

Retrospect and Prospect of Economic Geography in Korea

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Abstract : The main aim of the paper is to identify the position or status of Korean economic geography in changing global economic geography by reviewing papers published in Korean geographical journals since the mid-1950s. Since the late 20th century as economic geography has developed significantly with the introduction of new research issues, methodologies, and theory and concepts, economic geography in Korea also has gone through rapid development in terms of both quantitative and qualitative perspectives. The paper attempts to analyze trends in Korean economic geography by reviewing agricultural, industrial, commercial geographies, and others since the mid-1950s. The review of economic geography in Korea would be based on four periods classified by research issues and approaches; foundation (~1950s), positioning (1960s and 1970s), jump and rush (1980s and mid-1990s), and transitional period (late 1990s-). Agricultural geography in Korea has decreased due to increases of the interests in industrial geography since the 1980s. In particular, since the late 1990s industrial geography has undergone a significant transition in accordance with the emergence of new theories of institutional perspectives, centering around issues on value chains, innovative cluster, cooperative and competitive networks, foreign direct investment, flexible specialization and venture ecology. Along with this, there has been changes in the interest of commercial geography in Korea from researches on periodical markets, the structure of store formats, and distributions by commodity, to researches on producer services and retailer's locational behaviors and commercial supremacy according to the emergence of new store formats. Since the late 1990s, many researches and discussions associated with the new economic geography began to emerge in Korea. Various research issues are focused on analyzing changes of local, regional and global economic spaces and their processes in relation to institutional perspectives, knowledge and innovation, production chain and innovative networks, industrial clusters and RIS, and geographies of service. Although economic geography in Korea has developed significantly both in quantitative and qualitative perspectives, we pointed out that it has still limited in some specific scope and issues. Therefore, it is likely to imply that its scope and issues should be diversified with new perspectives and approaches.

Key Words : economic geography in Korea, agricultural geography, industrial geography, commercial geography, new economic geography

요약 : 본 연구는 1950년대 중반 이후 나타난 한국 경제지리학의 연구 성과와 과제를 검토하여 한국 경제지리학의 지향점과 연구 과제를 제시하는데 주안점을 두었다. 20세기 후반 이후 경제지리학은 새로운 이슈, 이론, 방법론 등의 도입과 함께 크게 발전하였다. 이에 따라 한국 경제지리학도 지난 반세기 동안 연구의 양적인 면과 질적인 면에서 크게 발전하였다. 본 논문은 1950년대 중반 이후 한국의 농업지리학, 공업지리학, 상업지리학 등의 문헌을 검토함으로써 한국 경제지리학의 동향을 분석하고자 하였다. 한국 경제지리학은 연구의 주제

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와 접근방법을 기반으로 네 개 시기- 요람기(1950년대), 정립기(1960~1970년대), 도약기(1980~1990년대 중반), 전환기(1990년대 후기 이후) -로 구분할 수 있다. 1980년대 한국 경제지리학의 연구 관심이 공업지리학으로 옮겨지면서 농업지리학은 크게 쇠퇴하였다. 특히, 1990년대 후반 이후 가치사슬, 혁신 클러스터, 협력과 경쟁 네트워크, 해외직접투자, 유연적 전문화, 벤처 생태계 등과 같은 주요 이슈를 중심으로 새로운 제도적 관점의 이론이 도입되면서 공업지리학은 크게 성장하였다. 상업지리학에서는 1980년대까지 정기시장, 상품 유통, 상가 구조 등에 관한 연구가 주로 이루어졌으나, 1990년대 이후에는 생산자 서비스를 중심으로 한 서비스 산업과 새로운 양식의 출현에 따른 소비 입지 형태와 상권에 관한 연구들이 많이 이루어졌다. 이와 더불어 1990년대 후반 이후 신경계지리학과 관련된 많은 연구와 담론들이 출현하기 시작하였다. 특히, 제도적 관점, 지식과 혁신, 생산 사슬과 혁신 네트워크, 산업 클러스터와 지역혁신체제 등을 중심으로 다양한 경제공간의 변화에 대한 연구가 활발히 이루어졌다. 한국 경제지리학은 1990년대 이후 급격한 양적·질적 성장을 이루었지만, 여전히 대부분의 연구가 몇몇 특정 공간과 이슈에 집중되어 있는 한계를 가지고 있다. 따라서 경제지리학 전반에서 볼 때, 새로운 이론적 및 방법론적 관점과 접근 방식을 보다 적극적으로 도입하여 연구 주제를 다양화 시켜야 할 뿐만 아니라 연구의 공간 범위도 다층화하는 것이 앞으로 중점으로 지향해야 할 주요 연구 과제이다.

주요어 : 한국 경제지리학, 농업지리학, 공업지리학, 상업지리학, 신경계지리학

1. Introduction

Economic geography has developed significantly with the introduction of new research issues, research methodologies, and theory and concepts since the late 20th century. Since the 1960s economic geography in Korea also has gone through rapid development in terms of both quantitative and qualitative perspectives. In terms of the development of economic geography in Korea, it is important to concern with its the starting point as a barometer of future economic geography in Korea.

The terminology of 'economic geography' has been used since Japanese colonial era, as there was economic geography as one of curriculums in administration examinations during the era under Japanese occupation (Hyong, 2008). After independence from Japan, economic geography in Korea turned out the first MA dissertation (Lee, 1956). It is regarded as the starting point of economic geography in Korea (Hyong, 1976a; Han, 2007). Also, the first economic geography book

was published in 1959 (Hyong, 1976a). Since then, as Korean economic geography has developed rapidly with the great participation of numbers of geographers into this field, there has been great transition in the position or status of economic geography in Korea. Therefore, the main aim of the paper is to identify the position or status of Korean economic geography in changing global economic geography by reviewing papers published in Korean geographical journals since the mid-1950s. The review of economic geography in Korea would be based on four periods classified by research issues and approaches - foundation, positioning, jump and rush, and transitional period.

To this end, the paper is fallen into three sections. Firstly, the paper attempts to analyze the characteristics, issues and approaches of Korean economic geography through classifying the history of economic geography into four periods; foundation, positioning, jump and rush, and transitional period. Secondly, the paper attempts to explain the emergence and development of new economic geography in Korea in response to rapid changes in theories, approaches and method-

ologies helped to explain changes in spatial economies since the late 1990s. Finally, based on the review of economic geography in Korea, we attempt to provide retrospect and prospect of economic geography in Korea.

2. Development of Economic Geography in Korea

1) Foundation of Korean economic geography: In mid-1950s

Economic geography in Korea was newly introduced in the 1950s, which was mainly based on interactivism based on a methodology developed by B. Dittich(1927) and economic zones divided by industrial structure and income degree based on from Japanese economic geography (Han, 2007). Also, American economic geography was introduced by the translation of <*Economic Geography*> written by C.F. Jones and G.G. Darkenwald (Hyong, 1976a).

The remarkable performance of economic geography in Korea in this period was the publication of Journal '*Geography*', which was including economic geography and field survey reports, published by students in Seoul National University. Although its academic level was relatively low, it was worthy enough as the first geographical journal in Korea (Hyong, 1976a). Also, economic geography in Korea turned out the first MA dissertation (Lee, 1956). It is regarded as the starting point of economic geography in Korea (Hyong, 1976a; Han, 2007). Even though there were few researchers in economic geography in the 1950s, some researches on agricultural region, industrial locations, land plans and development, and issues on resources began to emerge.

2) Positioning of Korean economic geography: Between 1960s and 70s

The first positioning of economic geography in Korea could be set up in the first publication of "*Journal of the Korean Geographical Society*" published by the "*Korean Geography Society*" in 1963 (Han, 2007). During the 1960s and 70s there was significant growth in agricultural geography, and some expansions of industrial geography related to industrial locations and stages of industrial development. In particular, there had been rapid increase in researches in search of spatial modeling developed by positive and quantitative analysis stemmed from F.K. Schaefer's work¹⁾.

During this period, there had been a significant changes in agricultural geography from researches focused on regional differentiation in rural areas, to researches on cultural analysis for the structure of agricultural regions and the conceptualization of agricultural regions through a number of quantitative methods (Hyong, 1977; Park, 1996). For example, while Seo(1974; 1976) attempted to reinterpret agricultural regions in the perspective of positivism, Kim(1969) explored Korean agricultural regions by investigating agricultural regions in the early of Yi Dynasty in the perspective of culture and economic history.

The main interest of industrial geography in Korea during this period was placed on the structure of industrial regions, the differentiation of industrial regions, and changes in industrial locations in accordance with rapid industrialization (Hyong, 1975; 1976b). In particular, the researches focused on changes in locational structure and regional structure (Hyong, 1976b). However, researches in this period had some limits on the lack of understanding problems with the application of quantitative methods into the analysis of the locational structures of industrial regions, and the principles of locational theories (Park, 1983; 1992). Nevertheless, it was worthy that some

researches attempted to regard economic spaces as dynamic spaces, rather than static spaces, through empirical works on changes in industrial locations and theoretical works on changes in industrial agglomeration (Park, 2002a).

3) Jump and rush of Korean economic geography: Between 1980s and mid-90s

Between the 1980s and mid-90s Korean economic geography had been driven by a number of researchers who had degree from abroad, and new issues and approaches in economic geography had introduced (Han, 2007). A number of paradigms such as behaviorism, structuralism, and political economic approaches based on marxism as alternatives of positivism were introduced and explored during this period.

The main stream of Korean agriculture geography in jump and rush period was intensified changes in rural and agricultural spaces along with industrialization and urbanization in Korea. The main feature of agriculture geography in Korea during this period was to identify the processes of changes in the activities and spaces of agriculture in social-economic perspectives (Sohn, 2007). For example, main works were the regional differentiation of part-time farming (Seo, 1992), changes in Korean agriculture spaces analyzed by a quantitative method (Kim, 1991), etc. In particular, Hyong(1992) made great contribution on agricultural geography in Korea by developing its theories and cases through the classification of agricultural spaces into heritage, patterns and functions.

New issues of industrial geography emerged in this period are mainly placed on changes in firm organization and firm locations, changes in the production system and industrial restructuring, patterns of foreign direct investment(FDI), and high-technology industry and building technopolis in Korea (Hyong, 2008; Park, 1996). In terms of firm organization and firm

locations, main interests were laid on the relationships between firm's organization and spatial structure by analyzing the implications of national industry policies for changes in the business activities and organizations of large firms (Hwang, 1983; Park and Wheeler, 1984; Park, 1986a; 1986b; 1990). Also, researches drew attention on the transition of production system from the mass production to the flexible production system in Korea (Lee, 1993a; 1993b; Lee, 1993c; Park and Kim, 1994; Choo, 1994a; 1994b). Most of Korean firms had introduced flexible production strategies for industrial restructuring to enhance firm's competitiveness (Park and Kim, 1994). In particular, the flexibility of production processes was emphasized in the subcontracting relations of the automobile industry in Korea (Ryu, 1989; 1990). However, Choo(1994a) pointed out that the introduction of the flexible production system or flexible specialization in Korea is likely to be differentiated by the size and technology levels of firms, arguing that the introduction of new technology and labour flexibilization is driven by large firms, but just in time procurement of raw and subsidiary materials is driven by small and medium firms in Korea. In addition, along with the growth in the role of MNCs in the global economy, researches on Korean FDI had increased since the 1980s. For example, Choo(1986) classified the pattern of inward FDI in Korea by country. What is more, researches on high-tech industrial parks were drawn attention by emphasizing needs on the stimulation of the high-tech industry (Hyong, 1986; Park, 1994).

3. Transition in Korean economic geography: since late 1990s

Since the late 1990s Korean economic geography has gone through significant transformation with the

emergence of new issues on innovation, informatization, cluster, networks and their participation on national policies. In particular, since issues on regional innovation systems and industrial clusters emphasized from since the late 1990s has been used in regional even development policies, economic geography has emerged as a key discipline related to strategies for regional development. Along with the qualitative development of economic geography in Korea, there has been a increase in the number of economic geography paper in Korea since the late 1990s. For example, the proportion of Korean economic geography papers published between 2001 and 2010 accounted for 44% of geography papers published in Korea since 1956²⁾(Han, 2011). One of the main reasons for this that researches on economic geography in Korea has significantly developed with the establishment of the “Economic Geographical Society of Korea” (hereafter EGSK) in 1997, leading to the significant increase of papers published in the EGSK since 1998. The number of papers published in the “*Journal of the Economic Geographical Society of Korea*” between 2001 and 2011 was 325³⁾, which is accounting for 41.3% of economic geographical papers published in geography journals in Korea (Table 1).

The main interests of economic geography in Korea has been industrial geography, accounting for 24.5%

of papers published in geographical journals in Korea, and 41.8% of papers published in the society⁴⁾. It shows the great transformation of trends in Korean economic geography in response to economic restructuring towards the knowledge and high technology based industry due to the Korean economic crisis in 1997. Also, the area of regional and urban development has contributed significantly on the growth of Korean economic geography, accounting for 19.6% of papers published in Korean geographical journals. It should be resulted from the increase of interests centering around numbers of policies for even regional development and building the regional innovation systems driven by the government since the early 2000s. In addition, commercial and transport geography has played a relatively important role for the growth of Korean economic geography. The number of papers in commercial and transport geography accounts for 11.3% and 15.8% respectively of papers published in Korean geographical journals, thanks to the emergence of new store formats and distributors, dramatic increases in the new types of specialized business service, and the rapid development of transport technology and infrastructure since the late 1990s. However, the proportion of papers between 2001 and 2011 in Korean agriculture geography accounts for only 3.7%, due to the transition of interests into industrial

Table 1. Number of Korean economic geography papers published by theme, 2001-2011

Theme	A(%)	B(%)	A/B × 100
Methodology	3(0.9)	3(0.4)	100.0
Industrial geography	136(41.8)	193(24.5)	70.5
Commercial geography	37(11.4)	89(11.3)	41.6
Agriculture geography	10(3.1)	29(3.7)	34.5
Regional & urban development	50(15.4)	154(19.6)	32.5
Transport geography	21(6.5)	124(15.8)	16.9
Others	66(20.3)	195(24.8)	33.8
Total	325(100.0)	787(100.0)	41.3

Note: ‘A’ means the number of papers published in the EGSK.

‘B’ means the number of economic geography papers published in all geographical journals in Korea.

geography. This section would review general trends of Korean economic geography in transitional period between 2001 and 2010, centering around industrial, commercial and agricultural geographies which have been major interests in Korean economic geography.

1) Agricultural geography

According Han(2011), until 1980 Korean economic geography was mainly focused on agriculture geography. However, since the late 1990s there has been a significant decrease in the number of papers in agricultural geography in Korea, accounting only 3.7% between 2001 and 2011 (Table 1). It seems to show the main transition of economic geography in Korea from agricultural to industrial geography in response to the emergence of new theories of institutional perspectives, centering around issues on value chains, innovative cluster, cooperative and competitive networks, FDI, flexible specialization and venture ecology.

Nevertheless, it is worthy to notice that issues on agricultural geography has been diversified since the late 1990s, showing a remarkable increase in interdisciplinary approaches with tourism, finance, civil participation and so on. For example, Choo(1999) attempts to show changes in the structure of Korean agriculture regions along with the development of information and communication technology. Cho *et al.*(2002) attempted to identify agriculture regions in Korea as a new space by investigating the structure and implications of agricultural amenity. Choi *et al.*(2004) analyzed the role of national agricultural cooperative federation in the financial markets of agriculture regions in Korea. More recently, Ahn(2007) argued the importance of civil participation in building tourist villages in agriculture regions. More recently, Hyun and Lee(2011) analyzed the spatial diffusion patterns of organic farms increasing rapidly with the growth in the agricultural product market.

2) Industrial geography

Since the late 1990s the global and local economy has become focus on knowledge and technology based industries, as they has played a critical role for national economic development. Along with this trends, there has been also a transition of industrial geography in Korea. More specifically, it has developed in accordance with the economic globalization and emergence of new theories related to industrial restructuring, networks, value chains, innovative clusters and the regional innovation systems(RIS), FDI, venture ecology, etc.

Research topics about industrial location and regional economic change were still a lot studied in this period (Lee, 1999; Kim, 1999b; Lee, 2002a; Beak, 2003; Moon, 2004). Industrial restructuring and their spatial effects has been one of the key issues in economic geography since the 1980s and until in the 1990s and 2000s (Park, 1983; 1996; Woo, 2005; Kim, 2007). In terms of strategies for industrial restructuring since the late 1990s in Korea, what is the most important is the formation of the international and local networks among firms, government, university and research institute, which is based on the innovation system. In particular, the role of the region for the innovation systems has been emphasized in researches on the formation of networks, as innovation is enhanced through learning by interacting and the transition of tacit knowledge based on spatial proximity (Kim, 1997; 2001; Park, 2000; 2001; 2008a; Jung and Kim, 2005; Koo, 2008b).

Also, there have been numbers of researches on innovative clusters as a main regional development tool and a major momentum for the formation of the RIS in Korea (Nahm, 2001; 2003; 2005; Lee, 2003c). In particular, Nahm(2004) suggested some policy implications for Korean clusters and regional innovation strategies through lessons from the worst practices by

pointing out conceptual vagueness of cluster and monotonous policy options. Also, Cho(1999) emphasized innovative environments have important implications for technology innovation and regional economic development.

In addition, there has been the qualitative development of research issues and methodologies on inward and outward FDI since the late 1990s in Korea. It has transferred from the location patterns and spatial distribution of Korean firms to MNCs' networks and their locational changes in accordance with the emergence of trade protectionism. Lee(2000c) analyzed the spatial pattern of international trade based on increases in the FDI proportion of MNCs. Jung(1999; 2001) identified the characteristics of Korean MNCs FDI in the EU, which is defensive-oriented FDI in respond to changes in trade restriction from the EU. Lee(2000a; 2001a) investigated the spatial characteristics and networks of foreign business service firms and their embeddedness in Korea. Also, there has been researches on the impact of institutional changes for Korean FDI, and their networks and value chain in transitional economies such as China and Vietnam in institutional perspective (Lee *et al.*, 2003; Lee and Jung, 2004; Suh, 2004; Lee, 2007d; Kim and Lee, 2009a; Kim and Lee, 2009c; Lee and Kim, 2010).

3) Commercial geography

There has been changes in the interest of commercial geography in Korea from researches on periodical markets, the structure of store formats, and distributions by commodity until the late 1980s (Han, 1990), to researches on producer services and retailer's locational behaviors and commercial supremacy according to the emergence of new store formats (Ahn, 2002; Lee, 2004). Since the late 1990s the Korean retailing industry has developed in accordance with changes in social and economic environment, such as changes

in purchasing power, the structure of population and technology innovation, related to retailing and consumption activities. More specifically, it has developed with new store formats: supermarket, convenient store, discount store, and super-supermarket⁵⁾ (Chung, 2011). This section attempts to identify recent research trends in commercial geography in Korea since 1997 by investigating researches on retail, consumption and logistics activities.

Researches on the Korean retailing industry has been focused on changes in retailer's locational behaviors and commercial supremacy according to the emergence of new store formats. The emergence of convenient store has resulted in some conflicts against existing small and medium sized supermarket and coner shop, and changes in their location (Ryu, 2004a; Shin, 1993). Also, along with the growth of discount store in Korea since the 1990s, researches has focused on the relationships between their spatial expansion and distribution in response to changes in the pattern of consumer purchasing activities (Kang, 2004). Lee(2000b) concerned with the role of discount store as a niche of department store and traditional market, developing the model of quantitative growth and spatial expansion. The scope of research interests has expanded into the locational characteristics and commercial supremacy of discount store by region (Lee and Kim, 2000), and the process of its spatial expansion by comparing it with department store (Ryu, 2004b).

More recently, there has been methodological development in research on the location of discounts store. Lee and Yuh(2010) classified its location in accordance with regional scale, land use, etc, and analyzed its turnover by the classification of location to identify its locational characteristics. Tae and Lhim(2010) has developed a model of its locational determinants by using probability model developed by Huff in 1963. Kim(2010) provided the idealogical location of retail

store through the introduction of GIS and field survey for big discount stores located in Incheon, concerning with population, transport convenience, land use, and the degree of competition with neighbor stores. What is more, some researches has considered the impact of super-supermarket on other retail stores (Shin and Moon, 2010). They analyzed the commercial supremacy of super-supermarkets located in a specific district, which is called 'dong' in Seoul, arguing the supremacy of a super-supermarket is almost 14 times of a normal-sized supermarket.

As we have pointed out above, the main research trends of Korean commercial geography since 1998, has still focused on locational behaviors, spatial expansion and commercial supremacy by store formats, even though new research technique has been introduced in this field. It is likely to show that its scope and issues should be diversified with new perspectives and approaches.

4) Other research fields in economic geography

Apart from industrial and commercial geography, researches on transport geography has stimulated significantly in Korea since the late 1990s. In particular, traffic networks has been emerged as an important issue. For example, Kim(1995) analyzed problems with traffic plans in metropolitan areas, Yoon *et al.*(1998) developed a model for building environment-friendly urban traffic system. Also, a new methodological technique, which is geographical information system(GIS), was used newly to analyze proximity to the system of traffic networks (Lee and Lee, 1997). More recently, there has been a number of literatures related to traffic networks, patterns, and their network structures in the metropolitan Seoul (Hyun and Lee, 2011; Lee *et al.*, 2007; Lee and Park, 2006; Park and Lee, 2007; 2008; 2011; Noh and Joh, 2011). Also, there has been a rapid increase in new approaches and techniques in trans-

port geography. For example, Joh(2009) investigated daily travel pattern in Seoul by using a multi-dimensional motif search. Also, Joh(2011) analyzed the trip chain of freight travel through sequence alignment methods to set the starting framework of decision-making principle in freight travel. However, although there has been a growth in both quantitative and qualitative perspectives in Korean transport geography, it shows still some weakness in researches on efficient and effective transport policies to deal with serious traffic problems in Korea, implications of transport facilities for regional socio-economies, and the analysis for transport systems in the international level.

In addition to transport geography in Korea, there has been great increases in the interests of labour geography in Korea since the late 1990s. Lee(2000d) identify the relationships between the regional growth in employment and the pattern of spatial economies by investigating the uneven development of regional economies in China. Also, Lee(2002b) investigated the wage determination process of regional labor markets in order to understand the regional dimension of labor market processes in Korean metropolitan cities. It provides an insight into why labor market policy as a regional policy needs to be redefined and it can be much enhanced by geographical investigation on regional market.

4. Emergence and development of New Economic Geography in Korea

Since the 1990s, the rediscovery of economic geography has been discussed actively worldwide both in the field of economics and economic geography. The most determined attempt to introduce space and location into mainstream economic theory has been

related to the rise of this 'New Economic Geography (NEG)' (Martin, 2011). In economic geography, new methodologies and theoretical frameworks were explored, which are based on the institutional and evolutionary approaches following a broad trend of 'cultural turn' (Park, 2008b). The key words concerning this trend are cultural turn, social interactions, networks, embeddedness, transformation process, etc. Many researches and discussions associated with the NEG began to emerge especially after the late 1990s in Korea. Various research issues are focused on analyzing changes in local, regional and global economic spaces and their processes in relation to institutional perspectives, knowledge and innovation, production chain and innovative network, industrial clusters and RIS, and geographies of service.

Knowledge has become one of the most important driving forces of economic growth and the competitiveness of regions. Therefore, knowledge creation and the innovation systems have been emphasized as new industrial development strategies in the knowledge-based economy (Park, 2008b). In the late 1990s, the Korean government has made explicitly a great deal of efforts to help attract and create high-tech new startups and venture ecology. Some studies have investigated the locational characteristics and institutional milieu of venture businesses (Kim, 2002; Choi and Yoon, 2004; Lee and Lee, 2004). After the 2000s, the importance of innovation and knowledge creation in the regional development and competitiveness has been more emphasized, and there were some empirical analysis on the knowledge production. Lee and Kim(2006) demonstrated the spatial-temporal patterns of knowledge production activities based on a data set of patents using spatial statistical methods and GIS in Korea. Jeong(2007) also analyzed spatial determinants of innovative activities using spatial econometric techniques. Koo(2008b) analyzed the network formation process of personal actors applied to a

knowledge creation model, that is socialization, externalization, combination and internalization. More recently, the triple helix model has been introduced as a new regional and national innovation model (Lee *et al.*, 2009; Lee *et al.*, 2010). It seeks to understand the innovation process centered upon the university-industry-government interactions.

After the 1990s, research on industrial clusters and RIS has increased explosively in the world despite their conceptual vagueness. Lee and Lee(2008) pointed out the ambiguity of terms and concepts of industrial agglomeration and cluster. Nevertheless, after about the early 2000s, there has been a number of discussions and case studies on the spatial and regional agglomeration of industries based on the theory of industrial district, collective learning, industrial clusters and RIS in Korea. In particular, national balanced development and RIS have been one of the most important industrial and regional policies under the President Roh's administration (2003.2-2008.2). The key policy objective was to build competitive RIS and innovative clusters in the regions. Many studies attempted to investigate policies of innovative clusters and RIS and their effect on the region (Nahm, 2004; Lee, 2007a).

Therefore, successful clusters have been analyzed by economic geographers, for example, software and IT cluster in Gangnam area (Hwang, 2000; Nahm, 2003; Park, 2008a), fashion cluster in Dongdaemun Market (Nahm, 2003; Kim and Lee, 2009b), IT and research cluster in Daeduk (Lee, 2003c; Hwang, 2004; Kim, 2009a), automobile cluster in Ulsan (Lee, 2007b), electronics cluster in Gumi (Park and Chung, 2012), and metal and machinery cluster in South-East Region (Kwon, 2006; 2010). In addition, some traditional clusters such as fermented soy products industry in Sunchang (Lee, 2011) and emerging clusters such as the photonics industry in Gwangju (Lim and Park, 2006) and biotechnology clusters (Kim, 2009b) have been also explored.

These clusters' critical success factors are mainly based on the institutional perspectives and untraded interdependences, for example, physical agglomerations of firms and organizations, developed local and global networking, embeddedness and institutional thickness, and regional policy supports. Hwang(2000) examined that Gangnam area has been well equipped with localization, embeddedness, institutional thickness and collective learning, however, less developed in networking. Park and Chung(2012) reviewed the evolutionary process of Gumi electronics cluster from the industrial park of branch plants to the innovative cluster and revealed the role of government policies for local industrial dynamics. There were also some researches to explore the spatial patterns and structure of the industrial agglomeration and cluster using spatial econometric techniques, which is different from the existing qualitative methods (Jeong and Kim, 2005; Jeong and Pak, 2007).

In the above cluster literatures and case studies, local and global network of firms, organizations and regions are one of the important factors of their competitiveness (Park, 2002b). The more firms interact through regional networks, the more generate greater agglomeration advantages, and such networks and agglomeration process promotes regional industrial clusters. Thus, networks can be regarded as a firm's strategy to make efficient use of other firms' resources in the form of cooperative subcontract relationship, R&D cooperation, joint project, outsourcing, and sales network alliance, etc. (Kim, 1998). In other words, networks in the social and institutional perspectives have become important for understanding spatial organization of economic activities (Koo and Park, 2012).

Production systems with subcontracting linkage and network of Korean large firms were examined with the case of LG Electronics (Lee, 2001b), Samsung Heavy Industry (Woo, 2003) and Samsung Electronics (Kang, 2005). In addition to the network with

supplier and customer firms, innovation networks with other organizations such as competitors, research institutes, universities and government also have become important in innovation and knowledge creation (Park, 2002b; Lee, 2003c; Beak, 2006; Kim *et al.*, 2008). Choi(2005) analyzed cooperative networks of service industries in the technological innovation and revealed the structural difference by region. Kim *et al.*(2008) demonstrated that R&D networks focused on government research institutes geographically are concentrated in the Capital region and Daedeok by R&D policies promoted by the Korean government. These kinds of social and institutional perspectives of networks, so-called the 'network governance approach' focusing on the network contents, have been main topics of clusters and other researches since the 1990s (Koo and Park, 2012). However, according to the prevalence of the evolutionary approach in economic geography in the 2000s, network analysis is widely adopted to analyze the network structure of individual actors (Koo, 2008a; 2010).

More recently, value chain, commodity chain and networks were studied in relation with the concept of FDI, spatial division of labor, innovative clusters and the impact on regional economy (Lee and Kim, 2005; Lee, 2007d; Han, 2009; Jang and Han, 2009). With the progress of globalization, economic geography studies related to commodity chain and production network were expanded to the global commodity chains(GCCs) and global production networks(GPNs). Lee and Kim(2005) examined the characteristics of industrial transformations in East Asia from the perspective of GPNs and investigated changes in production networks in East Asia through analyzing trade data of industries. Jang and Han(2009) clarified the GCCs of the grafted cactus of Umseong region and revealed the spatial division of labor from semi-periphery to core regions.

With the advent of the knowledge and service

economy since the 1990s, the number of researches on the knowledge-based and technology-intensive service industries and their spatial characteristics increased rapidly. In Korea, knowledge-based industries have been highly concentrated in the Capital region, especially in Seoul (Kim *et al.*, 2003). Many studies demonstrate that Seoul has been the center of producer and business services, information and technology services, software and the Internet-related industries, and cultural industries, which reinforced the role and function of Seoul (Kim, 1999a; Lee, 2003a; Choi, 2003; Lee and Lee, 2005; Choo, 2006; Hong, 2008). Within Seoul, in addition to CBD area, the growth of Gangnam area is prominent which is benefiting from the agglomeration of a variety of firms, favorable social and physical infrastructure (Lee, 2003d; Ryu, 2005; Koo, 2010). There also have been some researches on the geography of finance (Choi, 1999; Lee, 2004; Park, 2008c).

5. Conclusion: Retrospect and prospect

This paper attempts to review historical and thematic trends in Korean economic geography based on four periods; foundation, positioning, jump and rush, and transition. The research framework of Korean economic geography has changed from the regional structure theory in jump and rush period to the spatial system of economies and network theory in transition period (Han, 2007). Since the late 20th century, economic geography in Korea has gone through rapid development in terms of both quantitative and qualitative perspectives. There are newly widely used terms such as ‘institutional turn’ and ‘relational turn’ in economic geography with the advent of the so-called NEG since the 1990s. Therefore, new methodologies

and theoretical frameworks were explored, which is based on institutional and evolutionary approaches. Various research issues are focused on analyzing changes of local, regional and global economic spaces and their processes in relation to institutional perspectives, knowledge and innovation, production chain and innovative network, industrial clusters and RIS, and geographies of services.

Although economic geography in Korea has developed significantly both in quantitative and qualitative perspectives, we pointed out that it has still limited in some specific scope and issues. Therefore, it is likely to imply that its scope and issues should be diversified with new perspectives and approaches. In addition to the traditional topics of interest, diverse new themes such as culture, environment, services, and policy should be studied in relation to economic geography in Korea. Methodologies such as mathematical model, GIS-based econometric techniques, network analysis and so on will expand the possibilities of researches in economic geography. It is expected that new theories and methodologies for understanding and analyzing new economic spaces can be established through active interactions with other disciplines. Korean economic geographers should interact and cooperate not only with other fields of geographers such as urban, cultural and social, and even physical geographer, but also other social scientists such as regional science, economics, sociology, etc.

Notes

- 1) His main work could be found in “Exceptionalism in geography: a methodological introduction” published in *Annals of the Association of American Geographers* in 1953.
- 2) According to Han(2011), up to 2010 the number of economic geography paper published since 1956 is 1,621. Among those papers, 713 papers were published between

2001 and 2010.

- 3) The total number of research paper published in the “Journal of the Economic Geographical Society of Korea” from 1998 to June 2012 is 358, including research notes.
- 4) In particular, the number of industrial geography papers published in the EGSK up to 2010 is 136, which is accounting for 70.5% of all industrial geographical papers published in Korean geography journals (Table 1). It is likely to implicate that the EGSK has a critical role on the development of industrial geography in Korea.
- 5) The super-supermarket is a similar store to the discount store in that both have specific logistic centers and distribution systems based on scale economies. According to Chung(2011), however, the commodity turnover of super-supermarkets is much higher than discount stores, due to relatively their small floor spaces compared to big discount stores.

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