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Spatial Analysis of Financial Activities in the Korean Urban System

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This paper focuses on the geographical pattern of financial activities in the Korean urban system during 1975-1990, based on the assumption that financial activities can reveal control points in Korea's urban economy. In terms of spatial evolution of financial institutions, different locational characteristics are revealed among different types of financial institutions, implying the role of urban hierarchy. Financial resources are highly concentrated in the capital region, Seoul and Kyonggi Province. Both centralization trends into the large metropolitan cities and relative declines of medium and small cities within the Korean urban system, have been experienced over the study period. Financial activities sustain relatively stable hierarchical structure in the urban hierarchy. Regarding the financial flows, dominant flow zones centered on major metropolitan cities are identified, clearly showing a prominant role of Seoul in financial flows in the entire urban system.

Key Words: financial system, urban hierarchy, urban system, financial flows, spatial concentration.

1. Introduction

The purpose of this paper is to examine the spatial characteristics of financial activities in the Korean urban system. The financial system plays an important role, as the mechanism and institutional tool, in guiding the flow of saving and investment. And also in determining options for industrial policy, and in managing financial flows to different sectors in Korea. As an institutional force, the Korean banking system may control capital investment, which has affected regional growth through its lending processes and channels of capital transference. Thus, the spatial pattern of financial activities can reveal major control points in the Korean urban system.

This analysis focuses on the years 1975, 1985 and 1990. In order to draw out the spatial characteristics of financial activities, three topics are investigated. The first is concerned with the spatial evolution of financial institutions in the Korean urban system, namely banking institutions and nonbank financial institutions.[1] The different stages of institutional development in the banking sector are considered in the framework of the development of the banking network.

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The second examines the spatial patterns of financial activities with regard to the distribution of financial resources, which is represented by the number of banks and the amount of banking deposits and loans in the Korean urban system. In order to draw out the characteristics of individual cities during 1975-1990, not only are the different population groups of cities considered, but also residuals from regression lines between banks, deposits/loans, and population are analyzed. This residual analysis is based on the assumption that regression line can show the goodness-of-fit-line between variables. Furthermore, the relations between population growth and financial growth in the entire urban system are examined in order to find out the spatial tendencies within the financial sector.

The third topic discusses the spatial hierarchical structure of financial activities and its implications for the Korean urban system. The spatial hierarchical structure of financial activities is compared with that of population in terms of its stability. The hierarchical indices between 1975, 1985, and 1990 are calculated in order to identify and to compare the urban hierarchical structure through time. Factor analysis and cluster analysis are used with the financial flow data describing the 'on-line-banking network'[2] to reveal the financial structure of the Korean urban system.

The data for analysis come from several government publications and unpublished materials, including (1) ***Directory of Financial Inter-mediaries in Korea, 1991***, that is published by the Bank of Korea, (2) ***Municipal Yearbook of Korea*** that is published annually by the Ministry of Home Affairs, and (3) the flow data of the 'on-line-banking network' of the Bank of Choheung, which show both the number of transactions and the amount of transactions between forty-four different regions on the day of April 15th 1992.

2. Studies of Finance in Geography

While a number of studies have focused on the corporate hierarchy, not much attention has been given to the geographical distribution of financial activities despite the central role of capital and finance in capitalist society. Studies of the finance sector can be put into two different research frameworks. The first regards the finance sector as a part of the service industry (as a producer service). Changes in the finance sector are considered to be linked to the structural transformation of the metropolitan economy from a manufacturing based mode to service based mode (Noyelle and Stanback, 1984; Hanson, 1983). The second treats the finance sector in a spatial context in relation to the dynamics of corporate headquarters locations, metropolitan development, and effects on urban hierarchy system development (Semple, 1985; Bourne, 1991).

Also viewing finance as an institutional force in its key role of economic development, the issues of regulatory change of the financial sector, its restructuring, and the role of government in the finance sector become important research considerations (Holly, 1987; Harring-ton, 1992).

1) Finance sector as a producer service

As a part of service, we should consider the finance sector within the general framework of the role of services in production. In economic geography, the relationship between service and manufacturing is a subject of concern (Britton, 1990; Marshall, 1987; Walker, 1985; Wood, 1991). The issues covered are spatial dynamics and the geography of producer services, the composition and role of services in national and regional structrues, and the role of services within enterprises and corporate groups (Britton, 1990, pp.529-530).

It is important to ask a question about relationships between producer services and

production: whether service plays a leading role or a supporting role in production, or whether service and production are interdependent on each other or not.

We can find that perspectives on the role of services in production have changed. In the traditional view, the manufacturing industry is assumed to be the 'engine of growth' in producing economic growth. The role of services is only seen as the passive consequence of industrial growth. But recently, interdependence between services and production is recognized and an emphasis has been placed on the active role of the service sector, while criticizing the traditional view towards services.

Daniels (1983) advocates selective views towards diversity of services, while criticizing the long standing views which regard services as a supporting role in economic development and which have hindered wide ranging research into services. According to Daniels (1983, p.308), "manufacturing activities will continue to have a key role in our industrial future but services should have a place closer to the center rather than an purely supporting role". Later, his perspective is extended to stress the interdependence between services and the manufacturing sector, saying "services do not displace manufacturing, and manufacturing does not compete with services; rather they reinforce each other" (Daniel, 1989, p.432). Also, Keil and Mack (1986) point out that many parts of the service sector are basic, instead of nonbasic in nature, in attempting to identify export potential in the service sector.

The studies about the finance sector, as a producer service, can be summarized in the following guestions rather than answers concerning the nature of finance services in production. (1) In relation to the definition of producer services, what is the position of financial service as a producer services? (2) What kind of role does the finance sector play in production, whether as a production-dependent service sector or as a production-leading service sector? (3) How can the growth of the financial sector be understood within the changes of industrial production system? (4) Finally, what are the locational characteristics of the finance sector as a producer service?

First, concerning the financial sector in the relationships between producer services and the manufacturing sector, more sophisticated classification of producer services will be necessary in defining the financial sector as a producer service (Coffey and Polese, 1987). Simply, distinct from consumer services, producer services are referred to as intermediate-demand functions that serve as inputs into the production of goods and of other services (Coffey and Bailly, 1990, p.1608). Also, producer services are primarily defined as private services satisfying business or intermediate demand, including activities such as financial and legal services, administration within companies, physical distribution, research, advertising and selling (Marshall *et al.*, 1987, pp.35-36).

However, defining producer service based on the distinction between the goods-producing sector and the service sector, can be a problem. For instance, if service products are produced within manufacturing enterprises, they may be enumerated as part of the goods-producing sector: but if the same products are supplied externally by specialized service firms, they also might be enumerated as part of the services sector.

From the viewpoint that sees finance as a sector of the serivce industries (a producer service), Bailly and Maillat (1991) introduce a new service classification system based on establishment. According to them, the financial sector can be understood as a productioûn-related circulation function among four different functions of economic activities, which are as follows: Manufacturing··· involving the processing of raw materials; circulation··· performing an information, communication and financial flows: distribution··· providing goods and

services directly to end users: and regulation ··· ensuring the overall smooth operation with maintenance, modification, regulation and monitoring.[3)]

Similarly, Wood (1991) notes that the most significant question about any service function is how it serves some broader market need. Wood identifies the importance of the finance sector in four domains of change for service functions. They are the material production arena, the financial or capital circulation arena, the domestic consumption arena, and the public service arena. According to him, financial circulation functions depend on distinctive complexes of services, goods, public service functions, and domestic life styles (Wood, 1991, p.70).

Second, regarding the role of the finance sector in production, the leading role of the finance sector in production has been dealt with through investment processes from financial systems (Allen, 1988; Walker, 1985). In this regard, the role of sources of funds in investment decision-making in the industrial system would be important in association with external control (Dicken, 1976; Smith and Taylor, 1983). Taylor and Thrift claim that "a proper appreciation of the nature and availability of various forms of finance is central to an understanding of the functioning of modern capitalist production" (Taylor and Thrift, 1983, p.360). They recognize the progressive intermeshing of the circuits of industrial, commercial and banking capital within large enterprises, which makes it harder to distinguish financial institutions from industrial corporations, Also, they suggest that finance and financial institutions can provide a hint as to the spatial aspects of the supply of funds for industrialization and the grwoth of industrial enterprises. In a different vein, Kindleberger argued a close relationship between the expansion of banks and industry, "there is no way to determine which of the two processes is dominant: in some cases, banks lead industrial growth; in other instances, industrial growth leads to banking growh" (Kindleberger, 1983, p.583).

Third, regarding the growth of financial services, there can be two different perspectives; post-industrial and deindustrialization perspectives (Marshall *et al.*, 1988). In the post-industrial viewpoint, it is held that the growth of service activities is a concomitant of the natural and desirable evolution of the structure of developed economies. In the deindustrialization perspective, it is assumed that service growth is neither positive nor progressive, being a result of the deindustrialization of developed economies through new and more productive technologies and through offshore competition based on lower wage rates.

In association with structural change of the production system, the change of the service sector also has been recognized in the form of a shift away from primary and secondary activity to tertiary activities, and a creation of special services for new categories like 'quaternary' and 'quinary'. One of the important features of changes in the finance sector is related to changes in corporations. Larger firms can bring about the integration of financial markets through their diversification strategies and associated product and process innovations, which subsequently lead to the reorganization of the financial sector (Marshall *et al.*, 1992). This points to the fact that a financial revolution can be bulilt on the backs of the broad sweep of production changes and breakthroughs in communication technology.

Fourth, in terms of the location of the financial service sector, the spatial concentration of the financial sector has been widely recognized in relation to producer services, nationally and internationally (Daniels, 1985, 1991; Illeris, 1989; Marshall *et al.*, 1988). The centers of financial activities imply the spatial control points of economic activities. The spatial concentration pattern of financial service activities has been explained from several different perspectives.

In a cumulative and circular model, Pred (1977) suggests a conceptual framework for understanding the relationship between banking location and the location of corporate headquarters in large metropolitan areas. According to Pred, the larger the metropolitan area, the greater the availability of specialized information. Because commercial banking is an essential business service for corporations, growth of commercial banking is accompanied by increasing demand from high-level organizational administration units attracted by metropolitan areas in a circular and cumulative feedback process. Pred's argument developed later in association with the concept of corporate ownership and control (Coffey and Polese, 1989). The spatial pattern of corporate head-quarters imposes a centralizing influence upon the location of circulation activities, including financial activities. As corporate control and administrative function tend to be highly concentrated in a small number of large metropolitan areas, the demand for producer services, including financial service, would be similarly concentrated. It is because face-to-face contact between the supplier and purchaser of such services reflects qualitative characteristics that cannot be reproduced satisfactorily by long-distance communications.

Another insight into the concentration of financial activities can be provided by studies of the flexible production system (Getler, 1988; Lovering, 1990; Martin, 1989; Oberhauser, 1990; Scott, 1988b). The flexible mode of accumulation is characterized by the flexibility of production process and of labor markets, and the search for external economies of scale (Scott, 1988b). Under the flexible production system, internal economies decline and external economies proliferate. Vertical integration enables firms to economies of scale. External economies of scale can be transmitted into centripetal forces and into spatial forms of agglomeration economies. Thus, we can expect that high-order circulation activities, like financial activities, will concentrate together in forming locational convergence and reagglomeration in order to achieve external economies of scale. In addition, because flexible supplies of labor are required and large metropolitan areas can fulfill this need by polarized labor markets, new agglomeration patterns are to be expected.

2) Finance sector in the dynamics of spatial structure

Recently, the spatial characteristics of banking activities have been studied in association with several issues including metropolitan development, spatial concentration patterns, regional shifts in corporate control and corporate headquarters, government regulation change, and general economic development.

Early studies about banking activities are marked by efforts to identify the structure of metropolitan centers (Borchert, 1972, 1978) and to examine the urban systems hierarchy (Conzen, 1975, 1977). Another study of issues focuses on the concentration pattern of banking sectors (Mintz and Schwartz, 1983; Rhoades, 1982).

However, the most dominant issue of banking studies can be related to the studies of corporate hierarchy and corporate activities. Wheeler and Dillon (1985) examined the association between commercial bank deposits and metropolitan population size and corporate importance in the U.S. from 1970 to 1980. They found a highly concentrated banking activities in a relatively small number of large metropolitan areas and the strong association between commercial banks, population size, clustering of corporations and government revenues. Martz and Semple (1985) examined the geographical distribution of coporate decision-making power for the Canadian banking sector in 1983. The banking sector itself is regarded as the largest and most powerful corporation to show urban hierarchical power structure. They found that only five cities including Toronto, Montre-

al, Vancouver, Edmonton, and Calgary, control Canadian banking decisions through an extremely concentrated pattern. Wheeler (1986) investigated the role of the metropolitan hierarchy in the spatial links between corporations and financial institutions.

There have been studies focusing on the technological, organizational and spatial change of the banking sector itself. The restructuring of the banking sector has been related to the effects of government regulation change (Crane, 1983; Holley, 1987; Lord, 1987, 1992; Marshall *et al.*, 1992; Owens, 1986), technological development (Morris, 1987; Moss, 1987; Marshall and Bachtler, 1984; Langdale, 1985), and organizational change (Fagen, 1990; Taylor and Hirst, 1984).

For the studies of government regulation changes in financial sector, Holly (1987) examined the impact of government regulation, competition, and new technology on the U.S. commercial banking system. He suggests that banking functions were moving up the urban hierarchy resulting in increased spatial concentration in the financial sector. Lord (1987) focused on interstate banking acquisition in order to determine the geographic shifts of corporate control in the U.S. banking industry during 1982 to 1986. He suggests the importance of legislative conditions, and that market and financial institution characteristics will guide the geography of interstate acquisition and determine the relocation pattern of economic control points. In his later studies, Lord (1992) updated his study on interstate acquisition, and examined the spatial transfers of corporate control of U. S. banking assets, which resulted from the geographic deregulation of the U.S. banking industry.

Marshall *et al.*, (1992) emphasized the interaction between regulatory changes and the spatial development of banking as a consumer service, exploring the dynamics of employment growth and change in the financial sector, in the regions of Britain, during the 1980s. According to them, an analysis of the dynamics of corporate organization is central to an understanding of the changing geography of the financial sector.

Technological innovations in the banking sector can provide new products and services, and promote reorganization of the branching system. Technological changes in the banking sector, including the introduction of electronic banking, promote the internationalization of banking (Langdale, 1985) and have spatial implications in a nation. While the heaviest concentration of banking activities remains in core areas, there is strong potentiality for the diversification of routine functions to peripheral regions (Morris, 1987). The concerns of organizational changes in the banking sector are related to increasing competition in banking sectors with the growth of unregulated financial and nonbank organizations, which offer an array of financial services not unlike those of commercial banks (Holly, 1987).

3. The Development of The Finanical Network in the Korean Urban System

As a producer service and a measure of national wealth, banking activities reflect the availability of capital to build and finance new activities in a region. Thus, the evolution of banking activities implies the spatial process of capital formation. On the demand side, banking activities correspond closely to population size and population growth in a region. Because banking activities are urban-oriented, the development of banking centers can characterize the development of te urban system.

Histroically, the Japanese First Bank was Korea's first modernized banking institution.l It established its first branch office in Pusan in 1878. The Japanese First Bank expanded its branches in several Korean cities

including Wonsan (1880), Incheon (1883), Seoul (1885), Mokpo (1989), Jinampo (1903), and Kunsan (1903). Since 1878, Other Japanese banks like the Japanese Eighteen Bank and the Japanese Fifty-Eight Bank, also introduced their branches into Korea, following the Japanese First Bank (Ko, 1970).

The activity of Japanese bank branches in Korea fell far short of meeting Korea's domestic demands. It intended to fulfill the demands for colonial purposes, to provide capital for Japanese traders and companies as well as to use banks as the base of the economic invasion. Before 1910, there were no banks locating their headquarters in Korea. Most of the Japanese banks were located in the port cities with easy access to Japan.

In order to understand the spatial diffusion of banking activities in Korea, it is necessary to focus on the commercial banks that had their headquarters in Korea and were based on Korea's domestic capital instead of Japanese capital. The development of Korean commercial banks began in the 1890s, by establishing the Hansong Bank (1987) the commercial bank (1899) and the Hanil bank (1906). In the colonial period of 1910-1945, all Korean banks were rigidly administered and managed by te Japanese government in order to satisfy demands of their war efforts and their political purposes. As a result, only two commercial banks, the Choheung Bank and the Commercial Bank of Korea, survived at thd end of the colonial era. After 1945, the Korean banking system developed a form similar to the former Japanese system. It basically adopted the branch banking system and banking institutions were placed under rigid government control in order to meet economic development policy goals.

During colonial times, centrality and good accessibility were the major factors for attracting banking activities. the provincial capital cities, port cities, and railroad cities were preferred locations fr banks at the early stage of banking development. For instance, before 1945, we can find that banks start to be located in provincial administrative centers, including Seoul (1897), Suwon (1906), Daegu (1912), Chuncheon (1914), Andong (1916), Jinju (1917), Kyongju (1919), Jeonju (1920), Kwangju (1920), Cheongju (1924), Bucheon (1939), Chungju (1941), Kimcheon (1942), Port cities also adopted banking earlier than did cities farther inland: Incheon (1899), Pusan (1912), Kunsan (1912), Jinhae (1913), Ulsan (1914), Mokpo (1920), Pohang (1921), Suncheon (1922), Masan (1929), Samcheonpo (1936), Yeosu (1939), and Chungmu (1941).

The cities located in the transportation nodes also show early development of baning: Daejeon (1912), Pyongtaek (1912), Cheonan (1919), Milyang (1922), Iri (1924), Jecheon (1938), and Yongju (1942), In the late 1940s and early 1950s, commercial banks extedded their network into the inland medium size administrative cities such as Euijeongbu (1945), Onyang (1949), Jeju (1951), Jeongju (1952), Kongju (1952), Namwon (1952), Sangju (1952), Wonju (1952), Hongsong (1952), Kangnung (1954), Samcheok (1954), Donghae (1956), and Kanghwa (1959).

The spatial development of the banking network is closely connected with changes of government policies regulating the finance sector in Korea. The financial institutions was spread out through their different institutional development processes, in the Korean urban system. Thus, the locations of Korean banking institutions partly reflected a policy-oriented locational arrangement rather than a demand-oriented locational pattern.

1) Banking Institutions (Deposit Money Banks)

Here, we examine the diffusion of deposit money banks which consist of three different types of banks: nationwide city banks, local banks, and the specialized banks. First, let us consider nationwide city

banks (Figure 1a).[4]

Prior to 1960, the nationwide city banks established their banking network in large urban places from colonial times. Moving into the financial experiments stage (1961–71), nationwide city banks expanded their branch banks into a few small inland cities such as Anyang, Kimje, Sokcho, and Songtan. In the financial repression stage (1972–1979), only two cities were added in the commercial banking system: Kumi and Seongnam. Kumi was a highly specialized city for the manufacturing industry and Seongnam was a satellite city for Seoul.

However, in the early 1980s, the financial liberalization stage enabled nationwide city banks to expand their branches into small cities and towns ('Eup') around the large metropolitan areas and into newly emerging cities. During 1980 – 1985, small cities aroun Seoul (Kunpo, Kwacheon, Kwangmyong, Yongin) and Daegu (Kyongsan, Jemchon) had newly established branches of the nationwide city banks (Figure 1a). Since 1985, these trends were strengthened by adding banks in small cities and towns around Seoul (Ansan, Euiwang, Kuri, Osan, Ansong, Hayang, Hoechon, Ichon, Ilsan, Kihung, Wondang), Pusan (Yangsan, Kimhae), Daegu (Angang, Waegwan), and other growing cities (Yeocheon, Nonsan, Seogwipo, Seosan) (Figure 1a).

Secondly, the local banks show a slightly different diffusion process compared with

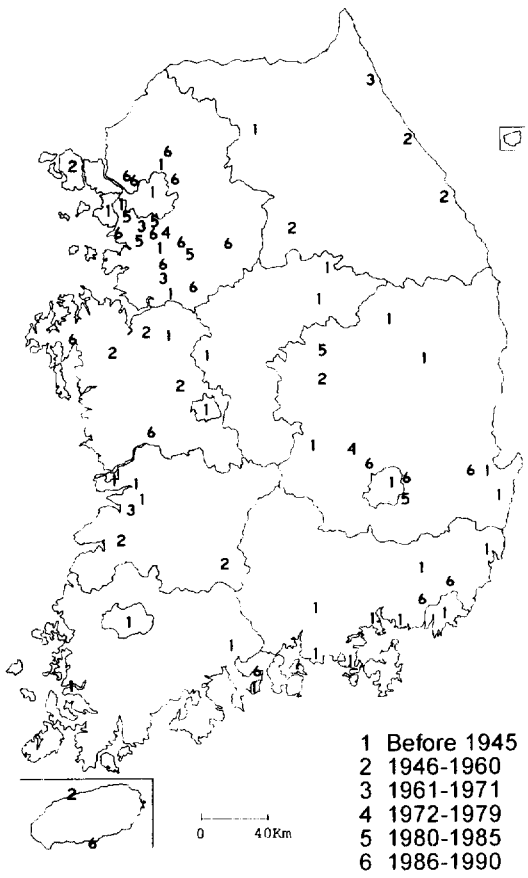

Figure 1a. Spatial diffusion of nationwide city banks.

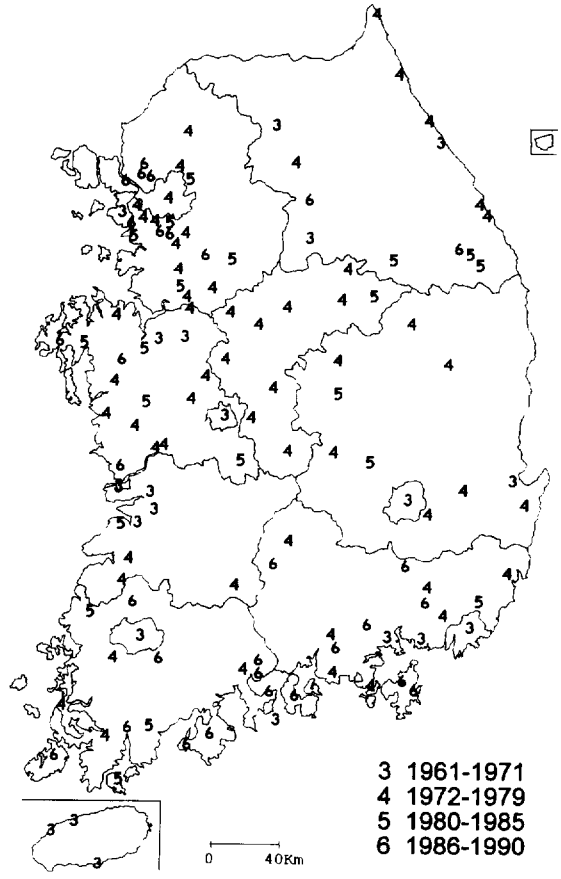

Figure 1b. Spatial diffusion of local banks in Korea.

the nationwide city banks (Figure 1b). Because local banks were allowed to operate their businesses within their porvincial-based territories by government regulations, they started to locate their headquarters in the major provincial centers at the stage of financial experiments (1961-1971). In comparison with the nationwide city banks the location of local banks reveals greater preference for small towns rather than big cities throughout their development.

During the financial repression period (1972-1979), local banks expanded their activities to the small cities around large provincial centers and newly emerging cities around larger metropolitan areas, while taking advantge of government policies to promote local economies. Since the stage of financial liberalization, after 1980, local banks continue to reinforce their expansion out of the provincial centers and the larger metropolitan centers Therefore, several newly emerging cities including Dongkwangyang Euiwang, Kunpo, Seosan, Sihung, Yeocheon, Jangseungpo and a few others have been added to the banking network (Figure 1b).

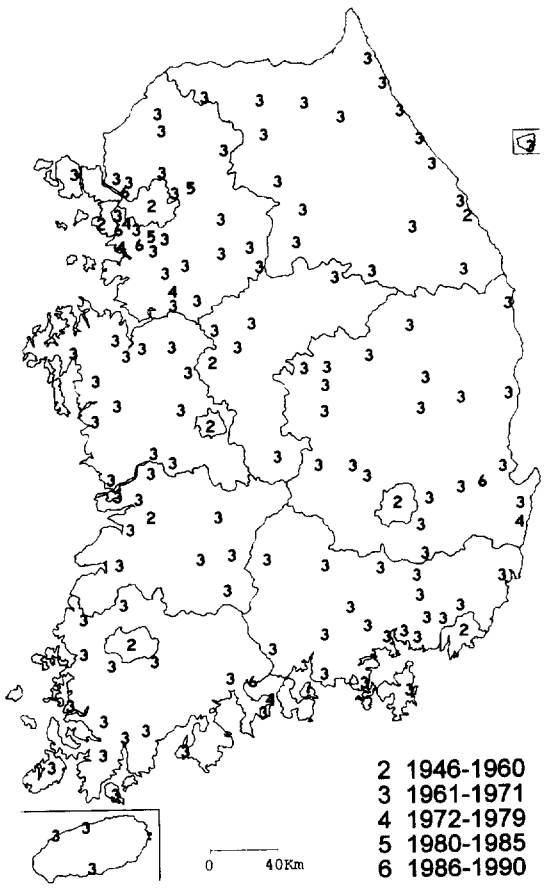

Figure 1c. Spatial diffusion of the specialized banks in Korea.

Thirdly, the spatial diffusion of specialized banks is highly influenced by the government's regulation of financial institutions. In other words, the government strongly guides the location of specialized banks. the first appearance of specialized banks was the Industrial Bank of Korea, whose branches were located in nine major provincial centers in 1954, including Seoul, Pusan, Daegu, Incheon, Daejeon, Cheongju, Kwangju, Jeonju, and Samcheok (Figure 1c). The establishment of the National Agricultural Cooperative Federation (N.A.C.F.) in 1961, facilitated the specialized banks spreading out nationally. Because N.A.C.F. was created to support and finance the agriculture sector, its branch network covers the nation from the major cities to the small towns in rural areas (Figure 1c). During the financial repression stage (1972-1979), the specialized banks spread out to satellite cities around Seoul (Ansan, Kwangmyong, Songtan, Paengsong), a industrial city (Yeocheon), and mining cities (Sabuk, Sangdong), where banking services were needed. Since the period of financial liberalization began, the specialized banks have more vigorously spread out to the newly emerging small towns and cities around the large metropolitan areas (Euiwang, Kunpo, Migum, Sihung, Pubal, Angang, Sungju) and to new industrial cities (Dongkwangyang)

2) NonBank Financial Institutions

In order to investigate the spatial evolution of nonbank financial institution, it is necessary to consider four different non-

bank financial institutions; mutual savings and finance companies from saving insitutions, and three types of investment companies including investment and finance companies, merchant banking corporations, and investment trust companies. Because other nonbank financial institutions were established in a very short time period or at a specific point in time instead of evolving their structure in space, this section only considers the headquarters' locations of nonbank financial institutions in order to discover the diffusion process.

The beginning of the nonbank financial institutions can be traced to the '1972 government emergency decrees; which placed a freeze on the unregulated financial market.

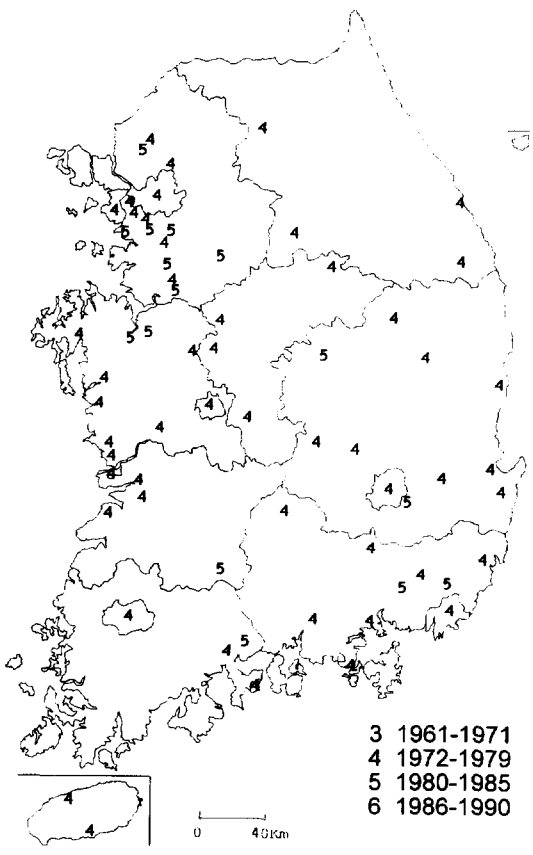

Figure 2. Spatial diffusion of nonbank financial institutions.

In connection with the emergency decree, in order to diversify capital sources, the government encouraged the nonbank financial sector to expand and establish nonbank financial institutions. In this effort, the basic structure of the nonbank financial sector was established in the Korean urban system during 1972-1975. During the financial repression stage (1972-1979), the nonbank institutions were located not only in the major cities, including provincial centers and medium sized cities, but also in several rural centers (Changhang, Changnyong, Chincheon, Chochiwon, Hongchon, Kochang, Nonsan, Okchon, Paju, Puan, Seocheon) (Figure 2). As the financial liberalization proceeded (after 1980), nonbank financial institutions also spread out to satellite cities around large metropolitan areas and newly established cities[5] (Figure 2).

In the next section, we examine the spatial patterns of financial activities as a result of the evolution of banking institutions in the Korean urban system.

4. Spatial Patterns of Financial Resources

The distribution of financial functions reveals the structure of the financial power for creation of potential development. Each individual city might have a different share of financial resources in the urban system. Financial activities may reinforce the existing structure or may create a new structure of financial power over time through the distribution of resources.

This section is divided into two parts. The first examines the spatial distribution pattern of financial funcitions with regard to the number of financial institutions and the amount of deposits and loans in Korean deposit money banks between 1975 and 1990. the second investigates the relationships between financial institutions, population, and amoun of deposits and loans in order to draw out the spatial characteristics

of financial centers in 1975, 1985 and 1990. Regression analysis and residual analysis from the goodness-of-fit-line are conducted for this purpose.

1) Spatial Distribution of Financial Resources: Banks, Banking Deposits and Loans

A dominant feature of financial activities in Korea is the spatial concentration of banking institutions in larger metropolitan areas, especially in Seoul (Figure 3). The spatial distribution of financial institutions in Korea shows slight variations by different types of banking institutions (Table 1).

Nationwide city banks show the most concentrated patterns around the larger metropolitan areas. For instance, six larger cities, Seoul, Pusan, Daegu, Daejeon, Incheon, and Kwangju, account for 79 percent of the total distribution of nationwide city banks in 1990, while the rest of the country, including Kyonggi, occupies 21 percent of the total distribution (Table 1). Although specialized banks are less concentrated than nationwide city banks, they stil show a considerable degree of concentration around the larger cities. For example, six larger cities account for about 57 percent of their total distributions in 1990. Local bank display a relatively dispersed distribution pattern compared with nationwide city banks and specialized banks, because they operate their businesses on a local basis. Six larger cities account for 51 percent of the distribution of local banks in 1990. Nonbank financial institutions also show a spatially concentrated pattern. Fifty-seven percent of nonbank financial institutions are located in the six larger cities in 1990.

Obviously, Seoul plays a key role in the financial activities of the country. for instance, most of the headquarters of the banking institutions are concentrated in seoul; eleven nationwide city banks and all specialized banks locate their head-quarters in Seoul; and only ten local banks have their headquarters outside the capital, Seoul. Other nonbank financial institutions also predominantly locate their headquarters within Seoul, although they display a considerably more spatially dispersed pattern within the larger cities than do the deposit money banks.

Clearly, centralization of banking institutions toward Seoul has strengthened over the years 1970 to 1990. Concerning the spatial growth of financial institutions during this period, most of the growth of banking institutions occurred in Seoul (Table 1).

Another distinctive feature of financial activities is the increasing share of the Kyonggi province surrounding the capital city, Seoul. Kyonggi province shows the increasing share of total composition and growth of banking institutions. This fact implies the strong influence of Seoul on its surrounding regions, in terms of financial activities.

The spatial distributions of deposits and loans by province have patterns similar to the spatial distribution of financial institutions, namely concentrations in the Seoul Metropolitan area and the larger cities (Table 2 and Figure 3, Figure 4, Figure 5, and Figure 6). However, financial resources such as banking deposits and loans are much more concentrated in Seoul than are financial institutions. For instance, in 1990, Seoul held 53.3 percent of the deposits and 52.1 percent of loans in deposit money banks, compared with 41.2 percent of the banking institutions in deposit money banks. Five large cities including Seoul, Pusan, Daegu, Incheon, and Kwangju accounted for more than 70 percent of the distribution of total deposits and loans.

Apparently, the degree of concentration of deposits and loans, in the larger metropolitan cities, declined over the period of 1970 (Table 2). The share of local provinces of banking deposits and loans slightly increased due to the increasing share of Kyonggi province and Kyongnam province, which surround the nation's first and second largest cities, Seoul and Pusan. The

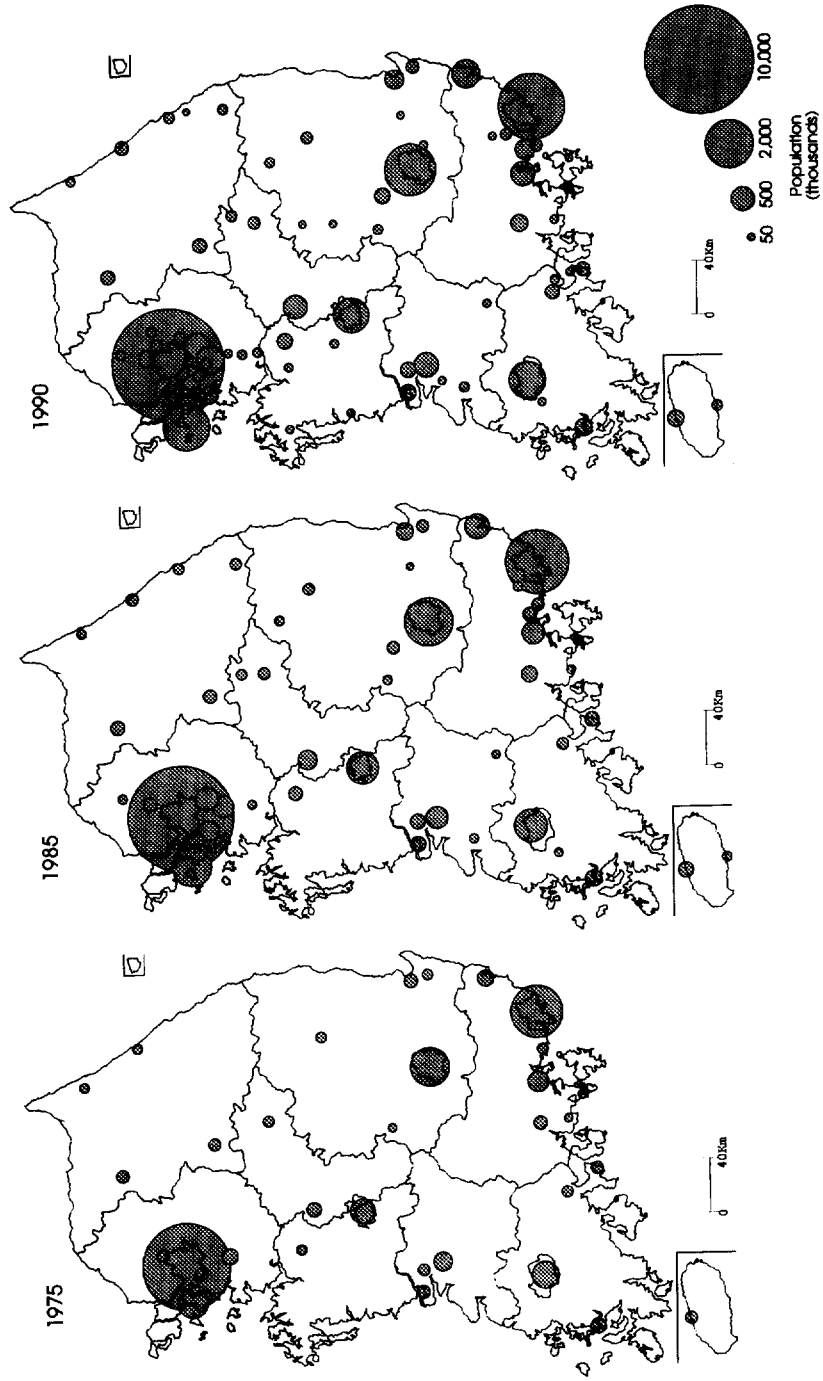

Figure 3. Population distribution in cities, 1975–1990.
Sources: Ministry of Home Affairs, 1975, 1985, 1990, ***Municipal Yearbook of Korea.***

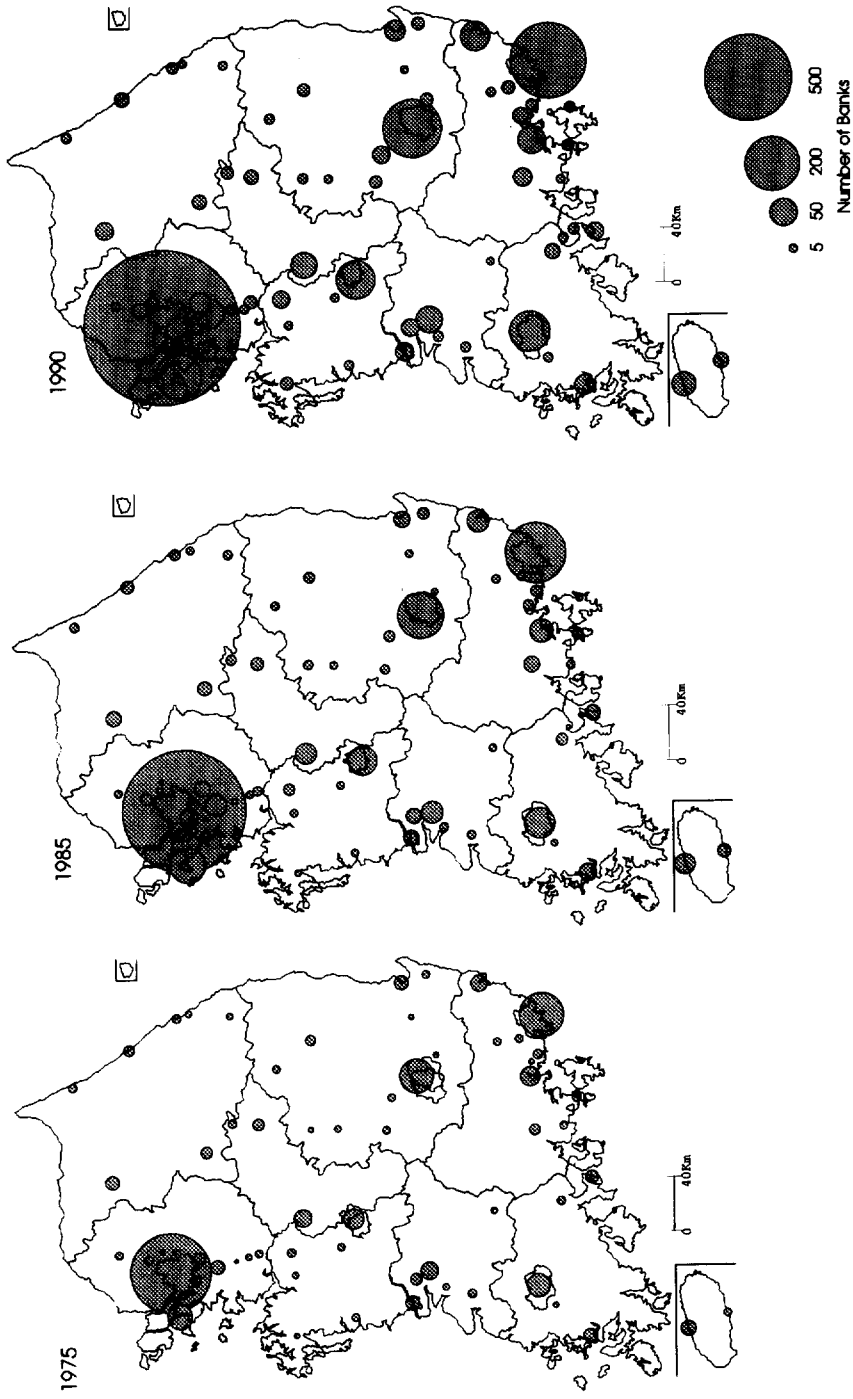

Figure 4. Distribution of deposit money banks in urban system, 1975–1990.
Source: Bank of Korea, 1991, ***Directory of Financial Intermediaries.***

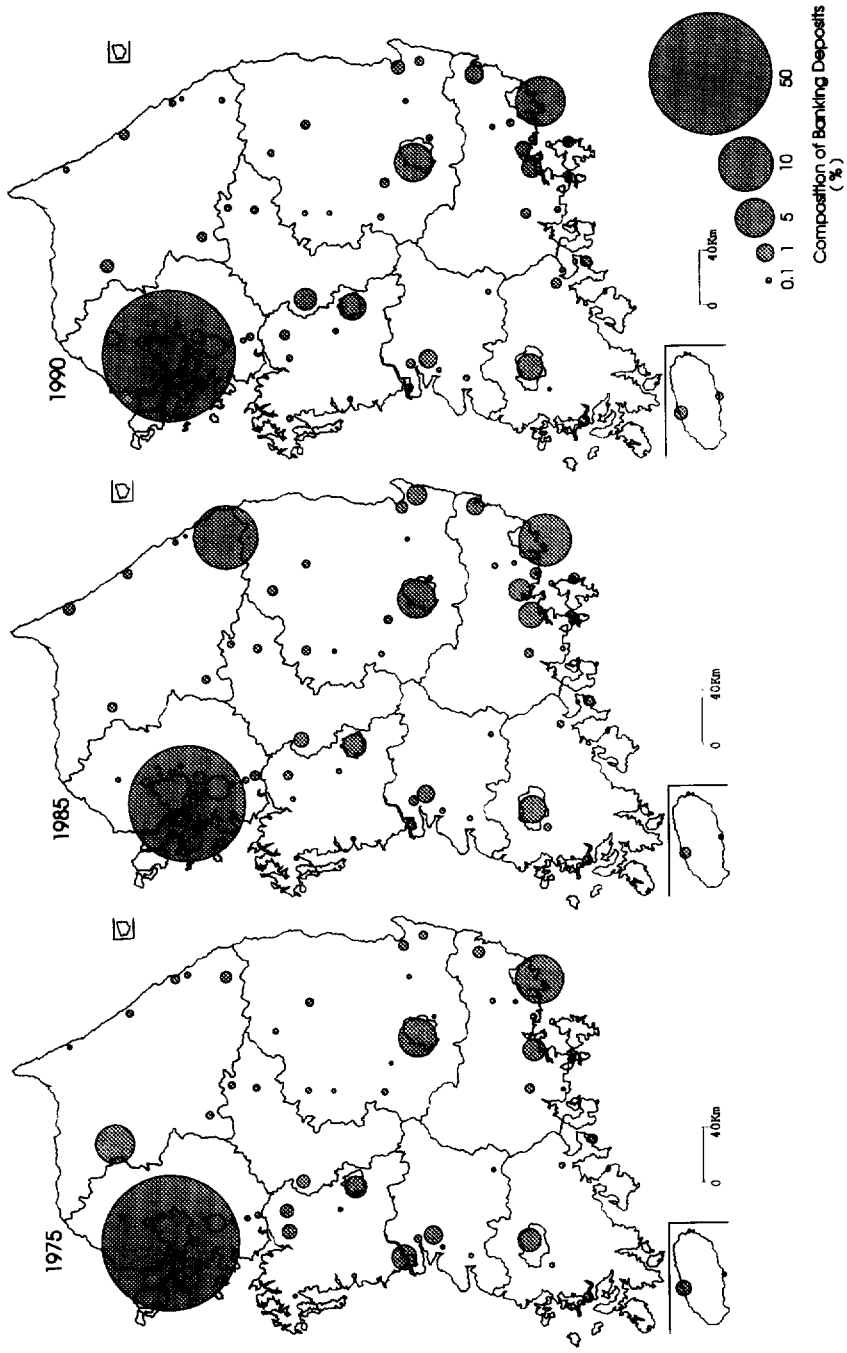

Figure 5. Distribution of banking deposits (%) in the urban system, 1975–1990.
Sources: Ministry of Home Affairs, 1975, 1985, 1990, ***Municipal Yearbook of Korea.***

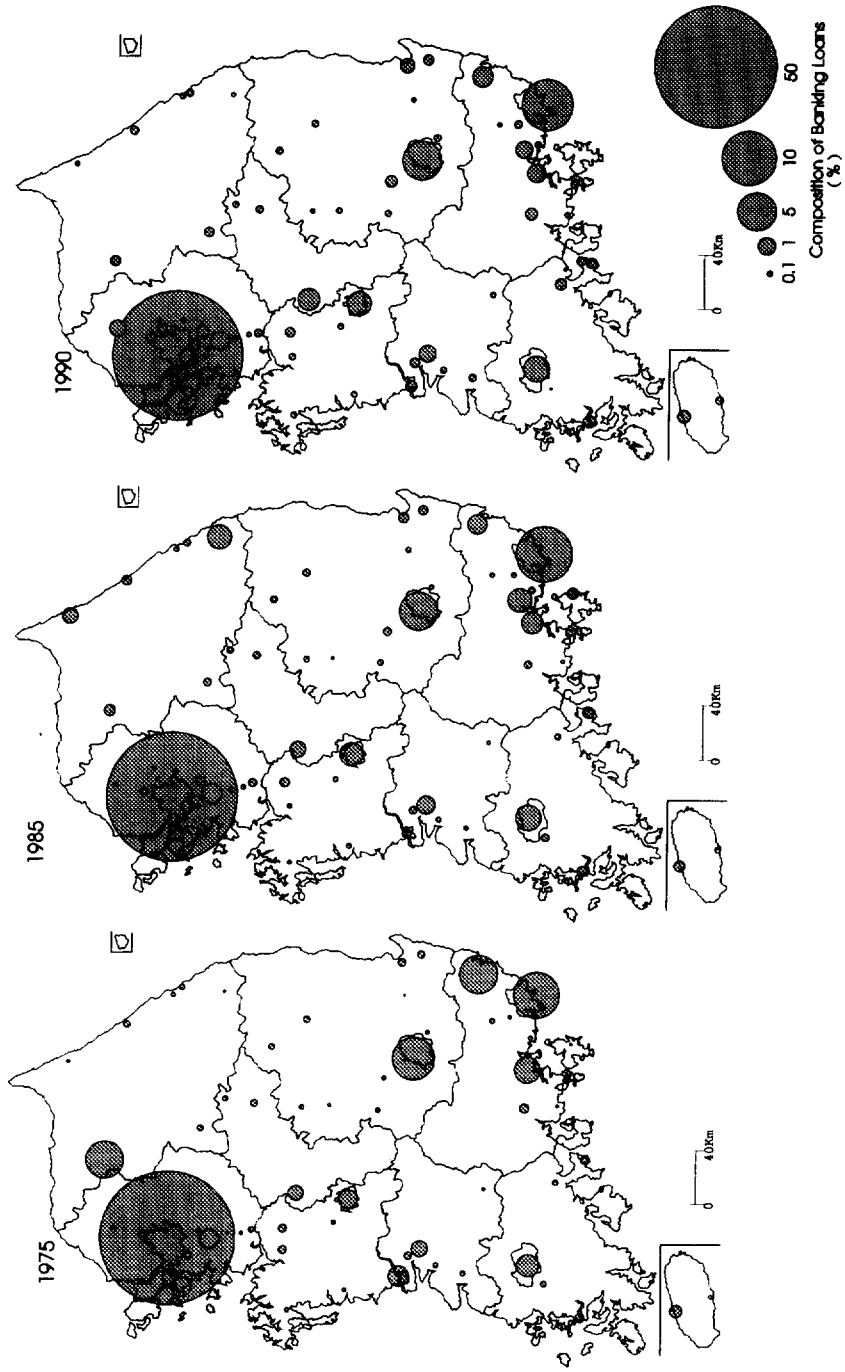

Figure 6. Distribution of banking loans (%) in the urban system, 1975–1990.
Sources: Author's calculation from Ministry f Home Affairs, 1975, 1985, 1990, ***Municipal Yearbook of Korea.***

Table 1. Distribution of Financial Institutions in Korea by Provinces(%)

Banks*	Year	Seoul	Pusan	Daegu	Daejeon	Incheon	kwangju	Kyonggi	Rest of the Country	Nation
Nationwide	1970	55.9	10.2	4.8	1.8	3.0	1.8	3.6	18.9	100.0
City	1975	55.9	9.7	5.4	1.6	3.6	2.0	3.6	18.2	100.0
Banks	1980	59.3	9.7	5.0	1.7	3.5	1.7	3.4	15.7	100.0
	1985	64.4	8.4	4.3	1.3	2.5	1.7	5.1	12.3	100.0
	1990	59.8	8.4	4.7	1.5	2.9	1.8	8.4	12.5	100.0
	%chg75-85	71.9	7.3	3.4	1.0	1.6	1.4	6.3	7.1	100.0
	%chg85-90	59.9	8.5	5.2	1.9	3.3	1.9	12.7	12.6	100.0
Local	1970	0.0	26.1	13.0	7.2	10.1	10.1	0.0	33.3	100.0
Banks	1975	3.9	21.6	13.7	4.9	5.4	6.4	3.4	40.7	100.0
	1980	3.2	21.8	14.3	4.2	5.5	5.8	5.2	39.9	100.0
	1985	2.5	20.1	13.3	5.0	5.5	5.5	6.5	41.6	100.0
	1990	3.9	18.3	12.6	5.5	4.4	6.6	8.2	40.4	100.0
	%chg75-85	1.0	18.5	12.8	5.1	5.6	4.6	9.7	42.7	100.0
	%chg85-90	6.4	15.3	11.5	6.4	2.6	8.5	11.1	38.2	100.0
Specialized	1970	25.8	6.6	4.5	2.0	2.3	2.0	8.2	48.6	100.0
Banks	1975	27.5	7.1	4.1	1.7	2.1	2.2	7.8	47.5	100.0
	1980	30.5	7.8	4.2	2.0	2.8	2.3	7.6	42.8	100.0
	1985	35.4	7.9	4.3	2.3	3.3	2.3	8.7	36.0	100.0
	1990	36.2	7.6	4.4	2.5	3.8	2.3	11.1	32.0	100.0
	%chg75-85	45.9	8.8	4.4	2.9	4.8	2.3	9.9	21.0	100.0
	%chg85-90	38.1	6.9	4.9	3.0	5.1	2.4	16.4	23.2	100.0
Deposit**	1970	35.1	9.4	5.3	2.4	3.1	2.6	5.8	36.3	100.0
Money	1975	33.6	10.3	6.1	2.2	3.1	2.8	5.6	36.2	100.0
Banks	1980	35.6	11.0	6.3	2.3	3.5	2.7	5.6	33.0	100.0
	1985	41.3	10.1	5.8	2.3	3.3	2.6	6.9	27.8	100.0
	1990	41.2	9.7	5.9	2.6	3.5	2.8	9.4	25.0	100.0
	%chg75-85	49.7	9.8	5.4	2.5	3.6	2.3	8.2	18.5	100.0
	%chg85-90	41.0	9.0	6.1	3.0	3.8	3.2	13.7	20.2	100.0
Nonbank**	1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Financial	1975	27.3	15.0	8.0	3.2	5.9	3.2	4.8	32.6	100.0
Insitutions	1980	28.9	14.2	7.8	3.4	6.4	2.9	4.4	31.9	100.0
	1985	27.8	11.6	6.3	3.2	4.9	4.6	10.2	31.3	100.0
	1990	26.6	11.3	6.0	3.3	5.0	4.7	11.6	31.6	100.0
	%chg75-85	28.9	5.2	3.1	3.1	3.1	7.2	20.6	28.8	100.0
	%chg85-90	5.9	5.9	0.0	5.9	5.9	5.9	35.3	35.2	100.0

* Numbe of banks excluding foreign banks and banks located in rural area.

** Deposit Money Banks are nationwide city banks+local banks+specialized banks.

*** Not including branches.

Source: Author's calculations from 'The Bank of Korea,' 1991. ***Directory of Financial Intermediaries.***

other provinces shared the remaining small amount of total deposits and loans with little variations over the period 1970 to 1990. This fact suggests that, over the years, regions nearby the large metropolitan centers experience the growth of financial activities as a result of spillover effects from the expansion of larger cities themselves.

The distribution of financial activities has common characteristics with population

Table 2. Distribution of Deposits and Loans of the Deposit Money Banks by Province(%)

Year	1970		1975		1980		1985		1990	
	Deposits (%)	Loans (%)	Deposits (%)	Loans (%)	Deposits (%)	Loans (%)	Deposits (%)	Loans (%)	Deposits (%)	Loans (%)
Seoul	63.4	64.1	64.9	66.5	64.9	64.4	61.6	63.2	53.3	52.1
Pusan	10.1	8.6	10.3	9.1	8.8	8.6	8.8	7.8	8.4	8.5
Daegu	3.8	4.1	4.3	4.6	4.2	4.3	4.2	4.1	4.9	5.2
Incheon	2.0	1.6	1.8	1.2	2.3	1.9	2.6	2.3	3.4	3.3
Kwangju	1.5	2.0	1.4	1.7	1.5	1.4	1.4	1.7	2.0	2.0
(subtotal)	80.8	80.4	82.7	83.2	81.7	80.7	78.8	79.1	72.1	71.2
Kyonggi	2.9	2.0	2.8	2.3	3.7	2.9	5.4	4.4	8.8	7.5
Kangwon	2.2	1.7	1.6	1.3	1.7	1.5	1.8	1.5	1.8	1.5
Chungbuk	1.3	1.2	1.0	1.3	1.2	1.4	1.2	1.3	1.5	1.7
Chungnam	3.0	2.9	2.4	2.4	2.6	2.7	3.0	2.8	1.5	1.8
Jeonbuk	2.7	3.3	2.0	2.5	1.8	2.3	1.9	2.5	1.9	2.7
Jeonnam	2.0	2.5	1.6	1.5	1.5	1.9	1.5	2.0	1.6	2.6
Kyongbuk	3.0	2.1	2.1	1.8	2.1	2.3	2.2	2.3	2.6	3.1
Kyongnam	3.1	3.1	3.7	2.9	4.2	3.8	4.3	3.4	5.3	5.5
Jeju	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.7
(subtotal)	21.1	19.6	18.0	16.8	19.5	19.3	22.0	20.9	25.7	26.9
Nation*	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

* Discrepancy is due to rounding error.

Source: The Bank of Korea, *Economic Statistics Yearbook*, various issues.

distribution (Table 3 and Figure 3). In terms of the population change in the Korean urban system, the larger metropolitan cities with populations over a million constantly increased their share between 1975 and 1990, while small cities with populations under 150 thousand saw their share eroded continuously over the same period. The cities with populations from 0.5 million to 1.0 million showed a slight decline of population share from 1975 to 1985, but regained population share from 1985 to 1990. The cities with population from 150 thousand to 0.5 million showed the reverse trends, with an increase in population share from 1975 to 1985 and a decrease from 1985 to 1990. These facts suggest that large cities with populations over 0.5 million steadily gain in population shares, while small cities regularly lose their population share. In other words, spatial centralization of population toward the large metropolitan areas became a dominant feature over the study period.

Financial resources generally show a locational distribution pattern similar to population (Figure 3). In terms of financial institutions, the larger cities with populations over one million continuously show gains in their share, while small cities with populations under 150 thousand generally show declines in their share of the distribution of financial institutions. One of the locational differences between financial activities and population is that financial resources are more concentrated in the larger cities than population.

For the financial institutions, the growh is mostly in the large cities with populations over one million and cities with populations from 200 thousand to 500 thousand, while the rest of the cities lose their shares over the period of 1975-1990. It is noteworthy that the cities with population from 200

Table 3. Distribution of Financial Resources by the Different population Size of the Cities in Korea (%)

Pop.Group (Thousand)	Year	Over 1000	1000-500	500-200	200-150	150-100	100-50	Less 50	Sum
Population	1975	51.6	9.8	6.8	3.5	7.7	7.6	13.1	100.0
	1985	53.1	7.6	12.6	4.4	3.9	6.2	12.2	100.0
	1990	57.5	8.5	12.5	2.3	2.9	6.0	10.4	100.0
Number of nationwide City Banks	1975	70.9	7.2	5.9	3.6	7.0	4.1	1.4	100.0
	1985	79.7	3.9	8.4	3.2	1.8	2.1	0.9	100.0
	1990	79.1	5.3	8.0	1.5	1.4	3.1	1.6	100.0
Number of Local Banks	1975	39.2	16.7	9.8	5.4	10.8	8.3	9.8	100.0
	1985	41.4	12.8	16.8	7.3	4.3	7.5	10.0	100.0
	1990	51.4	9.1	17.0	2.8	2.1	7.6	9.9	100.0
Number of Specialized Banks	1975	38.7	6.0	6.0	4.4	8.6	9.2	27.0	100.0
	1985	50.8	5.9	10.2	4.9	4.6	6.9	16.7	100.0
	1990	56.9	5.8	10.4	2.6	2.4	7.8	14.2	100.0
Number of D.M.B.	1975	50.0	8.1	6.6	4.3	8.4	7.3	15.3	100.0
	1985	60.5	6.2	10.5	4.6	3.5	5.1	9.5	100.0
	1990	65.6	6.1	10.5	2.1	1.9	5.7	8.1	100.0
Number of Nonbanks	1975	50.3	12.3	4.8	5.3	10.7	8.0	8.6	100.
	1985	50.7	8.5	14.8	5.3	4.6	6.7	9.5	100.0
	1990	56.8	7.0	14.6	3.3	3.3	7.6	7.3	100.0
Deposits of D.M.B.	1975	75.7	3.9	2.9	1.3	8.2	2.5	5.5	100.0
	1985	60.9	3.4	5.8	3.9	19.4	2.5	4.0	100.0
	1990	72.5	5.7	8.7	1.6	1.8	4.3	5.5	100.0
Loans of D.M.B.	1975	74.0	3.5	8.6	1.5	7.7	1.4	3.4	100.0
	1985	72.7	3.9	6.5	3.7	4.6	2.5	6.0	100.0
	1990	70.2	5.2	9.1	1.5	1.7	4.7	7.7	100.0

Source: Author's calculations from 'The Bank of Korea' ***Directory of Financial Intermediaries, 1991*** and Korean Ministry of Home Affairs, 1975, 1985, 1991, ***Municipal Yearbook of Korea,*** Including 253 City and 'Eup' in 1990 and applying 1990 city and Eup boundanes to 1975 and 1985.

thousand to 500 thousand constantly expanded their shares of population and financial resources, implying relative economic health. For instance, large portions of the growth of nonbank financial institutions took place in those cities between 1975 and 1990.

We can detect slightly different distribution patterns by the different types of banks (Table 3). While nationwide city banks show a more concentrated pattern in the large cities with populations over one million, local banks and specialized banks reveal relatively high proportions in medium and small size cities. Nonbank financial institutions show relatively high proportions in small cities, but they also reveal sharp increases in their proportions in large cities with populations over one million.

The distribution of deposits and loans of the deposit money banks (DMBs) exposes a highly concentrated pattern (more than 70 percent) in large cities, a pattern sharply different from the growth pattern of financial institutions over the study period. Regarding the DMBs deposits, the share accounted for by large cities with populations over one million decreased over the period

1975 to 1990, whereas the number of the deposit money banks continuously increased in large metropolitan cities. The growth of deposits centered mainly in cities with populations over 200 thousand. In 1985, cities with populations of 100-150 thousand showed an extraordinarily large share of deposits in the urban system due to the abnormal figures of Taebaek city at that time (Table 3).

In terms of the distribution of loans, the share acconted for by the large cities with populations over one million gradually declined, while the share of the small and medium sized cities increased between 1975 and 1990 (Table 3). This fact partly reflects the trong influence of government policies in the financial sector to encourage small cities and provincial centers while promoting the decentralization from Seoul. However, despite the government's efforts, as financial liberalization proceeded, the financial sector itself experienced both centralization trends into the larger metropolitan cities and relative declines in small and medium sized cities within the Korean urban system.

2) Spatial Characteristics of Cities in Financial Activities

Since financial activities are demand-oriented, we cna assume that population would provide one apparopriate norm to predict a certain amount of financial activity in a certain city. This assumption leads us to examine two relationships in 73 cities in the Korean urban system. One is the relationship between population and banking depsits and loans (Table 4a). The other is the relationship between the number of banks and the population (Table 4b).

The examination of these relationships can draw out the characteristics of each city in the urban system in terms of financial activities. The first considers the relationship between the amount of deposits and loans (as a dependent variable), and population (as an independent variable) (Table 4a).

Table 4. Relationships between Population and Financial Resources (Deposits/Loans, Number of Banking Institutions)

(a) Regression Results between Deposits and Loans (Y) and Population (X), (Log scale) 1975-1990

	Year	R	R square	C(onstant)	B (slope)
Deposits	1975	0.83	0.69	−2.84	1.31
with	1985	0.85	0.72	−1.20	1.18
Population	1990	0.95	0.91	−0.17*	1.07
Loans	1975	0.80	0.64	−3.55	1.43
with	1985	0.88	0.77	−1.66	1.25
Population	1990	0.89	0.80	−0.70*	1.15

C and B are Significant at $p<0.01$
* Insignificant at $p<0.01$

(b) Regression Results between Number of Banks (Y) and Population (X), (Log scale) 1975-1990

	Year	R	R square	C(onstant)	B (slope)
No. of	1975	0.95	0.90	−4.08	0.98
Banks	1985	0.95	0.90	−4.42	1.05
with pop	1990	0.95	0.91	−3.93	0.98

C and B are Significant at $p<0.01$
* Insignificant at $p<0.01$

Regression analysis can supply a goodness-of-fit-line for deposits and loans at a given poplation size. If one region has a positive residual value, it means that the actual amount of deposits and loans exceeds the predicted amount for that population size, suggesting an active local economy and above average financial activities.

The second pays attention to the relationship between the number of banks (as a dependent variable) and population (as an independent variable) (Table 4b). By simple regression method, we can also determine the goodness-of-fit-line for the number of banks expected at a given population size in a region. A positive residual means that a region has an avove average number of banks over what is predicted by the population size, while a negative residual means that the actual numbr of banks falls below

what is predicted by the demand of population.

The slope (B) of the regression line decreases its value over the period of 1975–1990 (Table 4a). This means that differences between the expected value of large population and that of small population are getting smaller during 1975–1990 period, which implies an increasing economic significance of small cities in the urban system.

Although individual cities had their own unique variations in the financial sector over the years 1975 to 1990, we can draw out some interesting general trends by comparing signs of residual values of each city, between the study years of 1975, 1985 and 1990 (Table 5) Seoul constantly shows positive residual values from the regression line between deposits and loans and population between 1975 and 1990. This fact suggests that Seoul continuously played a leading role in financial activities. Other cities showing all positive residuals in 1975–1990 are medium size provincial cities, including Chuncheon, Daecheon, Kyongju, Masan, and Pyongtael. In contrast, large provincial centrs such as Incheon, Daejeon, kwangju, Pusan and so forth constantly show negavtive residual values over these years, implying a more minor role for these provincial centers in financial activities than one might suppose.

The same trend can be found in the rela

Table 5. Results of Residual Analysis from the Regression Line between Population and Financial Resources (Log Scale)

	Cities with Positive Residuals in 1975, 1985 and 1990			Cities with Negative Residuals in 1975, 1985 and 1990	
Deposits(Y) with Population(X) Log Scale	Chuncheon Daecheon Jemchon Kyongju Masan Miryang	Pyongtaek Seosan Seoul Suwon Yeosu		Bucheon Chungju Daejeon Dongducheon Incheon Jeongju Jeonju Jinhae Jinju Kuri	Kwangju Mokop Namwon Osan Pusan Seguiop Seongnam Suncheon Ulsan Yongju
Loan(Y) with Population(X) Log Scale	Andong Anyang Cheongju Chuncheon Chungju Chungmu Daecheon	Jecheon Jeju Kangnung Kimje ongju Kunsan	Kyongju Kyongsan Masan Onyang Pyongtaek Seoul	Daejeon Dongducheon Donghae Euijongbu Incheon Jinhae	Kwangju Pusan Seongnam Sokcho Songtan
Banks(Y) with Population(X) Log Scale	Andong Chuncheon Chungju Chungmu Daecheon Iri Jecheon Jeju Jeongju	Kangnung Kimje Kongju Kunsan Kyongsan Miryang Mokop Onyang Pyongtaek	Samcheok Samcheonpo Seguipo Seoul Sokcho Wonju Yeosu	Anyang Bucheon Daejeon Euijongbu Incheon Jinhae Kwangju Osan	Pusan Seongnam Songtan Suwon Taebaek Taegu Yongju

Source: Author's calculations.

tionship between the nember of banks and population. Seoul and other small and medium sized provincial cities show posivive residual values, implying that those cities do have enough banks in comparison with population size. However, some satellite cities around Seoul including Anyang, Bucheon, Euijongbu, Seongnam, Songtan and provincial centers including Incheon, Daejeon, Kwangju, and Pusan show negative residuals from the regression line (Table 5). This fact indicates that those cities do not have enough banks in comparison with their population size. Furthermore, it leads to the high dependency rate of the satellite cities upon Seoul for their financial services.

Secondly, we consider the relationship between population growth and financial growth in the Korean urban system, which covers 253 places including cities (*Shi*) and small towns (*Eup*). Instead of comparing each city's crude growth rate between origin year and terminal year, each city's growth share from the entire urban system, is considered[6] between the early financial liberalization years (1975-1985) and the later financial liberalization years (1986-1990). We can see several important features of financial growth in relation to the population growth in the entire urban system (Table 6). First, financial growth exceeds population growth in the large metropolitan cities, while population growth exceeds financial growth in the other cities (Table 6).

Second, it is noted that Seoul holds a dominant position with respect to population and financial resources. Seoul always experiences more rapid financial growth than the population growth. However, for the other large metropolitan cities, population growth overwhelmingly exceeds financial growth (Table 6). For the early period of financial liberalization (1975-1985), population grows faster than financial variables in the other metropolitan cities, except Seoul. During the later years of financial liberalization (1985-1990), Pusan and Daegu experience more rapid financial growth than population growth. Other cities such as Incheon, Kwangju, Daejeon fail to show a large enough growth of the financial sector to catch up with their population growth. These facts support the previous findings about inactive role of the other large cities except for Seoul, in financial activities in the urban system.

Third, evidently, the small towns (*Eup*)

Table 6. Growth Shares of Population and Financial Resources in Korea (%)

City	Population Growth		Bank Growth		Deposit Growth		Loan Growth	
	1975-85	1985-90	1975-85	1985-90	1975-85	1985-90	1975-85	1985-90
Seoul	26.9	21.33	49.7	40.97	47.67	54.06	58.02	42.23
Pusan	10.6	5.72	9.8	9.03	6.68	9.24	7.95	9.07
Daegu	6.5	4.1	5.37	6.09	2.96	6.21	3.94	6.11
Incheon	4.8	9.91	3.58	3.76	2.11	4.09	2.53	4.04
Kwangju	2.7	4.09	2.3	3.15	1.19	2.57	1.88	2.62
Daejeon	3.2	3.52	2.47	3.01	1.44	2.69	1.49	2.22
(subtotal)	54.7	48.67	73.22	66.01	62.05	78.86	75.81	66.29
Other cities	33.3	49.75	22.18	27.79	34.31	14.84	18.17	23.61
(subtotal)								
City	87.9	98.42	95.4	93.8	96.36	93.7	93.98	89.9
Eup(small town)	12.1	1.58	4.6	6.2	3.64	6.83	6.02	10.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Author's calculations from Ministry of Home Affairs, *Municipal Yearbook of Korea*, 1975, 1985, 1991.

show an increasing role of finance in the urban system although cities have the dominant shares of population and financial resources. While population growth measures reveal an increasing share of cities and a decreasing share of small towns, financial growth ghows an increasing share of small towns (*Eup*) and decreasing share of cities (*Shi*) in the entire system form the early years (1975-1985) to the later period (1985-1990) (Table 6). This fact reflects the government's intervention in the financial sector to achieve a balancing of regional development.

Fourth, moving from the early stage of liberalization (1975-85) to the later stage of liberalization (1985-1990), the total share of six large metropolitan areas generally declines because of the considerable decrease of Seoul's portion. Each metropolitan city except Seoul actually gains its share in financial growth over the period. Additionally, the other cities outside of the six large metropolitan cities show an increase of their shares in population and financial resources in the entire urban system (Table 6).

However, it should be pointed out that the general trend of money flow goes from Seoul to other cities in Korea between 1975 and 1990. For instance, regarding the growth of deposits and loans, Seoul gains a large share of deposit growth while it loses its share of loan growht. On the other hand, other small cities gain a big share of loan growth while they diminish their deposit hsare between the periods of 1975 to 1985 and 1985 to 1990 (Table 6).

In other words, the share of deposit growth shows considerable increase in the larger cities at the expense of other small cities in the urban system, while the share of loan growth shows a decrease in the larger cities with an increasing share of small and medium cities in the urban system from the early stage toward the later stage of financial liberalization (Table 6). form this fact, we can see that the general direction of financial flow goes from the large metropolitan centers to small and medium cities between 1975 and 1990.

5. Hierarchical Structure of Financial Activities in the Korean Urban System

In relation to the distribution of financial resources, the role of the urban hierarchy, in financial activities, is examined in this section. One way to measure the hierarchical structure of an urban system is through a hierarchical index (*Hi*) that is defined as follows (Sheppard, 1982);

$$Hi = N^{-1} \sum_{r=1}^{N} Pr \ln(r) \quad \cdots\cdots\cdots\cdots\cdots (1)$$

N = number of observations
r = rank of observation
Pr = proportion of the total urban population in the r-th largest city
$\sum Pr = 1.0$
Relative $Hi = Hi/\text{Maximum} \times 100$ ··· (2)

The hierarchical index (*Hi*) depends on the proportion of the total urban population in the r-th largest city pr, weighted by the rank of that city. Thus,if all cities are equal, it gives all large number for the hierarchical index, which is $N^{-2} \sum \ln(r)$. If all population is concentrated in one city, the hierarchical index (*Hi*) equals 0. The hierarchical index values between 0 and the maximum value represents different levels of hierarchical inequality in city size. To make for an easier comparison between years, the relative hierarchical index can be calculated by dividing the hierarchical index by its maximum value and multiplying by 100 [see (2)]. The relative hierarchical index would have the value of 0 in the extreme case, where one city has all the population, whereas the index would have the value of 100 in the case of an even dispersion in the urban system.

The hierrchical index of population,

banks and deposits/loans in the Korean urban system during 1975-1990 shows increasing tendencies throughout 1975-1990 (Table 7).

Population shows increasing index values, from 40.19 in 1975 to 40.26 in 1985, then to 42.97 in 1990. Deposit money banks also have increasing index values over time, from 33.28 in 1975 to 33.82 in 1985, and to 34.99 in 1990. Finally, deposits and loans display an increasing hierarchical index over the study period (Table 7), This fact reflects that the degree of hierarchical inequality of the urban system declined between 1975 and 1990.

Second, the relative hierarchical index of financial resources shows lower values than that of the population (Table 7). This suggests that financial activities follow a more rigid hierarchical form than does population in the urban system. In other words, the hierarchical inequality of financial activities is greater than that of the population. In addition, the relative hierarchical index of deposits and loans has a lower value than that of deposit money banks during the study period. This fact implies that banking deposits and loans are more concentrated in a few urban areas than the banking network itself in the Korean urban system. It also reflects the spatially concentrated nature of the financial activities themselves.

Table 7. Hierarchical Index of Population and Financial Resources

	Year	Hierarchy Index	Relative Hier.Index	Maximun Value	N=
Deposit	1975	0.0089	33.28	0.0269	62
Money	1985	0.0068	33.82	0.0201	72
Banks	1990	0.0069	34.99	0.0196	73
Deposit	1975	0.0042	18.69	0.0222	62
	1985	0.0050	24.79	0.0200	72
	1990	0.0056	28.02	0.0198	73
Loans	1975	0.0043	19.12	0.0222	62
	1985	0.0045	22.25	0.0200	72
	1990	0.0057	28.61	0.0198	73
Population	1975	0.0089	40.19	0.0222	62
	1985	0.0082	40.26	0.0204	72
	1990	0.0085	42.97	0.0198	73

Here, let us examine the stability of Korea's urban hierarchical structure between 1975 and 1990. The Spearman rank order correlation coefficients are calculated with regard to the rank of population, banking institutions, and banking deposits and loans between 1975, 1985 and 1990 (Table 8). The higher the coefficient value, the more stabilized the urban hierarchical structure. All coefficients are significant at Pi=0.001 level.

The Spearman rank order coefficients show high correlations for population (0.857), financial institutions (0.908), banking deposits (0.703) and loans (0.648) between 1975 and 1985 (Table 8). These highly correlated coefficients imply a relatively stable hierarchical structure for the Korean urban system. Generally, it can be said that financial activities sustain a relatively stable hierarchical structure. The banking network itself shows a more stable hierarchical structure than deposits and loans, and the banking deposits and loans reveal a relatively unstable hierarchical structure compared with banking institutions. The lower correlation coefficient of banking loans are more subject to government policies and external factors, such as national economic conditions and politics.

In addition, banking institutions (r=0.908) show more stable hierarchical structures than population (r=0.857), between 1975 and 1985. However, between 1985 and 1990, population (r=0.916) reveals more stable hierarchical structrue than banking institutions (r=0.867) (Table 8). This fact suggests a greater relative freedom to establish banking institutions in the urban system at the later stage of financial liberalization (1985-1990).

Another dimension of hierarchical structure in the Korean urban system can be identified by analyzing financial flows through the 'On-line-Banking Network' of

Table 8. Spearman Rank Order Correlation Coefficients in the Korean Urban System, 1975, 1985, 1990

	1975-1985*		1985-1990*	
	r	t-value	r	t-value
Population	0.857	7.81(df=61)	0.916	19.05(df=70)
Banking Establishments**	0.908	18.21(df=71)	0.867	14.67(df=71)
Banking Deposits**	0.703	7.65(df=60)	0.761	9.80(df=70)
Banking Loans***	0.648	6.59(df=60)	0.628	6.75(df=70)

All significantatlevel<0.001

* Excluding 'Eup'

** Using Deposit Money Bank Establishments

*** Including Bank of Korea, DMB and Nonbank Insititutions

Source: Korean Ministry of Home Affairs, ***Municipal yearbook of Korea.***

the Choheung Bank. This analysis is limited to forty-four urban places, where Choheung Bank operates branch offices. Although the analysis may strongly reflect the nature of Choheung Bank in terms of its role and position in the financial system, these urban places contain most of the metropolitan centers and enough provincial centers to show the overall hierarchical structure in Korea. The data for analysis come from the number of transactions between nodes on the 15th of April 1992. This date is far enough from the holiday seasons and therefore reflects normal financial flows.

Factor analysis and cluster analysis are used in order to find hierarchical structure of financial flows in the Korean urban system. Both the sending (origin) matrix and the receiving (destination) matrix of financial flows are considered in this analysis. For the factor analysis, not only are the principal component analysis method and the varimax rotation method adopted but also a transformation of the raw data matrix into a standardized score (Z score) matrix is carried out.

The factor analysis shows, respectively, seven factors of Eigenvalue greater than 0.4 from the sending matrix and from the receiving matrix of the on-line-banking flows (Table 9). The seven factors cumulatively account or more than 90 percent of the financial flows (communality): 97.2 percent for origin flows and 94.8 percent for destination flows.

For the sending matrix, we can identify seven factors indicating dominant flow zones, which are named the Seoul zone (factor 1), the Pusan zone (factor 2), the Chungcheong zone (factor 3), the Daegu zone (factor 4), the Kwangju zone (factor 5), the Iri zone (factor 6), and the Kwangyang zone (factor 7). For the receiving matrix, we can also recognize seven factors, which are named the Seoul zone (factor 1), the Daegu zone (factor 2), the Pusan zone (factor 3), the Kyongsang zone (factor 4), the Iri zone (factor 5), the Kwangyan zone (factor 6), and the yosu zone (factor 7).

First of all, although both origin and destination flows have slightly different factor structures, Seoul is placed in the most predominant position of financial flows, indication high concentration and its dominant role in financial activities as discussed above (Figure 7 and 8). The Seoul zone (factor 1) shows high values for factor loading scores for almost all of the cities in the sending and receiving matrix, implying the dominant role of the Seoul metropolitan area (Table 9 and Figure 7).

Second, the large cities become centers of financial flows in the local provinces. In the sending system, we can see that the major financial flows originate from the larger metropolitan cities such as Seoul, Pusan,

Daegu, Daejeon and Kwangju. For instance, the Pusan zone (factor 2) has high factor loadings in Yangsan, Kimhae and Jeju. The Chungcheong zone (factor 3) has high loading around Daejeon, Nonsan, Dangjin and Kimchon in the Chungnam Province. The Daegu zone (factor 4) also shows high loading around Daegu, Andong and Kumi. Kwangju (factor 5), Iri (factor 6), and Kwangyand (factor 7), respectively, form local financial zones (Figure 7).

In the receiving matrix, the large metropolitan centers such as Pusan, Daegu, Daejeon and Kwangju also become major centers for receiving financial flows. Different from the sending matrix, the Kyongsang xone (factor 4) becomes a center for receiving financial flows with high loadings around Yongju and Kimchon.

Third, we can identify the cities of Iri, Kwangyand and Yosu as centers for small local financial flows from the factor loading matrix. This fact may not reflect the general structure of financial flows, but may result from the characteristics of the flow data matrix in the network of Choheung Bank itself. Distinct financial flows are identified in Kwangyang, a newly developed industrial complex city, and Iri and Yosu, which are manufacturing and heavy industry oriented cities (Figure 8). This fact suggests the importance of the financial network itself in circulating industrial capital as well as the role of the industrial cities in generation and receiving financial flows.

Cluster analysis of 'On-line-network' data permits glimpsing into the hierarchical

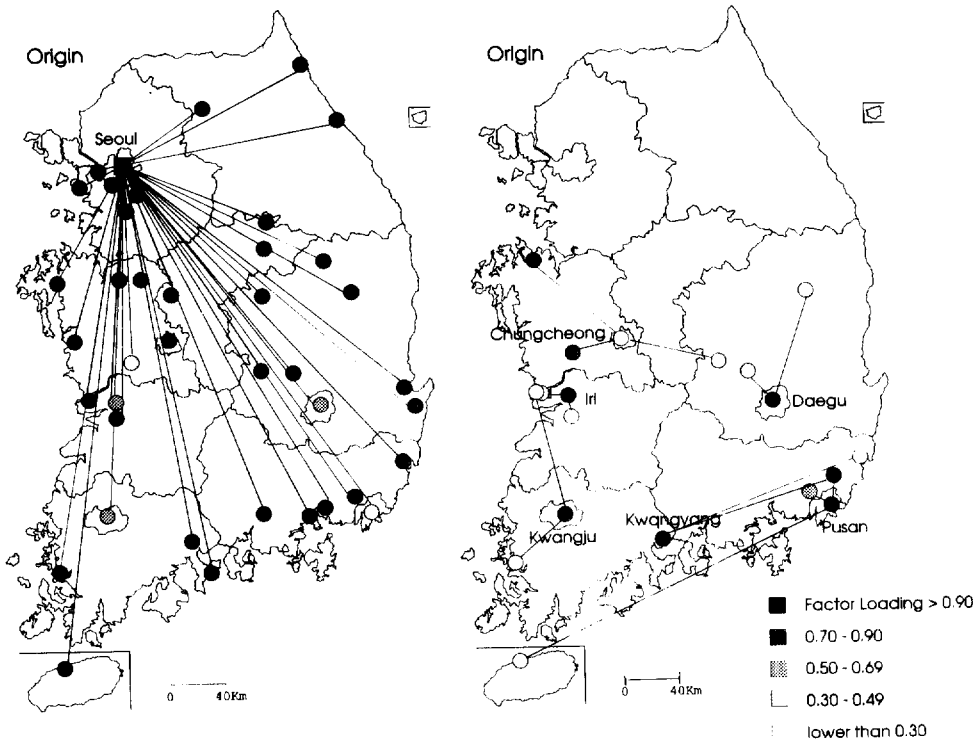

Figure 7. Dominant flow zones (factors) in sending matrix of on-line-banking network. (Data: Choheung Bank, April 15, 1992)

Table 9. Factor Loadings for Factor Analysis of the On-Line-Banking Flows of the Choheung Bank

(a) Origin Matrix

Cities	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
Seoul	0.93	—	—	—	—	—	—
Kyonggi	0.92	—	—	—	—	—	—
Suwon	0.93	—	—	—	—	—	—
Anyang	0.94	—	—	—	—	—	—
Seongnam	0.94	—	—	—	—	—	—
Bucheon	0.94	—	—	—	—	—	—
Incheon	0.90	—	—	—	—	—	—
Pusan	0.37	0.91	—	—	—	—	—
Daegu	0.55	—	—	0.80	—	—	—
Kwangju	0.53	—	—	—	0.81	—	—
Daejeon	0.91	—	0.30	—	—	—	—
Kangnung	0.87	—	—	—	—	—	—
Chuncheon	0.94	—	—	—	—	—	—
Sokcho	0.94	—	—	—	—	—	—
Cheongju	0.94	—	—	—	—	—	—
Jecheon	0.93	—	—	—	—	—	—
Chungju	0.93	—	—	—	—	—	—
Cheonan	0.93	—	—	—	—	—	—
Onyang	0.90	—	—	—	—	—	—
Seosan	0.93	—	—	—	—	—	—
Daesan	0.91	—	—	—	—	—	—
Nonsan	0.47	—	0.87	—	—	—	—
Dangjin	—	—	0.95	—	—	—	—
Mokpo	0.85	—	—	—	0.28*	—	—
Suncheon	0.91	—	—	—	—	—	—
Yosu	0.94	—	—	—	—	—	—
Kwangyang	—	—	—	—	—	—	0.97
Jeonju	0.94	—	—	—	—	0.14*	—
Kunsan	0.84	—	—	—	0.21*	0.15*	—
Iri	0.54	—	—	—	—	0.82	—
Andong	0.83	—	—	0.34	—	—	—
Kyongju	0.86	—	—	—	—	—	—
Pohang	0.94	—	—	—	—	—	—
Kimchon	0.81	—	0.47	—	—	—	—
Yongju	0.92	—	—	—	—	—	—
Kumi	0.89	—	—	0.31	—	—	—
Jemchon	0.87	—	—	—	—	—	—
Masan	0.89	—	—	—	—	—	—
Ulsan	0.86	—	—	—	—	—	0.22*
Changwon	0.93	—	—	—			—
Jinju	0.93	—	—	—	—	—	—
Yangsan	—	0.96	—	—	—	—	0.14*
Kimhae	0.82	0.51	—	—	—	—	—
Jeju	0.88	0.37	—	—	—	—	—
Eigenvalue	36.86	1.97	1.37	0.91	0.63	0.52	0.49
Pct. of Var.	83.80	4.50	3.10	2.10	1.40	1.20	1.10
Cum. Pct.	83.80	88.20	91.30	93.40	94.90	96.00	97.20

Excluding Factor Loading< | 0.3 |

* Although it is small loading value<0.3, but significant to explain dominant flows.

(b) Destination Matrix

Cities	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
Seoul	0.95	—	—	—	—	—	—
Kyonggi	0.91	—	—	—	—	—	—
Suwon	0.94	—	—	—	—	—	—
Anyang	0.95	—	—	—	—	—	—
Seongnam	0.94	—	—	—	—	—	—
Bucheon	0.94	—	—	—	—	—	—
Incheon	0.92	—	—	—	—	—	—
Pusan	0.45	—	0.87	—	—	0.1*	—
Daegu	0.56	0.81	—	—	—	—	—
Kwangju	0.79	—	—	—	—	—	0.14*
Daejeon	0.94	—	—	—	—	—	—
Kangnung	0.95	—	—	—	—	—	—
Chuncheon	0.86	—	—	—	—	—	—
Sokcho	0.95	—	—	—	—	—	—
Cheongju	0.93	—	—	—	—	—	—
Jecheon	0.94	—	—	—	—	—	—
Chungju	0.92	—	—	—	—	—	—
Cheonan	0.92	—	—	—	—	—	—
Onyang	0.83	—	—	—	—	—	—
Seosan	0.91	—	—	—	—	—	—
Daesan	0.86	—	—	—	—	—	—
Nonsan	0.95	—	—	—	—	—	—
Dangjin	0.95	—	—	—	—	—	—
Mokpo	0.95	—	—	—	—	—	—
Suncheon	0.91	—	—	—	—	—	0.13*
Yosu	0.63	—	—	—	—	—	0.75
Kwangyang	—	—	0.41	—	—	0.89	—
Jeonju	0.92	—	—	—	—	—	—
Kunsan	0.94	—	—	—	—	—	—
Iri	—	—	—	—	0.99	—	—
Andong	0.50	0.84	—	—	—	—	—
Kyongju	0.72	0.44	—	—	—	—	—
Pohang	0.90	0.34	—	—	—	—	—
Kimchon	0.44	0.78	—	0.37	—	—	—
Yongju	—	0.44	—	0.88	—	—	—
Kumi	0.49	0.85	—	—	—	—	—
Jemchon	0.91	0.37	—	—	—	—	—
Masan	0.94	—	—	—	—	—	—
Ulsan	0.84	—	—	—	—	—	—
Changwon	0.92	—	—	—			—
Jinju	0.94	—	—	—	—	—	—
Yangsan	—	—	0.99	—	—	0.1*	—
Kimhae	—	—	0.99	—	—	0.1*	—
Jeju	0.93	—	—	—	—	—	—
Eigenvalue	33.86	3.05	2.13	0.99	0.66	0.56	0.46
Pct. of Var.	77.00	6.90	4.80	2.30	1.50	1.30	1.00
Cum. Pct.	77.00	83.90	88.70	91.00	92.50	93.80	94.80

Excluding Factor Loading< | 0.3 |

* Although it is small loading value<0.3, but significant to explain dominant flows.

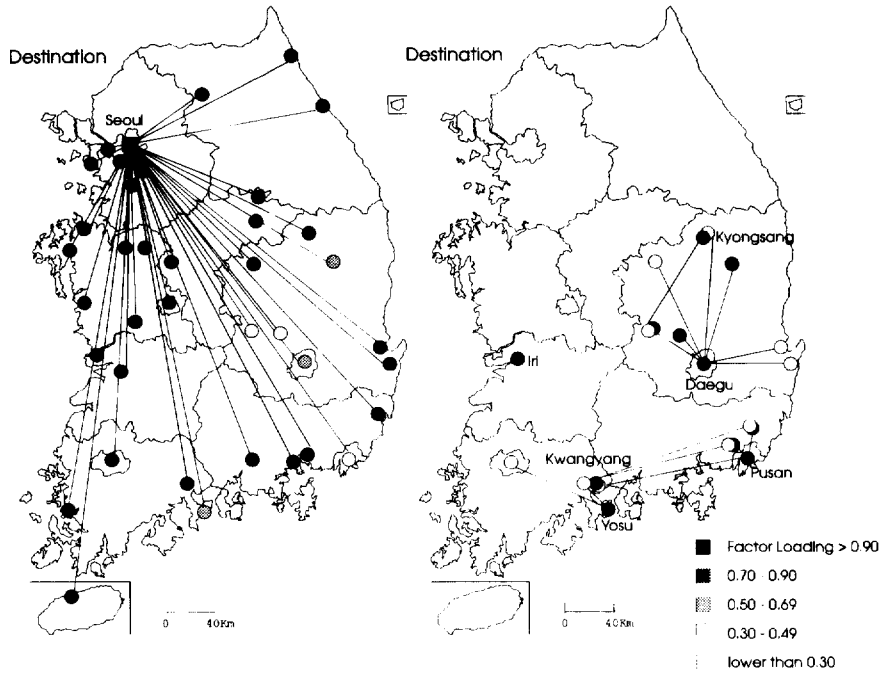

Figure 8. Dominant flow zones (factors) in receiving Matrix of on-line-banking Network. (Data: Choheung Bank, April 15, 1992)

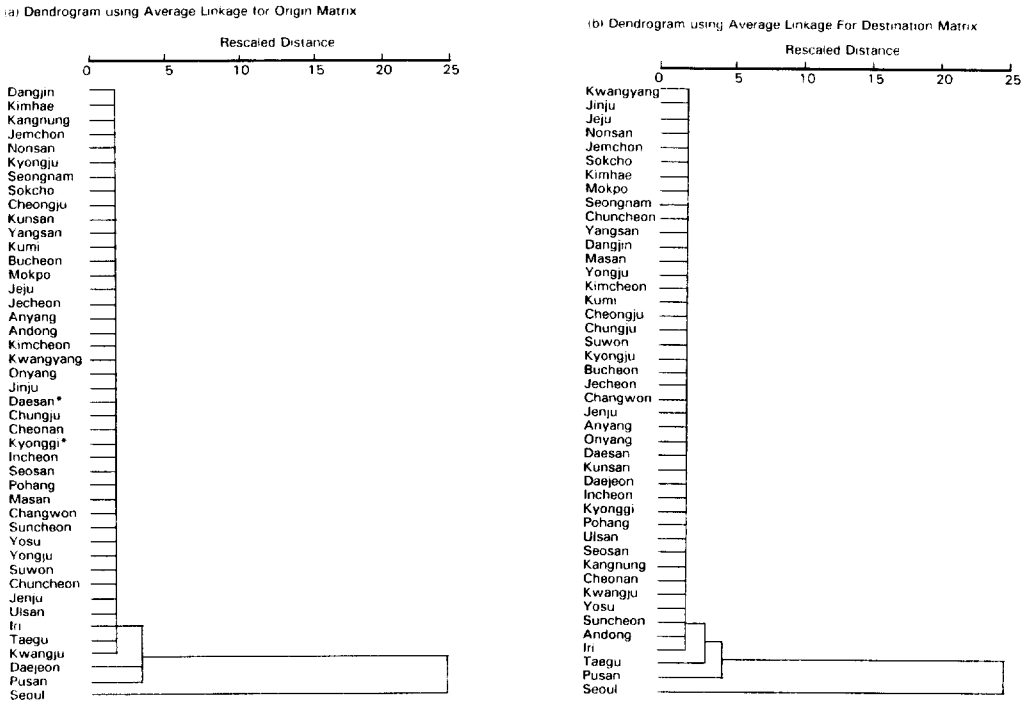

Figure 9. Hierarchical structure of financial flows cluster analysis.

structure of the urban system in financial flows. The capital city, Seoul exposes the outstanding position followed by Pusan, Daejeon and the others in the origin matrix, and Pusan, Daegu and the others in the destination matrix (Figure 9). This fact illustrates the highly concentrated tendency of the financial activities in the Korean urban system as well as the unequal hierarchical nature of the urban system.

6. Summary and Conclusion

In this paper, the spatial characteristics of financial activities have been drawn out into three different topics: (1) the spatial evolution of financial activities; (2) the spatial pattern of financial resources; and (3) the hierarchical structure of financial activities in the Korean urban settlement system. The results of the analysis can be summarized as follows:

(1) We cna make some generalizations about the evolution of banking activities. Toward the late stages of Korean banking development, there is a tendency for larger and provincial cities to reinforce their financial function by adding new institutions, and enjoying the benefits of agglomeration economies. Also, newly established banks in small and medium sized cities allow for the extension of the banking network throughout the urban hierarchy. Different locational characteristics are revealed among different types of financial institutions: the locations of nationwide city banks are oriented to large cities; local banks show their locational preferences for the medium sized provincial cities; and the specialized banks reveal a mixed trend but prefer small and rural centers for their sites.

(2) The spatial pattern of financial resource showed a highly concentrated pattern in the large metroplotan centers, especially, in Seoul and th capital region. Most of the headquarters of the bankin institution swere concentrated in Seoul, and the spatial centralization of banking institutions into Seoul was strengthened over the years between 1975 and 1990. The increasing share of the Kyonggi province surrounding Seoul and the Kyongnam province surrounding Pusan provided another distinctive feature during the study period. As financial liberalization has proceeded, the financial sector itself has experienced both centralization trends into the large metropolitan cities and relative declines of medium and small cities within the Korean urban system. However, over the entire study period from 1975 to 1990, comparing financial growth with population growth revealed the inactive roles of the other large cities, except for Seoul, in financial activities as well as showed an increasing share of small towns (Eup) in financial growth. Also, the general trend of financial flows goes from Seoul to other small and medium cities between 1975 and 1990.

(3) For the urban hierarchy, financial activities sustained a relatively stable hierarchical structure; financial institutions showed a more stable hierarchical structure than banking deposits and loans. The stability of urban hierarchical structure, in financial activities, was subject to government policies and external factors. Evidently, the hierarchical nature of the entire urban system was evolving toward less concentration in financial activities between 1975 and 1990. The financial transaction flows, through the analysis of th on-line-network of Choheung Bank, helped to identify dominant flow zones. Seoul monopolized the most dominant flow zones connecting the nation. Pusan showed weaker flow linkages with her subordinate cities than expected. Daegu, Daejeon and Kwangju, respectively, revealed their own financial flow territories. Obviously, Seoul played a prominent role in financial flows in the entire urban system.

The spatially concentrated distribution of financial activities and the concentration trend in the capital region would be a natural trend, as pointed out in other studies.

the advantage of agglomeration economies and easy accessibility to finanical resources in the capital region should attract more concentration in the near future. However, the concentration of financial resources provokes the question of uneven regional development and higly biased urgan settlement systems in Korea. Although the government devotes effort for balanced regional development and decentrablization away from the Seoul metropolitan area, the highly concentrated financial resources in the capital region can hinder the balanced development. For instance, simply moving several firms into local areas do not help to promote the local economy if the value added and money flows out of the local economy. Thus, in order to promote the local economy to achieve balanced regional development, it is necessary to reorganize the local financial networks to provide easy access for localy based firms to financial resources through their locally based financial institutions. In addition, we can propose the studies of the hidden structure of financial flows and spatial linkage of financial transactions as future research topics to achieve further understanding of regional development.

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Notes

1) Financial institutions in Korea, 1990 are organized as follows:

2) On-line-Banking Network is a kind

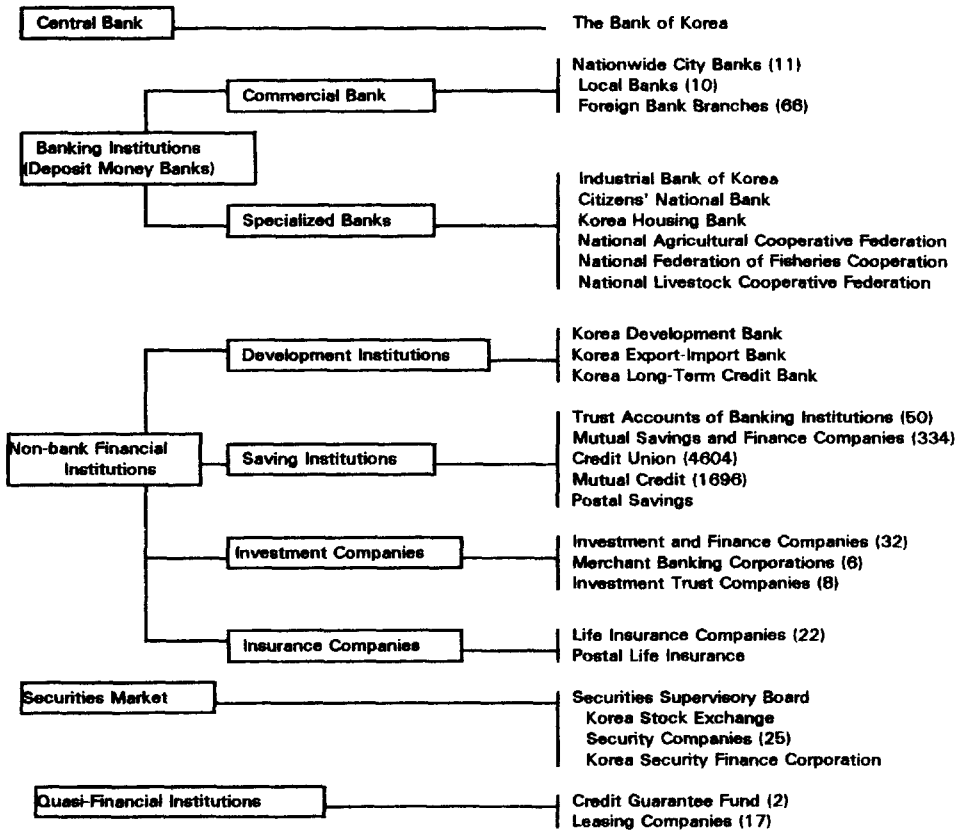

Figure A. Figures in Parentheses represent the number of institutions at the end of 1989. Source: Bank of Korea, 1991, *Directory of Financial Intermediaries.*

of electronic money transferring system for banking customers in Korea, which makes money tansfer possible between bank branches and between regions.

3) also see Coffey and Bailly (1990).

4) In this paper, Korean financial development is divided into four different stages: the stage prior to 1961, the stage of financial experiments and reversals (1961-71), the stage of financial repression (1972-79), and the stage of financial liberalization (after 1980) (Kim, 1990).

5) Ansan, Kuri, Seongnam, Hanam, Ichon, Kumchon, and Osan as cities around Seoul; Yangsan around Pusan; Kwangyang nearby Kwangju; and Namwon, Onyang, Yesan around nearby provincial centers.

6) $Gr = \frac{Pi(t) - Pi(O)}{\sum pi(t) - \sum Pi(O)} \times 100$

Gr = growth rate

Pi(t) = population of city i in terminal year

Pi(O) = population of city i in origin year

$\sum Pi$ = population of total urban system.

References

Allen, J., 1988, Service industries: uneven development and uneven knowledge, *Area*, 20, 15-22.

Bailly, A. and maillat, D., 1991, Service activities and regional metropolitan development: a comparative study, in Daniels, P. W. (ed). *Services and Metropolitan Development: International Perspectives*, Routledge, London and New York.

Bank of Korea, 1990, *Financial System in Korea*, Bank of Koerea, Seoul.

Bank of Korea, 1991, *Directory of Financial Intermediaries*, Bank of Korea, Seoul.

Borchert, J.R., 1972, America's changing metropolitan regions, *Annals of A.A.G.*, 62, 352-373.

Borchert, J.R., 1978, Major control points in American economic geography, *Annals of A.A.G.*, 68, 214-232.

Borchert, J.R., 1983, Instability in American metropolitan growth, *Geographical Review*, 73, 127-149.

Bourne, L.S., 1975, *Urban Systems: Strategies of Regulation*, Oxford University Press, Toronto.

Bourne, L.S., 1977, Power in urban systems, *Progress in Human Geography*, 1(3), 517-528.

Bourne, L.S., 1991, the Roepke lecture in economic Geography: recycling urban systems and metropolitan areas: a geographical agenda for the 1990s and beyond, *Economic Geography*, 67(3), 185-209.

Britton, S. 1990, The role of services in production, *Progress in Human Geography*, 14, 529-546.

Coffey, W., 1988, Service industries and regional development: patterns, theory and policy, in McRae J. and Desbois, M. (eds.) *Traded and Non-traded Services*, Institute for Research on Public Policy, Halifax.

Coffey, W.J. and Polese, M., 1987, Trade and location of producer services: Canadian perspective, *Environment and planning A*, 19, 597-611.

Coffey, W.J. and Polese, M., 1989, Producer services and regional development: a policy-oriented perspective, *Papers of the Regional Science Association*, 67, 13-17.

Coffey, W.J. and Bailly, 1990, A. S., Service activities and the evolution fo population systems: an international comparison, *Environment and Planning A*, 22, 1607-1620.

Cole, D.C. and Park, Y. C., 1983, *Financial Development in korea, 1945-1978*, Harvard University Press, Cambridge, MA.

Conzen, M.P., 1975, Capital flows and the developing urban hierarchy: stage bank capital in Wisconsin, *Economic Geography*, 51, 321-338.

Conzen, M.P., 1977, The maturing urban system in the United States, 1840-1910, *Annals of A.A.G.*, 67, 88-108.

Crane, D.B., 1983, The evolution of international banking competition and its implications for regulation, *Journal of Bank Research*, 14, 39-53.

Daly, M.T., 1984, The revolution in international capital markets: urban growth and

Australian cities, *Environment and Planning A*, 16, 1003 20.

Daniels, P.W., 1983, Service industries: supporting role or centre stage, *Area*, 15(4), 301-309.

Daniels, P.W., 1985, *Service industries: a geographical appraisal*, Methuen, London.

Daniels, P.W., 1989, Some perspectives on the geography of services, *Progress in Human Geography*, 13, 427-437.

Daniels, P.W. (ed.) 1991, *Services and Metropolitan Development: International Perspectives*, Routledge, London and New York.

Das, D.K., 1992, *Korean Economic Dynamism*, St. Martin's Press, New York.

Dicken, P., 1976, the multiplant business enterprise and geographical space: some issues in the study of external control and regional development, *Regional Studies*, 10, 401-412.

Fagan, R.H., 1990, Elders IXL Ltd: finance capital and the geography of corporate restructuring, *Environment and Planning A*, 22, 647-666.

Gertler, M.S., 1984, The dynamics of regional capital accumulation, *Economic Geography*, 60 (2), 150-174.

Gertler, M.S., 1988, The limits to flexibility: comments on the post Fordist vision of production and its geography, *Transactions, I. B. G.*, 13, 419-432.

Goldberg, M.A., Helsley, R.W. and Levi, 1989, The location of international financial activity, *Regional Studies*, 23(1), 1-7.

Hanson, R. (ed.), 1983, *Rethinking Urban Policy: Urban Development in Advanced Economies*, National Academy Press, Washington D.C.

Harrington, J.W. Jr, 1992, Determinants of bilateral operations of Canadian and U.S. commercial banks, *Environment and Planning A*, 24, 137-151.

Holly, B.P., 1987, Regulation, competition, and technology: the restructuring of the U.S. commercial banking industry, *Environment and Planning A*, 19, 633-652.

Illeris, S., 1989, *Services and regions in Europe*, Gower, Aldershort, Hants.

Keil, S.R. and Mack, R.S., 1986, Identifying export potential in the service economy, *Growth and Change*, 17(2), 1-10.

Kindleberger, C.P., 1983, International banks as leaders or followers of international business: a historical perspective, *Journal of Banking and Finance*, 7, 583-595.

Ko, S.J., 1970, Korean Financial History *(Hankuk KumYung Sa Yenku)*, Ilchokak Seoul (in Korean).

Kwon, J.K. (ed) 1990, *Korean Economic Development*, Greenwood Press, New York.

Langdale, J., 1985, Electronic funds transfer and the internationalization of the banking, *Geoforum*, 16(1), 1-14.

Lord, J.D., 1987, Interstate banking and the relocation of economic control points, *Urban Geography*, 8, 501-519.

Lord, J.D. 1992, Geographic deregulation of the U.S. bankng industry and spatial transfers of corporate control, *Urban Geography*, 13(1), 25-48.

Lovering, J., 1990, Fordism's unknown successor: a comment on Scott's theory of flexible accumulation and the re-emergence of regional economies, *International Journal of Urban and Regional Research*, 14, 159-174.

MacDonald, H.I., 1992, Special interest politics and the crisis of financial institutions in the U.S.A., *Environment and Planning C*, 10(2), 123-146.

Malecki, E.J., 1977, Firms and innovation diffusion: examples from banking, *Environment and Planning*, 9(11), 1291-1306.

Marshall, J.N. and Bachtler, J.F., 1984, Spatial perspectives on technological changes in the banking sector of the United Kingdom, *Environment and Planning A*, 16(4), 437-451.

Marshall, J.N., Wood, P., Daniels, P.W., and Mckinnon, A., 1987, Producer services and uneven development, *Area*, 19(1), 35-41.

Marshall, J.N., Wood, P., Daniels, P.W., Mckinnon, A., Bachtler, J. and Damesick, P., 1988, *Services and Uneven Developmetn*, Oxford Univ. Press, Oxford.

Marshall, J.N., Gentle, C.J.S., Raybould S., and Coombes, M., 1992, Regulatory change, corporate restructuring and the spatial development of the British financial sector, *Regional Studies*, 26(5), 453-467.

Martin, R. 1989, The reorganization of regional theory: althernative perspectives on the changing capitalist space eocnomy, *Geoforum*, 20(2), 187-201.

Martz, D.F. and Semple, R.K., 1985, Hierarchical corporate decision making structure within the Canadian urban system: the case of banking, *Urban Geography*, 6, 316-330.

Mintz, B. and Schwartz, M., 1983, Financial interest groups and interlocking directories, *Social Science History*, 7, 183-204.

Morris, J., 1987, The internationalization of banking, technological change and spatial patterns; a case study of South Wales, *Geoforum*, 18(3), 257-267.

Moss, M.L., 1987, Telocommunications and international financial centers, in Brotchie, J. F., Hall, P. and Newton P.W. (eds.) *The Spatial Impact of Technological Change*, Croom Helm, New York. 75-88.

Noyelle, T.J. (ed.) 1989, *New York's Financial Markets: The Challenge of Globalization*, Westview Press, Boulder.

Noyelle T.J. and Stanback, T.M., 1984, *The Economic Transformation of American Cities*, Rowman and Allanheld, Totowa.

Oberhauser, A.M., 1990, Social and spatial patterns under Fordism and flexible accumulation, *Antipode*, 22(3), 211-232.

Owens, J.E., 1986, The state regulation and deregulation of financial institutions in the United States, in Cox, A. (ed.) *The State, Finance and Industry*, St. Martin's Press, New York.

Pred, A.R., 1977, *City Systems in Advanced Economies; Past Growth, Present Processes and Future Development Options*, Hutchinson, London.

Rhodes, S.A., 1982, Size and rank stability of the 100 largest commercial bank, 1925-78, *Journal of Economics and Business*, 34, 123-128.

Rose, P.S., 1987, *The Changing Structure of American Banking*, Columbia Univ. Press, New York.

Scott, A.J., 1988a, *New Industrial Space*, Pion, London.

Scott, A.J., 1988b, Flexible production systems and regional development, *International Journal of Urban and Regional Research*, 12, 171-185.

Semple, R.K. and Phipps, A.G., 1982, The spatial evolution of corporate headquarters within an urban system, *Urban Geography*, 3, 258-279.

Semple, R.K., Martz, D.F., Green, M.B., 1985, Perspectives on corporate headquarters relocation in the United States, *Urban Geography*, 6, 370-391.

Semple, R.K., 1985, Toward a quarternary place theory, *Urban Geography*, 6, 285-296.

Shaw, G. and Wheeler, D. 1985, *Statistical Techniques in Geographical Analysis*, John Wiley and Sons, New York.

Sheppard, E.S., 1982, City size distributions and spatial economic change, *International Regional Science Review*, 7(2), 127-152.

Smith, I.J. and Taylor, M.J., 1983, Takeover, closure, and the restructuring of the United Kingdom iron foundry industry, *Environment and Planning A.*, 15, 639-661.

Smith, M.P. and Feagin, J.R., 1987, *The Capitalist City: Global Restructuring and Community Politics*, Blackwell, New York, Oxford.

Stephens, J.D. and Holly, B.P., 1980, The changing patterns of industrial corporate control in the metropolitan United States, in Stanley D.B. and Wheeler J.O. (eds.) *The American Metropolitan System: Present and Future*, V.H. Winston and Sons, New York.

Stephens, J.D. and Holly, B.P., 1981, City system behavior and corporate influence: the headquarter location of U.S. industrial firms, *Urban Studies*, 18, 285-300.

Taylor, M.J., 1975, Organizational growth, spatial interaction and location decision making, *Regional Studies*, 9, 313-23.

Taylor, M.J., 1978, Linkage change and organizational growth: the case of the West Midland ironfoundry industry, *Economic Geography*, 54(4), 314-336.

Taylor, M.J. and Thrift, N., 1983, The role of finance in the evolution and functioning of industrial systems, in Hamilton F.E. and Linge, G.J.R., *Spatial Analysis and the Industrial Environment, Vol.3, Regional Economics and Industrial Systems, John Wiley and Sons*, Chichester, 359-386.

Taylor, M.J. and Hirst, J., 1983, Australian banking: the current round of rationalization and restructuring, ***Australian Geographical Studies***, 21, 266-271.

Taylor, M.J. and hirst, J., 1984, Environment, technology, and organization: the restructuring of the Australian trading banks, ***Environment and Planning A***, 16, 1055-1078.

Walker, R.A., 1985, Is there a service economy? the changing capitalist decisions of labor, ***Science and Society***, XLIX: (1), 42-83.

Wheeler, J.O. and Dillion, P.M., 1985, The wealth of the nation: spatial dimensions of U.S. metropolitan commercial banking, ***Urban Geography***, 6, 297-315.

Wheeler, J.O., 1986, Corporate spatial links with financial institutions: the role of the metropolitan hierarchy, ***Annals of A.A.G.***, 76, 262-274.

Wheeler, J.O., and Mitchelson, R.L., 1989, Information flows among major metropolitan areas in the United States, ***Annals of the A.A.G.***, 79, 523-43.

Wood, P. 1991, Conceptualising the role of services in economic change, ***Area***, 23(1), 66-72.

한국 금융의 공간적 특색에 관한 연구

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금융활동은 한 지역의 발전가능한 자본상태를 반영한다. 한국의 경우 금융부문은 정부의 개발 정책과 밀접한 연관하에 자금의 지역 및 부문별 분배에 많은 역할을 수행하였다. 금융기관 및 활동의 지역별 분포패턴은 금융활동 자체가 도시기능이니 만큼 도시체계의 발달과 밀접한 연관을 가지고 있다. 금융활동의 연구는 한국 도시화를 이해하는 다른 한 측면으로 이해 할 수 있다. 지리학에서 제기하는, 공간에서 실제 어떤 개체가 주체가 되어 공간적 현상을 결정짓는가하는 의문점은 거시적관점에서 조직체의 공간적 활동에 초점을 두어 고찰할 수 있다.

본 연구에서는 공간현상을 도출시키는 조직체로서 금융기관을 가정하고 은행과 비은행기관으로 대표되는 금융기관이 공간적으로 어떤 확산과정을 나타내는가와 이의 결과로 도출되는 지역 및 도시별 분포특징, 그리고 도시계층구조와의 연관하에 금융활동이 가지는 계층성에 대하여 고찰하였다. 연구기관은 우리나라 금융이 본격적으로 발전하였다고 할 수 있는 1975년 부터 1990년까지를 주요 대상으로 하였다.

금융망의 발달은 한국도시의 발달과 깊은 연관을 가지고 있다. 초기 금융기관이 일제시대부터 주요 교통, 행정의 중심지에 위치해 온 이후, 금융기관은 금융기관의 형태에 따라 그 입지적 특색을 달리하면서 대도시지역에 집중하여 왔다. 예를 들어 시중 은행은 대도시위주의 입지 특색을 보이며, 지방은행은 지방 중소도시로의 입지성향, 그리고 특수은행들은 소규모 도읍 등까지 그 입지를 확대한 입지선호도를 보여준다. 또한 새로 출현한 서울주변의 위성도시와 중소 도시에도 1970년 이후 금융망이 확대되었다.

금융자산은 지역별 예금액과 대출액, 그리고 금융기관의 수로 측정할 수 있다. 한국의 경우 서울을 포함한 수도권의 금융자산의 집중현상이 심각함을 지적할 수 있다. 대부분 금융기관 본사의 서울집중과 함께, 연구기간 중 서울 주위 경기지방의 성장과, 부산 주변의 경남지역의 금융성장은 주목할 만하다. 1980년 이후 금융자유화가 추구된 이래 금융부문의 대도시 집중과 상대적인 중소도시의 정체가 계속되어 왔다. 이것은 서울과 경기도의 수도권과 대도시 지역이 제공하는 집적경

제의 이익과 인구집적에 기인한다고 할 수 있다. 하지만 금융자산을 인구규모와 비교해 보았을 때 서울과 일부 지방행정도시들은 인구에 비해 금융기능이 더 집중된 것에 비해, 서울 주변의 위성도시와 지방 대도시들은 인구에 비해 금융기능이 발달하지 않은 사실을 지적할 수 있다.

금융활동은 도시계층구조로 볼 때 비교적 안정된 패턴을 유지하고 있다. 금융활동면에서 도시의 순위 변화는 비교적 크지 않지만, 은행의 예금과 대출은 인구와 금융기관 점포수에 비해 경년간 순위 변화가 비교저 크게 나타난다. 이는 한국금융의 높은 정부의 정책의존도를 반영한다고 하겠다. 전반적으로 도시체계를 폐쇄체계로 가정하였을 때 금융활동면에서의 한국의 도시체계는 집중도가 높은 방향에서 도시간 격차가 완화되는 방향으로 연구기간 동안 변하였다. 이것은 지방소도시와 소도읍의 상대적인 정책적 보조와 집중에 기인한다고 생각된다.

비록 자료면에서 조흥은행의 온라인망만을 하루 동안 흐른 거래액수로 측정하였다는 한계점을 가지고 있지만, 은행 온라인망을 통한 자금의 흐름의 분석은 미약한 지방 대도시의 위상과 함께 높은 서울의 영향력을 도출하였다. 예를 들어 부산의 경우 예측보다 더 적은 자금권을 구성하고 있음이 나타났다. 이외 온라인망을 통한 수신체계와 발신체계별로 차이가 있지만, 대부분의 경우 지방의 인구 백만이상 대도시를 중심으로 자금권이 형성되어 있음이 확인되었다.

금융기능의 집중은 생산서비스로의 금융의 본질과 도한 집적경제이익 및 금융자원에 대한 접근도면에서도 설명되어진다. 하지만 과도한 금융집중은 균형적인 지역개발의 차원에서 새로운 의문점을 제기한다. 이것은 공간적인 집중의 문제보다는 사실 균형 배분의 차원에서 논의되어져야 할 것이다. 이런 측면에서 기업과 금융기관의 공간연계, 특히 금융기관과 대기업의 공간연계, 금융기관과 중소기업과의 공간연계의 차이점에 대한 분석 등은 정책적면에서 효과적인 금융망 구상을 위한 정책제시를 가능하게 할 것이다.

主要語 : 금융체계, 도시계층, 도시체계, 자금의 흐름, 공간적 집중