial areas have come into being. The relative share of turnovers in downtown shopping areas, where department stores and specialty stores are located, have decreased. Suburban areas, on the other hand, increased their shares in sales with the growth of new shopping centers. Another type of commercial district made its appearance in front of or at the back of terminal stations in cities having public transportation systems. Consumers buy more goods and travel further than ever before to buy them, due to the increase in their incomes and the increased use on their part of automobiles. Therefore, it has become more and more difficult to analyze their behavior by the use of deterministic models.

As mentioned above, during the last two or three decades the distribution system in Japan has taken on quite a different form, where its spatial characteristics are concerned. It may be said that such changes are basically the same as those that took place in Western countries which experienced rapid economic development earlier than Japan. Certain aspects, however, differ in the case of Japan with regard to the development of the distribution system, owing to the social cultural, political, and geographical differences in background. It has been said that distribution activities in this country tend to maintain traditional methods and customs more than in other economic sectors. As it is, however, distribution activities are beginning to take on different forms with the changes in social systems and the rapid advancement in technical innovation. It is a matter of note that the changes in the distribution

system during the period of rapid economic development basically define the present spatial structure of the activities involved, in Japan.

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## 日本の流通システムの空間的パターンと近年におけるその変化

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日本における卸売業システムの空間的パターンは、これまでずっと東京と大阪を中核都市とする二極構造によって特徴づけられてきた。しかしながら1960年代以降は、産業構造の変化と大企業本社の集中に対応しながら、卸売業取引は東京に集中するようになった。その結果、卸売業の空間的システムは単一システム構造へと変化していった。同時に、札幌、仙台、広島、福岡などの広域中心地が、それらの地域における重要な卸売業中心地になった。

戦後の経済成長ともなって輸送貨物量は驚くほど増大し、輸送手段にも格段の発達が見られた。トラック輸送の発展にともない、倉庫や食料品卸売市場などの施設のなかには都市中心部から大都市の郊外に移動するものが現われた。主要な都市の郊外に建設されたトラック・ターミナルや卸売商業団地は、卸売業施設の都心部から周辺部への移転を促進する役割を果たした。

日本の小売業システムにおける最も顕著な変化は、1960年代の初頭以降に、スーパーマーケットやスーパーストアが全国的規模や地域的規模で急速に発展したことである。こうした店舗は、都市の階層システムを通して普及していったセルフ・サービス・システムと多店舗システムによって特徴づけられる。小売業は郊外地域で発展したため、大都市の内部では商業地域に関して対照的なパターン（郊外対都心）が生ずるようになった。

モータリゼーションは、都市階層のあらゆる段階で購買地域の構造に再編成をもたらしたもう一つの要素である。新たに発展した商業地域が自動車によって来る消費者を吸引する一方で、既存の小規模な商業地域は厳しい競争を強いられるようになった。以前は中心地システムに対応していた購買中心地の空間的パターンは、こうした影響の下でその階層的特徴を徐々に失っていった。

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