GEOGRAPHY OF ECONOMIC ACTIVITIES

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Contents

Summary

One of the most significant trends of the world economy in recent years has been globalization of production and markets for commodities, services, technologies, and financing. Trade volumes and cross-border capital flows have increased considerably since 1980. Global networks of industrial production have expanded due to the increase of direct foreign investments and joint ventures among enterprises of different countries. There have been also very active trends for regional economic cooperation in various parts of the world and cross-border sub-regional economic integration with neighboring countries.

Along with the globalization of economic activities, localization of economic activities has progressed with the development of diverse types of industrial districts and

innovation clusters. Technology parks and cluster concepts are now extending to the service sector, especially information-technology (I.T.) related service activities. In recent years, the concept of national innovation systems has been applied to regions within a nation. That is, regional innovation systems (RIS) have been evolved in major centers of innovation in the global economy. Collaborations and horizontal networks, interactive process, and regional clustering and specialization are important for innovation and regional competitiveness.

The evolution of the knowledge-based economy in recent years has contributed to the emergence of new industries and progress of new industrialization. Knowledge is more important for the service sector in the knowledge-based economy. There is a growing importance of environmental business services that are knowledge-intensive activities, reflecting the need for new production systems for sustainable development. In this article, the integration of the industrial ecology approach, the role of multinational corporations, network for sustainability, and financing environmental change are regarded as possible paths of sustainable industrialization. Considering the growth of the knowledge-based economy and the digital economy, creativity and brainpower are the most important commodities in today's Internet economy. Innovation production, services, and consumption in the digital economy will lead to a diverse mosaic of economic activities in the global economy.

1. Introduction

Economic activities are not evenly distributed in space in our society. Some industries are concentrated in certain regions while other industries are clustered in other regions. Some functions of firms such as control and managements or research and development (R&D) are concentrated in the large metropolitan areas while manufacturing plants are dispersed to peripheral areas. Because of these uneven distributions of economic activities in space, patterns and processes of the organization of economic activities in space has been one of major themes in geography. Geography of economic activities deals with the location and organization of economic activities in space and accordingly is closely related with the organization of economic space.

Von Thünen's "model of agricultural land use," Christaller's "central place theory," Lösch's "economics of location," and Isard's "space economy" have all dealt with the organization of economic activities in space. In these classical or neoclassical models of economic spaces, focus was given to the regional or at best national space, and distance/transportation cost was the critical factor for the organization of economic activities in space. With the continuous decrease of transportation cost and increasing complexity of the organization of economic spaces, the traditional models of economic spaces have not been of much interest since 1980. Some scholars attempted to understand the organization of economic spaces with regard to globalization, industrial restructuring, labor market, political economy, and so on in a broader sense, others tried to focus on the process of local economic growth or localization of industry.

The processes of organizing economic activities in space have been diverse according to regions and times. Dynamic organizations of economic activities in the global society have been well recognized since 1980 at local, regional, national, and international

levels by emerging new industrial spaces or "sticky places in a slippery space," trading blocs, and the shift of the economic gravity center. Since the end of the twentieth century the changes in the organization of economic activities in space show somewhat different processes from previous ones. The dynamics of economic activities are closely related with techno-economic paradigm shifts that have distinctive characteristics in labor, production system, business model, finance, consumer behavior, and innovation systems. The dynamics have been reinforced with the development of information and communication technologies (ICT), progress of the knowledge-based economy, and restructuring of global economies in the first decade of the twenty-first century.

In this article, the current status of the art of geography of economic activities is examined with consideration of sustainable development of global society. Major issues in the field of geography of economic activities to be examined in this article are global and regional economic integration; industrial districts and clustering; geography of innovation; knowledge-based economy and services; and sustainable industrialization. Future trends and perspectives are also examined in the last section of this article. The development of ICT and advances in the digital economy and knowledge-based economy has been regarded as the major forces for the changes in the organization of economic activities over the global economic space.

2. Global and Regional Economic Integration

2.1. International Investment of Economic Activities

Since the early 1980s globalization of economic activities has been the most significant characteristic of the global economy. Multinational corporations (MNCs) have promoted globalization with the development of transportation and communication technology and with open-door policies. It has been estimated that MNCs (parent and affiliates combined) are responsible for 75% of the world's commodity trade.

However, the preeminence of economic activities of MNCs is dispersed unevenly across the global economic space as well as being spread unequally across sectors. Economic activities of MNCs are concentrated heavily in industries characterized by high levels of R&D, a large share of professional and technical workers, and production of high technology and technically complex products. MNCs have some type of intangible asset they want to keep within the firm and keep competitive advantages based on those intangible assets.

The patterns of international investment of economic activities produce some agreement among scholars regarding the geography of international investment of economic activities. Market size and distance are the most important factors for determining where firms locate their foreign affiliates: by controlling the market size a large share of investment locates close to home, and controlling distance a large share of investment heads towards the countries with bigger markets. These two extremely important factors of foreign direct investment mean that most investments of MNCs can be found in the advanced industrial countries.

During the 1990s, however, the direction of investment of economic activities shifted, with a large share heading toward developing countries, especially in the Asia Pacific Rim. The analysis of recent data on foreign direct investment (FDI) reveals that the Pacific Rim has become the global gravity center of FDI and there have been significant changes in the spatial organization of economic activities, especially in the Asian Pacific Rim, since the mid 1980s. Due to this shift in FDI, as globalization of economic activities has progressed the Pacific Rim has become more dynamic than the Atlantic Rim.

Recently, most developing countries have made efforts to attract economic activities of MNCs. Since most of the FDI in the developing countries focus on production units, the global space economy is organized along with the commodity chains of global production activities. Technological changes, development of ICT, and an open world trade environment allow the MNCs to split production processes more easily.

2.2. Global Finance and Reorganization of Economic Spaces

The role of global finance in the regional and national economy has become more important for reshaping economic space and city regions in the global economy. Along with the introduction of Europe's single currency, the deregulation trend in the financial markets, and the revolution of information technology, new financial markets have been created and the fortunes of financial centers promise to be more fickle in the future. Certain types of standardized or "commoditized" financial activities tend to be decentralized to lower-cost locations, as was the case for standardized industrial products during the 1980s and 1990s. However, financial firms, headquarters, and their most skilled and highly prized employees tend to continue to cluster in a few global financial centers. That is, strategic planning, project management, product development, and risk-taking activities such as trading complex financial derivatives are concentrated in the global financial centers, while other standardized activities can decentralize to secondary financial centers. This suggests a spatial division of labor in the financial activities of global finance.

Along with this spatial division of labor in financial activities, peripheral regions at both the national and global level seem to be more vulnerable in financial crises, due to the control of financial functions by a few global financial centers. Core regions or nations in the global economy can have comparative advantages because of their control of global finance in terms of regulation, accessibility, credit, etc. In other words, the globalization of finance contributes to the evolution of new regional inequality and problems. The financial crisis of the East Asian economy in 1997/98 is a good example of the vulnerability of national economies in the era of global finance. Globalization of financial activities suggests a strong possibility of the reorganization of urban systems in the twenty-first century and the regulation and impact of global finance on local investments will also increase in importance.

The recent trend of economic reforms and globalization of economic activities requires significant industrial restructuring. The pressure to restructure firms' organization since the 1997/98 economic crisis in the Asian Pacific Rim seems to have been stronger than the pressure on the labor intensive industries in the Asian newly industrializing

economies (NIEs) in the 1980s and early 1990s. Firms should restructure their organization and location in order to maintain or regain their competitive advantages. The need for restructuring has been more severe for financial firms in East Asia. The restructuring of firms' organization will surely impact on the region's industrial structure, innovation potential, labor market, infrastructure, and industrial networks. Accordingly, the consequences of the restructuring and the financial crisis are closely related to the reorganization of economic space. For example, firm bankruptcy, unemployment, merger and acquisition, and spin-offs, resulting from the industrial restructuring under the economic crisis, may have negative impacts on the peripheral regions.

2.3. Trend towards Regional Economic Integration in the Global Economy

While negotiations in the Uruguay Round and global liberalization were in progress during the 1990s, there were also very active movements for regional economic cooperation in various parts of the world. In total, 121 regional agreements were established between 1947 and 1995 and 12 additional regional agreements were made in the late 1990s when the new era of the World Trade Organization (WTO) started. The trend of regionalism has not slowed in spite of the official launch of the WTO. This trend towards regionalism can be regarded as a natural step toward globalization in the future, even though there are some concerns about the regionalism prevalent even under the WTO.

Regional agreements made in recent years throughout the world are significantly different from those made in the past. All the previous regional agreements were made among developing countries, apart from the European Community, which was a bloc of Western advanced economies only. Newly established trading blocs, however, comprise not only developing countries but also advanced economies as seen in the European Union (E.U.) and the North American Free Trade Association (NAFTA). In addition, the newly established trading blocs cooperate with neighboring trading blocs, as seen in expanded Mediterranean agreements and E.U.–Eastern Europe. There are several reasons for this new trend of regionalism, which comprises both the advanced and developing economies. First, the complementarity in factor endowment is greater between the advanced and developing economies than among developing economies only. Second, a free trade agreement between an advanced economy and adjacent developing economies will effectively prevent illegal migration from the latter to the former. The investment from the advanced economy into developing economies will create employment in the developing economies and the output from this investment will readily find a stable market in the investing advanced country. And finally, the member developing economies enjoy easier access to the market in technology transfer, debt reduction, and FDI from the member advanced economy. These mutual benefits have interacted to promote regional arrangements comprising both developed and developing economies into a single bloc.

There has been a clear trend of resurging regionalism in recent years. From the three major regional blocs, the share of intra-regional total trade of each region was 52.8% in Western Europe, 31.5% in North America, and 41.1% in Asia in 1958, when regional blocs were not yet fully arranged in their present form. But these figures rose to 69.9%,

33.0%, and 49.7%, respectively, in 1990. Of the three major regional agreements in recent years in the world, the E.U. and NAFTA trading blocs are very tightly organized. However, the Asia-Pacific Economic Cooperation Conference (APEC), which was formed in 1989, is a very loose consultative organization and is still in its preliminary stages.

A strong and tight regional bloc like the E.U. or NAFTA would be the best solution in Pacific Asia. But it may not be easy to formulate a single trading bloc in the Pacific Asia for several reasons. Pacific Asia lacks the favorable conditions for regional integration present in Europe because there are wide differences not only in levels of economic development but also in cultural, political, and economic preferences. Even though intra-regional trade has steadily increased in recent years in this region, the export-led economies of Japan and Asian NIEs are still heavily dependent on the American market and other markets of advanced economies, rather than on the regional market. Furthermore, the increasing economic ties between countries in Pacific Asia have not been based on political motivations, but rather on economic development. Regionalism in Pacific Asia can be viewed as market-oriented open regionalism, which is characterized by complementarities in terms of factor endowments, stages of industrial development, levels of technological development, etc. Intra-regional cooperation in this area was initiated firstly by the capital investments from Japan in 1970s and 1980s, and has recently been followed by investments from the Asian NIEs. This regional cooperation is not the whole region-wide arrangement in Pacific Asia, but is organized at sub-regional level based on market-oriented or economic motivation. This sub-regionalism in Pacific Asia, especially in Southeast and East Asia, is closely related to industrial restructuring of Asian NIEs.

2.4. Cross-Border Sub-regional Economic Integration

Instead of formal regional integration agreements in the Asian Pacific Rim, cross-border sub-regional industrial development or sub-regionalization by economic integration with neighboring countries have been distinctive features in the economic spaces of the Asian Pacific Rim. In sub-regionalization, only sub-region or a part of the participating country is included instead of the whole country. Even though sub-regionalization is not a formal economic bloc like formal regional economic integration, it is one of the strategies for regional economic development in the cross-border areas. The emergence of this sub-regionalization based on the sub-regional economic integration with neighboring economies in the Asian Pacific Rim was more prominent in the 1980s and 1990s. The sub-regional economic groupings have emerged as a result of industrial restructuring and adjustment together with globalization efforts of the Asian NIEs.

The existence of economic complementarity between members and geographical proximity are the primary conditions for successful development of the sub-regional economic groupings. Geographical proximity is necessary for sub-regionalization in order to reduce transaction costs, and in order to take advantage of cultural and linguistic affinities. Regional economies in Southeast and East Asia have benefited from their complementarity through spatial division of labor in this region. It is suggested that the emergence of sub-regionalization is partly a natural result of East Asian traditional business links through personal contact rather than bureaucratic practices.

The most advanced and clear examples of sub-regionalization are the southern China economic area comprising Hong Kong, Taiwan, and Guangdong and Fujian Provinces in China; and the Singapore-Johor-Riau (SIJORI) growth triangle of Singapore, Malaysia, and Indonesia. In the first half of the 1990s, the city-states of Hong Kong and Singapore were aggressively pursuing economic integration with neighboring economies, resulting in sub-regional economic groupings. These two already established sub-regional economic groupings can be characterized as "cross-border regions, with substantial manufacturing growth in territories adjacent, or in close proximity, to longer established nuclei of export-oriented industrial production, predominantly industrial regions in the Asian NIEs." The existing sub-regionalizations reflect the increasing economic integrative tendencies across national boundaries. In addition to these two already established sub-regionalizations, two more in Southeast Asia and three in Northeast Asia are being planned or are under development. However, most of the sub-regional economic integrations are still academic sketches and in the proposal stage, but they have considerable complementarity with economic links between neighboring countries.

3. Industrial Districts and Clustering

3.1. Industrial Districts and Networking

Industrial districts are essentially a territorial system of small and medium-sized firms. The original rationale for industrial districts was the creation of external economies of scale, economies that are external to the firm but internal to the area, for groups of small firms. According to Marshall, these external economies of clusters of small firms provide a competitive alternative to the internal economies of scale of big firms. The progressive specialization of all the firms working in the same industrial sector with the process of production in several stages in the same area is a characteristic of industrial districts. Marshall focuses on traditional sociocultural factors, which concern the quality of the social milieu of industrial districts. In the concept of industrial districts, Marshall emphasizes the mutual trust that reduces transaction costs in local production activities; the industrial atmosphere that promotes the generation and transfer of skills and qualification of the workforce required by local industry; and the effects of both these aspects in promoting incremental innovation and innovation diffusion among small firms in industrial districts. This concept of industrial districts has been reinterpreted in several studies of industrial communities in Third Italy (i.e. northeastern Italy). The Marshallian industrial district has been defined as "a socio-territorial entity which is characterized by the active presence of both a community of people and a population of firms in one naturally and historically bounded area."

Considering the recent examples of developing countries, however, there are different types of industrial districts that evolved in the 1990s. Networks and embeddedness are regarded as central factors in functioning and formation of the different types of new industrial districts. Networks are relational structures and consist of a mix of inter-firm and intra-firm structures. They involve neither the explicit criteria of the market nor the well-organized routines of the hierarchy. Embeddedness refers to the fact that economic action and outcomes are affected by actors' dyadic relations and by the structure of the overall network of relations. Accordingly, network relationships are central to the

concept of the social embeddedness of economic action. There are several contrasting forces in the development of different types of industrial districts with regard to network and embeddedness. Local and global networks, local and non-local embeddedness, coexistence of various production systems, and small and large firms are regarded as major forces functioning and governing the new industrial districts.

Industrial districts originally developed in Europe and advanced industrialized countries began to develop in Asian countries in the early 1980s. In the 1970s and 1980s, industrial complexes in the Asian NIEs had only negligible local inter-firm networks. However, industrial networking through the variety of inter-firm relations has grown since the late 1980s. The major forms of inter-firm relations include arm's length transactions between firms, equity investments by one firm in another, joint ventures between independent firms, technology licensing, inter-firm alliances for the purpose of pooling strategic assets, and supplier and other networks between firms. It is suggested that the growing importance of inter-firm relations and the emergence of new industrial spaces are related to flexible specialization. Especially, recent studies on the Third Italy contend that flexible specialization based on cooperative inter-firm relations of small and medium-sized enterprises successfully compete with mass production of large enterprises. In the Pacific Rim, however, diverse production systems have coexisted and various inter-firm relations have been important not only among small firms, but also between small and large firms, and among large firms.

Localization as well as globalization of industry has advanced with the growing importance of inter-firm relations. In the developing countries, contrary to advanced economies, new industrial districts are mainly the satellite type, which consists of branch plants, or the hub and spoke type, which is dominated by one or a few large firms. Initially, local inter-firm relations were negligible in the satellite new industrial districts. In the process of development of the new industrial districts, local inter-firm relations became significant with the increase of inter-firm cooperation in the local area and local subcontracting activities for reducing transaction costs, transportation costs, and sunk costs. The growing importance of inter-firm relations within the local area has contributed to the localization of industry. Inter-firm relations have also extended to the international level and promoted the globalization of industry.

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Bibliography

Angel D.P. and Rock M.T., eds. (2000). *Asia's Clean Revolution: Industry, Growth and Environment*, 277 pp. Sheffield: Greenleaf. [An excellent book on theoretical frameworks and case studies for development of clean technologies in Asia's industrialization.]

Beyers W. (2002). Services and the new economy: elements of a research agenda. *Journal of Economic Geography* **2**(1), 1–30. [Provides the role of services in the new economy and related research agenda.]

Clark G., Feldmann M., and Gertler M., eds. (2000). *The Oxford Handbook of Economic Geography*, 742 pp. Oxford: Oxford University Press. [This book provides progress of recent development in economic geography and future perspectives.]

Dunning J. (2000). *Regions, Globalization, and the Knowledge-Based Economy*, 506 pp. Oxford: Oxford University Press. [Provides the role of regions in globalization in the era of the knowledge-based economy.]

Hayter R. (1997). *The Dynamics of Industrial Location*, 484 pp. Chichester, U.K.: Wiley. [A textbook on theories and case studies of industrial location.]

Le Heron R. and Park S.O., eds. (1995). *The Asian Pacific Rim and Globalization*, 188 pp. Aldershot, U.K.: Avebury. [This book provides the progress of globalization of economic activities in the Asian Pacific rim.]

Leinbach T.R. and Brunn S.D. (2001). *Worlds of E-Commerce*, 353 pp. Chichester, U.K.: Wiley. [This book introduces recent research progress on e-commerce in geography.]

Lundvall B.A., ed. (1992). *National Innovation Systems: Towards a Theory of Innovation and Interactive Learning*, 342 pp. London: Pinter.

Markusen A.R. (1996). Sticky places in slippery space: a typology of industrial districts. *Economic Geography* **72**(3), 293–313. [Explains four types of industrial districts in the American context.]

Organisation for Economic Co-operation and Development (OECD) (1999). *Boosting Innovation: The Cluster Approach*. Paris: OECD. [A policy-oriented report on innovation cluster.]

OECD (1999). *Managing National Innovation Systems*, 118 pp. Paris: OECD. [A report dealing with policy perspectives of national innovation systems.]

Park S.O. (1996). Networks and embeddedness in the dynamic types of new industrial districts. *Progress in Human Geography* **20**(4), 476–493. [This paper provides theoretical discussion on typology of industrial districts and their dynamic patterns over time.]

Saxenian A.L. (1996). *Regional Advantage: Culture and Competition in Silicon Valley and Route 128*, 2nd edn. Cambridge, Mass.: Harvard University Press. [Comparative case studies of regional production systems in Silicon Valley and Route 128.]

Scott A.J. (1988). *New Industrial Spaces: Flexible Production Organization and Regional Development in North America and Western Europe* (Studies in Society and Space 3), 132 pp. London: Pion. [This book provides theoretical discussion on the development of new industrial spaces.]

Taylor M., ed. (1995). *Environmental Change: Industry, Power and Policy*, 188 pp. Aldershot, U.K.: Avebury. [This book deals with geographical perspectives of the relationship between the economy and industry.]

Wallner H.P. (1999). Towards sustainable development of industry: networking, complexity and eco-clusters. *Journal of Cleaner Production* **7**, 49–58. [Deals with the socio-ecological aspects of sustainable industrial development.]

World Bank (1998). *Knowledge for Development, World Development Report, 1998/1999.* Washington, D.C.: World Bank. [A report on the role of knowledge in economic development.]

Biographical Sketch

Sam Ock Park gained his B.A. and M.A. from Seoul National University (SNU) and his Ph.D. in economic geography from the University of Georgia in 1981. His fields of academic interest are economic geography, industrial policy, and regional economic development.

Professor Park is now professor of economic geography, Department of Geography, SNU. Before he joined SNU in 1982, he worked as a post-doctoral research associate at the University of Georgia for one year. He also served as a visiting professor at Rutgers University (1993/94) and Frankfurt University (2000), and as a distinguished senior fellow in George Mason University (2001).

He has served as the chair of the Department of Geography, SNU, director of the Social Science Information Center, SNU, and director of the Institute for Korea Regional Studies. He also served as president of the Korea Section of the Regional Science Association, president of the Pacific Regional Science Organization, and Pacific editor of *Papers in Regional Science.* He is now chair of the International Geographical Union (IGU) Commission on the Dynamics of Economic Spaces, and is on the editorial board of *Regional Studies* (U.K.), *Journal of Economic Geography* (U.K.), *Geojournal* (Netherlands), *Progress in Human Geography* (U.K.), *Papers in Regional Science* (USA), and *Annals of Regional Science* (USA).

He has published six books and more than 100 papers in either Korean or English. Professor Park's most recent books are *Modern Economic Geography* (Seoul: Arche, 1999, in Korean) and *The Asian Pacific Rim and Globalization* (Aldershot, U.K.: Avebury, 1995). More than 30 of his papers have been published in foreign refereed journals outside Korea, including *Environment and Planning A*; *Economic Geography*; *Professional Geographer*; *Progress in Human Geography*; *Southeastern Geographer*; *Regional Development and Dialogue*; *Geoforum*; and *TESG*.