

Spatial government systems of newly merged municipalities and population changes within municipalities impacted by those government systems: under a national pro-merger policy of municipalities in post-growth societies

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Spatial government systems of newly merged municipalities and population changes within municipalities impacted by those government systems: under a national pro-merger policy of municipalities in post-growth societies

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Abstract:

Between 1999 and 2010, Japan's national government encouraged a pro-merger policy of municipalities, called Heisei pro-merger policy, to explore new shapes of municipal governance in her post-growth society. As a result, the number of municipalities in Japan decreased from 3,221 to 1,727. New and much larger municipalities emerged even in the rural and mountainous areas of peripheral regions. These newly established municipalities chose their own systems from three spatial government systems: a traditional centralized headquarters system, a comprehensive branch system, and a multi-locational headquarters system. This study analyzes the adoption and the reformation of the three spatial government systems and discusses the changing intra-area systems from the viewpoint of municipal amalgamation in Japan.

I selected 557 municipalities, which were newly established between 1999 and 2006, and identified their three spatial government systems two times: at their birth and again in 2010. Then I examined the transformations among the three systems of each municipality and analyzed the areal population changes between 2000 and 2010 within them from the viewpoint of the three spatial government systems.

The following are my findings: At the birth of these new municipalities, even though half of them adopted comprehensive branch systems, many changed to centralized headquarters systems in 2010 for more efficient operation at the cost of the provision levels of public services for the peripheral areas. A large impact due to the allocation of government facilities emerged in the expanding intra-area differences in population changes within municipalities, especially the large intra-area differences between the headquarters and branch areas as well as between the large and small branch areas related to the three spatially organized government systems.

Keywords: Heisei pro-merger policy of municipalities, intra-area difference, spatial government system, post-growth society

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1. Pro-merger policy of municipalities and intra-area systems within newly merged municipalities

In any country, pro-merger action by the national government has changed the style of municipal politics and public services and geographically altered the intra-area systems within municipalities. The Japanese national government conducted a pro-merger policy of municipalities, called the Heisei pro-merger policy of municipalities, between April 1, 1999 and March 31, 2010 which was the third such nationwide attempt following Meiji pro-merger policy in the 1880s and Showa pro-merger policy in the 1950s¹⁾. This policy explored new shapes of municipal governance, responding to Japan's transformation into a post-growth society.

The purposes of this pro-merger policy included the following: 1) a decentralizing shift of some administrative authority from national to local (prefectural and municipal) governments; 2) a corresponding change in the spatial expansion of people's daily activities; and 3) ameliorating the financial conditions of the national and local governments. During this 11-year period, the number of municipalities in Japan decreased from 3,221 to 1,727. In all, 60.9% of municipalities in Japan were involved in the amalgamations. Those municipal amalgamations happened in all of the regions except the two largest major metropolitan areas of Tokyo and Osaka²⁾.

Seeking large-scale action of municipal mergers, Japan's national government proposed to prefectural and municipal governments two types of policies: generous and harsh. It established various generous policies, such as the Special Merger Bond for the new projects for development of newly merged municipalities and the new special and temporary measures toward merged municipal assemblies related to the number of the seats and the terms of members. Moreover, the National Diet and the national government temporarily eased the requirements to become a legally recognized city.

On the other hand, since 2003, under the strong leadership of Prime Minister Koizumi, the national government conducted a series of reformation policies called the Trinity Reforms to improve the financial conditions of the national government and to reorganize the local political systems by reducing subsidiaries and decentralizing political authority to local governments. The Trinity Reforms urged municipal governments to participate in this pro-merger action of municipalities.

The results of this Heisei pro-merger policy had quite different characteristics than those of the previous two pro-merger actions: 1) Extremely large municipalities emerged which transcended the boundaries of the people's daily activities. 22 new municipalities over 1,000 km² areas were established. 2) Based on the negative experiences of the two earlier national pro-mergers, as

mentioned below, the national government proposed three spatial systems of municipalities. The newly established municipalities were provided choices among a centralized headquarters system, a comprehensive branch system, or a multi-locational headquarters system. In Japan, especially in its peripheral regions, the allocation of the headquarters of municipal governments determines the frameworks of intra-area systems within municipalities. In the previous two pro-merger actions of municipalities, the former central areas, which lost municipal headquarters, declined drastically, and the intra-area systems greatly changed after the mergers (Tsutsumi, M 1971).

After the latest pro-merger policy, various problems were pointed out by the mass media, researchers, and the local residents. Even in the 2010 formal report on it by the Ministry of Internal Affairs, the expanding intra-differences in various sectors between the central and peripheral areas within municipalities were considered the most serious. The peripheral areas suffered from declining populations and economies, reduced levels of public services, and lost opportunities for the political commitment of local citizens. The local residents had to accept fewer seats in the new municipal assembly and a smaller branch office, rather than their own previous assembly and municipal headquarters.

Taking these into consideration, I established three research questions that focused on the outcomes of Heisei pro-merger policy: 1) What spatial government system did the newly merged municipalities select at the start of their new governance? 2) How did the municipalities later reform their spatial government systems based to change their governance? 3) How largely did the adopted spatial government systems impact the emergence of intra-differences within municipalities?

I used the above three spatial government systems as my study's focus and adopted the changing population patterns of each former municipality as an index for intra-area differences. I selected all 557 newly merged municipalities between April 1, 1999 and March 31, 2006 in the first half step of the national pro-merger policies of municipalities. This study analyzes the adoption and reformation of the three spatial government systems and the changes of the intra-area systems from the viewpoint of municipal amalgamation in Japan, except for the two largest metropolitan regions because such amalgamation has not occurred in those urbanized areas.

2. Three spatial government systems and their classification criteria

As mentioned above, in Japan's previous two periods that promoted municipal amalgamations, the former central areas, which lost municipal headquarters, declined drastically after the mergers³⁾. Before the start of Heisei pro-merger policy, the national government provided the following three spatial government systems to the merging municipalities. However, there are no well-established

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definitions. A temporary definition used by the Ministry of Internal Affairs is mentioned below.

(1) Centralized headquarters system (Fig. 1):

Basically, all of the administrative organizations of a municipality⁴⁾ (municipal assembly, mayoral departments, and administrative boards) are deployed in a single facility. All the mayoral departments are located in a headquarters (a central city office), and the small branches delivering primary services (or minimum-level services) to local residents are dispersed to each of the former municipalities. This system is expected to deliver relatively small government operating at a high level of efficiency. This enhanced a one-nuclear type of intra-area system⁵⁾.

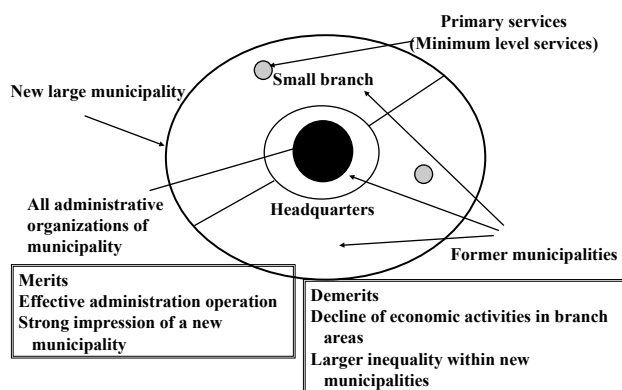


Fig. 1 Centralized headquarters system

(2) Comprehensive branch system (Fig. 2):

All the administrative organizations of a municipality are geographically allocated in a single facility, the same as in system (1). The functions of the headquarters are characterized as the controlling and coordinating operations of the entire municipality. The branches are functionally different from those in system (1) and have almost the same functions as before the merger and are called comprehensive branches. Originally, the branches located in the territory of each former municipality shared some decision-making powers with the headquarters. These branches have the right authority to make decisions about their own projects within their own territories within pre-planned budget limits. Such a system might encourage a multi-nuclei type of intra-area systems.

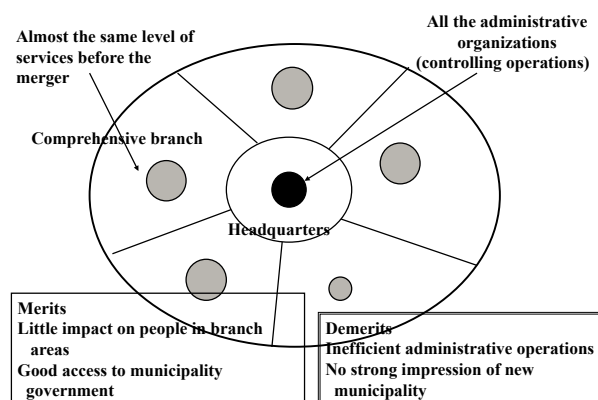


Fig. 2 Comprehensive branch system

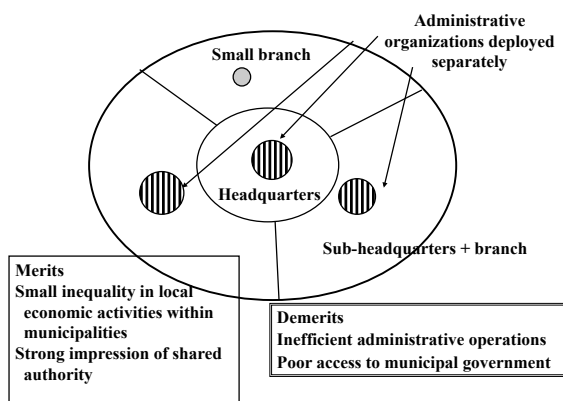


Fig. 3 Multi-locational headquarters system

(3) Multi-locational headquarter system (Fig. 3):

The former municipalities share all of the municipal government’s mayoral departments, as well as the municipal assembly and the administrative boards, within the new municipality. In this system two or more departments are allocated to some of the former municipal offices as sub-headquarters⁶⁾. This unique multi-locational headquarters system might maintain a multi-nuclei type of an intra-area system.

Both the comprehensive branch and multi-locational headquarters systems arose after learning from the history of the mergers in the 1880s and the 1950s. Although these systems are far less efficient, for the operation of municipal governments and the reduction of municipal budgets, both prevent the emergence of large inequalities within municipalities at the provision level of public services and encourage local involvement in municipal politics. Consequently, local citizens are likely to have good feelings about their new municipal governments.

I established operational classification criteria for the three government systems, which are slightly different from the definitions of the Ministry of Internal Affairs (Fig. 4). First, I examined

only the allocation of mayoral departments and excluded municipal assemblies and administrative boards. Because they were independent from the mayors and basically operated independently regardless of their proximity to mayoral offices. Second, I identified the municipalities of the multi-locational headquarters system among all municipalities when two and

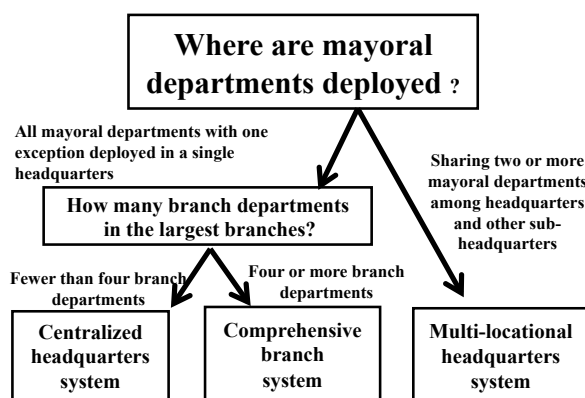


Fig. 4 Classification criteria of three spatial government systems

more mayoral departments were deployed at other facilities (sub-headquarters). Third, I classified all of the other municipalities into those of the centralized headquarters system with fewer than four branch divisions within the largest branches or those of the comprehensive branch systems with four or more branch divisions within the largest branches⁷⁾.

Based on my criteria, I classified 557 municipalities at both the start of the new municipalities and 2010 into three spatial government systems, based on the documents of the administrative organizations of their municipal governments. I got these documents through face-to-face interviews, postal questionnaire research, by telephone, or municipality websites.

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3. Shares and reformations of the three spatial government systems between start of new municipalities and in 2010 and the geographical determinants of their government systems

3.1 Start of new municipalities

At the start of the 557 new municipalities, 161 (28.9%) adopted the centralized headquarters system, 250 (44.9%) selected the comprehensive branch system, and 146 (25.1%) chose the multi-locational headquarters system (Table 1). The share of the comprehensive branch system was the largest because the new municipalities most likely adopted policies that supported the people in the peripheral areas. Even though the multi-locational system was inefficient, it was adopted by one fourth of the municipalities. In this system, people can share the important administrative functions of the new municipality, regardless of where they live in their municipalities.

At the time of the mergers, the geographical background and the local political characteristics are crucial in the selection of post-merger government systems. I selected six factors to examine the relationships among the three systems and those characteristics: 1) amalgamation type⁸⁾ (equal or absorbed), 2)

Table 1 Municipalities of three spatial government systems and amalgamation characteristics

	Number of Municipalities	Amalgamation type		Region type	
		Equal amalgamation	Absorbed amalgamation	Urban region type	Rural region type
At start of new municipalities					
Centralized headquarters system	161	109	52	80	81
Comprehensive branch system	250	193	57	170	80
Multi-locational headquarters system	146	141	5	27	119
In 2010					
Centralized headquarters system	303	223	80	166	137
Comprehensive branch system	112	80	32	85	27
Multi-locational headquarters system	142	140	2	26	116
Total	557	443	114	277	280

region type (urban or rural), 3) population, 4) area, 5) number of former municipalities amalgamated

into each new municipality, 6) and number of urbanized areas⁹⁾ within the new municipalities (Tables 1 and 2).

Table 2 Averages of geographical data of newly merged municipalities by three spatial government systems

	Number of municipalities	Population	Area (km ²)	Number of former municipalities	Number of urbanized areas*
At the start of new municipalities					
Centralized headquarters system	161	87,387	285.9	3.09	1.04
Comprehensive branch system	250	121,399	476.0	4.06	1.18
Multi-locational headquarters system	146	42,696	224.1	3.14	0.46
Total	557	90,938	355.0	3.54	0.95
In 2010					
Centralized headquarters system	303	75,165	347.7	3.32	0.87
Comprehensive branch system	112	192,061	525.0	4.52	1.75
Multi-locational headquarters system	142	44,836	236.6	3.22	0.48
Total	557	90,938	355.0	3.54	0.95

Data: 2000 Population Census

Note: Urbanized areas* are *Densely Inhabited Districts* from 2000 Population Census.

As the amalgamation type, 443 of 557 municipalities selected equal amalgamation (Table 1). The agenda tasks

required for equal amalgamation are more likely to be completed successfully because equal amalgamation provides equality among the participants. Actually, 334 of those 443 municipalities adopted the comprehensive branch and multi-locational headquarters systems. The reason why a large part of 443 municipalities adopted these two systems is that the concept of equal amalgamation is consistent with those of the two systems.

I classified the region type of the new municipalities, which include at least one central city as well as a number of towns and villages, as the urban region type. On the other hand, municipalities that include former towns and villages without former cities are the rural region type. The municipalities of the urban region type generally chose the comprehensive branch system. 170 of the 277 municipalities of the urban region type selected the comprehensive branch system. 118 of the 270 municipalities of the rural regional type adopted the multi-locational headquarters system. In other words, 70% of the municipalities of the comprehensive branch system were the urban region type, and 80% of the multi-locational headquarters systems were the rural region type. The municipalities of the centralized headquarters system have almost the same rate of both urban and rural region types.

The averages of the population and the areas of the new municipalities by the three spatial government systems are also captured in Table 2. The centralized and multi-locational headquarters systems were more likely to have been adopted in new municipalities with smaller areas. Considering the regional type of new municipalities, municipalities adopting the centralized headquarters system (population: 87,387, area: 285.9 km²) generally had much larger populations than those adopting the multi-locational headquarters system (population: 42,696, area: 224.1 km²), because they inherited central cities with large populations. New municipalities with larger populations and especially larger areas, however, tended to prefer the comprehensive branch system (population: 121,399, area: 476.0 km²). From the viewpoint of spatially large municipalities, 51 of the

67 municipalities with areas of 700 km² or more adopted comprehensive branch systems (Table 3).

From the viewpoint

of single nuclear or multi-nuclei of areal systems, the average number of the urbanized areas of the central headquarters system was almost one (0.87.) Consequently, the municipalities in a single urbanized area were likely to choose centralized headquarters. The municipalities with a couple of

Table 3 Relationships among three spatial government systems and areas of municipalities

	Total	Under 50	50 -	100 -	300 -	500 -	700 -	1000 -
At the start of new municipalities								
Centralized headquarters system	160	3	19	83	32	13	10	0
Comprehensive branch system	250	2	8	89	54	46	33	18
Multi-locational headquarters system	147	12	27	71	22	9	5	1
In 2010								
Centralized headquarters system	303	5	29	141	60	32	29	7
Comprehensive branch system	112	1	2	31	27	26	16	9
Multi-locational headquarters system	142	11	23	71	21	10	3	3
Total	557	17	54	243	108	68	48	19

(km²)

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urbanized areas were likely to select the comprehensive branch system because its average exceeds one (1.48.) However, the multi-locational headquarters system was adopted by municipalities without urbanized areas (0.46) as well as by the rural region type.

Furthermore, I examined the geographical background factors of the adoptions of the three government systems using a kind of discriminant analysis, specifically Hayashi's discriminant analysis¹⁰. The dependent variable was the three spatial government systems, and the independent variables were the region type of the newly merged municipalities, the population class, the area class, the number of former municipalities, and the number of urbanized areas.

According to the results, the ratio of correct discriminations was 55.5%. The municipalities of the comprehensive branch system were identified by six geographical background factors at 69.7% accuracy. In other words, discrimination between the municipalities of the centralized headquarters system and those of the multi-locational headquarters system was very difficult, because the municipalities of these two spatial government systems had similar geographical features, such population and area.

Among the independent variables, those with strong explanatory power (in descending order) were the area class (range: 2.831), the population class (range: 0.957), and the region type (range: 0.924). Based on the low ratio of correct discrimination, except for geographical background, I can easily imagine other strong factors, such as the type of amalgamation, the attitudes of local people, the personal concepts of government systems of mayors, and the capacity of the buildings designated as headquarters' facilities.

3.2 Reformation of spatial government systems from the birth of new municipalities to 2010

In the same way, I identified the three spatial governmental systems of the 557 municipalities in 2010 and tabulated the transformations of each one in that period (Table 4). Note that their individual periods from their birth to 2010 varied from four to 11 years.

In 2010, the spatial government system with the largest share was the

Table 4 Transformation among three spatial government systems in 557 municipalities

At start of new municipalities	Total	In 2010		
		Centralized	Comprehensive	Multi-locational
Centralized headquarters system	161	154	3	4
Comprehensive branch system	250	131	109	10
Multi-locational headquarters system	146	18	0	128
Total	557	303	112	142

centralized headquarters system (municipalities: 303, share: 54%.) The multi-locational headquarters system was second (142, 26%) and comprehensive branch system was third (112, 20%.)

As shown in Table 4, among the 250 municipalities of the comprehensive branch system at their start, 131 changed to the centralized headquarters system to reduce their size and the functions of their branches. They decreased their branches to fewer than four divisions. According to my interviews with the officials of several merged municipalities, some had reformation plans in their formal agreements with a couple of stages (three and five years after their start) before their mergers. In spite of its operational inefficiency¹¹⁾, almost all the municipalities of the multi-locational headquarters system kept the same system in 2010. This suggests that sharing municipal government authorities is a critical areal framework of small and rural municipalities.

I repeated the same analysis on the relationships of the three spatial government systems and their municipal characteristics in 2010 (Tables 1 and 2). These relationships drastically changed. Among 443 municipalities of equal amalgamation, the number of municipalities of the comprehensive branch system drastically decreased to 80. Shown in Table 3, in 2010, even the municipalities of larger area classes were likely to adopt the centralized headquarters system. Among 67 municipalities whose areas exceeded 700 km², 35 adopted the centralized headquarters system and only 25 retained the comprehensive branch system (Table 3). Based on my interviews with the officials of several of those municipalities, this change reflected the cost of politically intra-autonomous systems and good public services for the local people in the merged and peripheral areas.

I also repeated Hayashi's discriminant analysis on the data in 2010. According to the result, the ratio of correct discrimination decreased to 49.6%. The most powerful explanatory variable was population class (range: 2.555), and the second was area class (range: 1.793). These results show the decrement of the total explanatory power and the decline of the importance of the area class for selecting a spatial government system. In other words, the municipalities were more likely to attach importance to factors other than the geographical background factors, with the exception of population class, for their selection of government systems.

I conducted an additional analysis on the allocation of the branch divisions of the 316 municipalities whose special detailed data were provided by their administrative organizations. The averaged number of branch divisions deployed at each branch decreased from 3.9 immediately at their start to 2.2 by 2010. The averages of the municipalities of the comprehensive branch system also decreased from 5.6 to 4.8. This phenomenon illustrates that even municipalities that kept the comprehensive branch systems reduced the size and the functions of their branches.

4. Impact on intra-area differences in population changes by allocations of headquarters/branches and branch types related to three spatial government systems

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In this section, I examine the impact on the intra-area differences in the population changes caused by the allocation of the three spatial government systems. I chose population changes among various areal characteristic variables as an index of the intra-area differences because the population changes were a basic indicator of areal development and decline. I easily obtained the census data of 2000 and 2010 on the former municipal units of 2000 from the National Statistical Bureau.

The following were the procedures of this analysis. First, I concentrated on the 58 municipalities in the Tokai region, which is in a geographically central part of Japan. It contains one of the country's three major metropolitan regions (Nagoya) and one major manufacturing region as well as mountainous and depopulated regions. Therefore, the Tokai region is a typical example for municipal amalgamation studies. Second, I calculated the population change rates and the change rates of the population shares within municipalities between 2000 and 2010 by the allocation of headquarters/branches and branch types related to the three spatial government systems.

Before analyzing the population changes, I confirmed the municipalities' adoptions of the three spatial government systems in the Tokai region. The following are the numbers of the municipalities of the three systems in 2010: centralized headquarters system, 34, comprehensive branch system, 8, and multi-locational headquarters system, 16.

Table 5 shows the population change rates between 2000 and 2010 of the municipalities that were separated into 58 former municipalities with headquarters (headquarters areas) and 150 former municipalities with branches (branch areas). Their

Table 5 Averages of population change rates by former municipalities between 2000 and 2010

	Areas	Population changes	
	2010	Change rate	Shared change rate
Headquarters areas	58	-2.0%	101.2%
Centralized headquarters system	34	-2.1%	101.6%
Comprehensive branch system	8	-2.4%	101.4%
Multi-locational headquarters system	16	-1.8%	100.4%
Branch areas	150	-7.8%	94.8%
Centralized headquarters system	81	-9.4%	94.1%
Comprehensive branch system			
- Large branch	17	-2.7%	98.6%
Comprehensive branch system			
- Small branch*	30	-10.1%	91.4%
Sub Headquarters	22	-2.7%	99.3%

Note: * contains small branch without mayoral department in the multi-locational headquarters system.

Data: 2000 and 2010 Population Census.

complete averaged population changes indicated minus values. However, there were quite large intra-differences between the headquarters areas (-2.0%) and the branch areas (-7.8%) by the

former municipalities.

Discussing the details by the three spatial government systems, the rates of the headquarters areas varied from -1.8% in the multi-locational headquarters system, to -2.1% in the centralized headquarters system, to -2.4% in the comprehensive branch systems and were almost the same among the three systems.

On the contrary, I found large differences among the branch areas by the three systems. Strictly speaking, even in the comprehensive branch systems, there were two types of branches: large branches with four or more branch divisions and small branches with fewer than four divisions. In the multi-locational headquarters systems, there are also two types of branches. The first type has branches with one or more mayoral departments, sub-headquarters, and the second type only has branches without mayoral departments and fewer than four branch divisions. In Table 5, the second type of branches of the multi-locational headquarters system was tabulated operationally into comprehensive and small branches. Among the four types, there were large differences in the population change rates from -2.7% to -10.1%. Consequently, the four types of branches were classified into two groups: with small population decreasing rates that consisted of large comprehensive branches and the sub-headquarters. These branches shared larger parts of the municipal governments than the branches of the centralized headquarters system and the small branches of the comprehensive branch systems. In other words, larger branches of municipal government show smaller decrements in their populations.

When investigating the changing rates of the areas' population shares, I got almost the same results on the intra-differences of the population changes. Even under all situations where the populations decreased, the population shares of the headquarters areas only increased slightly. On the other hand, the shares of the areas of all the branch types decreased. In terms of the changing rates of the population shares, the four types of branches were also classified into two groups. The large comprehensive branches and the sub-headquarters experienced very small losses in their shares. The areas of the branches of the centralized headquarters system and the small branches of the comprehensive branch systems also lost large shares.

As mentioned above, perhaps the allocations of the headquarters/branches and the types of branches related to the three government systems had strong relationships with the situations of the population changes. However, I could not accurately separate the impacts of the allocations of facilities related to the spatial government systems from other factors. Therefore, a strict examination must be continued, for example, using multi-regression analysis with independent variables of other regional characteristics and a comparison analysis on the population changes between merged and non-merged municipalities.

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5. Concluding remarks

In the Heisei pro-merger policy, many newly established municipalities adopted not a centralized headquarters system but comprehensive branch and multi-locational headquarters systems to avoid negative impact on their peripheral areas that were caused by municipal amalgamation. Based on my interviews with about 25 municipalities from all over Japan, the latter two systems perhaps did not provide quite the same levels of public services but did meet the general expectations of the local citizens and eased their anxieties about the amalgamations.

However, almost all of the municipalities reduced their branches at the cost of the provision levels of public services in the peripheral areas. Seeking highly efficient management of their governments, half of the municipalities of the comprehensive branch system at the birth of the new municipalities reorganized them into centralized headquarters systems. As a result, especially in peripheral areas, the provision level of public services decreased and the local citizens were probably discouraged from getting involved in municipal politics.

During negotiations for new municipalities before the amalgamations, crucial decisions included where to locate headquarters within municipalities and what types of branches to deploy in the peripheral areas. After the allocation of government facilities, quite large intra-differences emerged within municipalities, due to the allocation of headquarters/branches and branch types related to the three government systems. However, I cannot conclude that all of the intra-differences within the municipalities were caused by the spatial government systems. Strong geographical factors other than the allocation of municipal government facilities might have influenced the emergence of large intra-area differences. Various municipal government facilities were deployed based on the area-related importance of population, economic activities, etc.

Through my analysis, I found serious population decrements in the branch areas after the municipal amalgamations. We should look for ways to provide local people with an adequate quality of life in the branch areas of post-growth societies. One possible way might be a relocation plan of people from scattered and small settlements into places adjacent to such public service facilities as municipal branch offices, hospitals, post offices, and primary schools (Pacione 2012).

Notes:

- 1) Up to the present, the Japanese national government has implemented nationwide pro-merger actions of municipalities during periods of change. The Meiji pro-merger policy promoted the establishment of a municipal office with a municipal assembly in the modernization process of local administration after the Meiji Restoration (1868). The Showa pro-merger policy aimed at

- the reorganization of municipalities in order to provide full-fledged public services as well as the establishment of new middle schools for compulsory education after World War II (1941-45).
- 2) The prefectural percentage of municipalities that joined the amalgamations varied from 4.5% (Osaka Prefecture), 5.0% (Tokyo Prefecture), and 8.1% (Kanagawa Prefecture) at the lowest, to 97.1% (Ehime Prefecture), 93.0% (Hiroshima Prefecture), and 89.8% (Shimane Prefecture) at the highest. Osaka, Tokyo, and Kanagawa Prefectures contain Japan's two largest metropolitan regions. Almost all of the municipalities in these urbanized prefectures had no real need for the amalgamations, due to their overall good financial condition.
 - 3) As a unique example to prevent from possibly areal declining, the two former municipalities of Toyo Town in Kochi Prefecture hosted their headquarters by turn every two years for 34 years after their amalgamation in 1959 during the Showa pro-merger policy.
 - 4) In general, the administrative organizations of Japanese municipalities consist of a municipal assembly, mayoral departments, and several administrative boards, including educational boards, election boards, and agriculture boards. The departments of municipal government headquarters that are managed directly by mayors are called mayoral departments. The administrative boards, the members of which are nominated by the mayor with the consent of the assembly, have their own authority in their limited and specific areas.
 - 5) Even though only a few years had passed, many of the shops and business services in the branch areas had closed, owing to the closure of the former municipal offices.
 - 6) If residents have more than one purpose in dealing with their local government, they might have to visit more than one of the headquarters, which are located at different sites.
 - 7) Strictly speaking, some municipalities contain branches with different levels of size. In my classification of the centralized headquarters and the comprehensive branch systems, I examined the largest among all of the branches. Here, I did not examine the functions of the headquarters and the branches based on the definitions of those systems; instead, I used operational criteria to classify those two levels' functions (almost the same services as before the mergers or primary services). Based on my criteria between the centralized headquarters and comprehensive branch systems, the optimal number of branch divisions is four. If the branches have four divisions (general affairs, management of resident documents, management of local roads, water, and sewage, and management of healthcare and welfare), they cannot quite provide the same level of service as before the mergers, but they can meet the general expectations of the local citizens.
 - 8) The Japanese system has two types of municipal amalgamation. The first is called equal amalgamation, which means that all the amalgamation participants closed their municipalities and were consolidated into new ones as equal partners. The second is absorbed amalgamation,

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where one large municipality absorbed other smaller municipalities.

- 9) The Densely Inhabited Districts (DIDs) designated by the Statistical Bureau were used for the urbanized areas in my analysis. DIDs have provided the data of urban areas for the Population Census since 1960.
- 10) In Hayashi's discriminant analysis, a range means the absolute-valued intervals between the minimum and maximum valued partial coefficients of the categorical items of each independent variable. An explanatory variable, which has the largest range of value among the explanatory variables, must have the largest explanatory power.
- 11) In this system, it is very difficult for officials to discuss important agenda items in a face-to-face setting, especially with the mayor and executive officials. Based on my in-depth questionnaire research with the municipality officials of the multi-locational headquarters of Izu City, Shizuoka Prefecture, the annual total time cost of the trips by officials between headquarters and the two sub-headquarters was estimated to be about 120,000 Euros. Izu City's population was 35,115 (in 2005) and its area was 364.0 km², with about 350 officials in the city government.

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