

# Declining Population and the Revitalization of Local Regions in Japan

**Hisakazu Kato**

Professor, School of Political science and Economics, Meiji University, Japan

## Abstract

The purpose of this paper is to highlight the need to both strengthen policies that promote an increase in the Japanese birthrate and the need for regional administrative restructuring corresponding to a population decline.

The Japanese government recently forecast a population decrease of 40 million within 50 years, which stems from a rapid decline in the birthrate from the 1970s. Comparing birthrates across Japan by prefecture, it is clear that birthrates in urban areas are low compared with rural areas. The low urban birthrates are exacerbated by a shortage of support systems for young families with children, making it difficult for women to balance work with childcare.

On the other hand, the population migration of young people to Tokyo is continuing, with most seeking better jobs and higher education. Many young people who come to the Tokyo metropolitan area will not have children due to a lack of family support. The population in local areas is falling due to this migration, while people in large cities are not reproducing quickly enough. As a result, the population decline in Japan as a whole will likely accelerate.

The Japan Policy Council (JPC), a private think tank, published a report in May 2014 forecasting that 896 municipalities will “vanish” in the near future for the reasons mentioned above. To avoid a population crisis, it is necessary to refocus economic and social investment in local cities and to restructure the administrative framework of municipalities.

**Keywords:**

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## Introduction

The total Japanese population has fallen by about 250,000 every year since 2010. Recently, the growth rate of the Japanese economy has started to increase. It is widely known that the Japanese economy had been suffering from low economic growth and price deflation. Many economists have called this economic situation the "two lost decades," while the government's economic policies have mainly been aimed at tackling slow economic growth. At the same time that economic growth resumed, the total population began to decline, which is negatively affecting the Japanese economy. Because of this, the falling population might severely hamper economic growth over the long term.

The main reason for the decreasing population from 2010 is a continually falling birthrate since the 1970s. The ruling political party, the LDP (Liberal Democratic Party), has had little time to show results to voters, while a family policy that aims to increase the rate of birth needs time to succeed. Because the ruling party only has incentives to promote policies that show short-term results, their proposed policies tend to focus on short-term economic benefits, such as rising stock prices. Nonetheless, we need policies that have longer-term effects, such as increasing the birthrate.

In addition to a family policy, reconsideration of the inter-regional population migration has become an important policy target. Recently, population movement to urban areas—the Tokyo metropolitan area in particular—has become active again. In the 2000s, many young people from the countryside moved to the Tokyo area looking for a better education or employment opportunities. At the same time, the environment for raising children remains poor for young families in the Tokyo metropolitan area, so the birthrate in metropolitan Tokyo is the lowest in Japan. It is widely believed that young people relocating to urban areas is one factor for the low birthrate and that this could cause a further decline in the population in the future.

In present day Japan, there is a growing need for long-term policies, such as those that lend support to young families in urban areas or create employment in local regions or provide a better education in all regions. In addition, in Japan we should consider a new urban design and town planning concept called the “compact city” to address depopulation and aging in the countryside.

In this paper, various policies are discussed that address the above issues, which should lead to discussions on the relationship between population decline and national spatial planning or administrative structures.

## **1. Population Projections and Migration in Japan**

### **1.1 Upcoming Declining Population Society**

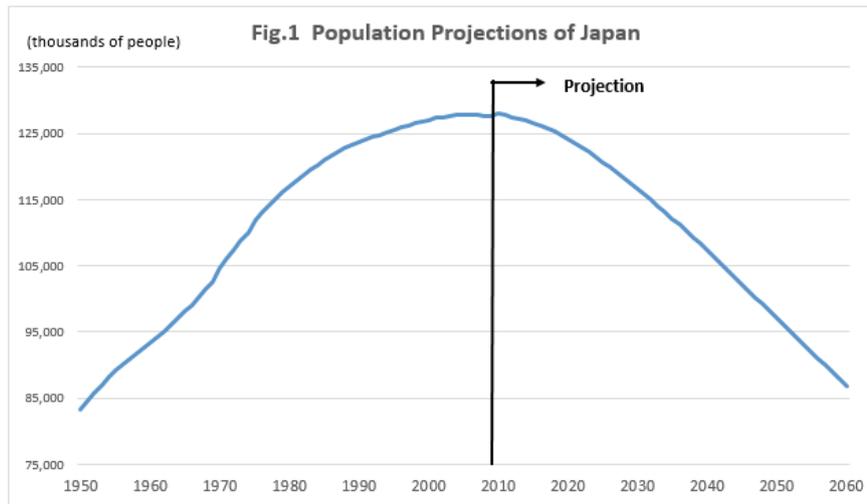
The following is a summary of this section. First is a profile of population projections and a discussion of the reasons for population decline. Second is a discussion of the change in birthrates by prefecture with a special focus on the very low rate in the Tokyo area. Third is a verification of the statistical relationship between birth levels and population density.

#### 1) Government Population Projections

In 2012, the IPSS (National Institute of Population and Social Security Research) published population projections, which were based on the national census of 2010. In 2010, the total population, including non-Japanese residents, was 128.06 million. The IPSS published the various alternative assumptions about birthrates and mortality. However, this report adopts the medium variant assumption and the corresponding results.

According to the IPSS population projections, Japan is becoming a “declining population society” and the population will continue to fall over the long term. The total population will be around 116.6 million in 2030 and 86.7 million in 2060 (see Fig. 1). In other words, Japan’s population will fall by almost 40 million over the next 50 years. Demographically, the aging ratio (defined as the total population divided by the number of people 65 years or over) will increase from 23.0% in 2010 to 39.9% in 2060.

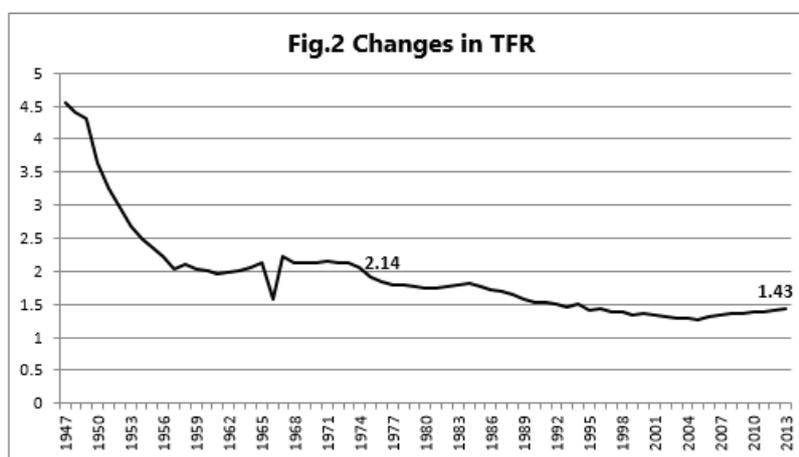
In 2013, the IPSS also published population projections by region based on their total population projections showing that the population of every prefecture will likely decrease after 2025, and that the population of Tokyo and environs [surrounding area] will start to decrease from 2015–2020.



Source: Population Projections for Japan: 2012-2060, IPSS(2012)

### 2) Declining Fertility Rate

The main cause of the population decrease is the declining fertility rate. The total fertility rate (TFR) in Japan was above 2.1 in 1973. However, along with the slowdown in economic growth, TFR began to decrease from the mid-1970s, reaching 1.43 in 2013 (see Fig. 2). The declining TFR is due to two fundamental factors. One is the change in marriage behavior of young people, and the other is the deterioration of the socio-economic environment. Among Asian countries, it is common that marriage behavior is the most important factor for determining fertility levels. The average marriage age for women continues to rise: from 24.2 years in 1970 to 29.3 years in 2013. Of course, if the birthrate rises in the future, the population will stop declining and the age structure will be stable.



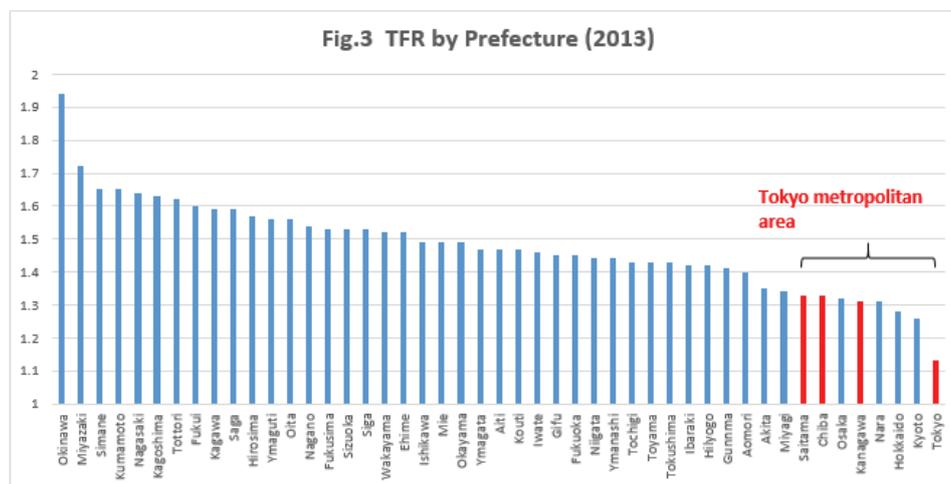
Source: Demographic Statistics, Ministry of Health, Labour, and Welfare.

### 3) Differences in TFRs by Prefecture

Philip Kotler (2000) explains the “4 Ps” marketing strategy which responds to the micro and macro environments and enhances the success of marketing plans by achievement of business objectives. Moreover, strategies implemented in the business sector must satisfy the target needs and retain good marketing communications with customers (Sareerat S., 2003).

There is a high degree of difference in TFR levels from prefecture to prefecture. (Fig. 3 shows TFRs by prefecture in 2013.) Okinawa Prefecture has the highest TFR at 1.94, and Miyazaki Prefecture has the second highest at 1.72. By contrast, Tokyo has the lowest TFR at 1.13. The four prefectures

(Tokyo, Chiba Prefecture, Kanagawa Prefecture and Saitama Prefecture) that make up the Tokyo metropolitan area share a low TFR. Given these facts, the overconcentration of young people in the Tokyo metropolitan area should affect the declining trend for TFR for all of Japan.



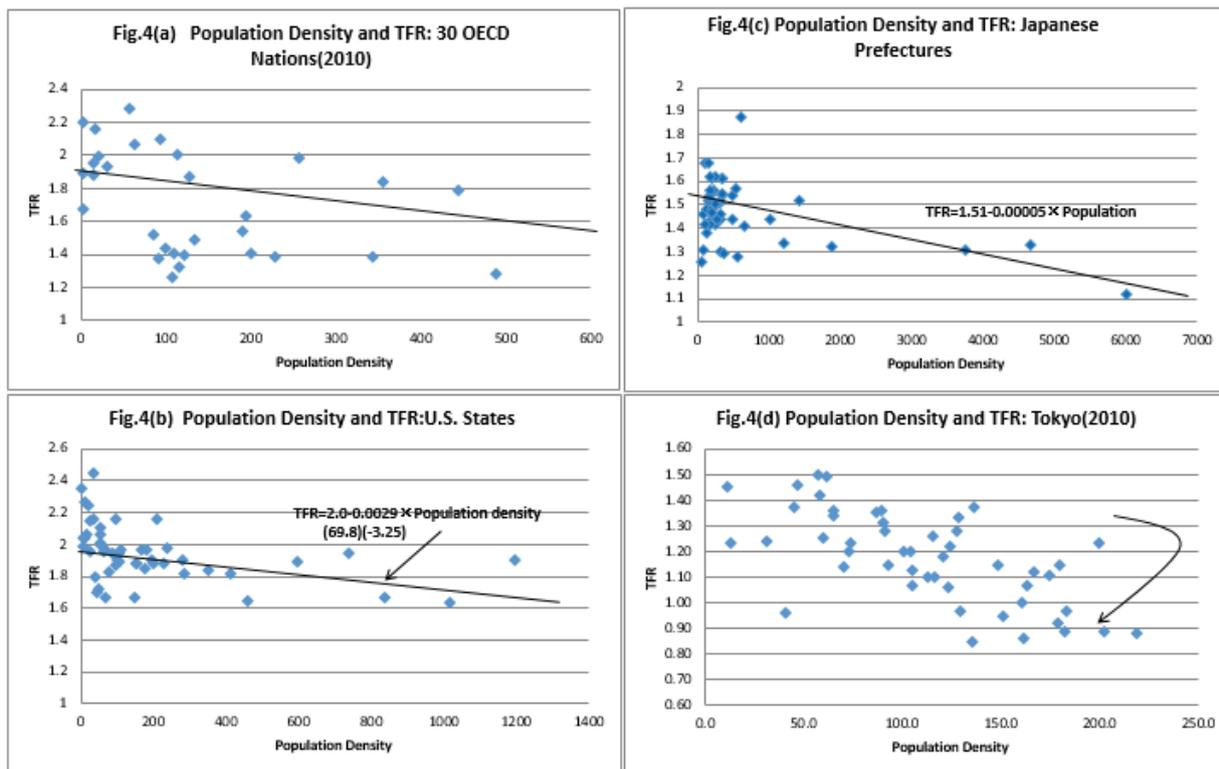
Source: Demographic Statistics, Ministry of Health, Labour, and Welfare.

Why is the TFR in metropolitan Tokyo so low? One reason is that childcare centers are not equipped to accommodate the needs of young families. For example, the number of children waiting to enter public nurseries has not decreased in recent years. Another reason is that it is difficult for women to balance childcare with work. In particular, women who live in the Tokyo metropolitan area are forced to commute long distances.

#### 4) Relationship between TFR and Population Density

Why is the birthrate low in urban areas? As described above, the economic and social environment for working women has not been firmly established in urban areas. In general, there is a tendency for low fertility in large cities or municipalities. Lutz et. al. (2006) and Testa (2004) show the negative relationship between birth rate and population density in regions or states. To determine whether there is a significant negative relationship between fertility and population density in present day Japan, data was collected from several regions and countries, including Japanese prefectures, and was analyzed using simple regression analysis.

Figures 4(a) to 4(d) demonstrate the results of this analysis. All results show a statistically significant negative relationship between fertility and population density. The data in Fig. 4(a) is from OECD countries, 4(b) is from U.S. states, 4(c) is from prefectures in Japan, and 4(d) is from municipalities in Tokyo. These results show that the concentration of people in the Tokyo metropolitan area caused by migration from local regions results in higher population densities and lower fertility, and it is possible that this population migration will bring about a further decline in fertility in Japan as a whole. (Hereafter in this paper, migration means population migration in Japanese prefectures or municipalities.)



## 1.2 Population Migration in Recent Years

### 1) Migration to Urban Areas

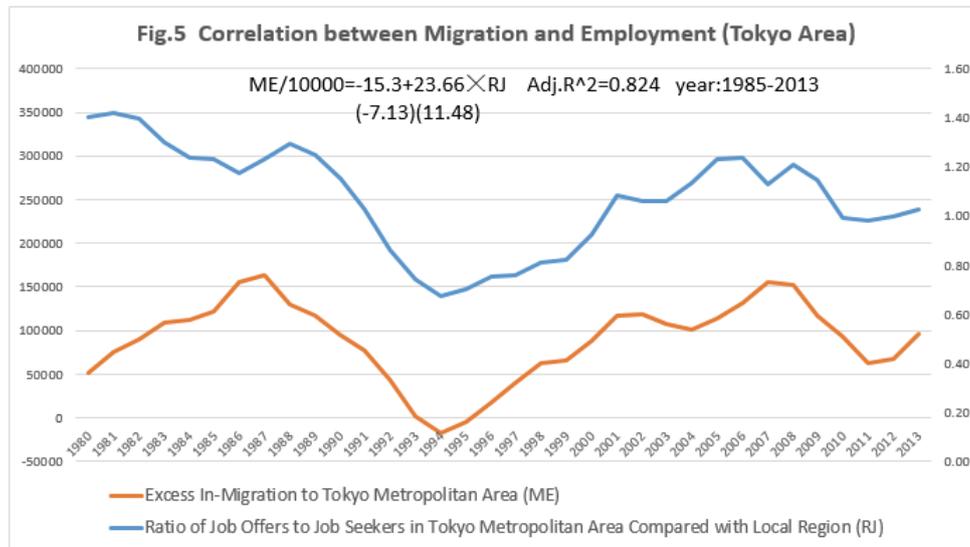
During times of high economic growth, many young people move from local areas not only to the Tokyo metropolitan area but also to the Nagoya and Osaka areas. The demand for young workers from manufacturers in urban areas has been strong and young people tend to seek better jobs in sectors other than agriculture or fishing in their local areas. When the era of high economic growth ended, population migration slowed, but an overconcentration in the Tokyo metropolitan area occurred again during the bubble economy (from the late 1980s to the early 1990s). However, with the collapse of the bubble economy, concentration in the Tokyo area slowed, with young people temporarily moving back to local areas. In the 2000s, the population migration again resumed to the Tokyo area.

The main participants in this migration in recent years have been young people, and the chief reasons for the migration are seeking better jobs and higher education. Young people have moved to the Tokyo metropolitan area because larger and better-known companies and better universities are concentrated there.

Fig. 5 shows the close relationship between job opportunities and excess migration toward the Tokyo metropolitan area. The blue line (RJ) in Fig. 5 shows the excess opportunity for employment in the Tokyo metropolitan area compared with local areas. For more clarity, the value (RJ) is defined as:

RJ = the ratio of job offers to jobseekers in the Tokyo metropolitan area / the ratio of job offers to jobseekers in other areas than the Tokyo metropolitan area.

If this value is greater than unity, there are more opportunities for employment in the Tokyo area than local areas. The orange line (ME) in Fig. 5 shows the excess numbers of in-migration to the Tokyo metropolitan area. The relationship between the two variables is calculated as:



Source: Report on Internal Migration in Japan, Ministry of Internal Affairs and Communications  
Employment Referrals for General Workers, Ministry of Health, Labour, and Welfare.

$$ME/10000 = -15.3 + 23.66 \times RJ$$

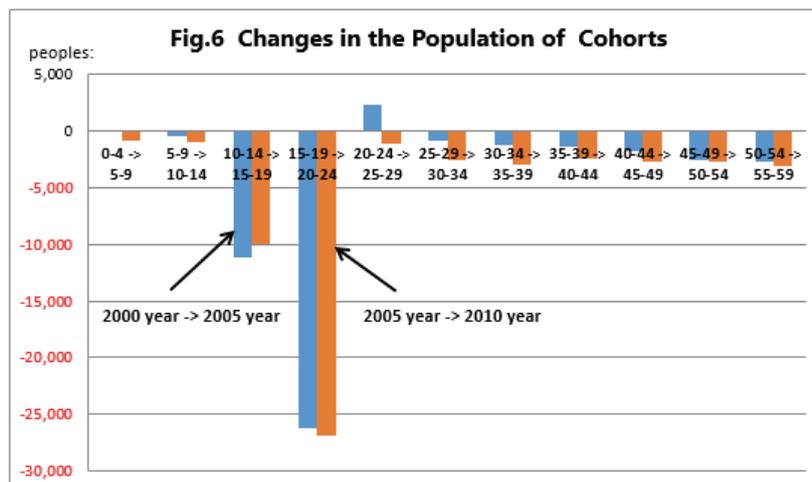
$$(-7.13)(11.48)$$

Adj.R<sup>2</sup>=0.824, estimation year: 1985–2013.

From this calculation, it is clear that the motivation for young people to migrate to the Tokyo metropolitan area is predominantly for seeking employment.

2) Migration of Young People: Example

We confirmed that the major portion of the population migration is younger people by observing changes of the population of cohorts. Fig. 6 shows the changes in the population of cohorts in Fukushima Prefecture from 2000 to 2005 and from 2005 to 2010. We also determined that the migration from Fukushima Prefecture (the prefecture most affected by the Great East Japan Earthquake) to urban areas resulted in a decrease in the number of young cohorts because cohorts in the 10–14 and 15–19 age brackets in 2000 decreased in 2005 (they became 15–19 years old or 20–24 years old in 2005), and cohorts in those same age brackets in 2005 also decreased in 2010. Note that the Great East Japan Earthquake, which occurred in 2011, did not significantly impact this migration.



Source: Population Census, Statistics Bureau, Ministry of Internal Affairs and Communications

## 2. Logic of the “Pole Society” and Population Projections

### 2.1 Logic of the “Pole Society”

A “pole society” is one where people live intensively in large cities, such as the Tokyo metropolitan area, and where regional areas are simultaneously depopulated by migration. As a result, the total population, in this case in Japan, continues to decline without letting up. More concretely, the Tokyo metropolitan area attracts people from rural areas, creating a more concentrated city. Further, as mentioned above, Tokyo is not a good environment for childrearing and the birthrate in Tokyo is the lowest among all prefectures in Japan. Consequently, Tokyo will simultaneously have a more significant portion of young people and will face increased difficulties for reproduction. This is the logic of the pole society, as shown in Fig. 7.

Japan should prevent the pole society from becoming a reality. In addition, at the same time we must strengthen policies that help to raise the birthrate in Japan as a whole. In particular in Tokyo, there is a definite need to improve the environment for childrearing.

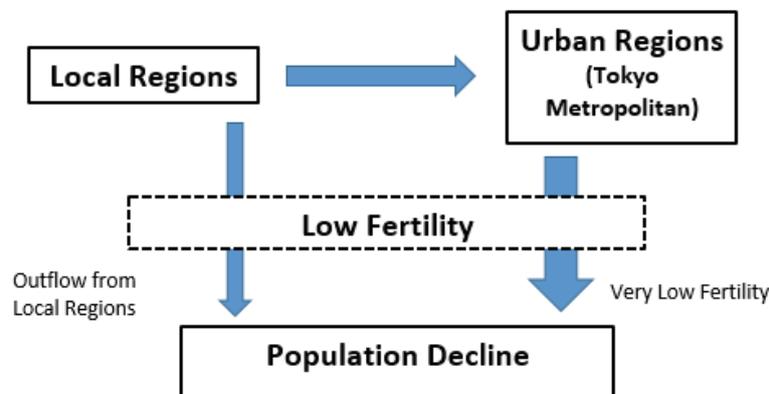


Fig.7 Causes of Population Decline in Japan

### 2.2 “Vanishing” Municipalities

As mentioned above, the IPSS published population projections by region, but these projections were based on assumptions of population movement. In the 2000s, the population migration has been gradually decreasing, and the IPSS assumed that this tendency would continue in the 2010s and converge at half the level of the 2000s in the future. However, in the past few years, the tendency for population migration has been reversed (it is now increasing), so the assumptions made by the IPSS are in doubt.

The Japan Policy Council (JPC), a private think tank, published its own population projections by region this past May (2014), which assumed that the population migration in Japan will continue at the same level as the 2000s. The author is a member of the Japan Policy Council and we discussed the validity of assumptions for population migration. We concluded that our assumptions are more realistic than the ones from the IPSS.

According to projections by the Japan Policy Council, 896 municipalities will “vanish,” or be dramatically less populated, in the near future because of the outflow of people and the declining birthrate. Many municipalities are projected to “vanish” in the Tohoku and Kyushu regions. We define “vanishing” of a municipality as a decrease in population of women aged 20–39 years old by half by 2040. When the young women's population is reduced by half, it will be difficult to maintain the population into the next generation, even if the birthrate increases later on.

The phrase “vanishing municipalities” in our report created a sensation in Japan, drawing attention from Prime Minister Abe’s Cabinet and their policymaking for “local creation” (reviving local economies). The 896 municipalities that are projected to “vanish” account for 49.8% of all municipalities. In addition, 619 municipalities, or 34.4% of the total, will see the population of young women drop by 30–50% by 2040. These results are shocking when compared with the projected results by the IPSS (see Fig. 8).

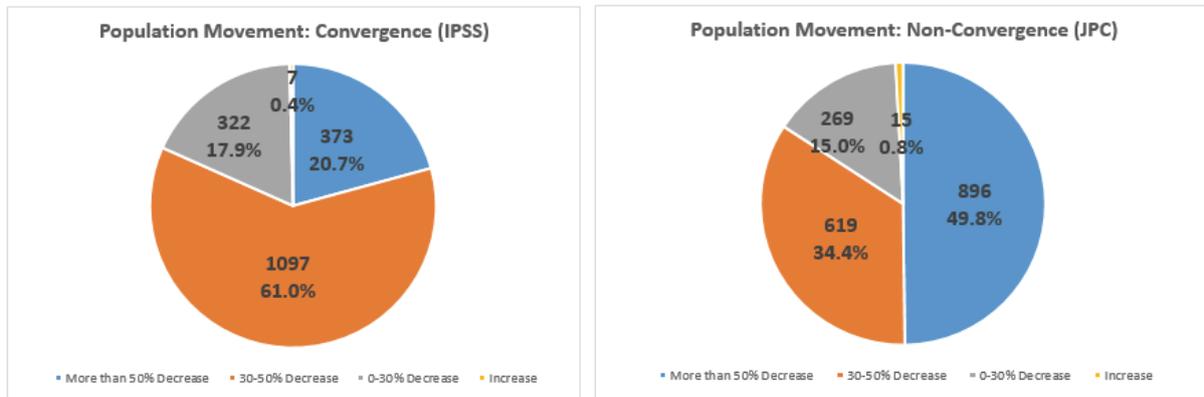
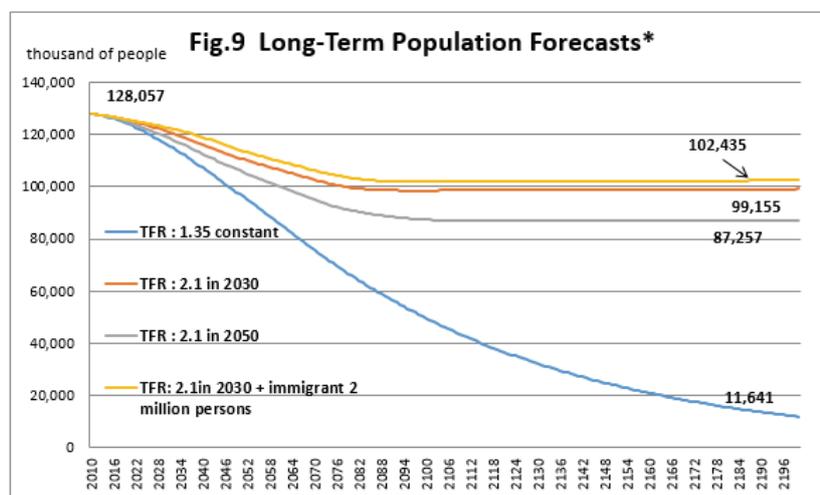


Fig.8 "Vanishing" Municipalities and Population Projections by Region

### 2.3 Improving Birthrates and Alternate Population Projections

Rural municipalities are “vanishing” because of the declining birthrate and the population migration of the young to urban areas. The Japan Policy Council calculated an alternate population projection based on the assumption that fertility rate will improve in the future. The Japan Policy Council showed that the desired total fertility rate was 1.8, which allows married couples to have their desired number of children. In addition, we also propose that it is necessary to reach a TFR of 2.1 over the long run to maintain a stable total population.

Fig. 9 shows the results of a simulation for the future population assuming that the TFR will rise from 1.43 to 2.1, the replacement level of the population. If the TFR does improve to 2.1 by 2030, then the population will be maintained at 99.2 million over the long term. However, if the TFR continues at 1.35, which is the assumption of the IPSS (2012), then the population will continue to decrease, becoming only 11.6 million in 2200.



\*Calculated by the author

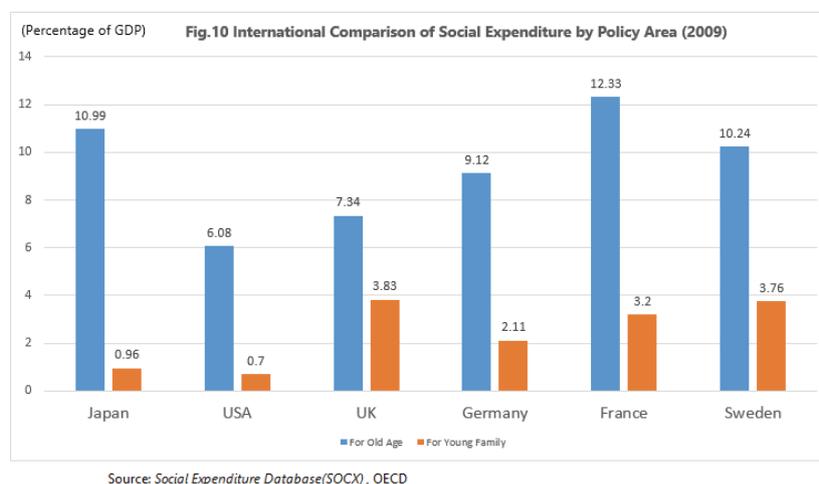
### 3. Policies for Counteracting Low Fertility and Revitalization Strategy for Local Region

#### 3.1 Overconcentration in the Tokyo Metropolitan Area

How do we evaluate the overconcentration of people in the Tokyo metropolitan area? The Olympic Games will be held in Tokyo in 2020, and it is predicted that more young people will head to the Tokyo area seeking jobs related to the Olympic Games.

We should have a positive assessment of the scale and the economic benefits of the Olympic Games. The Tokyo metropolitan area has substantially contributed to the economy of Japan for a long time. If we simply prevented people from concentrating in the Tokyo area, we could weaken the economy, which the Tokyo area has been leading. Therefore, the desired policies for addressing the concentration of people in the Tokyo metropolitan area should improve and increase support systems for young families living in the Tokyo area as well as further develop Tokyo as a more international city. The Olympic Games will be a good opportunity for developing the infrastructure and enhancing international trade. However, it is possible that preparations for the Olympic Games will worsen the environment for having children by accelerating congestion. In addition, we should prepare for a possible economic recession after the Olympic Games.

The key point for any policy that addresses overconcentration in the Tokyo area is that the policy should not weaken the beneficial effect of Tokyo's economic performance but rather that it strengthens the economy and improves center cities in local areas. At the same time, it is necessary to introduce more resources that support the environment for having children. Japan's government expenditure for social programs for young families is low compared with other OECD nations (see Fig. 10). Japan's social expenditure for young families is 0.96% of GDP, substantially less than Sweden, France, or Germany.



We have confirmed that there is close relationship between social expenditure for young families and TFR. Fig. 11 shows that more spending, such as transfer payments or creating daycare centers for children, has resulted in higher TFR in 28 OECD nations. This relationship is statistically significant. The equation used is:

$$TFR = 1.197 + 0.168 * \text{Social Expenditure for Young Families}$$

(9.24) (3.85)

R<sup>2</sup>=0.36, Number of Observations: 28.

Policies for increasing the birthrate are similar between urban and local areas. If Tokyo has the lowest TFR because of low social spending for young families, then the Tokyo Metropolitan Government should enrich the family policy to raise the TFR.



### 3.2 Strategies for “New Creation” in Local Areas

To prevent overconcentration and excessive migration to the Tokyo metropolitan area, it is important to bolster the economic scale of local center cities and to integrate administrative functions within those cities. In a society where the population keeps declining, it is not possible to allocate resources equally to all municipalities. Given the financial constraints, and from the point of view of administrative efficiency, there is a need to further promote the aggregation of economic and social resources into central cities. This does not mean the simple merger of municipalities. After 2000, sometimes called the “big merger in the Heisei era,” many municipalities were absorbed by larger ones. As a result, the number of municipalities (around 3,200 in 2000), fell to approximately 1,700 municipalities (today). However, this merger was only expansion on a plane, meaning that it was an aggregation of administrative functions, not a true integration.

For the essential policy direction, it is necessary to invest intensively in local center cities, to provide high-quality employment and education for young people, and to promote the settlement of young people by bringing together commercial and cultural facilities in local center cities. The key phrase here is bringing together. For the local center cities, several government ministries have proposed concepts and plans, so it will be necessary to unify these concepts.

For municipalities surrounding the local center cities, it will be indispensable to promote the concept of a “compact city” and to build a transportation network that connects them with center cities. It is vital to promote the idea of compactness for small or medium-sized cities in local areas; the “compact city” concept would be more efficient and better able to maximize economic resources than the status quo. There are many problems and challenges for the “compact city,” but it is a concept that makes the social life of older people more convenient and safer.

## Conclusions

The declining population in Japan has caused a mushrooming of the population in the Tokyo metropolitan area and a decline in local areas. To avoid a population crisis, it will be necessary to concentrate economic and social investment in local center cities, and at the same time, it is important to give young families who live in the Tokyo area more support for childrearing and work-life balance.

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