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BRINGING THE STATE BACK IN REGIONAL ECONOMICS¹

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Three decades ago, with the demise of regional science as a discipline, mainstream economists lost their interest in regional economics. Instead, this area was taken over by geographers and the renaissance of regional economics in 1980's owes a great debt to them.

As Storper(1997) has suggested, the contemporary contributions of geographers can be summarized in three words; technology, organization, and territoriality. Incorporating economic and social theories such as transaction cost theory, evolutionary economic theory, new economic sociology, and network analysis, geographers placed organization and technology at the centre of regional economics. In this process, territoriality was also reconceptualized as a central dimension of analysis.

Though their contributions are important, one very important dimension of analysis is missing; the State. This omission is very odd because all people except regional economists seems aware that the state has impact on regional development. To make the situation more odd, geographers used to study the state as an important topic in their analysis (Dear&Gordon,?; Harvey,?). In this paper, I critically assess geographers' contribution to this field and attempt to put the state along with three elements mentioned earlier at the core of the analysis.

1.Geographers' contribution

Though the beginning of the regional economics renaissance was initiated by economic historians, Piore&Sabel(), its expansion and continuity owes a great debt to geographers' contributions. As mentioned before, Storper(1997) summarized geographers' contribution in three words; technology,

organization, and territoriality. This section gives an overview of geographers' contribution by explaining these three words. While geographers' discussion itself was highlighted in Storper(1997), the main focus of this section will be on the contrast between traditional regional economics and geographers' new contributions.

1.1 Technology

Only recently did authors begin to recognize technology as the most crucial source of economic growth². This, however, has not always been the case. Traditionally, regional development was considered dependent on the ability to attract exogenous capital and labour. Sharing ideas with traditional growth theories, such as Lewis(?), regionalists thought that capital and labour were regarded as the source of growth; the more capital and labour, the more output, and thus the greater the growth. Technology was regarded a marginal factor of growth, at most.

The movement of capital and labour was central to the classical debate about equal development versus unequal development, too. Equal development meant equal distribution of capital and labour throughout geographical units. Authors such as XXX thought spatial inequality would eventually be minimized because spatial difference in wages and interest rates would force money and labour to move around in order to find higher returns. Their opponents, unequal development theorists such as Myrdal(?) and Khaldor(?), actually shared the fundamental assumption. Myrdal's mechanism of cumulative causation was a mechanism of selective migration of capital and labour. Technology was not considered here. In the practice of regional development, the situation was the same. Growth pole, the conventional wisdom for regional development, was set-up by bringing labour and capital in.

It was not until the 1980s, when geography literature began to discuss industrial districts, that technology was finally recognized as the source of regional development. Based on analysis of flourishing industrial districts, such as Silicon Valley, Emilia-Romagna, Rout 128, and Hollywood, geographers showed that the source of the dynamics is regionally specific know-how to innovate. In these districts, people know how to innovate. Though their products might be imitated by

¹ This paper is very preliminary. Do not quote.

² It is also the case in development economics. In traditional theories only capital was regarded as the source of growth. Later Human capital was added in growth accounting. Recently, technological innovation began to be seen as the main dynamics of growth.

competitors from other regions, these regions can keep their leading edge by ceaseless innovation.

1.2. Organization

Traditional theories or strategies of regional development were also not concerned about organization. From the contemporary point of view, linkage analysis and input-output analysis was related with organization. However, in the traditional approach, authors did not recognize that the linkage is organizational aspect of economy. In addition, the relationships between firms were assumed to be perfect market transactions. No attention was given to imperfectness of market or social aspects of transaction. Geographers were the first to incorporate the imperfectness of the market into regional economics.

The relationship between organization and regional development was illuminated mainly by the California School, especially Scott(1988). Adapting the concept of transaction cost, Scott could explain why firms in a certain industry agglomerate while others disperse. In his view, organization is the determinant of whether industries agglomerate or disperse; vertically integrated firms disperse and vertically disintegrated firms agglomerate.

Vertically integrated firms, which had been a dominant form under Fordism, do not interact much with other firms. For example, the Ford Company produced window glass, engines, car bodies and other parts and assembled them internally. Since market conditions were more predictable at that time, firms tried to internalise the profit generated by producing parts by themselves. The result was huge vertically integrated organizations that internalise production of as many parts as possible.

However, in the Post Fordist era, vertically disintegrated forms of business organization are increasing. To externalise the uncertainty of market fluctuation, firms produces only the parts from which they can enjoy absolute advantage and externalise other parts. Externalisation makes dense networks of transaction inescapable. When the transaction concerns a standardized product on a pre-planned schedule, the spatial friction can easily be overcome by virtue of modern transportation and communication technology. However, when the products are not standardized and needs frequent alteration in design, the customer firm and producer have to interact frequently, thereby clustering for proximity. In addition, there are occasions when the usual producer can not meet the customer's demand in terms of quality or quantity. In those occasions, either the customer or the producer has to contact other firms in similar areas and make a transaction. The result is an agglomeration of many

firms in similar or the same sector.

1.3. Territoriality

The third contribution of geographers' was the recognition that space is a dynamic factor. Although regional economics took space into consideration, their conception of it was very narrow and it was not treated as having its own dynamics.

One of the two most common conceptions of space in old regional economics was the Weberian understanding. Weber and his followers thought that space only affects economy through transportation cost. Of course, they considered many different aspects of transportation cost such as uploading cost, downloading cost, cost differences between marine transportation and land transportation, and cost differences between goods with different characteristics. However, their concern was confined to transportation cost; nothing else spatial was considered.

The other common treatment of space was 'the Spatial as an Outcome of the Social.' 'The spatial as an outcome of the social' means to regard social, political and economic forces as forces determining the arrangement of people and built environments. Space was merely an outcome without its own dynamics on itself or on society, politics and economy.

After 1980's, geographers began to incorporate different aspects of labour market into their analysis. According to XXX(?), though the labour market had been incorporated in location analysis, only less important aspects of labour market did regional economists pay attention to; labour cost. However, recent work has shown that the quality of labour might matter more than the price of labour. By quality of labour, they meant not only the 'human capital' aspects of labour but also the 'social capital' aspects of labour. In other words, both the technological mastery of each individual and dense networks between workers through which information flows are both important. This is why firms do not leave Silicon Valley or Hollywood for cheaper labour even though the labour cost in Silicon Valley or Hollywood is extremely high.

2. "Putting the State Back In"

In the previous section, geographers' contributions were summarized in three words. In this section, the role of the state will be examined in order to connect the state with those three words.

1.1 Regional Technology and State

As stated in the previous section, geographers argue that mass production systems produce with dispersion while flexible specialization results in agglomeration. However, regardless of technological characteristics, location patterns might be moulded by the nation state or by a local state.

Geographers' omission of the state stems from their assumption of Post Fordist transformation. Though there is evidence that supports leading regions and leading industries in advanced countries have been experiencing a 'great transformation' from Fordist mass production to flexible specialization, most products in the market are still mass produced.

It is understandable that high-tech products such as software and bio-engineering products and design-intensive products such as high-quality cloths and movies can not be produced in mass production form. As geographers legitimately argue, these products are heavily dependent on an informal flow of information and workers' technological expertise. However, there are more products that are produced in the mass production system; steel, ships, most metal work products and most parts of electric appliances. Even products developed under flexible specialization may quickly be standardized and begin to be mass-produced. The Random Access Memory(RAM) is a good example. The world's largest RAM producer, Samsung Electronics, has a typical mass production system with a linear system of innovation. They purchase production facilities from firms in the U.S high-tech regions. Their researchers study how those facilities work and train engineers. Engineers learn how to operate those facilities well and train and control workers.

Of course there are much complex feedback that is not easily captured by a linear model of innovation. But, it is not because Samsung is under a Post Fordist regime but because the linear model is only a pure model and realities are always more complex than pure models.

Even products that contain parts produced under flexible specialization can be assembled under the

mass production system. Most leading personal computer companies in the U.S. do not assemble personal computers anymore. Instead, they are assembled by Machiladores in Baja California, Mexico.

Therefore, the transformation to flexible specialization is not a pre-determined historical path. Rather such a change is an outcome of interaction between agencies and their environment. It is here that the state comes in. Nation states are, in fact, one of the main agencies, though not the only one, that can affect the technological path of a certain industry in a certain region, thereby affecting the relationship between technology and location.

To illustrate the role that nation states play in technology, let us examine two high-tech regions from Newly Industrialized Countries the electronics complex in Southern Kyung-Gi Province, South Korea and Sinju Science Park in Taiwan. These are representative high-tech regions in NIEs. However, they are based on completely different technology due in large part to quite radically different intervention of the state.

In South Korea, in 1960s, the developmentalist government chose *chaebols*, the Korean conglomerates, as the main apparatus for economic growth. *chaebols* are given many special benefits including tax breaks, priority to get low interest loan, provision of research results from government-owned research institutes. South Korea's labour intensive industries such as footwear and textiles were developed in this way and generated huge exports. Later, in late 1970's and 1980's, South Korea began to lose its comparative advantage in low labour cost, so the developmentalist state tried to restructure the industrial system from a labour-based to a high-tech based one. Since the restructuring had to generate profits in a large scale in a short period, the state again chose *Chaebols* as its partners. And the technology the state chose had to be mass-production. For this purpose, the state again provided lots of benefits. The state allowed students from the best engineering schools to substitute their obligatory military service with 5-year employment in defence industry, in which the high-tech industry was important part. More importantly, the state organized research consortiums bringing together researchers from *chabols*, government-invested research institutes and engineering schools. In addition, the state made available to *chaebols* huge loans with lower interest rate from foreign banks and international organizations with the government's guarantee. In this way, consumer Electronics, which is now second only to Japan in terms of production, and RAM semiconductor industry, in which Samsung is the world's biggest producer were created.

Given this genesis, these industries were destined to adopt vertically integrated mass production technology. Occupying a standardized market, they are still doing well in spite of the “transformation to Post Fordism.” These firms agglomerate in the southern parts of Kyung-Gi Province because of the labour market, accessibility to Chaebol’s headquarters in Seoul, and other reasons. If one looks at the Gross Regional Production of Kyung-Gi province, he or she might think this region is a Silicon Valley kind of place because high-tech products occupy a lion’s share in GRP. However, as explained above, it is not the case and that is because the state favoured mass production when this region was created as.

Sinju Science Park in Taiwan, however, exhibits completely different characteristics. Since Taiwan’s development status is similar to that of South Korea and the Taiwanese state is also called a developmentalist state, one may assume her high-tech industry is similar to that of South Korea. However, Sinju Science Park is based on the flexible specialization, a technology Kyung-Gi Province does not have. Again the reason is, at least in a part, the state.

To understand the origin of different policy, we need to understand the political history of Taiwan. The majority party of Taiwan is the Kuomintang, which is a refugee party from main land China meaning that the political elite are predominantly from main land China. Such a situation naturally produced tension between the ruling main land Chinese and the Taiwanese people they ruled. In this context, the state does not nurture big firms because this would be tantamount to nurturing political enemies-since most people who would control these big firms are Taiwanese natives. As a result, the economic structure of Taiwan became less concentrated than that of South Korea. Lack of concentrated capital meant the inability to mobilize as much capital as the South Korean government did when Samsung or LG began to mass-produce high-tech products.

Given this situation, when Taiwan had to restructure her economy, one of the strategies that the state used was building Sinju Science Park. Unlike South Korea where the state organized a state-led consortium, the Taiwanese Government let government researchers have research facilities for free that they were using in the government for free, thereby encouraging researchers’ spin-off. The state also provided low rent buildings for spin-offs. From the start, small firms in Sinju park were armed with the best technology. Later many Chinese Americans engineers joined this science park with the technology they had learned from the leading U.S. companies. Since participants in Sinju park were capital poor (they could not have mass-production system) but technology rich, most of them specialized in a small portion of the whole production process; some of them specialized in

development, others in design activities, still others in production. Many authors describe the dynamics of Sinju Science Park as a Silicon Valley in Asia or a late industrial district.

Comparison of these two examples makes clear the strong impact that the state can have on technology in certain regions. Therefore, in any analysis of technology and region, the state has to be considered as one of the most dynamic actors.

A part to be add: the state as a locator

1.2 Organization and State

The state affect organizational characteristics of certain regions as well. Not only do location policies but also land use control, environmental control, industrial policies and trade policies affect industrial organization in a certain region either on purpose or by chance.

Among examples already mentioned, Sinju Park may be the best example of the result of the state's purposeful intervention.

Southern Kyung Gi Province's high tech industry is the other case. The Korean state did not intentionally disconnected them from headquarters in Seoul. Rather, the separation resulted from growth management policies. Given the importance of interaction with headquarters, the production facilities had to be located near headquarters. In addition, since the workers in the high-tech sector are mostly in Seoul, those production facilities had better stay in or near Seoul. However, there was a bar on establishing larger factories in Seoul. Therefore, those facilities ended up being located in southern Kyung-Gi Province disintegrated from headquarters. Firms that were otherwise supposed to be geographically integrated became geographically disintegrated as a by-product of the state's policy.

Another example can be found in Seoul. In late the 1980's, the South Korean state established a law to tax un-built urban lands with abnormally high rates to prevent land speculation that was rampant at that time. In the southern Seoul, there were lots of un-built sites. To escape from high tax rates, landlords had to build something. Many of them ended up building office buildings without cautious consideration of the demand. Consequently, the rent fell. Small software companies, which can be located in an office building and which are supposed to be in Seoul because of the need for high-quality labour, were ones who rented many of these offices. Given the nature of software industry

and their size, they were heavily dependent on each other through joint ventures, subcontracting and informal networks. The result was the making of regional inter-firm networks.

1.3. Territoriality and State

Since the geographers focused on labour market aspects of territoriality, the role of the state in the local labour market would be explored in this section. It is absolutely correct that geographers pointed out not only price but also human capital aspects and social capital aspects of labour market. However, they did not explain at all how the state can shape the labour market.

First of all, the state can increase or decrease the amount of labour with a certain quality. In 1960's, when South Korea was driving export based on low production costs, the state could keep production cost down by controlling the price of rice. The government imported a large amount of rice from Vietnam and Thailand and sold it for less than domestic production cost. The agricultural economy broke down and youngsters from rural areas all came to Seoul, the capital city. Many of those rural youngsters settled in the south-western part of Seoul. This abundance of unskilled labour in the south-western Seoul made possible the expansion of sweatshops in textile sector there.

Another example, also from Seoul, is more recent. After the 1980s, the state allowed students in engineering to substitute their obligatory military service with working in the defence industry, which is virtually everything from textiles to electronics. This was one of the reasons many talented students majored in engineering. As a result, the Seoul labour market was upgraded, and high-tech industries located themselves in southern parts of Kyung-Gi province, which is near Seoul.

College education was used for labour-market upgrading in Taiwan, too. The Taiwanese state made universities enlarge the size of department of electrical engineering to the size larger than the demand of electric engineers. Consequently, there was a surplus supply of electrical engineers. Some of these engineers started their own ventures simply because they could not find dissent jobs in big companies. Others found jobs in the world's leading companies in the U.S. These people would become the heroes of flexible specialization of Taiwanese high-tech industry that characterized the period after the 1980's.

Even in the U.S., where the state intervenes the market economy much less than East Asian developmentalist states do, the state exerts similar functions from time to time. The state issues J1

visas very easily to young scientists and engineers from Asia. Most of them come to the U.S. as post doctoral fellows for major research universities in the U.S. They are paid much less than researchers in the U.S. industry. This allows U.S. universities to be more cost-effective research institutes. By doing this, companies can spend less for research. In addition, the existence of lower-paid labour supply from outside the country keeps the U.S born scientists' salary down.

Conclusion: State Matters!

This paper has critically assessed the geographers' contributions to regional economics after the 1980's and pointed out that the omission of an important aspects analysis; state. It is common sense that the state can have a strong impact on a region's development. However, this common sense type of knowledge has not been incorporated into discussions of regional development over the past two decades.

Reference

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