

Why Do Firms Concentrate in Tokyo? An Economic Geography Perspective

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The causes of firms concentrating in the Tokyo region can be broadly divided into two factors. The first factor is the existence of agglomeration economies. While the benefits of agglomeration are based on three sources— that is, sharing, matching, and learning – learning is especially important in the age of the knowledge economy. Geographical proximity facilitates the learning of sticky knowledge through face-to-face contact. In addition, knowledge spillover is thought to be constrained by geographical distance. On the other hand, if the degree of agglomeration increases, agglomeration diseconomies, such as congestion and rising land prices, can occur. It is important to note that current policy discussions tend to downplay agglomeration diseconomies, although they emphasize that urban density increases productivity. The second factor is the city’s attributes. Overconcentration in Tokyo is considered to be partially due to the decline in the economic status of the Osaka region. The difference between Tokyo and Osaka is partly explained by which industries they specialize in. Since path dependence greatly affects which industry a city specializes in, it is necessary to consider not only the size and density of cities but also the historical paths and geographical context when we consider regional policies.

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I. Introduction

Overconcentration of economic activity in the Tokyo region has long been regarded as a problem in Japan. The author specializes in a field of geography known as economic geography, and this article examines the phenomenon of overconcentration in Tokyo from an economic geography standpoint. Economic geography shares many concepts and tools with economics and the two fields are not necessarily in conflict, but it differs from mainstream economics in that it emphasizes geographical context and historical paths.

In terms of economic geography and economics, the causes of firms overconcentrating in the Tokyo region can be broadly divided into two factors. The first factor is the existence of agglomeration economies caused by dense clustering of people and firms. It is assumed that efficiency and productivity rise as the density and scale of firms increase. Simply put, if there are more benefits to concentration of people and firms, or agglomeration economies, people and firms will move from rural areas to cities, and from smaller cities to

larger ones. This results in concentration in and around Tokyo, the densest and largest agglomeration in Japan, and the decline of rural areas where population is low and firms are sparse.

The second factor consists of the city's attributes, such as industrial structure. Differences in cities' attributes widen regional disparities in per capita income and growth rate, resulting in concentration in specific cities. For example, new industries such as the tech sector are highly productive and their workers earn high incomes. This creates demand for personal services and has a spillover effect. On the other hand, in areas where new industries are not located and economies depend on old industries, incomes decline due to reduced employment. The latter factor explains concentration in specific cities, not just concentration in major urban areas in general.

Section II summarizes discussions on the first factor, agglomeration economies. Section III summarizes discussions on the second factor, differences in cities' attributes, and the final Section IV critically examines evaluation of overconcentration in Tokyo and the policies derived therefrom.

II. Agglomeration economies and diseconomies

1. What are agglomeration economies?

This section examines the phenomenon of agglomeration economies, a factor that attracts people and firms to specific places. The pioneering discussion of agglomeration economies was by economist Alfred Marshall (1890), and Marshall's arguments were summarized by the urban economists Duranton and Puga (2004) with three words: sharing, matching, and learning. We will consider these three terms below.

First, "sharing" refers to, for example, the shared use of infrastructure and facilities to reduce unit costs. Alternatively, it is possible to reduce costs by sharing related industries such as suppliers. However, here sharing is not limited to these meanings. Relationships among people and firms within agglomeration, i.e. social networks, are also shared, and by joining such networks it is possible to gain significant advantages over others. While these advantages are difficult to quantify, the economic geographer Storper (2013) calls these social networks "relational assets" and states that sharing them is an advantage of being located within the agglomeration. And it has the effect of facilitating the acquisition of knowledge, as will be described later.

The second benefit, "matching," can be grasped through the following example. The greater the number of workers and employers, the more possibility of better employment relationships could be seen among workers with diverse skills and employers with diverse needs. Being in a region with a richer labor market benefits both workers and employers. Similarly, this principle can be applied to compatibility between consumers and the producers, sellers and providers of goods and services. Consumers with diverse tastes can all find satisfaction in regions of home to diverse producers and sellers. By the same token, in regions where there are many consumers with diverse tastes, a variety of products and services can find markets.

The third benefit, "learning," is especially important in the age of the knowledge economy. Consider cases in which knowledge is transferred from one party to another. First, it is assumed that knowledge is transferred in a cooperative relationship to which both parties agree. In this case, geographical proximity makes it easy to have frequent face-to-face contact, thereby forming a relationship of trust. This relationship of trust further promotes mutual transfer of knowledge. If knowledge transfer is possible over long distances, then knowledge can be transferred without regard to location (whether in Tokyo or Japan's peripheral regions), and geographical proximity is not important. However, knowledge transfer can be carried out most efficiently and effectively by face-to-face contact, and there remain forms of knowledge that cannot be fully conveyed through communication consisting only of text or voice without sharing the location. This is referred to as "stickiness of knowledge", and geographical proximity is important for transfer of knowledge with high stickiness. Also, acquisition of knowledge arises through interfirm relationships and social networks of people. We can expect learning of knowledge to be vitalized in cities where there are many of the relational assets described above.

In addition to transfer of knowledge based on agreement between two parties, there are cases where

knowledge unintentionally leaks to other parties. For example, it may be possible to imitate others to some extent by listening to rumors people spread or by observing nearby rival firms. This is described as knowledge spillover. It occurs because, unlike goods, knowledge has the properties of nonrivalness (it can be possessed by many people simultaneously) and nonexcludability (people cannot be excluded because they have not paid for it). Certainly, knowledge may be appropriable via patents, but this applies only to a small and limited subset of knowledge and it is difficult to completely eliminate spillover. This knowledge spillover is described as a market externality in that it makes something available at no cost, rather than through the market. It has been pointed out that spillover is subject to geographical distance constraints, which contributes to agglomeration economies. Marshall (1890) says of regions where an industry is clustered, “The mysteries of the trade become no mysteries but are as it were in the air.” Knowledge spillover may be negative for firms that have leaked their knowledge, but it has a positive effect on the entire region, such as by increasing the productivity of other firms in the region.

As we have seen, the constraints of geographical distance on learning, whether intended or unintended, have led to vital agglomeration economies in the current age of the knowledge economy era. It is true that knowledge spreads over time due to the spillover effect, but sticky knowledge tends to spread at a slower rate. Because the difference in speed plays a decisive role among the interfirm competition in the market, firms locate themselves in regions of agglomeration in pursuit of access to novel and valuable knowledge.

2. Localization economies and urbanization economies

Agglomeration economies can be further classified as “localization economies” or “urbanization economies.” “Localization economies” refers to the concentration of specific industries in a region, and there are said to be benefits such as the presence of related industries and the spread of related knowledge in the vicinity, as described above.

Meanwhile, “urbanization economies” describes economies that benefit from agglomeration of diverse industries. The presence of diverse industries in one city gives rise to benefits through sharing of various infrastructure and services (e.g. airports, roads, hospitals, etc.) and markets (e.g. consumers, etc.). Also, if a region is particularly reliant on a specific local industry, there is risk in that if demand for the industry shrinks due to changes in the external economic environment, the region will be strongly affected and unemployment rates will rise. In cities with diverse industries, such risks exist only fragmentarily and the impact of a shrinking industry can be absorbed to some extent by other industries, meaning the urban economy is considered relatively stable.

Furthermore, while reliance on a specific industry causes accumulation of knowledge relating to that industry within the region, there is a risk that new knowledge outside the bounds of that industry will not enter. To acquire new knowledge it is advantageous for various industries to exist in the region, and this can be called an urbanization economy from the standpoint of knowledge acquisition. However, while diversity is preferable, there is a strong possibility that knowledge cannot be mutually understood and absorbed among completely unrelated industries. Effective knowledge transfer is more likely to occur between industries that are related to some extent and play complementary roles. In terms of innovation, it is preferable to have “related variety” among industries that are neither uniform nor completely different (Boschma and Frenken 2011, Mizuno 2011, 2018).

In general, cities geared toward specific industries tend to be small and medium-sized, while cities with diverse industries tend to be larger. If industrial diversification is desirable for the creation of new knowledge and innovation, it is assumed that the larger the city, the larger agglomeration economies will be in that sense.

Based on the above discussion of agglomeration economies, we can infer that the more people and firms cluster together, the more benefit will rise,¹ which will bring about further agglomeration, meaning that major cities will continue growing larger. On the other hand, we can predict that rural areas and smaller cities inevitably stagnate or decline. These agglomeration economies can explain to some extent present-day Japan’s

concentration of economic activity in Tokyo, as well as the population decrease in small and medium-sized cities and rural areas of Kyushu while the population is increasingly concentrated in Fukuoka City.

3. Agglomeration diseconomies

Assuming that there are only benefits to agglomeration, large cities will continue to expand indefinitely. In reality, however, agglomeration can bring not only advantages but also disadvantages. “Agglomeration diseconomies” include rising land prices and wages, traffic congestion, pollution and environmental degradation. The existence of these disadvantages means that in actual terms, cities will not necessarily expand indefinitely.

In the 1970s, when pollution and overcrowding were regarded as significant problems in large Japanese cities, attention was focused on such agglomeration diseconomies. Also, it was an era when the trend toward concentration in major cities was relatively weak. Prior to that, during the rapid economic growth period of the 1960s, the highly productive heavy chemical industry was concentrated in Japan’s three largest urban areas (Tokyo, Nagoya, and Osaka). These coastal industry zones formed industrial complexes that shared equipment and infrastructure, and were able to take advantage of the reduced costs and high efficiency of agglomeration economies. In general, industrial agglomeration also causes the disadvantage (from businesses’ standpoint) of rising wages, but at the time there was a large influx of baby boomers from rural areas into the three major urban centers, and wages were kept low. However, in the 1970s the influx of labor from rural areas decreased due to declining birthrates, and labor shortages emerged in major urban areas. This led to higher wage levels that became a significant problem for the manufacturing sector, which seeks a workforce that works diligently for relatively low wages. Under these circumstances, dispersal of factories to the peripheral regions of non-major cities progressed from the 1970s to the 1980s.

One factor that made it possible to disperse factories into peripheral regions was the highway network that spread nationwide with its central node in Tokyo, and another was the advancement of spatial fragmentation of the production process. This made it easier to locate specific processes in different geographical locations. Manufacturers, exemplified by producers of consumer electronics such as audio equipment, transferred simple, unskilled processes to peripheral regions, while divisions requiring advanced skills, such as research and development and prototyping, remained in major urban areas (Matsushita and Togashi, 1988). Until the rapid economic growth period, industry was geographically divided, with manufacturing in large cities and agriculture, forestry and fisheries in peripheral regions. On the other hand, from the 1970s onward manufacturing came to be located in peripheral regions, and division of labor according to process came to be the norm.²

This created non-agricultural jobs in rural areas from the 1970s and early 1980s, and played a role in curbing migration to major urban areas. However, it was only simple tasks commanding low wages that were transferred, and these worksites were limited in that they lacked decision-making and R&D functions, leading Ando (1986) to describe the phenomenon as “growth without development.” And as long as low wages were a factor in selecting locations, offshoring of processes to lower-wage countries was only a matter of time.

The primary drivers of full-fledged relocation of factories to other Asian nations were appreciation of the yen starting in 1985 and labor shortages during Japan’s economic bubble period. Then, during the prolonged recession of the 1990s, more production sites were relocated to Southeast Asia and China in order to cut production costs in response to increasing consumer expectations of low prices. This resulted in excessive production capacity, which was resolved through a growing number of closures of relatively high-cost factories in Japan. In peripheral regions such as Tohoku, where many factories were located up until the 1980s, workforces were downsized due to the closure of factories. Many of the factories in peripheral regions that survive today have made some kind of qualitative improvement beyond simple labor-intensive processes, but in general manufacturing’s role in providing large-scale employment has weakened. Of course many factories in major urban areas, especially small to mid-sized operations, were also closed or downsized, but in these major urban areas, especially Tokyo, the impact could be alleviated by shifts in function to R&D and the

service sector. This has led to an ever-widening gap between greater Tokyo and peripheral regions.

4. Overconcentration of service industry in Tokyo and agglomeration diseconomies

Since the 1970s manufacturing, especially non-R&D production processes, has been declining in large cities, while the service economy has advanced. Especially since the 1990s, when Japanese manufacturing increasingly shifted overseas, the service industry was further concentrated in large cities, especially in Tokyo. Specifically, producer services have accumulated in Tokyo. Face-to-face contact is important because these services are basically difficult to transport and store, making it an industry strongly affected by agglomeration economies.

The service industry does not require as much space as manufacturing, but it is still affected to some extent by agglomeration diseconomies. If the required office space and demand for workers increase, it is inevitable that the costs will increase due to higher land prices and wages. However, the overconcentration of producer services in Tokyo has in fact continued accelerating since the 2000s. Next, let us examine the types of agglomeration diseconomies and how firms have responded to them, by dividing agglomeration diseconomies into those related to land and those related to labor.

(1) Land-related agglomeration diseconomies: Rising land prices

First, land-related agglomeration diseconomies include high land prices and traffic congestion as a result of competition for limited land supply. Regarding land shortages, one solution is to increase the height of buildings. Since the 2000s, floor area ratio regulations have been relaxed under the national government's urban renewal policy, and redevelopment taking advantage of this deregulation has been actively carried out especially in central Tokyo. Also, land was made available in the city center due to closure of factories accompanying the decline of manufacturing, the conversion of freight yards, and the sale of company housing due to firms' cutting of employee benefits, which brought about a rush to construct office buildings and high-rise condominiums. Underlying the urban renewal policy were measures against falling land prices to solve the problem of non-performing loans in the 1990s, and it is certain that declining land prices due to the bursting of the economic bubble made it easier to live in apartment buildings in central Tokyo. However, land prices began to rise again with growing demand for office space and housing since the 2000s. Increased demand for land and rising land prices are certainly in the interest of landowners. However, rising land prices are detrimental to land users, and housing near the city center is costly whether buying or renting. This shortage of affordable housing is one of the agglomeration diseconomies. However, the burden of home-buying and rent payment is on workers, and does not have a major impact on the location decisions of firms. From another perspective, it means that benefits generated by agglomeration in cities accrue to landowners rather than workers (Hatta and Tabuchi 1994), which has brought about a wealth disparity between landowners and non-owners.

In addition, expansion of office space in the city center leads to an increase in the number of employees and is accompanied by congestion of commuting routes. The stress of congestion is, like housing costs, a burden borne by workers, and unsurprisingly it did not stop firms from locating in the city center. In Tokyo, infrastructure development such as the opening of new subway lines has been carried out as a measure against congestion, but this in turn inevitably results in further concentration.

Meanwhile, excessive concentration in Tokyo also has a negative effect on population demographics. Long commuting times and lack of daycare centers for children make it difficult to raise children while working. Masuda (2014) focuses on this issue in a discussion of "local extinction." While more women of child-bearing age move into major urban areas from elsewhere, the total fertility rate is low in large cities due to difficulties in raising children while working (Sato 2019). Outside major urban areas, the number of births falls due to the decreased number of younger women, while in large cities, the number of young women increases but birth rates are low, meaning the total number of births in Japan decreases. This is the mechanism behind Japan's declining birthrate pointed out by Masuda, who argues that neglecting the migration of young people to major

urban areas hinder the reproductive function of Japanese society. However, because declining birthrates are outside the scope of market transactions, they are not included in analyses of improved productivity in agglomeration economies.

(2) Labor-related agglomeration diseconomies: Rising wage

As mentioned above, during the rapid economic growth period there was a supply of low-wage labor due to a large influx of workers from rural areas, but after this period the flow of labor from rural areas began to dwindle. Although population migration to Tokyo continues even now, in recent years migration to the Tokyo area is characterized by a high percentage of women and highly educated people (Nakagawa 2005). The reason is that outside major urban areas there is a lack of jobs commensurate with the skills of the highly educated people, but it goes without saying that the outflow of highly educated people is highly detrimental to areas outside major urban centers. This is because these highly educated people outside major urban areas are the result of investments in education by local governments in these areas, but they are lost through a brain drain to Tokyo, while Tokyo is able to obtain these human resources “free of charge.”

On the other hand, migration of non-educated young people to Tokyo is at far lower levels than during the rapid economic growth period. As a result, for the service industry, the question is how firms should respond to rising wages and where they can acquire the low-wage labor force, but there are several possible ways of dealing with this. The first is the transfer of processes to peripheral regions. Just as factories carrying out some processes moved to peripheral regions in the 1970s, office workflows have been subdivided into tasks. Since the 2000s, the number of firms who set up call centers in local cities where wages are low by separating only office telephone services has increased. Location of call centers in provincial cities such as Sapporo and Okinawa, where there are insufficient jobs for young people and wages are relatively low, certainly has the effect of creating employment, but the limitations of relocating only simple, relatively unskilled processes are clear, as it was with factories. Only a small percentage of office jobs are being relocated in the first place, and they do not make up a large slice of the employment pie, so benefits to local economies comparable to those of factory relocation cannot be expected. Producer services are greatly influenced by agglomeration economies, and only a limited range of functions are capable of being transferred from Tokyo.

Other countermeasures are conversion of jobs to part-time employment and introduction of non-Japanese workers. In the 2000s non-regular employment became increasingly prevalent in Japan, and many young people became part-time workers due to difficulty securing jobs. This increase in part-time workers has held back wage increases and helped reduce labor costs for firms, but income instability has hindered the formation of workers’ families and is one of the factors behind the current declining birthrate (Nakazawa 2019b). And since the latter half of the 2010s, with baby boomers retiring and the younger workforce shrinking due to even lower birthrates, the supply of low-wage labor has decreased and labor shortages have become a problem. In response to this, the introduction of non-Japanese labor is increasing rapidly, and dependence on non-Japanese workers is gradually growing.

As described above, firms have enjoyed the benefits of agglomeration economies by locating in Tokyo, and have responded to the associated diseconomies using various means. However, it is valid to say that firms are shifting the burdens, or risks, to society at large.

III. Factors related to cities’ attributes

1. Reasons for overconcentration in Tokyo

According to the British economic geographer Martin (2015), who analyzed the relationship between urban growth and city size in the United Kingdom, it is not necessarily always larger cities that are growing. For example, if we divide Britain into northern and southern halves, the cities in the south are growing while the cities in the north are stagnant or declining. A similar situation is found in other Western countries, indicating

that agglomeration economies of scale alone cannot explain disparities in urban growth.

The description of the current situation not as “concentration in major cities” but as “overconcentration in Tokyo” is due in large part to the decline in the economic status of the Osaka region. Abe (2017), who studies urban systems in terms of the locations of firms’ headquarters and branch offices, notes that overconcentration in Tokyo is due in large part to the decline in command and control functions of firms in Osaka. Specifically, the number of firms relocating head offices from Osaka to Tokyo has grown, and along with this, the population migration from Osaka and the surrounding Keihanshin (Kyoto-Osaka-Kobe) conurbation to Tokyo has increased accordingly. The problem of overconcentration in Tokyo could be rephrased as the “Osaka problem.”

Several factors contributing to the decline in Osaka’s economic status have been noted. The first relates to development of transportation networks, the second is the fact that Tokyo has become a world city or a global city, and the third is a difference in industrial composition. Each of these is described below.

2. The “straw effect” resulting from development of transportation networks

Fujita, Hamaguchi and Kameyama (2018) ascribe the decline in Osaka’s status to development of transportation networks. With the advancement of modes of transportation, larger cities absorb demand from smaller ones, and various functions are transferred to and absorbed by large cities. This is known in Japan as the “straw effect.” Before the Shinkansen high-speed rail line began operating in 1964, Japan was structured so that Tokyo had de facto control of eastern Japan and Osaka of western Japan, and many firms had their headquarters in western Japan’s hub of Osaka. However, the Shinkansen made it possible to take day trips from Tokyo to western Japan. As a result, firms began to concentrate their management functions in Tokyo, leading to a decline in the status of Osaka. This explanation is simple and straightforward in terms of reduced travel costs (with time included in the cost) and city size of the city, but as they point out, the question arises of why the “straw effect” impacts Osaka more strongly than Nagoya, which is closer to Tokyo. The “straw effect” alone is evidently not sufficient to explain the decline in Osaka’s status.

3. Growth disparities between world cities (global cities) and other cities

John Friedmann (1986) noted that as firms become multinational and cross-border business activities increase, control centers for those activities are needed, and described the locations chosen as control centers “world cities.” Meanwhile, Sassen (1991), while basically building on Friedmann’s world city argument, focused on the financial services industry, such as banking, securities and insurance, and advanced producer services, such as law, accounting and consulting, proposing that a “global city” was a site where such services are produced. As for specific cities, New York, London, and Tokyo are named as the top cities in both Friedmann’s world city framework and Sassen’s framework of the global city.

However, it should be noted that Friedmann’s paper was written in 1986 and Sassen’s in 1991 (second edition 2001), and that during the period from the 1980s through the early 1990s when these papers were written, Japan’s manufacturing exports and overseas investment by the country’s financial institutions was at its peak.³ According to Taylor and Derudder (2016), who quantitatively and empirically analyzed rankings of global cities based on data, Tokyo had dropped in rank since the 2000s and was ranked lower than Hong Kong and Singapore in an analysis of the global service industry. In Sassen’s argument, Tokyo is framed as a supply center for money earned by exporting firms, and Kamo (2005) also describes Tokyo as a “money supplier-type” world city, in other words a “Japanese-style world city” that differs from New York or London. It is true that among Japanese cities, global service firms are based in Tokyo, but Tokyo’s position relative to other cities of the world and financial services’ share of the overall Tokyo economy are not necessarily large. Tokyo is the place where the head offices of Japanese firms, which are active globally, are concentrated. To say that Tokyo has become a global city means that it has become a base for Japanese multinationals, especially for their finance-related divisions, not that it has become a base for global service firms. Tokyo’s becoming a world city

had the effect of accelerating concentration of financial transactions in Tokyo and the relocation of the finance-related services sector from Osaka to Tokyo (Narita 1990). Since the 1970s, relocations of head offices to Tokyo, particularly financial institutions and trading companies, have accelerated, and these head office relocations are accompanied by relocation of financial transactions, which has led to further concentration in Tokyo.

However, the rise of world cities does not necessarily signify concentration of population and industry in these world cities at the domestic level. In the United States, concentration in New York was rather low in the 1980s when world cities were emerging (Narita 1990). Sassen (1991) points out that while the number of firms headquartered in London, New York, and Chicago continues to shrink, the number of firms headquartered in Tokyo continues to grow. She argues that the reason is that it is important to have headquarters in Tokyo, where government offices are located, because of robust government regulation in Japan. In that sense, we cannot overlook the fact that concentration of Japanese head offices in Tokyo is not only because it has become a world city, but also due to the relationship between business and Japan's centralized administrative system.⁴ According to a study by Fujimoto (2017) of the chemical and construction industries, face-to-face contact with representatives of government agencies holding licensing authority is important in Japan, which has fed the relocation of head offices to Tokyo from other regions. It is better to think of concentration of head offices in Tokyo as the result not only of rational market action but also the influence of other factors, i.e. the characteristics of the Japanese administrative system. This can be seen as one reason Kamo makes a point of calling Tokyo a "Japanese-style world city."

4. Growth disparities based on differences in industrial composition and specialized industries

Differences in industrial composition or in specialized industries can be described as the orthodox explanation for differences between Tokyo and Osaka. For example, the information technology sector, currently a growth industry, is remarkably concentrated in the Tokyo region, especially in central Tokyo (Matsubara 2014; Kato 2019). Tokyo has such growth industries generating increased employment that more than compensates for the shrinking manufacturing sector, while Osaka has a preponderance of stagnant manufacturing industries such as textiles, steel and metals, while increases in producer services such as finance and information are limited. In the Nagoya region, the population of which is growing compared to that of Osaka, the main industry is manufacturing, but the difference from Osaka is that it specializes in the relatively stable automobile industry.

Storper et al. (2015), who emphasize differences in the industries in which cities specialize, compared and analyzed Los Angeles and San Francisco in terms of per capita income. Until the 1980s, per capita income was about the same in both metropolitan areas, but since the 1980s, per capita income has risen in the greater San Francisco area, while it has stagnated in the greater Los Angeles area. The reason is that the San Francisco area is specifically geared toward high-growth industries such as software and infotech, while Los Angeles is weighted toward the aerospace industry, which has stagnated due to reduced military spending since the end of the Cold War. Also, wages are low in the transportation and logistics industries, of which Los Angeles is a major center, and while wages are high in the famous Hollywood film industry, its scale is small and does not have a significant impact on the entire city. They argue that these differences in specialized industries are a factor driving disparity in per capita income.

Based on an analysis of data on American metropolitan areas, the urban economist Moretti (2014) asserts that the concentration of innovation industries⁵ has a positive impact on employees of other industries, raising the per capita income in the region. He points out that innovation industries are characterized by concentration in a small number of specific regions, and states that whether or not a region becomes an innovation hub is path dependent. This is an important point. Evolutionary economic geography studies have shown that new industries branch off from existing related industries (Mizuno 2018, 2019). For example, much of the infotech industry in Tokyo has branched off from the computer industry, while the computer industry branched from the

industrial electrical machinery industry including communications equipment. Furthermore, the industrial machinery industry has been developing under the leadership of the government since the Meiji Era (1868-1912), and the fact that military industry and national research institutes were located in the capital was an important factor in centering these industries in the Tokyo region (Akahane 1977). These historical paths are important for the development of new industries. Of course, cities with historically diverse industries do not always create the next new industry, and it is a mistake to regard path dependence as a deterministic inevitability, but it is true that new industries rarely emerge in places where there is no existing industrial base. Florida (2002) argues that urban economies develop when policies that attract skilled and creative people are adopted, while Storper (2013) conversely argues that the location of industry is path dependent, and that a city of creative people does not always become a hub for the tech sector.

IV. Evaluation of overconcentration in Tokyo and resulting policies

Thus far, this article has described how concentration of firms in Tokyo has been caused by two factors: agglomeration economies and the city's attributes. It has also pointed out the advantages and disadvantages of agglomeration, between which there are very real conflicts. Judging the extent to which they are occurring and the balance between them can determine how concentration is evaluated. If it is clear that the benefits of agglomeration in Tokyo or other large cities are distributed throughout Japan, that is, they have the effect of stimulating economic activity in small and medium-sized cities and rural areas outside Tokyo, concentration may not necessarily be considered a problem. However, overconcentration in Tokyo is currently regarded as a problem, and the probable reason is the fact that those outside the region are not experiencing such a trickle-down effect.⁶ There is great diversity of opinion on how concentration and agglomeration should be evaluated, and what sorts of policies are desirable.

The American urban economist Glaeser (2012) is a leading proponent of the argument that dense cities increase productivity through the spillover of knowledge. Among his policy prescriptions is deregulation of housing construction so that buildings can be made even higher. However, this must be seen in the context of the United States. Public transit options such as trains are scarce in many American cities, and people's own cars are the primary means of transportation. To alleviate traffic congestion, cities have become more suburbanized, in the form of horizontal sprawl, and urban areas are becoming less dense. Glaeser's proposal should be viewed as a response to this situation, and applying it without any modifications to already dense Tokyo is problematic.

Some economists in Japan do not consider overconcentration in Tokyo and the associated regional disparities to be a problem (e.g. Hatta 2015; Hatta and Ueda 2006). They hold that concentration in Tokyo is due to market mechanism, which should not be hindered, and that policies aimed at balanced development have a negative impact on national growth. Regarding agglomeration diseconomies such as rising housing costs, they argue that government regulation is the root cause, and deregulation to boost housing supply and migration to larger cities is the solution. These arguments continue to have a significant influence on policymaking.

However, these assertions appear to be based on the premise that Tokyo is growing only through market mechanisms, while regions other than Tokyo depend only on fiscal reallocation. As economists including Hayashi et al. (2018) have pointed out, it is mistaken to think that Tokyo has grown solely due to market mechanisms.⁷ As we have already seen, it is undeniable that discretionary administration such as approvals and licensing by government agencies, and a centralized administrative system, have contributed to concentration in Tokyo. Also, the locations of industries are path dependent, and the concentration of the high-growth tech sector in Tokyo is influenced by the legacy of the pre-World War II military-industrial complex and the establishment of national research institutes in Tokyo, the nation's capital.

Furthermore, the argument in favor of overconcentration is based on the premise that policies aimed at

reducing geographical imbalances result in inefficiencies and negatively affect the economic growth of the country as a whole. This might certainly be a valid proposition when operating with specific assumptions under a simplified economic model, and there will certainly be significant harmful effects if extreme policies such as completely uniform allocation of economic activity are carried out. However, as Martin (2015) notes, the nature of the tradeoff between correction of geographical imbalances and national economic growth has not been clearly shown in empirical studies. Also, analyses of productivity do not reflect congestion of commuting routes and the costs of housing purchases and rentals, and cities' "livability" is difficult to thoroughly quantify and to incorporate into economic analysis. Furthermore, the difficulty of raising children in excessively concentrated regions due to long commutes, long working hours and lack of childcare facilities⁸ leads to a declining birthrate and hinders the reproducibility of society (Nakazawa 2019a). In light of the current situation, we cannot ignore the fact that dense cities also exacerbate the risk of infectious diseases. Overall, it should be recognized that while current policy discussions emphasize agglomeration economies, agglomeration diseconomies tend to be underestimated. In examinations of policy it is necessary to legitimately evaluate the benefits of agglomeration described in this article, and policies that ignore these altogether are likely to fail. However, there is danger in viewing these benefits as an absolute good and viewing anything that stands in their way as an evil.

It is also important to consider the attributes of cities such as the industries they are geared toward, and recognize that it is not only degree of agglomeration that determines a city's development. These attributes have been formed through history and geography. Prescriptions for making cities denser or larger are influential because they are simple and easy for policymakers to understand, but agglomeration is not a universal panacea (Martin 2015). Examining the development of a city requires analysis based on historical paths and geographical context, and policies based on these analyses are necessary. This is the fundamental concept of economic geography.

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Notes

1. In economics, the term "increasing returns to scale" is used to describe such scale-related phenomena.
2. A similar phenomenon was seen in the United Kingdom during the same period, when only specific processes were relocated to northern industrial cities for the purpose of curbing wages, while R&D functions were retained in greater London in the southeast (Massey, 1984).
3. For example, compared to those years, in Tokyo today the percentage of workers in the financial industry is declining due to mergers of financial institutions and consolidation of branch offices.
4. Of course, besides regulations, the size of the land is another factor that differentiates Japan from the US.
5. In addition to high-tech manufacturing such as IT and life sciences, software, and Internet-related industries, this also includes some areas of entertainment and finance.
6. Myrdal argued that between advanced regions and underdeveloped regions, there are both a positive spread effect and a negative backwash effect on the underdeveloped regions. Also, Myrdal states that when entrusted to the market, the backwash effect tends to work strongly, while when welfare state policies are implemented, the spread effect works strongly and disparities are narrowed (Myrdal 1957).
7. This is not limited to Japan, where administrative guidance by the government has played a major role. Martin (2015) states that London is a centralized government location and enjoys state support as a beneficiary of public spending, and it is incorrect to attribute London's concentration solely to market mechanisms.
8. While it is theoretically possible to increase the supply of daycare centers while lowering the quality of childcare, the medium- to long-term negative impact will be significant, in that the importance of early childhood education has been noted, and low-quality childcare reduces the quality of human capital in economic terms (Yamaguchi 2019).

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