

# Locational Dynamics and Spatial Impacts of Producer Services in Korea

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## 생산자서비스의 입지적 특성과 공간적 영향에 관한 연구

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**Abstract** : There has been emerging general agreement on the relative importance of producer services in a economy. This research describes the spatial patterns and trends in producer services at different spatial scales. The other research aim is to explain the impacts of producer services on spatial changes at the national level and at the intra-metropolitan level in Seoul. Producer services have highly concentrated in metropolises, especially Seoul. Between 1986 to 2001, an important spatial change in the producer services at the national level has been their growth in the Capital Region, reinforcing the role and function of Seoul. This reinforced role of Seoul is closely related to its competitive advantages arising from economies of urban. There have been some dramatic changes in the location of producer services within Seoul. The most important change was the growth of the *Youngdong* area, previously a sub-center for businesses, as the most important location for producer services, exceeding the previous dominant role of the CBD area. The changing urban form of Seoul is partly related to the onset of some diseconomies of urbanization in the CBD, while at the same time *Youngdong* has reached a stage at which it is benefiting from the agglomeration of a variety of firms, in addition to a favourable social and physical infrastructure.

**Key Words** : producer services, spatial change, competitive advantages, diseconomies of urbanization, economies of agglomeration

**요약** : 생산자서비스가 국가경제에서 차지하는 중요성과 역할에 대해서는 어느 정도의 일치된 시각을 보여주고 있다. 본 연구의 목적은 급속한 성장을 경험한 생산자서비스의 공간적 입지 특성을 국가적 수준 그리고 대도시내 수준에서 살펴보는 것이다. 또한, 생산자서비스의 차별적 성장이 가져오는 공간변화를 서울시를 사례로 하여 살펴보고자 한다. 이러한 연구목적하에 얻어진 연구 결과는 다음과 같다. 우리나라의 경우 생산자서비스는 매우 대도시지향적인데, 특히 서울로의 집중이 심하게 나타나고 있다. 지난 15년간 국가적 수준에서 나타난 생산자서비스의 공간변화의 주요 특징은 수도권의 성장이라고 할 수 있다. 이와 같이 생산자서비스가 수도권에 집중되면서 우리나라의 도시공간의 변화를 가져왔으며, 또한 서울의 기능을 강화시키는데 큰 역할을 해온 것으로 판단된다. 이와 같이 서울의 위상이 강화된 이유는 생산자서비스의 집적을 비롯한 도시경제를 바탕으로 다른 지역에 비해 경쟁적 이점을 갖기 때문으로 설명될 수 있다. 한편, 서울시 내부에서의 생산자서비스의 차별적 성장에 따른 공간변화에서 나타난 가장 큰 특징은 영동지역의 성장으로, 도심지역 보다 생산자서비스가 급속히 발달하고 있다. 이와 같은 생산자서비스의 차별적 성장이 이루어진 이유로는 부분적으로 도심지역의 '도시의 비경제'를 들 수 있으나, 이 보다는 영동지역의 양호한 사회적 및 물리적 기반시설에 기초한 도시경제의 이점과 다양한 업종의 다양한 산업들이 집중되면서 형성된 집적경제의 이점에 기인하는 것으로 설명될 수 있다.

**주요어** : 생산자서비스, 공간변화, 경쟁적 이점, 도시의 비경제, 집적경제

## 1. Introduction

The world economy has experienced rapid

changes in demand, business and employment structures since the 1970s involving decline in some sectors and growth in others. The declining propor-

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tion of manufacturing in the national economy in employment and value added has been a major phenomenon in the advanced and newly advancing economies<sup>3)</sup>(Lee, 1998; OECD, 2000). The nature and the causes of these structural changes have been the object of much research in the social sciences. Researchers have approached these issues from several theoretical points of view including deindustrialization, post-industrial society, the self-service society, late capitalism, and the economy of services. These theoretical points of view may be different, but there is general agreement on the growing importance of services in employment and GDP.

However, services include various, and heterogeneous, groups of sectors. An important element in the growth of services has been the development of producer services. Producer services, often termed 'intermediate' services, are those services which are provided as an input into other businesses<sup>3)</sup>. This is in contrast to consumer services which are mainly provided to households as final demand. Producer services have experienced rapid growth with the increase in the demand for special expertise associated with the socio-economic changes in organizations, in markets, in technology and in the social environment generally (Hermelin, 1997; Pilat, 2000). In Korea, the demand for producer services has increased rapidly, from 1986 to 2001, the growth rate of producer service establishments and employment was 150.6 % and 174.5 % (NSO, 1986, 2002).

Although there has been emerging general agreement on the relative importance of the producer service sector in the economy, few studies have paid much attention to the spatial changes of producer services in general and the spatial impacts of these services in particular (Lee, 1990; Kim, 2000; Park & Nahm, 1998). The aim of this research is to explain the locational characteristics and spatial impacts of producer services in Korea. This research describes the spatial patterns and trends in producer services

at different spatial scales. An important focus is to explain spatial influence of producer services on the national space-economy and on the internal space-economy of metropolitan areas, as these services become more important in terms of employment and GDP.

Different levels of data are used in this research to describe the spatial characteristics of producer services. Time series data for 1986, 1991, 1996 and 2001 will be utilized for this analysis on 170 areas (73 cities and 97 guns), and on 520 Dongs of Seoul (based in 1990). The survey utilized a stratified random sample focusing on the Seoul Metropolitan Area and in selected producer service sectors such as finance, legal, accountant, computer, management, design, advertising and other consultant services<sup>3)</sup>. A postal survey was sent to 400 establishments in Seoul and 300 establishments in the regional areas. The response rate of 12 % was disappointing but nevertheless provided a large volume of useful data. To supplement this, intensive face-to-face business interviews were carried out, 41 in the Seoul Area and 6 in two local cities, the city of Pusan which is the second largest city in Korea with an economy based largely on manufacturing, and the city of Kwangju which is the 5<sup>th</sup> largest city in Korea which is not so dependent on manufacturing compared to other large cities.

The structure of this research is as follows; the next part describes the emergence of the service economy and the growth of producer services in Korea. The third part is for the review of the role of producer services in locational changes and their impacts on the space-economy. The fourth part describes the locational characteristics of producer service in the Korean space economy. The fifth part explains the impacts of producer services in the changing space-economy in Korea, following the conclusion part.

## **2. The Emergence of the Service Economy and the Growth of Producer Services**

### **1) The Emergence of the Service Economy**

There has been growing interest in the relationship between economic growth and producer service development in Korea (SDI, 1996). The Korean economy experienced a rapid growth since the 1960s. Gross national product (GNP) based on current prices was US\$ 2.3 billion in 1962, growing to US\$ 455 billion in 2000 (NSO, 2000). Exports also rapidly increased from US\$ 54.8 million to US\$ 172 billions in the same period. Korean economic growth has been driven by export-based national economic plans with strong government intervention and a stable supply of cheap labour, causing the growth of large firms, namely chaebols (Song, 1995; Sung, 1997). Strong national economic plans and the growth of large firms have contributed greatly to the growth of the Korean economy and the achievement of maturity in market structure, causing the growth of services.

Generally, the importance of services has been measured by their contribution to employment and value adding in the economy. This research shows the growing importance of service activities in the economy in terms of employment, value adding, employed workers by occupation. The contribution of the primary sector to gross domestic product (GDP) declined from 26.4 % in 1975 to 4.9 % in 2000 (NSO, 1975, 2001). Manufacturing's contribution to GDP slightly grew from 26.1 % to 31.5 %. This may be closely related to the strong government support for manufacturing to boost exports. Compared to advanced economies, manufacturing is relatively important to GDP in Korea (OECD, 1999). However, the contribution of services to GDP has been remarkable from 42.3 % to 55.5 %.

Employment change in Korea, measured by the economically active population, reveals a similar

trend. The primary sector has experienced rapid decline in its workforce from 50.5 % in 1975 to 9.3 % in 2000 (NSO, 1975, 2001). Manufacturing increased their employment from 18.1 % up to 21.9 %. In contrast, service employment has continually grown since 1975, from 28.3 % to 60.6 %. Thus, services provide the majority of employment in the economy, showing the advance of the service economy in Korea.

A useful measure of the growth of the service economy is the change in the occupational structure of the workforce. The industrial data, used above, classify employees according to the industrial sector in which they work, even if they are engaged in service activity. In Korea, until 1990, blue collar workers outnumbered white collar workers. However, white collar began to outweigh blue collar workers from 1995, indicating the advent of the service economy in Korea (NSO, 1990, 1995). Of course, the most significant growth in white collar employment since 1975 was in professional, technical, administration, and managerial workers which are predominantly producer service workers. Clearly, regardless of the industrial classification of their work place, there was a massive growth in services activity in Korea during that period, showing an emergence of the service economy.

### **2) The Growth of Producer Services**

The contribution of producer services to GDP and employment in Korea has increased greatly since 1975, especially since the 1990s (see table 1). Compared to the proportion of producer service employment, its contribution to GDP is remarkable, showing its important role in the economy in general. This importance can be described in detail by the rapid growth of producer service establishments.

Establishment numbers in producer services grew by 150.6 % from 80,906 in 1986 to 202,746 in 2001, an increase of 121,840 new establishments(see table 2)<sup>9</sup>. The average annual growth rate of establishments between 1986 and 2001 was 6.12 %. The total growth

Table 1. The contribution of producer services to GDP and employment (unit: %)

	1975	1980	1985	1990	1995	2000
GDP	6.6	11.0	11.5	14.9	17.1	19.1
Employment	1.2	2.3	5.1	6.5	10.2	11.1

Source: National Statistical Office, each year, *Report on Economically Active Population; Major Statistics of Korean Economy*.

Table 2. Producer services: establishments and employment, 1986 to 2001

	1986(000)	1991(000)	1996(000)	2001(000)	Growth rate, 1986~2001	Annual growthrate, 1986~2001
establishment	81	104	125	203	150.6 %	6.12 %
employment	629	940	1,352	1,727	174.5 %	6.73 %

Source: National Statistical Office, each year, *Report on the census on basis characteristics of establishments*.

and annual growth rate of employment in producer service establishments were even higher than that of establishments over the same period. From 1986 to 2001, employment in producer service establishments increased by 174.5 % with an average annual growth rate of 6.73 %. This growth rate is quite high compared an average annual growth rate of 4.3 % for employment in all economic sectors. These sectors added 1,098,028 new jobs in this 15-year period.

### 3. Research Review: Locational Patterns of Producer Services and Their Impacts on the Space Economy

#### 1) Location of Producer Services and the Urban Economy

The locational analysis of services until the 1970s was dominated by central place theory in which the size and distribution of the population is the major determinant of locational patterns. However, the size and distribution of population is much less helpful in explaining the location and the business relations of producer services which are more complex than consumer services (Illeris, 1996). Generally, in both the advanced and newly developing countries the location of producer services is very uneven with a marked bias towards the main metropolitan

areas (Bristow, *et al.*, 1998; Coffey and Shearmur, 1997).

Another locational trend has been the decline of producer services in the central business district, especially low order ones such as insurance and banking, responding in part to the emergence of locational diseconomies and market saturation for some producer services in some metropolitan economies. But overall, when examining the locational patterns and trends of producer services, a major phenomenon has been the concentration of these services in metropolitan areas which offer the comparative and competitive advantages of the urban economy, especially economies of agglomeration (Hermelin, 1997).

The locational pull of the metropolitan area on producer services is a consequence of the 'cumulative effects of the urban economy' (Daniels, 1993; Moulaert & Gallouj, 1993), which comprise agglomeration effects such as a market, labour pools and well-established infrastructure. However, one or several factors may not be enough to explain the concentration of producer services toward large cities. Though the locational mechanism for producer services may be different by sectors, size and degree of firm maturity, the locational competitiveness of large cities can be summarized under three factors such as social infrastructure, physical infra-

structure and agglomeration.

A suitable labour pool, a well-developed market, appropriate government policy, suitable business environment and advanced culture (attitude, power and labour relations) together represent the social infrastructure which is required for the locational competitiveness of producer services. Producer services involve labour intensive business relations, and depend upon expertise and special skills as well as routine work (Townsend, 1997). Large cities contain the suitable labour resources and potential recruits, and also are centers for education and research institutes. The existence of a well-developed producer service sector with its complex business relationships stimulates the creation of new producer services in the metropolitan areas. There are various government and municipal policies, which can provide a suitable environment for producer services. These include, for example, a proactive information technology development plan and a business services export supporting plan (Ley & Hutton, 1991). Urban culture, which has been historically formed and developed, influences the locational decision-making of firms (Allen & Pryke, 1994; Castells, 1996). These cultural elements strongly influence the capital power and labour markets of a city, and in turn this influences the image of a place which is important for a locational decision-making in producer services.

Physical infrastructure, such as transport, telecommunications and the built environment, is also an important component of the urban economy for the location of producer services (Illeris, 1997). Efficient access to information and communication networks in particular is generally regarded as essential for producer services for whom exchange of information is of paramount importance. The urban built environment is important for some producer services, for example design and engineering related services which tend to choose a location in a clean building environment. The residential environment is also important for professional workers and

independent self-employers (McDowell, 1997).

At an intra-metropolitan level, agglomeration which are associated with productive activities in close proximity to one another is a very important locational factor for producer services (Bennett, *et al.*, 1999; Bryson, 1997; Kim, 2000; Tordoir, 1994). The production and delivery of producer services are based on face-to-face contacts, so proximity to clients or firms which provide same or similar services, reduces the costs of communication, transport and transaction costs generally, and offers an opportunity to acquire market information and service-products innovation. The nature of service-production, which involves co-production and co-operation between clients and suppliers, thus requires proximity which allow quick and secure transactions, minimizing time lags in the delivery of key inputs, and good information relating to the market. Proximity is thus a crucial factor in the concentration of producer services not just in a metropolitan area, but in a specific business district of the metropolitan area. The importance of agglomeration in urban areas for the location of producer services can be particularly reinforced at times of rapid domestic and global economic changes, because it offers advantages to firms to overcome uncertainty and reduce risks as well as facilitating innovation.

## 2) Producer Services and the Space Economy

The most outstanding spatial characteristics of producer services at the national level is uneven development. Although some decentralization has been observed in several countries, concentration is a general spatial feature of producer services. Advanced producer services such as management, advertising, engineering, computer, and design are highly concentrated in the metropolitan areas, while low-level services such as banking, insurance, and real estates services are more characteristic of the metropolitan hinterland and peripheral regions.

Technological development and urban diseconomies have stimulated a move of branches and

back-office functions from urban areas (Fujii & Hartshorn, 1995; Moulaert, *et al.*, 1995). In any case this filtering down of the less valuable business functions does not contribute greatly to the regional economies of the peripheral areas (Senn, 1993; Townsend, 1997). These filtered-down branches are highly dependent for their required external inputs upon the head-office located in a metropolis (Bristow, *et al.*, 1998). Therefore, the lack of demand and stimulus to improve business performance hampers the development of producer services in the non-metropolitan areas. This inequality between the core and periphery is closely related to the industrial structure of the peripheral area (Bristow, *et al.*, 1998; MacPherson, 1997; Williams, 1997). Generally, peripheral areas have lacked adequate regional development policies, business initiatives by local firms and socio-physical infrastructure generally, resulting a negative multiplier effect and further inequality in the development of producer services.

One important consequence of the development of producer services is the reinforcing effect it has had on the role of the primary city in domestic and international markets (Allen, 1992; Bennett, *et al.*, 1999; Daniels, 1993; Hermelin, 1997). The concentration of various specialized producer services in the primary city and the associated development of business relations as a result of backward and forward linkages has intensified the competitive advantage of this city in the national economy. High-order producer services which are concentrated in the primary city are deeply involved in this process. In particular, the concentration of head-offices has resulted in the creation and spin-off of firms within and near the head office location (Ley & Hutton, 1991). The primary city generally has a well developed infrastructure including telecommunications and air transport tends to link directly to the global economy, deepening the gap between primary and second-tier cities in a nation (Allen & Hamnett, 1995; O' Connor & Edgington, 1991). The benefits arising from globalization tend to be limited

to a few cities and regions (Amin & Thrift, 1994; Kim, 1999), especially to the primary city in a nation. The second or third-tier cities can be a less important location for the overseas investment. For example, Liverpool in the UK and Chicago in the USA have suffered from a 'shadow effect' as overseas businesses recognize London and New York as gateways for their business entry (Taylor, 2001). As a consequence, the role of the primary city has been reinforced with the concentration of producer services, especially high-order services. The growth and concentration of producer services in the metropolitan area have had an impact on its social and spatial structure (May, 1993; Nunn & Warren, 2000). But detailed research on the impact of producer services on urban structure has been, until now, limited. As mentioned above, the relationship between producer services and city growth has been regarded as a process of cumulative causation. Agglomeration economies in urban induce the development of producer services, while producer services influence the intensification of agglomeration economy in urban.

Some recent research has revealed that producer services, often high order services, are growing more rapidly in suburban nodes than in the CDB area, *i.e.* decentralization (Forstall & Greene, 1997; Nunn & Warren, 2000). The relative decline of producer services in the CBD area in several metropolises of advanced countries has been blamed upon urban diseconomies such as rising rents, traffic congestion and the old built environment. However, the CBD still retains its function as a core business center sustaining key businesses, especially finance and several business services (Leslie, 1997; Warf, 1991). Innovation and information intensive producer services require a 'flexible network' of demand and supply (Moulaert, *et al.*, 1997), which have encouraged the proximate location of similar functions. Thus, similar producer services often tend to locate in the same business districts, forming a functionally specialised agglomeration. Thus the characteristics of business districts in a metropolitan area might be

different depending on the kinds of producer services which are located there.

#### 4. The Spatial Patterns of Producer Services in Korea

##### 1) Locational Patterns of Producer Services at the Level of Cities and Guns

This part describes the locational characteristics of producer services and the changes which have

occurred between 1986 and 2001. Table 3 ranks these 170 administrative regions by population, with Seoul at the top, down through the 5 metropolises and 20 medium cities. The remaining 47 cities and the 97 guns are each aggregated in the table. Several locational trends are immediately apparent from the figure 1 and table 3.

In 2001, the 6 metropolitan regions comprised 64.3 % of producer service employment. The proportion of producer service employment in Seoul, the largest city in Korea, has declined from 48.9 % in 1986 to

Table 3. Trends in producer services by cities and guns in Korea

(unit: %)

	1986	1991	1996	2001	growth rate (1986-2001)	annual growth (1986-2001)
Seoul	48.9	45.4	42.0	43.5	148.5	6.3
5 metropolises	19.2	22.8	22.5	20.8	201.6	9.3
Pusan	7.7	8.2	7.1	6.8	147.0	7.0
Taegu	4.5	4.1	4.8	4.1	157.6	8.4
Inchon	2.5	3.3	3.7	3.4	285.9	11.9
Kwangju	2.4	3.1	2.6	2.7	217.4	8.5
Daejun	2.2	4.1	4.3	3.7	366.6	14.3
20 medium city	14.5	14.8	17.7	18.3	252.4	9.8
Ulsan	1.4	1.0	1.2	1.8	269.3	6.2
Puchon	0.9	0.8	1.2	1.1	231.8	10.5
Suwon	1.2	1.5	1.7	2.4	443.4	11.0
Sungnam	0.8	0.7	1.2	1.5	405.6	11.4
Chunju	1.2	1.2	1.2	1.0	135.4	7.5
Chongju	1.2	1.0	1.2	1.2	197.1	8.3
Masan	1.1	1.1	0.9	0.7	88.5	5.8
Anyang	1.0	0.8	1.2	1.2	260.7	10.4
Kwangmyeong	0.3	0.3	0.4	0.4	299.5	12.9
Changwon	0.3	0.7	1.0	1.1	787.3	18.6
Pohang	1.1	1.1	1.0	0.8	105.5	6.6
Jinju	0.5	0.5	0.6	0.5	181.9	9.6
Mokpo	0.6	0.5	0.4	0.4	72.5	4.0
Ansan	0.2	0.5	0.9	0.9	991.4	21.2
Cheju	0.6	0.7	0.8	0.6	186.5	10.1
Gunsan	0.4	0.5	0.4	0.4	166.7	8.4
Yuijungbu	0.4	0.4	0.5	0.5	253.6	9.0
Chonan	0.4	0.4	0.6	0.6	297.4	12.0
Gumi	0.3	0.6	0.7	0.6	439.6	15.2
Iksan	0.4	0.5	0.5	0.4	158.9	9.8
Other 47 cities	9.0	9.6	10.2	9.7	199.7	9.1
97 guns	8.3	7.4	7.5	7.9	163.7	6.8

Source: National Statistical Office, each year, *Report on the census on basic characteristics of establishments*.

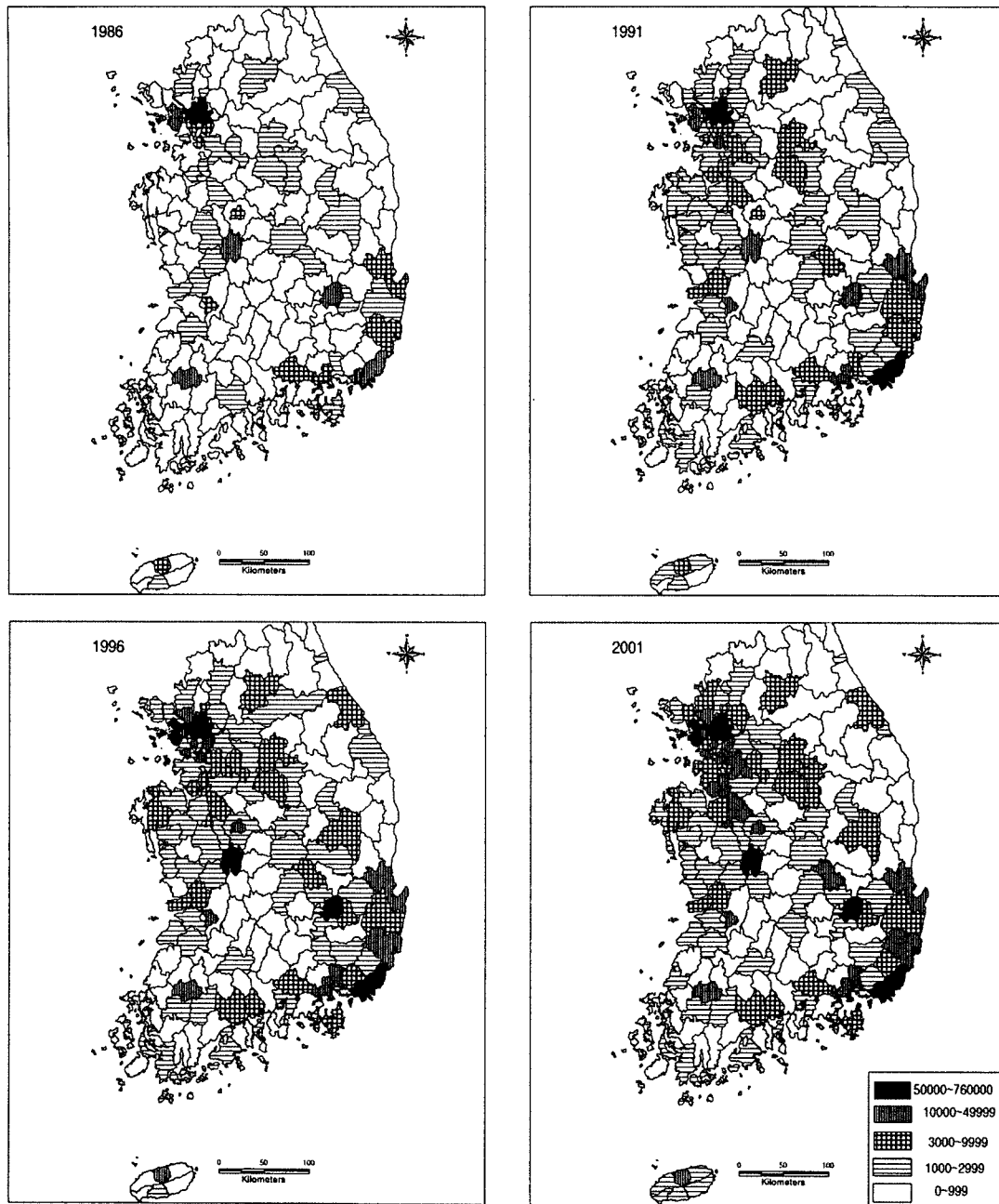


Figure 1. The location of producer service employment in Korea, 1986, 1991, 1996, 2001

Source: National Statistics Office, each year, *Unpublished data on the census on basic characteristic of establishment.*

43.5 % in 2001, however this is still by far the most important location for producer services. Pusan and Taegu, the second and third largest city in Korea,

have declined their share of employment. But, the share of employment in Incheon, Kwangju, and Daejun has increased.



The 20 medium sized cities, each with over 200,000 people in 1990, have increased their share of producer service employment 14.5 % in 1986 to 18.3 % in 2001. The 47 small cities have experienced a slight increase in numbers of employment from 9.0 % to 9.7 %. However, the share of producer service employment in the 97 guns has declined from 8.3 % to 7.9 %. Thus, Seoul accounted for 43.5 % of producer service employment, the 6 metropolises 64.3 %, the medium and large 26 cities 82.6 % and all 73 cities 92.1 % in 2001. Producer services quite clearly favour urban locations and in particular large urban locations<sup>9</sup>.

There have been changes in the development trends of producer services over time. In metropolises, an annual growth rate was relatively low in Seoul, Pusan and Taegu between 1986 and 2001. However, Daejun increased markedly in producer service employment which ranked the fourth in 2001, with 10.3 % of growth in annum. In medium sized large cities, several cities experienced high growth, especially Suwon, Ansan, Sungnam, Gumi, and Changwon. However, a low growth of producer service employment has also occurred in several cities such as Mokpo and Masan. In small sized cities, noticeable is the fact that producer services developed rapidly in locations near Seoul and Pusan between 1991 and 2001, especially in regional cities of the Kyonggi province such as Koyang, Kwangmyung, Namyangju, Guri, Shihung, and Gunpo.

## **2) Locational Patterns of Producer Services at the Intra-metropolitan Level: Seoul**

Generally, producer services are highly concentrated in the central business district (CBD) of a metropolis. The development and the growth of businesses in a metropolis often cause the development of business sub-centers. This development of sub-centers is a common occurrence as businesses grow and diseconomies occur in the CBD area (Fujii & Hartshorn, 1995; Leslie, 1997). Figure 2 reveals

locations of producer service employment in the 520 dongs of Seoul from 1986 and 2001. In 1986, producer services were highly concentrated in several dongs in the CBD such as Sogong, Jongno12, Taepyeongno1 and Euljiro345 dongs. In Yeondeungpo, Yeouido-dong had the greatest concentration of producer service employment as a result of its development as a financial and business center since the late 1970s and early 1980s. Even though employment was not so high compared to the CBD, several dongs in Youngdong (Nonhyeon2, Seocho2, Yeoksam1, Seocho3 and Banpo3) had a relatively high share of employment in producer services. Producer service employment was not developed much in the local areas, except for Sinseoldong (Dongdaemun-gu).

In 1991, Yeouido-dong in Yeongdeungpo and several dongs in the CBD area, namely Sogong, Jongno12, Taepyeongno1, Sejongno, Namdaemun<sup>9</sup>, Euljiro345, Hoehyeon, Myeong and Jongno34 dongs, remained as the main locations for producer services. Since 1986, employment had increased highly in several dongs in Youngdong, for example Nonhyeon1, Yeoksam1, Samseong1, Seocho2, Seocho3, Nonhyeon2 dongs. Two local centers were important locations for employment, namely Hangangno2 (Yongsan) and Gongdeok2 (Mapo) dongs which ranked 14<sup>th</sup> and 16<sup>th</sup>.

In 1996, employment had not increased much in dongs in the CBD area, however employment in Yeouido-dong and in several dongs in Youngdong increased rapidly, especially Yeoksam1, Seocho3, Seocho4, Samseong1, Nonhyeon1, Samseong2, Nonhyeon2, Seocho1, Seocho2 and Daechi4 dongs. Employment has also grown rapidly in several local centers, namely Jamsil6-dong (Songpa-gu), Sinseoldong (Dongdaemun-gu) and Gongdeok2-dong (Mapo-gu). By 2001 Yeouido-dong remained the location with the greatest concentration of producer service employment. Employment was not increased much in the CBD area. But, employment increased rapidly in the Youngdong area, especially

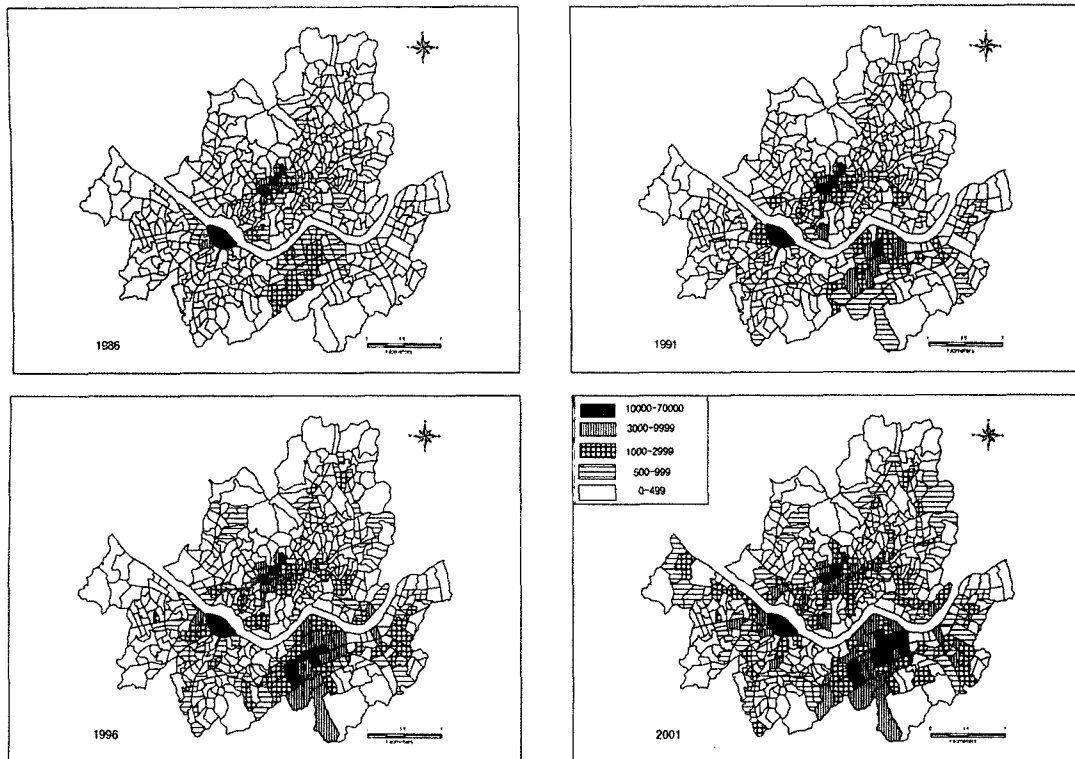


Figure 2. The location of producer service employment in Seoul, by dong, 1986, 1991, 1996, 2001

Source: National Statistics Office, each year, *Unpublished data on the census on basic characteristic of establishment.*

Yeoksam1-dong, Seocho3-dong and Samseong1-dong. Employment has also grown rapidly in several local centers such as Sindaebang2-dong (Dongjak-gu), Jamsil6-dong (Songpa-gu) and Chungjeongno-dong (Seodaemun-gu).

The general locational trend was the concentration of producer service employment in the three business districts, the CBD, Yeongdeungpo and Youngdong. Another phenomenon was the rapid growth of the southern part of Seoul, compared to north. In addition to this general pattern, several important spatial and structural changes have been observed. Within the business districts, there has been a dramatic shift in the location of producer service employment. Between 1986 and 2001, the Youngdong area emerged as the most important location for producer services, reversing the dominance of the CBD area.

This phenomenon is probably quite rare in the metropolitan areas in the world. CBDs have tended to experience the exodus of some office activities, explained generally by urban diseconomies, but most CBDs in metropolitan areas remain the most important locations for producer services (Daniels, 1985; Illeris, 1996; Marshall & Wood, 1995).

At the dong level, Yeuido-dong remained as the top place for all producer service employment between 1986 and 2001. Several dong in the Youngdong area emerged as important locations for producer services, especially Yeoksam1-dong, Seocho3-dong, Samseong1-dong, Nonhyeon1-dong and Daechi3-dong which ranked in the top 10 dong for all producer service employment in 2001. However, the CBD area experienced only low growth in producer services. From 11 dong in 1986, only 6 dong, namely Jongno34, Jongno56, Sogong,

Hoehyeon, Myeong, and Sajik remained in the top 20 dongs in 2001. Among local centers, Sindaebang2-dong, Jamsil6-dong, Chungjeongno-dong, Garakbon-dong, and Gongdeok2-dong emerged as important locations for producer services in 2001.

## **5. The influence of Producer Services on the Changing Space-economy**

### **1) Producer Services and Spatial Change at the National Level**

As shown in previous section, producer services have influenced on the change of the space economy in Korea. Among metropolises, the role of Seoul as the primary city was reinforced between 1986 and 2001 (this will be described in the following part), even though the share of producer service employment in Seoul declined slightly, while its dominance has been maintained. In contrast, the control and influence of Pusan and Taegu on the national economy have declined. The relative decline in those metropolises may be related to the contraction of several manufacturing sectors in the surrounding areas. Globalization has also favoured Seoul, leaving Pusan and Taegu in a 'shadow effect'. Thus, Pusan and Taegu have tended to suffer as Seoul has functioned as the major gateway for foreign and domestic firms in the global economy.

In contrast, producer services increased sharply in several small and medium cities in the *Capital Region*, especially in Suwon, Anyang, Ansan and Koyang. This growth is a consequence at least in part of their proximity to Seoul. As government has intervened to control the expansion of Seoul, small and medium cities in the Capital Region have grown as a consequence (Hong, 1997). However, this growth may not be due entirely to the decentralization of producer services from Seoul. In the first place, the share of producer service employment in

Seoul has not declined much between 1986 and 2001. Second, even though producer services have increased in Kyonggi, manufacturing remains more important than producer services (Lee, 2003). Thus, the rapid growth of producer services in Kyonggi is closely related to the increased urbanization with the relocation and new development of manufacturing sectors and with an influx of population from Seoul and other parts of Korea.

Producer services grew rapidly in the 20 medium sized cities of Korea since 1991. An important phenomenon is that producer services have expanded rapidly in all medium sized cities located near metropolises. It is clear that the share of producer service employment in small cities is quite low and has been a factor in increasing the 'development gap' between centers near the top of the urban hierarchy and those lower down. Analysis of patterns of producer services in small and medium cities indicates that this growth is closely related to location, namely proximity to metropolises.

### **2) Reinforcing Role of Seoul**

The development of producer services, especially advanced producer services, is intimately related to the intensification of the role of Seoul in the Korean economy. This reinforced role of Seoul is a consequence of its competitive advantages including the concentration of head-offices, pools of qualified labour, well-developed telecommunication and airport infrastructures, large markets and a high technology environment when compared to other local regions. This cumulative advantage of Seoul is clear from its control functions in producer services.

Seoul contained 48.7 % of establishments and 69.9 % of employment in producer service head-offices in 2000 (NSO, 2001). Clearly, the employment size of head-offices in Seoul is greater than in other local regions. Pusan has only 3.2 % of head-offices employment. In contrast, other local regions have a relatively high share of numbers of branches and employment. Thus, the expansion of branches from

the head-offices of Seoul has reinforced the control functions of Seoul in the Korean economy. This expansion of branches implies significant spatial change in itself. The kind of expansion of branches that has occurred is best described as 'a cloning spatial structure' (Allen, 1988; 132). This reproduces the same service activities, but not the high order control functions, in other places, rather than a spatial division of labour (Howland, 1996). The functions of branches are different in producer services compared to other sectors, because branches are not only the place of service-sale, but also the place of service-production (Leo & Philippe, 1991). Thus, through the expansion of branches into the 15 regions of Korea, producer services head-offices in Seoul have reinforced their control functions in Korea and also expanded their production and reproduction through a cloning spatial structure. In addition, globalization has contributed to the reinforcement of Seoul's role, linking directly with, and being affected by, the global economy.

### 3) Producer Services and Changing Business Districts in Seoul

The most dramatic change of urban form in Seoul has been the growth of the Youngdong area since the 1980s. Table 4 shows producer service employment in the three business districts from 1986 to 2001. The CBD area declined in terms of the composition of numbers of producer service employment between 1986 and 2001 from 36.1% to 19.0%, Yeongdeungpo maintained its share during the same period. However, the share of Youngdong increased dramatically from 16.5 % to 33.2 %. By 1991, producer service employment was dominant

in the CBD area, but since 1996 the Youngdong area began to exceed the CBD in numbers of producer service employment. As a result, in 2001 the CBD records a total of 142,880 producer service employment, Yeongdeungpo 92,274 and Youngdong 249,585.

This differential growth of producer services in the three business districts is closely related to the difference arising from agglomeration advantages among these centers. Therefore, the Youngdong area generates more benefits of agglomeration than the other business districts. From this respect, this research explains the role of agglomeration in producer services. Proximity to similar services and to other firms is a powerful locational factor for producer services. This is because producer services are highly information intensive and for service-production to occur requires face-to-face contacts, market information, the existence of a local culture and qualified labour.

Survey has been utilized to explain the role of agglomeration in producer services(see table 5). Access to public transportation and proximity was the most important locational factors for producer services. There is not much difference on the locational decision-making by the size of establishment, but establishments in Seoul put more importance on the factors of economies of agglomeration compared to other local regions. Transportation has not been much considered as an important locational factor for producer service businesses (Illeris, 1996). Much research has focused on analysing the proximity between producer services and other businesses or between producer services themselves (Baró & Soy, 1993; Moulaert & Tödtling, 1995; Wood, 1996). The

Table 4. The share of producer service employment in Seoul in the three business districts: 1986-2001

	1986	1991	1996	2001
CBD	36.1 %	28.6 %	20.9 %	19.0 %
Yeongdeungpo	12.6 %	10.4 %	10.9 %	12.3 %
Youngdong	16.5 %	24.8 %	32.1 %	33.2 %

Source: National Statistical Office, each year, *Report on the census on the census on basic characteristics of establishments*.

Table 5. Locational factors for producer services by regions and establishment size

	Total (%)	Seoul (%)	Others (%)	Employment size			
				1~4	5~19	20~49	over 50
access to public transportation	21.9	21.9	21.9	23.5	23.0	17.7	20.7
general proximity to other firms	11.3	12.4	8.8	9.4	12.0	11.8	9.8
proximity to same services	11.3	11.8	10.0	12.6	10.6	7.4	15.2
proximity to government office	7.8	7.9	7.5	11.0	7.2	8.8	6.5
access to consumer services	9.1	9.3	8.8	9.4	8.6	1.5	16.3
proximity to residential area	2.7	3.4	1.3	3.1	2.4	3.0	3.3
clean office environment	10.4	9.6	11.9	9.4	9.9	13.2	9.8
low rental cost	10.1	11.2	7.5	9.4	10.6	7.4	10.9
availability of parking space	6.2	4.5	10.0	3.1	8.2	3.0	4.4
reputation of location	6.4	7.0	5.0	9.4	6.9	5.9	3.3

Source: survey results (n=129).

neglect of the importance of access to public transportation might be related to the fact that it is assumed under the general heading of agglomeration economies and is an essential element in the urban economy.

'General proximity to other firms' which constitute a potential market as well as 'proximity to the same services' is important for the location of producer services in Korea. The importance of proximity implies that 'economies of agglomeration' are crucial for business relations in producer services. General proximity to other firms was regarded not just as an important locational factor but also an essential factor, because other firms are the markets for producer service businesses. Proximity to their market is very important for newly created and especially small businesses. According to this survey, 30.7 % of clients are located inside Gu-level, 36.5 % nearby, in Seoul. Proximity to clients (inside and nearby Gu) was especially high for some producer services such as advertising (92.8 %), legal (73.1 %), and accounting services (71.8 %). Generally, manufacturing sectors have been regarded as the most important clients for producer services. However, manufacturing sectors provided 37.7 % of the demand for producer services, and the major demand came from the service sector itself (49 %). The agglomeration of producer services in

Youngdong is thus closely related to the industrial structure of this area which has the highest share of services among the three business districts.

In relation to this, 41.8 % of surveyed producer service establishments obtained their required services from other producer service establishments. This shows that outsourcing is frequently occurring among producer service sectors. Especially, legal (72.3 %), insurance (64.7 %), computing (62.2 %) are obtained highly by outsourcing. Therefore, networking is highly occurring in producer services. Many interviewees, especially from computer services, explained that proximity to establishments providing the same or similar services is important in order to obtain market information, information about new service product development and to develop various partnerships. Eighty four percent of producer service establishments from 125 available surveys depended upon close face-to-face contacts with clients for their service-production. Overall, 61.4 % of business activity, namely co-production, is conducted in client offices and 37.0 % in the office of the supplier with the involvement of clients. Therefore, the development of networking for producer services is closely related to the requirement for co-production between clients and suppliers.

It is also common for relationships, formal or informal, to develop between establishments located

in the same building or nearby. Some interviewees from computer services mentioned that they help each other to handle problems with no formal relationship based on transaction costs. There exist informal ties of friendship and trust, as well as formal partnerships, between producer service businesses. These relationships develop through frequent meetings, often in a social environment such as when eating or drinking. Clearly, close proximity is necessary in order to permit these relationships to occur and evolve.

It is generally agreed that economies of agglomeration are a strong influence causing the concentration of producer services (Marshall & Wood, 1995), the birth of small establishments (Berry, *et al.*, 1997) and the development of the local economy in the urban area (Daniels, 1993; Hermelin, 1997; Moulaert & Gallouj, 1993). Growth of the Youngdong area in Seoul is a striking example of this process. Most interviewees regarded Youngdong as the best location for producer services, compared to the CBD. It has a variety of small, medium and large businesses with a good transportation system (convenient access to transportation, a well planned road system, etc.).

Economies of agglomeration often result in the specialization of producer services in the urban areas. Table 6 utilizes the composition of producer service employment in the three business districts. In

the CBD, financial and insurance service employment comprises 57 % of all producer service employment. The CBD is thus somewhat specialized for these services. In Yeongdeungpo, 46.6 % of producer service employment comes from financial and insurance services, especially financial related services (22.8 %), showing the high development of that sector. However, specialization of producer services has not occurred in Youngdong which includes a high share in computer related services (22.1 %) and engineering related services (29.6 %). This indicates that the development of various services is a general phenomenon in Youngdong.

Specialization of producer services in the three business districts is thus not a general phenomenon, and various factors have affected this process. The historical role of the CBD as the center of Seoul, and its development of government offices and head offices, have strongly encouraged the development of financial and insurance services. The desire of government to develop Yeongdeungpo as a business center, especially a financial center, has been a major influence in the rapid development of financial services in Yeongdeungpo, especially non-monetary institutions such as financial leasing, mutual credit services and security dealing activities. However, the evolution process of Youngdong as a new residential and business center with a relatively well-planned city system has closely related to the

Table 6. The composition of producer service employment in the three business districts, 2001

	CBD	Yeongdeungpo	Youngdong
Financial institution	27.7	16.3	7.9
Insurance services	20.8	7.5	5.1
financial related services	8.5	22.8	2.9
real estate	9.2	8.1	13.5
equipment rental related	0.5	1.1	1.9
Computer related services	5.7	14.7	22.1
R & D	0.9	1.0	1.8
engineering related services	15.1	13.3	29.6
business related services	11.7	15.2	15.2
all	100.0	100.0	100.0

Source: National Statistical Office, 2002, *Report on the census on the basic characteristics of establishments*.

development of the whole range of producer services, especially advanced producer services, with the exception of financial institutions which were firmly embedded in the other two centers.

Therefore, economies of agglomeration for particular producer services may cause specialization in the business districts, but this is not a general phenomenon for the business districts in Seoul. Agglomeration occurs when producer service businesses all seek out a similar location, but this agglomeration may involve a variety of sectors. Therefore, the agglomeration of producer services generally occurs through the mixture of various producer service sectors in the business districts. Proximity to similar/same firms and other firms is a very important factor for the location of producer services.

## 6. Conclusions

Producer services have grown rapidly in Korea in terms of both employment and GDP, showing the important role of these services in regional development. However, in Korea, the importance and role of producer services in the space economy have been neglected in general. This research focused on explaining the spatial changes in producer services at different scales in the space economy, including the role of agglomeration in these services. Producer services quite clearly favour urban locations, especially large urban locations. The locational pull of these large cities on producer services is a consequence of the cumulative effect of the urban economy, which comprises agglomeration, the market, labour pools, and well-developed infrastructure.

In 2001, 73 cities contained 92.1 % of producer service employment. However, producer services have highly concentrated in Seoul, and moderately in the other 5 metropolises. The most important spatial change in producer services has been their growth in the Capital Region, especially Kyonggi. There have

been some dramatic changes in the location of producer services within the metropolis. A general trend in Seoul has been the concentration of producer services in the three business districts. However, the most important change was the growth of the Youngdong business district, previously a sub-center for businesses, as the most important location for producer services, exceeding the previous dominant role of the CBD area.

Given that with economic development, producer services become more important in terms of employment and GDP, and because producer services have special location requirements, it is not surprising that there is an impact on the national urban hierarchy and on the internal forms of metropolitan areas. The role and function of Seoul has been reinforced in the economy, where producer services, especially advanced producer services, are highly concentrated. This reinforced role of Seoul is closely related to its competitive advantages arising from economies of agglomeration. Of course, some important changes in the internal spatial changes of Seoul are related to this role of economies of agglomeration. Therefore, the spatial change of Seoul is partly related to the onset of some diseconomies of urbanization in the CBD, while at the same time Youngdong has reached a stage at which it is benefiting from the agglomeration of a variety of firms, in addition to a favourable social and physical infrastructure. It appears that this rapid growth of producer services in Youngdong is not a consequence of relocation from the CBD, but rather new growth especially since the late 1980s.

Although some decentralization and spatial dispersal of some producer services has occurred in Korea, there is little doubt that producer services will continue to be attracted to large cities because of their cumulative agglomeration economies. Just as the evolution of the service economy appears to have caused greater socio-economic inequalities among the population so it appears to be causing increased polarization in the urban hierarchy. The

relative share of employment in Seoul may decline in the future, however the growth of producer services will be restricted to the other metropolises and several cities of Kyonggi. The role of Seoul as the center of the national economy will not easily decline in the near future. Concentrated there are the head-offices of manufacturing and service companies, plus the advantages of agglomeration economies. Also, Seoul is the only city which is competitive in the global economy, and thus government policy will continually support the regional economic development of Seoul. Inside Seoul, the role of Youngdong as a core business district is estimated to grow further. And several business centers will develop further in local centers in Seoul, changing its urban form toward an extensive multi-centric. Throughout this research, the uneven development of producer services was observed quite clearly. Given the importance of producer services in regional economic growth, this uneven development will cause further obstacles for regional development outside the Capital Region.

### Notes

- 1) This research describes the Korean economy as 'newly advancing' rather than the more commonly used term 'newly industrializing' in order to focus on the important role which services have come to play in the recent development of the Korean economy. There is still a tendency to associate the term industrializing with the development of the manufacturing sector.
- 2) There are disagreements relating to the classification of producer services. However, generally, finance, insurance, real estate, and business services such as legal, accounting, advertising, research and development, other business services are included as producer services.
- 3) The postal survey covered all regions of Korea, while interviews were focused on the Seoul, Pusan and Kwangju metropolises. In Seoul, the interviews were focused on the three business districts. Postal surveys were sent out twice, on 9 April and 30 June in 1999. Interviews were conducted during 20<sup>th</sup> April~10<sup>th</sup> July in Seoul and 12<sup>th</sup> July ~ 3<sup>rd</sup> August in Pusan and Kwangju. From a total 700 postal surveys sent out 145 responses

were received, 12 of which were incomplete. The intensive face-to-face interviews were carried out in Seoul (41 interviews), Pusan (3) and Kwangju (3). The face-to-face interviews were conducted with chief executive officers or senior managers (departmental directors).

- 4) Since the change of international standard industrial codes in 1991, the national statistical office of Korea has collected data in accordance with ISIC. Data for 1996 and 2001 also have some changed codes, however that does not cause a big problem to utilize time series data.
- 5) There have been some changes in the administrative areas. For time series data comparison, the administrative areas are based in 1990. For example, Ulsan city is not included in the category of metropolis, but in the Kyongnam province.
- 6) The growth of producer services is related to population. For example, the Kyonggi province has experienced rapid urbanization with highly increased population. However, the development of producer services does not always correlate with city size. For example in Kyonggi, Suwon, Anyang, Ansan rank higher in terms of producer services than they do in terms of population. Also, the relatively low share of employment in Sungnam, Kwangmyung and Kwachon, compared to their city size, is related to their functions as dormitory towns for Seoul.
- 7) Daniels(1993) and Hermelin(1997) suggested to use 'urbanization' and 'localization' for the explanation of locational patterns of producer services. According to them, urbanization economies are access to general infrastructure (transport, telecommunication, housing and office building), while localization economies mean local industrial structure formed by the same sector (supply of inputs, knowledge spill-over, and proximity to clients). However, in the metropolitan areas, different producer service sectors (not by one producer service sector) tend to form a cluster. Generally, urbanization and localization economies are co-existing in the business districts of a metropolis, causing ambiguities and confusions (see Parr, 2001). Thus, this research often uses 'economies of agglomeration' instead of 'urbanization' and 'localization'.

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