

GRIPS Discussion Paper 15-21

CONCENTRATION OF POPULATION IN TOKYO: A SURVEY

**Kenji Umetani
Tadashi Yokoyama**

December 2015



GRIPS

NATIONAL GRADUATE INSTITUTE
FOR POLICY STUDIES

National Graduate Institute for Policy Studies
7-22-1 Roppongi, Minato-ku,
Tokyo, Japan 106-8677

CONCENTRATION OF POPULATION IN TOKYO: A SURVEY

KENJI UMETANI*, TADASHI YOKOYAMA

December 2015

Abstract

The mono-polar concentration of population in Tokyo has been intensifying steadily in Japan since the mid-1990s. This demographic movement stands in sharp contrast to the tri-polar (Tokyo, Osaka and Nagoya) demographic movement in the high growth era before the oil crisis of the early 1970s. Mono-polar in-migration reflects the change in industrial structure after the rapid yen appreciation and the two decades of stagnation caused by the bubble burst in an atmosphere of demographic aging and declining birth rate. One noteworthy recent feature of the population inflow into Tokyo is the increasing inflow of young females with post-secondary education, leading to even gloomier economic and social prospects in most outlying regions. This economic externality should be dealt with by means of well-designed policies which, benefitting from the experience of events several decades ago, avoid throttling the benefits of the market mechanism.

Keywords: Mono-polar concentration, migration, lost decade, young females, job opportunities

This paper is based on a seminar presentation given in Japanese on July 11, 2015 at “Tokyo, a Mega-city in Asia,” organized by the Science Council of Japan. The seminar was produced by Prof. Kaoru Sugihara, National Graduate Institute for Policy Studies (GRIPS). Kenji Umetani, GRIPS professor at the time of the seminar, thanks Prof. Sugihara for kindly offering him the opportunity to present there.

The authors are currently at the Cabinet Office, Government of Japan. The views expressed in this paper are those of the authors, and do not represent those of either GRIPS or the Cabinet Office.

*Corresponding author: Cabinet Office, ESRI, 1-6-1 Nagata-cho, Chiyoda-ku, Tokyo, Japan.

1. Introduction

Tokyo has for decades constituted a unique case for the study of concentration of population. The population of Tokyo has grown relative to the population of Japan almost continuously for the last 70 years. Tokyo and Seoul are only two major capital cities in the world with consistent long-term concentration of population (MLIT, 2014).

The history of concentration of population in Tokyo can be divided into two phases: the first during the nationwide urbanization process until the early 1970s; the second, when Tokyo became the sole center of concentration in Japan. The economic and social dynamics underlying these two phases appear to be working in opposite directions; the first phase took place at a time of increasing total population and high economic growth in Japan; the second, during a period of population turning from slower increase to decline and generally stagnant economic growth.

The first phase was self-supporting in the sense that desirable economic and social dynamics account for the industrial concentration accompanying employment, mainly in the manufacturing sector, in major cities, and the ensuing agglomeration benefits (Yoshikawa, 1995). However, the second phase is taking place during an industrial shift from manufacturing to the tertiary sector.

Both phases should be explained by the utility maximization process of behavior under a free market mechanism. However, Japanese public policy has been aimed at achieving regionally balanced development; in other words, economically less developed regions are allowed to receive more preferential support for development (e.g., infrastructure expenditures and financial subsidies). To date these policy measures have not been successful in stopping regional decline. Reflecting an earlier policy of swinging the population balance away from Tokyo to outlying regions, the policies now under consideration appear to address population decline more directly.

This paper reports the results of a survey of Tokyo population concentration with an emphasis on recent development, in particular the so-called “mono-polar concentration of Tokyo,” under which all outlying regions face population decline. One of the salient findings is that the recent concentration in Tokyo has been driven by the migration of young generation females, following the structural change in industry since the 1980s and the severe consequences of the bursting of the bubble economy in the 1990s.

This paper is structured as follows. The first section is an overview of Tokyo concentration, which has accelerated recently. This is followed by a review (focusing on domestic migration) of the structural change in industry caused by the rapid appreciation of the yen in the 1980s and by the bursting of the economic bubble in the 1990s. Finally, an examination of the effect of labor market development on migration in terms of demography and education attainment is followed by concluding remarks regarding the need for a well-calibrated set of policies to maintain market mechanism strength and utility maximization by household.

2. Accelerating mono-polar concentration in Tokyo

In economic history discussions, a widely shared view is that the post-war development of Japan can be divided into two stages: the high-growth stage until the first oil shock in the early 1970s; and the following period including many events such as yen appreciation in 1985, the bubble economy in the late 1980s, the bursting of the bubble in the early 1990s, and the recent so-called lost two decades. This division matches the two-phase Tokyo concentration mentioned before.

Tokyo concentration of population in the first stage was one instance of the nation-wide urbanization waves of that time. As well as the Tokyo region,¹ the Osaka and Nagoya regions incurred massive influxes of labor from rural agricultural areas. These three major regions were the main pillars of the subsequent high economic growth (about 10 percent per annum) with the manufacturing sector benefitting from economies of scale and agglomeration. At the same time, the Japanese enjoyed a higher standard of living as a result of steadily rising income and more secure employment.²

However, in the second stage, the Tokyo region was the only region in Japan to see a significant population influx (FIGURE 1). During that period, the net inflow (inflow minus outflow) into the Nagoya region was generally negligible, while the Osaka region for the most part experienced a net outflow. On closer inspection, net population inflow into Tokyo in the second stage, which is mono-polar concentration, can be seen to have occurred in two distinct periods: the first with inflow peaking during the bubble period, and the second with net inflow increasing since the mid-1990s.

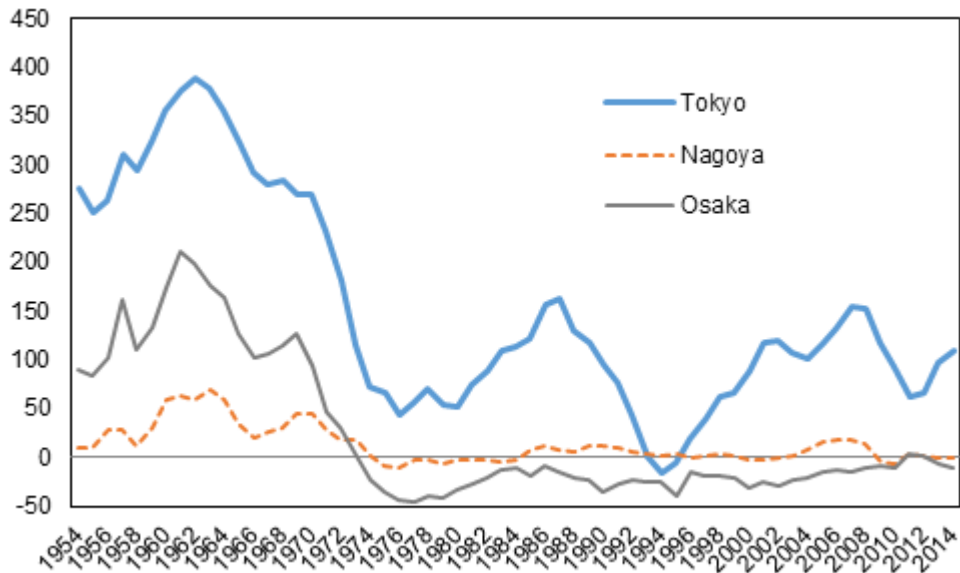
The literature characterizes these two stages as follows. Migration in Japan in the first stage (up to the early 1970s) was mainly driven by income disparities (FIGURE 2). People in rural, lower income areas left their agricultural villages and moved to sizeable cities with higher wages, in particular to three metropolitan areas: Tokyo, Osaka and Nagoya (Tabuchi, 1987).

¹ In this survey, the Tokyo region is defined as the area covering four prefectures: Tokyo, Chiba, Saitama and Kanagawa. When data is only available at the prefectural level, Tokyo Prefecture is taken as the Tokyo region.

² Yoshikawa (1995) portrays this heavy inflow to the metropolitan areas of Japan as accompanying expansion of domestic demand in areas such as durable consumption and housing, supporting high economic growth. This demand-side view emphasizes the virtuous cycle of income and demand that was the core of the mechanism of double-digit growth in the 1960s.

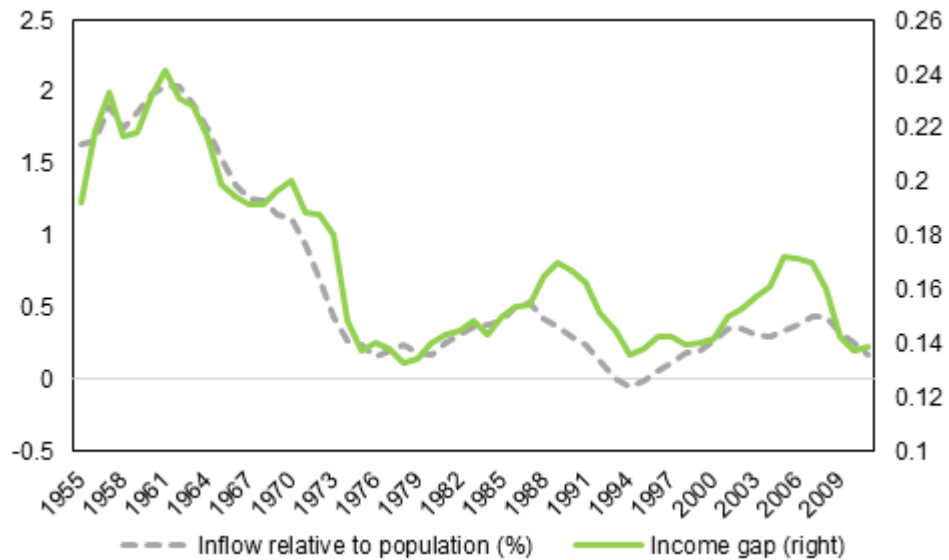
FIGURE 1. Net inflow of migrants in Japan's three metropolitan areas, 1954-2014

(thousand people)



(Source) Ministry of Internal Affairs and Communications

FIGURE 2. Net inflow in the Tokyo region and income gap, 1954-2014



(Source) Ministry of Internal Affairs and Communications, Cabinet Office

Note: Net inflow is relative to population in the Tokyo region. Income gap is the coefficient of variation of per capita income for all prefectures.

Second, as observed by Hatta (2006), the slowing of inflow to Osaka during the second stage

was attributable to excessive regulation imposed by the national government in the first stage. During the first stage, the national government was eager to halt concentration (and thus avert further congestion) by limiting new construction of factories and universities in the centers of the Tokyo and Osaka regions. One of the justifications for the use of such powerful measures to contain free capital formation was that the development of public infrastructure was lagging behind employment growth in the centers, and that as a result welfare conditions and the working environment had deteriorated to below an acceptable level in aspects such as overcrowded transit systems, traffic jams, serious pollution and steadily rising land prices.

These restrictions were so tight as to constrain Osaka's growth potential; one of Osaka's economic advantages until that time lay in the agglomeration of manufacturing activities. On the other hand, the Tokyo region experienced relatively little constraint, as its economy leans heavily on the agglomeration of service industries. Moreover, most corporations had been strengthening their headquarters functionality in the Tokyo region to take advantage of agglomeration and globalization.

The following subsections examine Tokyo population concentration in detail, considering inflow and outflow separately.

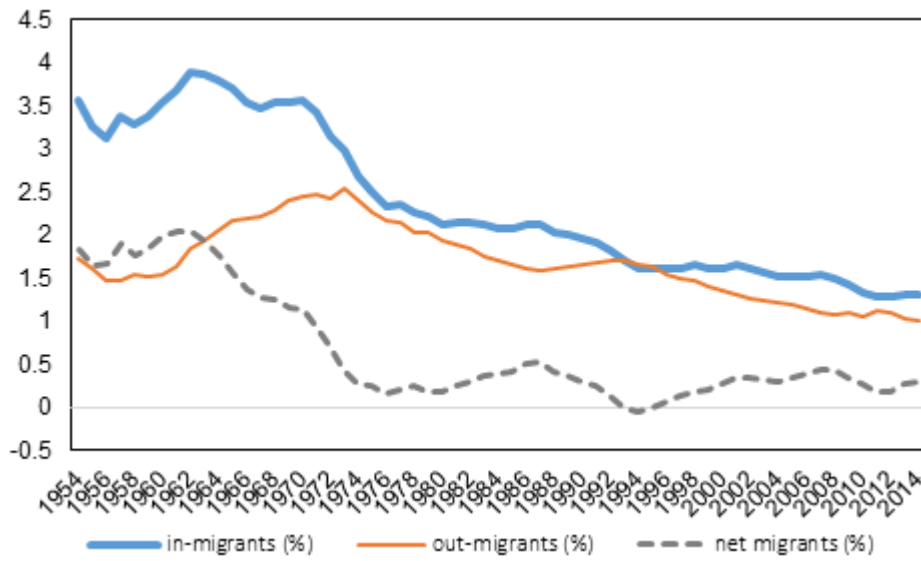
2.1 Inflow of population

The recent Tokyo concentration of population has several noteworthy characteristics. First, the number of inflow relative to population has been on a declining trend. Over the last half century, as GDP growth decelerated, the Tokyo inflow rate decreased from almost 4 percent per annum to approximately 1.5 percent (FIGURE 3).

Second, in terms of gender balance, the ratio of women to men in Tokyo has been rising steadily since the second half of the 1980s (FIGURE 4). It had been the case that rural males came to Tokyo as labor to meet strong demand, in particular in the manufacturing sector, supporting the high economic growth of that time. However, that movement slowed in the late 1980s, while at the same time female inflow increased. This suggests that labor demand in the Tokyo region has been growing in the tertiary sector, presenting significant employment advantages for young women with higher education credentials.³

³ Nakagawa (2005) confirmed that women with higher educational qualifications were already migrating into the Tokyo region in late 1990s.

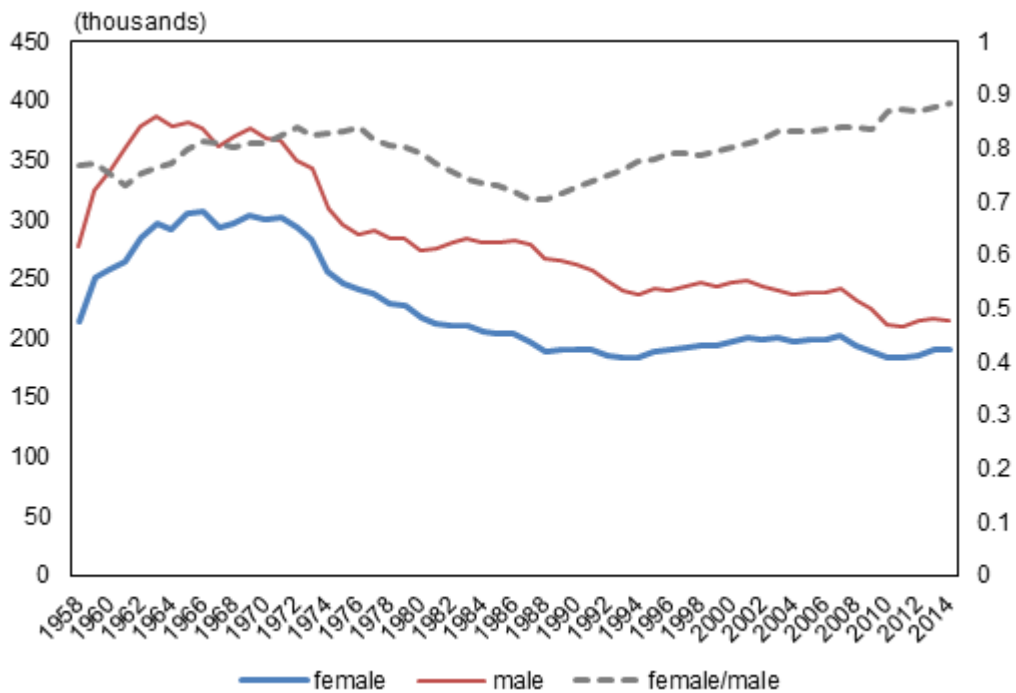
FIGURE 3. In- and out-migrants in the Tokyo region, 1954-2014



(Source) Ministry of Internal Affairs and Communications

Note: Values are relative to the population of the Tokyo region.

FIGURE 4. In-migrants to Tokyo Prefecture, by gender

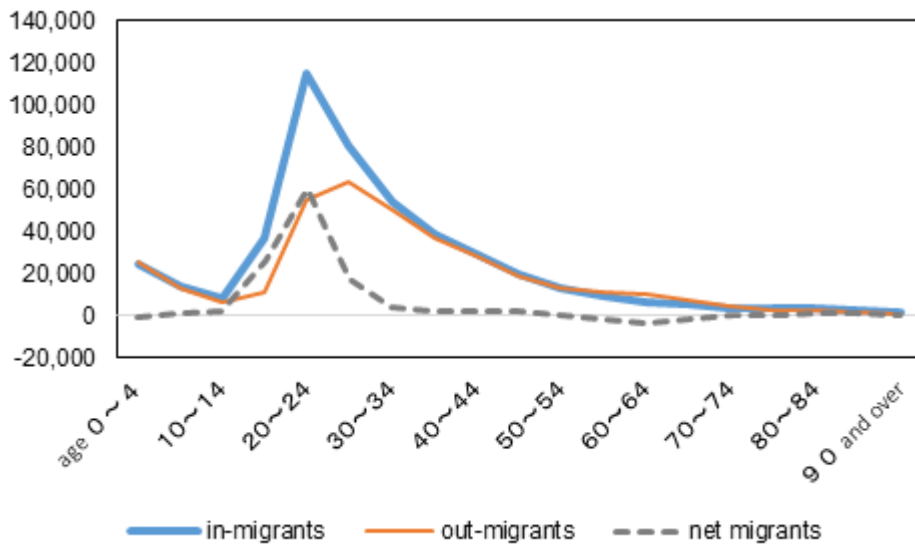


(Source) Ministry of Internal Affairs and Communications

Third, a younger cohort (age 15-29) is now coming into the Tokyo region, accounting for 94% of total net inflow in 2014 (FIGURE 5). Tokyo is Japan's center of education and corporate

headquarters. There are a number of top-rank universities in Tokyo, and as a result numerous high school graduates come to Tokyo to study. Furthermore, many graduates of regional universities proceed to employment in Tokyo rather than in their hometowns or their university towns.⁴ As a result, incoming young women outnumbered men in 2014. The total net inflow to Tokyo prefecture of both sexes between age 18 and 24 was approximately 59,000 people, 51% of them women.

FIGURE 5. In- and out-migrants by generation, Tokyo region, 2014



(Source) Ministry of Internal Affairs and Communications

2.2 Outflow of population

As discussed earlier, regional income disparity has been the key driver of population movement between regions. This does not mean that all movement flows from lower-income regions to higher-income regions; there are always people moving away from more prosperous regions, including the Tokyo region. The following is a brief history of the post-war outflow of population from the Tokyo region.

The gross outflow of population from the Tokyo region started to increase sharply after 1956, when it was about 230,000 per annum, and peaked in 1973 at around 660,000. That trend ended rather abruptly, and outflow has been declining since 1974, except for an increase from around 490,000 in 1986 to 550,000 in 1993. In recent years, yearly outflow has been fluctuating at around 380,000. In general, outflow tends to increase when the economy is booming, as in the period

⁴ Greenwood (1997) presents documentation that among five age groups, migration propensity was highest for the 25-29 year-old group in the U.S. and that between 1980 and 1985 the peak propensity for a single year of age often occurred in the 18-24-year-old group.

before the oil shock in 1973 and during the so-called bubble economy period in the late 1980s, and decrease when the economy is decelerating.

Useful insights into the factors affecting the outflow of people from the Tokyo region are provided by the results of a Tokyo Metropolitan Government survey of reasons for moving out of Tokyo Prefecture. “Occupational reason” was consistently the most commonly chosen of the multiple choice responses between 1971 and 1996 (43% of respondents in 1996), followed by “marriage/divorce” (16%), and “housing relocation” (16%). These factors will be examined in the following sections.⁵

In the next section, the history of Tokyo concentration of population over the last three decades will be examined in detail in the context of the rapid yen appreciation after the 1985 Plaza Accord, which resulted in major industrial structural changes and the economic bubble in the late 1980s, followed by the bursting of the bubble.

3. The consequences of yen appreciation and the bubble economy

3.1 Economic and social changes

Like other industrialized nations, Japan has experienced a significant change in its industrial structure until now. The manufacturing industry’s share of the economy, both in terms of value added and number of workers, stopped growing in the early 1970s and has been decreasing since then. On the other hand, during the same period, the share of tertiary industry has been growing continuously. This shift accelerated after the bubble economy period.

A widely shared perception is that the bubble economy was created by the expansionary fiscal and monetary policies that were introduced to help cushion the impact of the September 1985 Plaza Accord, which was aimed at correcting the overvaluation of the US dollar. The yen appreciated from around 240 yen/US dollar to around 150 yen/US dollar in less than a year. That rapid currency appreciation instantly affected the economy, particularly the export-dependent manufacturing sector, and the real GDP growth rate (seasonally adjusted at annual rate) decreased continuously from 8.6% in Q3 of 1985 to -1.1% in Q2 of 1986. The government responded by introducing expansionary fiscal policies. Public investment, which recorded negative growth between 1982 and 1985, grew by around 6% for three consecutive years between 1986 and 1988. The Bank of Japan cut the official discount rate from 5.00% to 2.50% during the one year period beginning in early 1986. The economy started to grow strongly in 1987, and the real GDP growth rate reached 7.1% in 1988, the highest since 1973. Rapid economic growth was surely one of the factors behind the temporary surge in the gross outflow of people from the Tokyo region in the late 1980s.

⁵ As for “housing reasons,” about 90% of the respondents answered that they moved to neighboring Kanagawa and Chiba Prefectures. The fact that most of the movement took place within the Tokyo region implies that this factor is not important to examination of the movement of population out of the Tokyo region.

The expansionary measures introduced by the government and the central bank now considered excessive (IMF, 2011) resulted in an extraordinary asset price boom. The average price of commercial land in central Tokyo rose by 76% in 1987. Investment in high-yield urban real estate surged.

The Bank of Japan began raising the interest rate in mid-1989, while the government tried to contain the property price surge by means of regulations and the tax system. Nationwide land prices started to fall rather abruptly in 1992, and the real GDP growth rate remained at less than 1% between 1992 and 1994. The government responded by introducing a series of large-scale economic stimulus measures to strengthen the economy with a focus on public investment in non-metropolitan regions. Public investment increased by double digits in both 1992 and 1993, but such a policy measure was not the right prescription for addressing the structural problems that emerged during the bubble economy. Indeed, the Japanese banking system was suffering from the so-called non-performing loan (NPL) problem, while regional economies became ever more dependent on public investment.⁶

The rapid appreciation of the yen after the Plaza Accord facilitated a shift from manufacturing to the tertiary sector. As a strengthening currency constitutes a loss of competitiveness in the globally tradable goods market, the manufacturing sector faced a need to raise productivity through cost cuts and rationalization of production. Although some firms succeeded in maintaining competitiveness by increasing product quality, others did so by outsourcing their production overseas, resulting in the loss of employment at domestic production sites. The share of secondary industry (manufacturing, mining and construction) in terms of number of workers declined from 33.1% in 1985 to 29.5% in 2000, while that of tertiary industry rose from 57.3% in 1985 to 64.3% in 2000.

In the early 2000s, the government implemented drastic reform measures, not only to solve the NPL problem, but also to change its urban and regional policy. First, building and zoning regulations in the center of large metropolitan areas were relaxed dramatically. In the “urgent urban revitalization areas,” building codes were relaxed substantially, and the introduction of the transaction system for space rights encouraged large-scale redevelopment projects in city centers. Second, laws that had restricted the building of factories and universities in the Tokyo and Osaka regions since the 1960s were abolished in 2002. Third, public investment, which supported the regional economies after the collapse of the bubble economy, was cut dramatically. These changes intensified the concentration of business and population in large metropolitan areas, in particular central Tokyo. Land prices finally stopped declining, and then began to rise in the centers of large cities in the early 2000s, while those in regional cities continued to fall.

⁶ See Ito and Mishkin (2006) for an assessment of the bubble economy and monetary policy responses.

3.2 Increasing influx of population to Tokyo

After the bubble burst, local regions began to suffer more than the Tokyo region from the stagnant economic situation, for several reasons: 1) hollowing-out of manufacturing jobs accelerated in the rural areas; 2) with the expansion of the modernized service sector activities of large corporations, small and medium sized stores, including self-employed businesses, tended to lose customers and eventually close their doors; and 3) shrinking population and aging demographics were keenly felt in outlying regions, with negative knock-on effects on the farming sector and the fiscal soundness of municipal authorities.

These factors in combination led to reduced employment opportunities in the local regions, in particular for young adults. On the other hand, in the Tokyo region, job opportunities expanded steadily in large corporations, especially those in tertiary sectors such as banking, insurance, business services, and information and communication. New jobs tended to be taken by skilled people and by high-potential and talented members of the younger generation.

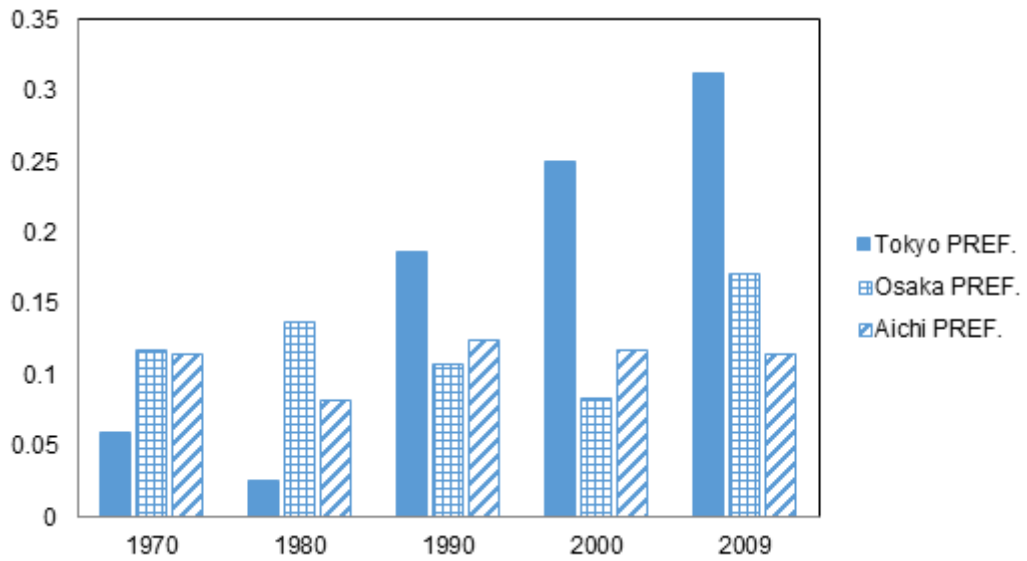
The concentration of service industries strengthens agglomeration economies. It is true that the development of communication technology reduced the necessity of geographic proximity, but when a metropolitan area such as Tokyo offers a wide variety of services in addition to traditional industries including manufacturing, education and the public sector, that area would benefit more from agglomeration economies than others.

OECD (2014) indicates that economic growth in Japan is heavily driven by metropolitan areas including Tokyo. This phenomenon may also be seen in France, driven by Paris, in sharp contrast to the U.S. and Canada, where the relative contribution of the capital city to national economic growth is much smaller.

In the growth accounting framework of macroeconomics, agglomeration merits are represented as TFP (total factor productivity). According to RIETI (2015), the TFP of Tokyo Prefecture has grown steadily since 1980, and recently has been much higher than that of Osaka and Nagoya prefectures (FIGURE 6).

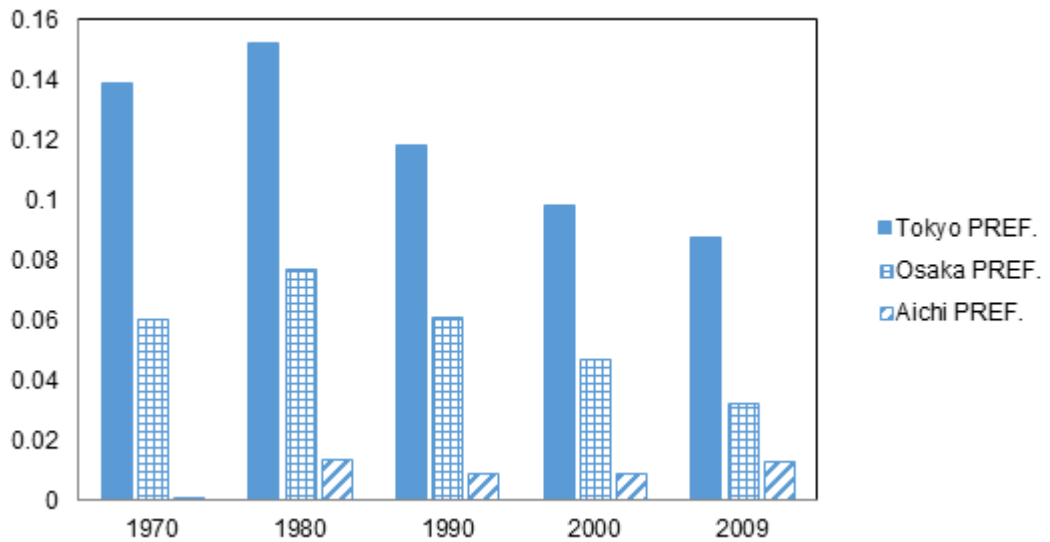
Furthermore, if quality of labor is measured in terms of academic background and career years, the quality of labor in Tokyo Prefecture has been consistently the highest among the three large metropolitan areas of Japan (FIGURE 7).

FIGURE 6. Relative size of TFP in regional growth
(difference from the average TFP of all prefectures)



(Source) RIETI, R-JIP2014

FIGURE 7. Labor quality, 1970-2009
(difference from the average of all prefectures)



(Source) RIETI, R-JIP2014

Note: Labor quality is measured by educational background, career years and the other factors.

4. Effect of labor market change on population concentration

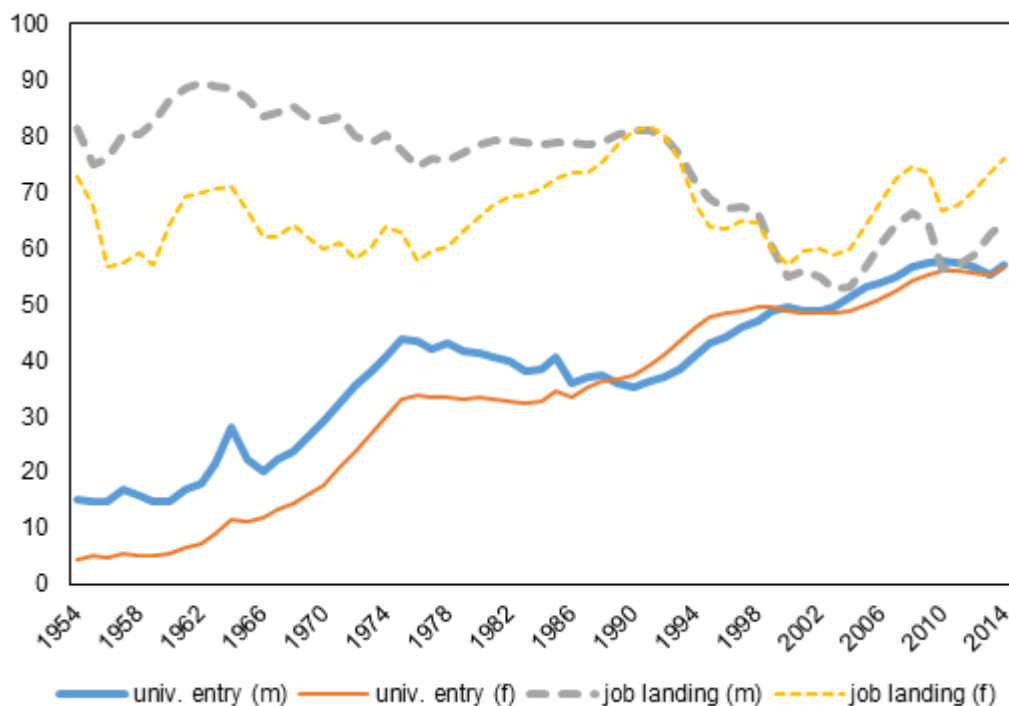
4.1 Inflow

During the last three decades, the Japanese economy underwent major structural changes,

including: a further intensification of the focus on service economy; the decline of the traditional employment system; and most importantly, aging demographics and population decline. This section focuses on the impact of labor market changes on concentration of population in Tokyo.

The Japanese university enrolment rate has been rising steadily over the last half century, while the birthrate has declined. In 2014, the university enrolment rate was 57.0 percent for males and 56.5 percent for females (FIGURE 8). This increase is largely attributable to the government's education policy promoting the opening of universities and colleges in outlying regions, in response to requests by those regions to build higher education facilities there to keep high school graduates in their home areas. The proportion of Japanese university students studying in the Tokyo region decreased from 42 percent in 1991 to 41 percent in 2014.

FIGURE 8. Rate of university entry and job landing, 1954-2014



(Source) Ministry of Education, Culture, Sports and Science and Technology

The relationship between the above-mentioned university enrolment rate and all-generation inflow to the Tokyo region is of interest. The correlation between the two might reflect the degree to which student desire for tertiary education accelerated the Tokyo concentration. Over the long term the two variables seem to correlate negatively for both sexes, i.e. in-migration does not accelerate through higher university entrance, perhaps due in part to the declining number of students (FIGURE 9a, 9b). However, there is some difference between the genders. For males,

there were two periods when a weak positive correlation was found between the two variables: 1) the period between the 1950s and the 1960s; and 2) the period from the latter half of the 1970s to the 1980s. However, for females, there was a consistent negative correlation except for the very early stage. This suggests that a higher proportion of females than males attend regional universities.⁷

FIGURE 9a. Correlation between Tokyo inflow of population and university entrance (males), 1954-2014

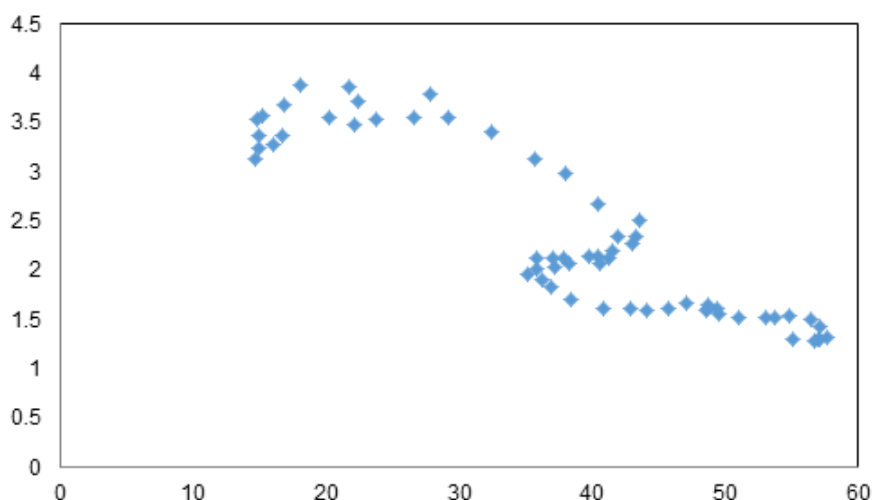
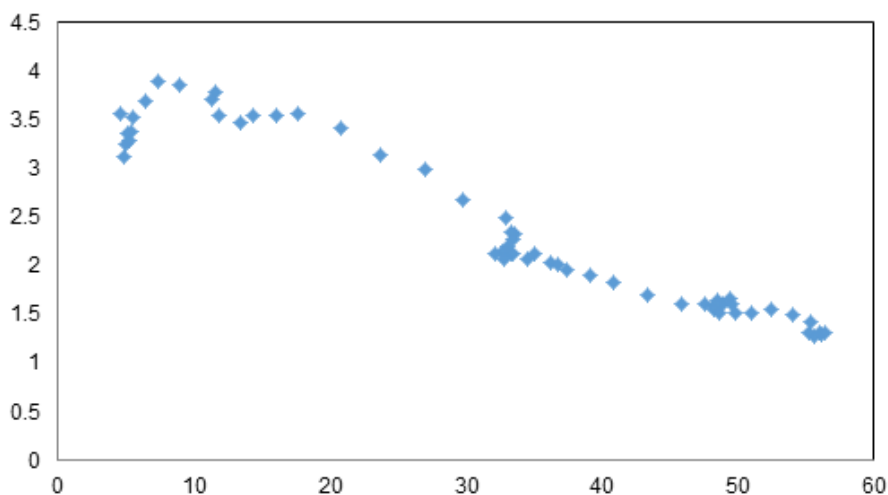


FIGURE 9b. Correlation between Tokyo inflow of population and university entrance (females), 1954-2014



⁷ Econometric testing reveals that these variables have a unit root and are not under co-integration. Therefore, quantitative analysis was not pursued because the emphasis of this study was the development of simple explanations.

FIGURE 9c. Correlation between Tokyo inflow of population and job landing (males), 1954-2014

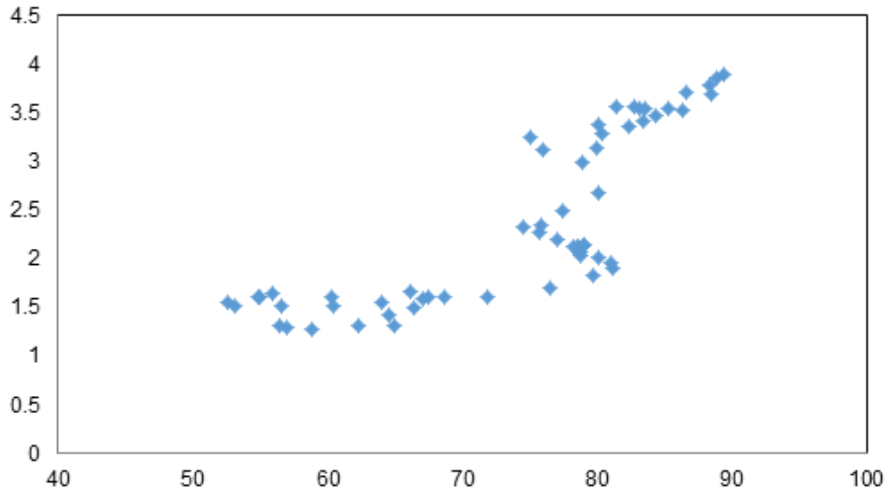
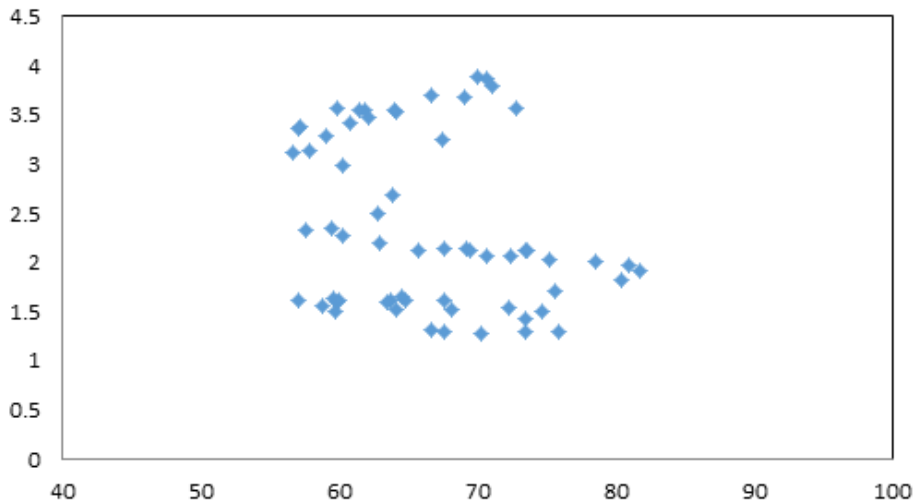


FIGURE 9d. Correlation between Tokyo inflow of population and job landing (females), 1954-2014



Note: (for figures 9a-d)

1. Y-axis: proportion of in-migration in total population of the Tokyo region (%)

2. X-axis: the same data as FIGURE 8

3. Tokyo region data: sum of data for Tokyo, Chiba, Saitama and Kanagawa prefectures

(Source) Ministry of Internal Affairs and Communications, Ministry of Education, Culture, Sports and Science and Technology

Secondly, regarding the correlation between the employment rate of university graduates and

the all-generations inflow to the Tokyo region, a clear difference between men and women was observed. For male students the correlation has been positive for 60 years, but for female students no significant correlation was found for the same period (FIGURE 9c, 9d). This suggests that job opportunity for male students tends to exist more in Tokyo than the local regions, implying Tokyo concentration with employment after graduation, whereas that for female students does not. Females are more likely to look for job opportunity in the local area. Therefore, higher employment rate for females does not necessarily mean Tokyo concentration.

In the context of the concentration of population in Tokyo, the job finding experience of female students might be characterized by the following two occasions: 1) at the time of graduation from university, a female graduate might go to Tokyo to hunt for a job after failing to find a job in her home region, which has insufficient job openings reflecting difficult economic conditions; 2) women in their 20s and 30s (for whom labor force participation has been rising recently) might go to Tokyo for career advancement or diversification because of the limited number and variety of jobs available in the local region. These behaviors are explained by the following logic: the expected utility of living in Tokyo exceeds the utility of remaining in the local regions, given the fact that the local regions have difficulties providing attractive job opportunities for young women seeking careers.

In contrast to recent rapid changes in demography, including shrinking labor force, the working practices that have dominated both Japanese companies and the public sector have been changing, but very slowly. The lifetime employment system does not suit well for workers who desire to improve their career paths at different stages of life. Under the uniform recruitment system, all students graduating from universities or high schools are placed in the workforce in April immediately after graduation. Therefore, if the job opportunities targeted by university graduates are available only in the Tokyo region, students living in regions far from Tokyo would be at a disadvantage compared to those living near the metropolis, since job interviews take place only once for each company and are held concurrently by large companies over a short common period (i.e. the process is a recruitment competition). This long-standing practice is surely one of the factors prompting young adults to study in the Tokyo region.⁸

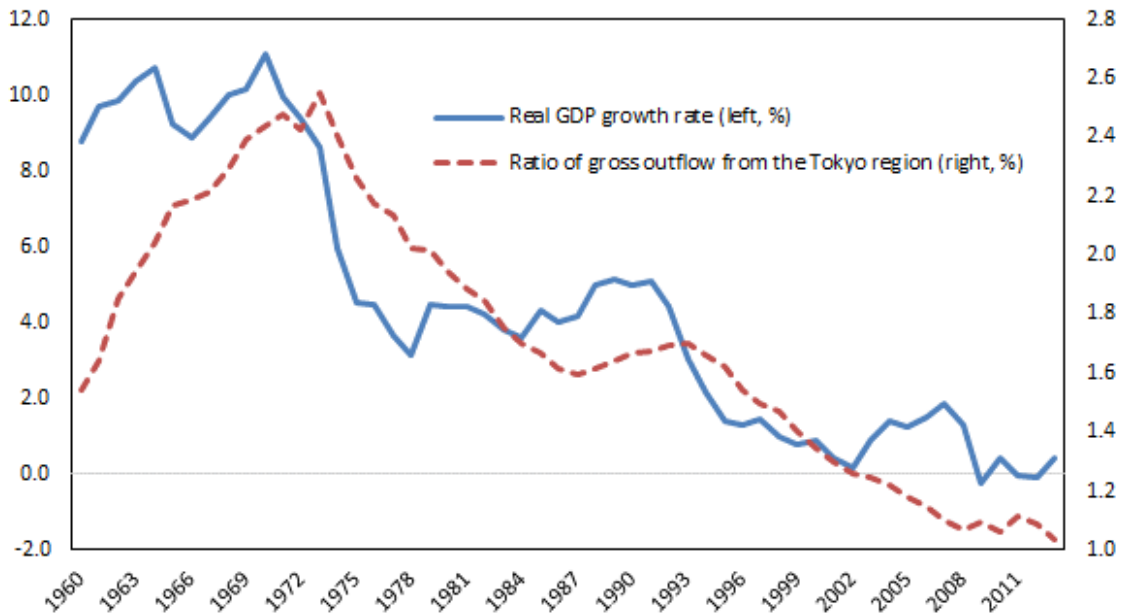
4.2 Outflow

Changes in the labor market have implications for the outflow of people from the Tokyo region. “Occupational reasons” was consistently the most common reason for relocation given in the Tokyo Metropolitan Government survey mentioned earlier (see section 2). Among the subcategories of this response, approximately half of the respondents cited “transfer to other

⁸ Ohta (2007) found that the majority of urban workers who grew up in rural areas earned more than rural workers who stayed in their home areas.

offices within the company.” This response is closely related to macroeconomic developments, as companies open regional branch offices and factories when the economy is growing, and it has been almost mandatory under the traditional Japanese employment system for workers to accept transfers to those regional locations. The above mentioned long-term trend in the outflow of population, i.e., a sharp increase during the high-growth era, a long-term decline after that, and a temporary increase during the late 1980s and early 1990’s, matches with the change in the GDP growth rate during that period (FIGURE 10). Another factor affecting outflow might be the development of the transport network, especially *Shinkansen* and air travel infrastructure, which allows companies to streamline their regional operation bases (Hisatake, 2005).

FIGURE 10. Gross outflow of population from the Tokyo region and Japan’s GDP growth, 1960-2013



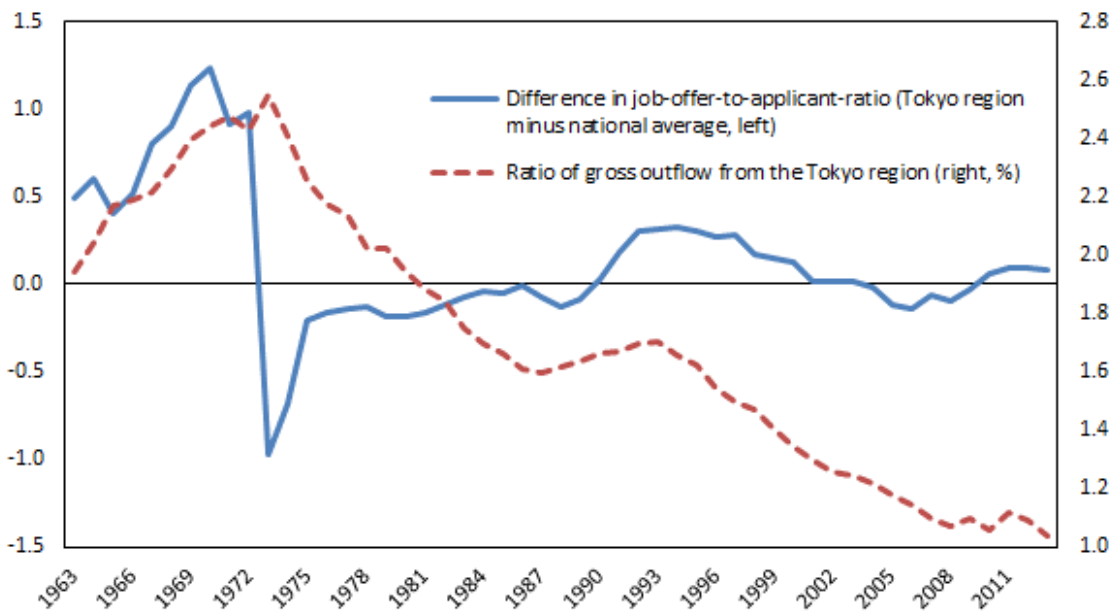
Note: Ratio of gross outflow of population from the Tokyo region has been calculated by dividing the number of people moved out of the Tokyo region by the population of the Tokyo region (same data as out-migrants in FIGURE 3).

(Sources) Cabinet Office, Ministry of Internal Affairs and Communications

The second most commonly selected reason under “occupational reasons” was “change of job.” This would have somewhat different economic implications from “transfer to other offices within the company,” as it is affected not only by macroeconomic factors, such as differences in job availability among regions, but also by individual employment decisions and structural changes in the labor market. For example, a change in the traditional Japanese employment system, which

is characterized by lifetime employment and the seniority wage system, could lead to more frequent job changes.⁹ Greater labor market flexibility might encourage workers to move voluntarily to different regions to find better jobs. According to the Cabinet Office (2015), however, the share of workers who change jobs has been decreasing since it peaked in 2005. Meanwhile, Greenwood (1997) identifies unemployment as an important factor behind migration, particularly in the U.S. The relatively low unemployment rate in Japan and its rather small variation among regions suggest that it might not have had a significant impact on individual employment decisions.¹⁰ (FIGURE 11)

FIGURE 11. Gross outflow of population from the Tokyo region and regional job availability gap, 1963-2013



(Sources) Ministry of Internal Affairs and Communications, Ministry of Health, Labour and Welfare

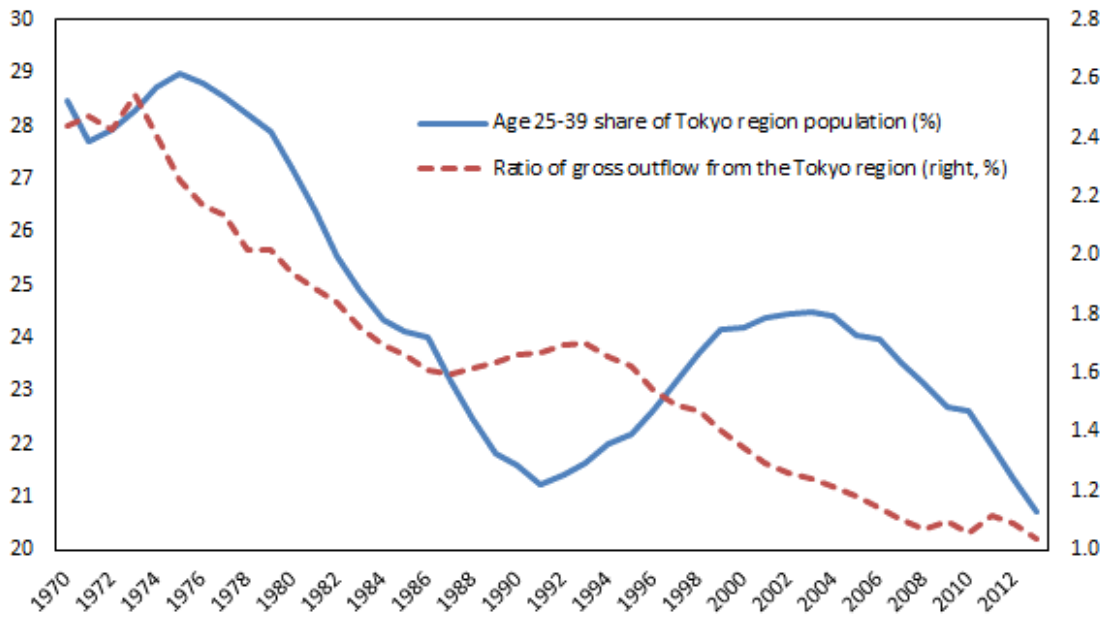
“Marriage/divorce,” the second most popular response after “occupational reasons,” is largely dependent on demographic factors. In 1996, approximately 75% of the people who cited this reason for moving out of Tokyo Prefecture were of age 25 to 39. Furthermore, this was the reason for moving out of Tokyo Prefecture most commonly cited by women. According to the National Institute of Population and Social Security Research (2013), the population in the age 25-39 group in the Tokyo region is expected to decline rapidly, from approximately 8.1 million in 2010 to around

⁹ Kawaguchi and Ueno (2011) analyzed the decline of the long-term employment relationship in the post-war Japan and found that the workers born in 1970 have on average approximately 20 percent fewer years of job tenure than those born in 1945.

¹⁰ See Ito and Yugami (2005) for an assessment of regional unemployment differences in Japan.

6.3 million in 2020, and to around 5.5 million in 2030. This suggests that the outflow of population from the Tokyo region due to this factor will continue to decrease (FIGURE 12).

FIGURE 12. Gross outflow of population from the Tokyo region and age 25-39 share of Tokyo region population, 1970-2013



(Source) Ministry of Internal Affairs and Communications

In sum, the forces behind the movement of population from the Tokyo region seem to have weakened over the years, and now contribute to the increasing net-inflow of population into the capital region.

It is also important to consider the impact of an increase in the proportion of retirees in the population. In the previously mentioned survey by the Tokyo Metropolitan Government, “to live with family” was the reason for moving out of Tokyo Prefecture most commonly cited by respondents of age 65 and above. Given the above prediction that the population in Tokyo will age very rapidly, particularly after 2020, and the present lack of elderly nursing care facilities there, the outflow of the elderly will likely increase in the future.

4.3 Further issues of Tokyo concentration

As discussed earlier, the mono-polar concentration of population in Tokyo is continuing. Since this development impacts on many issues ranging from macroeconomic conditions to quality of life, the following consequences of such concentration demand attention in further discussion of this topic.

First, after migration, young adults tend to marry later than usual, which drives the birth rate down. The total fertility rate in Tokyo Prefecture in 2014 was 1.15, significantly lower than the national average (1.42).

Second, the share of non-regular workers in total employees rose to 37 percent in 2014 (Labor Force Survey). Since salaries for non-regular jobs are lower, particularly in Japan, than those for regular jobs, this trend should result in the postponement of marriage and childbirth.

Third, aging in the Tokyo region is expected to accelerate further despite net outflow of the elderly. An official projection indicates that in Tokyo Prefecture the ratio of people aged 65 years and over in the population will rise to one third in 2040 from a quarter in 2015.¹¹ This can be explained in part by the fact that many in-migrants remain into old age in Tokyo, not returning to their home regions, as was the case for in-migrant baby-boomers born outside Tokyo in the late 1940s.

Fourth, concentration of population in Tokyo does not entail the market mechanism of migration that would equilibrate the labor market through wage adjustment. Wages in the outlying regions should have risen if out-migration had made labor scarce and thus more valuable. On the other hand, wages in the inflow area, i.e. Tokyo, should have fallen if the labor market had been relaxed by large numbers of in-migrants. In fact such a stabilizing effect as a result of wage adjustment did not occur in Japan, and the labor market mechanism did not restrain migration to Tokyo. For that reason the mono-polar concentration in Tokyo is of research interest.¹²

5. Concluding remarks

The Tokyo concentration of population has regained momentum since the mid-1990s. Since the Osaka and the Nagoya regions did not experience similar momentum in the same period, the population movement has become mono-polar concentration. Even though quality of life factors in Tokyo are not completely satisfactory, this phenomenon continues as the living standard in Tokyo is far better now than during the high economic growth era in the 1960s.

The mono-polar concentration in Tokyo is accompanied by migration of those in their 20s and 30s, especially women, reflecting in part their utility maximization behavior. According to some sources, this leaves some municipalities on the brink of collapse.¹³ The entailed sense of strong future pessimism has brought forward the shared demand that the mono-polar concentration in Tokyo should be corrected by public policy.

The policy measures constraining the establishment of factories and universities in the center of Tokyo Prefecture were lifted in 2002 because they were found to be of no use or even

¹¹ National Institute of Population and Social Security Research (March 2013 estimates)

¹² Greenwood (1975, p. 415) introduced the notion of “circular and cumulative causation” to explain this mechanism.

¹³ See Masuda (2014).

counterproductive in relation to the development of the Japanese economy. Tokyo has become the main center of economic growth in Japan. In 2013, in order to facilitate further development in Tokyo, and in response to requests from local authorities in Tokyo, the Japanese government designated the Tokyo region as one of the new special zones subject to deregulation so as to create a business-friendly environment. Development in Tokyo endorses the market mechanism as an important principle.

After reviewing critically policy reactions to the concentration of population in metropolitan areas in Japan for the last half century, there is wide support for an argument that the market mechanism, not regulation of investment and migration, should be the key driver of growth. Its bottom line is a criticism against the notion of balanced development across all regions of the nation, because that notion involves an attempt to draw private activities away from metropolitan areas to rural areas through excessive artificial intervention.

On the other hand, the market mechanism alone cannot resolve the issues discussed here. When there is an externality attached to the free activity of the private sector, policy measures must address it as a market failure incident. In the context of mono-polar Tokyo concentration, predictions of population collapse in some regions should not be ignored. As Greenwood (1975) proposed, when migration generates negative externalities, they should be rectified by public policies. In that light, further empirical study of both the causes and impacts of migration within Japan is needed, to support the construction of a well-balanced package of innovative policies responding to the concentration of population in Tokyo.

REFERENCES

- Cabinet Office (2015), *Japanese Economy 2014-2015* (in Japanese).
- Fujita, Masahisa and Takatoshi Tabuchi (1997) "Regional Growth in Postwar Japan," *Regional Science and Urban Economics* 27.
- Fujita, Masahisa and Jacques-Francois Thisse (2002), *Economics of Agglomeration, Cities, Industrial Location, and Regional Growth*.
- Greenwood, Michael J. (1975), "Research on Internal Migration in the United States: A Survey," *Journal of Economic Literature*, pp. 397-433.
- Greenwood, Michael J. (1997), "Internal Migration in Developed Countries," in M.R. Rosenzweig and O. Stark (eds.), *Handbook of Population and Family Economics*: ELSEVIER, chapter 12.
- Hatta, Tatsuo (2006), *Toshin Kaiki no Keizaigaku*, Nihon-Keizai-Shimbunsha (in Japanese).
- Hisatake, Masato (2005), "Higashi Asia ni okeru Nihon no Kako, Genzai, Mirai", Research Institute of Economy, Trade and Industry (in Japanese).
- IMF (2011), *IMF World Economic Outlook*, April 2011.
- Ito, Minoru and Yugami Kazufumi (2005), The Transition and Current Situation of Regional

- Employment Policies in Japan. *Workshop on Local Employment Development 2005 Local Governance for Promoting Employment - Comparing the Performance of Japan and Seven Countries* -, Japan Institute for Labour Policy and Training.
- Ito, Takatoshi and Frederic S. Mishkin (2006), "Two Decades of Japanese Monetary Policy and the Deflation Problem," *Monetary Policy with Very Low Inflation in the Pacific Rim*, NBER-EASE, Volume 15.
- Kawaguchi, Daiji and Ueno Yuko (2011), "Declining Long-term Employment in Japan," *ESRI Discussion Paper Series No. 270*, Economic and Social Research Institute, Cabinet Office.
- Masuda, Hiroya (2014), *Chiho Shoumetsu*, Chuo-Koron-Shinsha (in Japanese).
- MLIT, Ministry of Land, Infrastructure and Transport (2014), "Kokudo no gurando dezain 2050," <http://www.mlit.go.jp/common/001050896.pdf> (in Japanese).
- Nakagawa, Satoshi (2005) "Tokyo-ken o meguru kinnen no jinko ido," *Kokumin Keizai Zasshi* by Kobe University, 191(5), 65-78, 2005-05 (in Japanese).
- Nakajima, Kentaro and Takatoshi Tabuchi (2011) "Estimating interregional utility differentials," *Journal of Regional Science* 51, pp. 31-46.
- National Institute of Population and Social Security Research Population (2013), *Population Projection by Prefecture and Municipality* (in Japanese).
- OECD (2014), *OECD Regional Outlook 2014*, pp. 56.
- Ohta, Souichi (2007), "Interregional Earnings Differentials and the Effect of Hometown on Earnings in Japan," ESRI International Workshop, http://www.esri.go.jp/jp/workshop/070706/01_04.pdf#search='Souichi+Ohta+Chapter+4+ESRI'.
- Okina, Kunio, Masaaki Shirakawa, and Shigenori Shiratsuka (2000), "The Asset Price Bubble and Monetary Policy: Japan's Experience in the Late 1980s and the Lessons," Background Paper, Bank of Japan Ninth International Conference, Institute for Monetary and Economic Studies, July 3-4, 2000 <http://www.imes.boj.or.jp/english/publication/conf/confsp.html>.
- RIETI (2015), R-JIP database 2014 <http://www.rieti.go.jp/jp/database/R-JIP2014/> (in Japanese).
- Tabuchi, Takatoshi (1987), "Interregional income differentials and migration: Their interrelationships" *Regional Studies* 22, pp. 1-10.
- Taniuchi, Mitsuru (2014), *The Japanese Economy: Then, Now, and Beyond*, chapter 5 Workplace at a crossroad, CENGAGE Learning.
- Yoshikawa, Hiroshi (1995), *Macroeconomics and the Japanese Economy*, Oxford University Press (Clarendon)