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Social Welfare Policies for The Aged Population in The Takasaki Railway-line Region of The Tokyo Metropolitan Area: ROXY-index Analysis of Urban Spatial Cycles

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Contents

Abstract

This study examines the spatial redistribution process of the aged population[1] in the Takasaki railway-line region of the Tokyo Metropolitan Area of Japan for the period 1960-2000 with special emphasis on (1) the Young Old population compared with the Old Old population and on (2) the aged population living with relatives or non-relatives (APW) compared with the aged population living alone (APA). The ROXY-index method[2] and the Klaassen's spatial-cycle hypothesis[3] are applied to our investigations. The major results are as follows: (1) The phase of the spatial-cycle path[4] for the population 65 and over, population

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64 and under, total population, Young Old population, Old Old population, APW and APA in the Takasaki railway-line region, are all at the decelerating suburbanization stage in their general tendency; (2) The aged population is behind the spatial-cycle phase for the total population, and is now gradually approaching the middle stage of decelerating suburbanization; (3) The phase for the Young Old population is proceeding ahead of the Old Old population; and (4) The phase for the APW is proceeding ahead of the APA.

Key Words: Aged Population, Klaassen, Revived-urbanization, ROXY-index, Spatial Cycles, Suburbanization, and Urbanization

1. Introduction

In 2000, the national population of Japan amounted to 126,925,843. The proportion of the aged population, defined as the ratio of persons aged 65 years or over against the total population, was 17.3% as compared with 5.7% in 1960. The population of the Tokyo prefecture in 2000 totaled 12,064,101, 15.8% of which is made up by the aged population as compared with 3.8% in 1960. For both the national population and the Tokyo prefectural population, the share of the aged population shows a significant increase over the past four decades. At the same time, it can be reasonably expected that this tendency will last for further decades. This substantial structural change in the age distribution of population inevitably requires in the long-run that the national, regional and urban policies for the years to come meet the new types of social need generated through the growing proportion of the aged population.

The aforementioned prompts us to compare the relative stages of spatial urbanization and suburbanization observed in one of the major railway-line regions of the Tokyo metropolitan area, between the two categories for each of the two kinds of classification of the aged population. One is the age-specific classification; ① Young Old population (*i.e.*, those persons who are at the age of 65 or over but under 74 years), and ② Old Old population (*i.e.*, those persons who are 75 years old or over). The other is the classification based on the type of family households[5] ; ① aged people living with either relatives or non-relatives (This category appears in the population census under the item of "private households[6] with related members 65 and over."), and ② aged people living alone (This category appears in the population census under the item of "the aged-single-person households.").

In order to investigate this theme, we choose as the object-region of this study the Takasaki railway-line region. It is one of the major railway-line regions extending within the Tokyo Metropolitan Area from its center to the suburbs. As to the data, we use the national population census of Japan for the period 1960 to 2000. We apply in our investigation the ROXY-index method constructed by Kawashima as an analytical instrument, and the spatial-cycle hypothesis developed by Klaassen as a theoretical framework.

In the following, we first show in Section 2 the basic theoretical and methodological framework. In Section 3, we identify the stages and paths of the spatial cycles for each of the above four categories. The concluding remarks are given in Section 4.

2. Analytical Approach

In this section, we explain the fundamental characteristics of the following points.

(a) The national census figures from 1960 to 2000 used as the basic data.

(b) The Klaassen's spatial-cycle hypothesis applied as a theoretical basis.

(c) The ROXY-Index analysis applied as a methodological instrument.

(a) Data and Spatial Units

We utilize the national census figures from 1960 to 2000. From this census, we take the seven categories of population data as shown in Table A-1 in the Appendix for each of spatial units (or localities) composing the Takasaki railway-line region for the calculation of the ROXY-index values. The national census has been conducted nine times since 1960; 1960, 1965, 1970, 1975, 1980, 1985, 1990, 1995 and 2000.

As to the spatial units, we have fourteen localities which compose the Takasaki-line region as shown in Table 1. In this table, the distance from the CBD to the location of the public office of each locality is provided. Each of the member localities of the Takasaki-line region is situated within the boundary of the 1995 version of the Tokyo metropolitan area defined by Mitsubishi Research Institute (1999).

Table 1 Localities and CBD Distance for the Takasaki Railway-line Region in the Tokyo Metropolitan Area

Locality	CBD Distance (km)
Taito-ku	4.2
Arakawa-ku	6.7
Kita-ku	8.9
Kawaguchi-shi	14.8
Warabi-shi	18.0
Urawa-shi	23.2
Yono-shi	26.0
Omiya-shi	28.0
Ageo-shi	36.5
Okegawa-shi	40.2
Kitamoto-shi	44.0
Konosu-shi	48.0
Fukiage-machi	54.5
Gyohda-shi	58.0

(b) Klaassen's Spatial-cycle Hypothesis

Klaassen's spatial-cycle hypothesis in its extended form argues that the process of the intra-metropolitan spatial redistribution follows four recurrently transmuting stages along the spatial-cycle path as shown in Column B of Table 2[7] ; (a) accelerating urbanization, (b) decelerating urbanization (c) accelerating suburbanization, and (d) decelerating suburbanization.

Table 2 Recurrently Transmuting Stages in Spatial-cycle Paradigm : For Study of Intra-metropolitan Analysis

A		B		C	
Two major stages		Four major stages		Eight major stages	
T-1	Urbanization	F-1	Accelerating urbanization	E-1	First half of accelerating urbanization
				E-2	Second half of accelerating urbanization
		F-2	Decelerating urbanization	E-3	First half of decelerating urbanization
				E-4	Second half of decelerating urbanization
T-2	Suburbanization	F-3	Accelerating suburbanization	E-5	First half of accelerating suburbanization
				E-6	Second half of accelerating suburbanization
		F-4	Decelerating suburbanization	E-7	First half of decelerating suburbanization
				E-8	Second half of decelerating suburbanization

[Note]

(1) The stage of urbanization is called the stage of revived-urbanization when the spatial-cycle path arrives at the stage of urbanization on its second or further round, in order to highlight the phenomena of the re-entry of the spatual-cycle path into the stage of urbanization.

(2) In the original Klaassen framework, the following terms are used to describe the four major stages represented in column B; reurbanization (for F-1), urbanization (for F-2), suburbanization (for F-3) and counter-urbanization (for F-4).

[Source]

Fukatsu and Kawashima (1999)

(c) ROXY-index Analysis

The ROXY-index method is a quantitative analytical method developed by Kawashima in the 1970s, for identifying the stages of the spatial-cycle path. The ROXY-index is constructed based on the ratio *between* the weighted average of the annual population growth ratios of each spatial units *and* the simple average of the annual population growth ratios of each spatial units. Its definition is given by Table 3.

Based on Table 3, we obtain Table 4 which indicates the relationships among (1) the sign of the ROXY-index value, (2) the pattern of the spatial redistribution process of population, (3) the direction of the changes in the ROXY-index value, and (4) the speed of spatial redistribution process of population.

3. Obtained ROXY-index Values

Before proceeding further, we arrange Tables A-2~A-4 in the Appendix for the calculation of the ROXY-index values; Table A-2 showing the five-year growth ratios of the seven categories of population, Table A-3 showing the annual growth ratios and simple average of the growth ratio, and Table A-4 showing the weighted growth ratios and their total value (*i.e.*, the weighted average of the growth ratio). We use the CBD distance of each locality as the weighting factor. First, we calculate the ROXY-index values for three categories of the age-specific classification: (a) 65 and over (*i.e.*, aged population), (b) 64 and under (*i.e.*, younger and productive-age population and (c) all ages (*i.e.*, total population). The results are provided in Table 5.

Table 3 Definition of the ROXY Index for an Intra-metropolitan Analysis (or Intra-railwayline-regional Analysis) of Spatial Redistribution Process of Population

$$RI(t,t+1) = \left(\mathrm{WAGR}_{t,t+1} / \mathrm{SAGR}_{t,t+1} - 1.0\right) \times 10^4$$

where

$RI\ (t,t+1)$: Value of ROXY index for the period between years t and $t+1$ (calculated on the annual growth-ratio basis)

$WAGR_{t,t+1}$: Weighted average of the annual growth ratios of population, for the period between years t and $t+1$ over n subareas (or localities) composing the metropolitan area being investigated, which is equal to

$$\sum_{i=1}^{n} \left(w_i^t \times r_i^{t,t+1}\right) / \sum_{i=1}^{n} w_i^t$$

$SAGR_{t,t+1}$: Simple average of the annual growth ratios of population, for the period between years t and $t+1$ over n subareas (or localities) composing the metropolitan area being investigated, which is equal to

$$\sum_{i=1}^{n} r_i^{t,t+1} / n$$

n : Number of subareas (or localities) composing the metropolitan area

$r_i^{t,t+1}$: Annual growth ratio of population of subarea i (or locality i) for the period between years t and $t+1$, which is defined as the *k-th* root of $x_i^{t+k} / x_i^t = r_i^{t,t+k}$

x_i^t : Population of subarea i (or locality i) of the metropolitan area in year t

w_i^t : Weighting factor for subarea i (or locality i) in year t

[Source] Rearranged based on Fukatsu (1999).

Table 4 Implications of the ROXY-index Values for an Intra-metropolitan Analysis (or Intra-railwayline-regional Analysis) of Spatial Redistribution Process of Population: For Terms of Urbanization and Suburbanization

A	B	C	D
Sign of ROXY-index value	Pattern of spatial redistribution process of population within a metropolitan area	Direction of changes in ROXY-index values	Speed of spatial redistribution process of population within a metropolitan area
Negative	Urbanization (or Revived-Urbanization)	Decreasing	Accelerating
		Levelling-off	Stationary
		Increasing	Decelerating
Zero	Neutrality from both urbanization and suburbanization (*viz.* Symmetric growth or symmetric decline)	Levelling-off	Continuation of neutrality
Positive	Suburbanization	Increasing	Accelerating
		Levelling-off	Stationary
		Decreasing	Decelerating

[Note] CBD distance of each locality is used as the weighting factor.
[Source] Reconstructed from Kawashima and Hiraoka (1998)

Table5 ROXY-Index Values and Its Marginal Values for the Takasaki-line Region: For Age-Specific Classification (I)

(a) 65 and over (aged population)

	1960-1965	1965-1970	1970-1975	1975-1980	1980-1985	1985-1990	1990-1995	1995-2000
ROXY	-58.1022	1.2741	30.4862	50.2644	41.4557	43.4010	44.3472	30.4359
ΔROXY/ΔT	11.8753	8.8588	4.8990	1.0969	-0.6863	0.2892	-1.2965	-2.7823

(b) 64 and under (younger and productive-age population)

	1960-1965	1965-1970	1970-1975	1975-1980	1980-1985	1985-1990	1990-1995	1995-2000
ROXY	37.3865	128.9211	111.0131	97.0941	59.8822	54.2813	48.8453	1.4843
ΔROXY/ΔT	18.3069	7.3627	-3.1827	-5.1131	-4.2813	-1.1037	-5.2797	-9.4722

(c) All ages (total population)

	1960-1965	1965-1970	1970-1975	1975-1980	1980-1985	1985-1990	1990-1995	1995-2000
ROXY	33.6134	122.9527	105.5264	91.7848	56.3214	50.4953	44.1141	1.0413
ΔROXY/ΔT	17.8679	7.1913	-3.1168	-4.9205	-4.1289	-1.2207	-4.9454	-8.6146

Table6 ROXY-Index Values and Its Marginal Values for the Takasaki-line Region: For Age-Specific Classification (II)

(d) Over 65 but under 74

	1960-1965	1965-1970	1970-1975	1975-1980	1980-1985	1985-1990	1990-1995	1995-2000
ROXY	-55.8443	15.0128	41.1716	68.8266	50.4695	29.9155	40.1388	32.1136
ΔROXY/ΔT	14.1714	9.7016	5.3814	0.9298	-3.8911	-1.0331	0.2198	-1.6050

(e) 75 and over

	1960-1965	1965-1970	1970-1975	1975-1980	1980-1985	1985-1990	1990-1995	1995-2000
ROXY	-68.8891	-37.9176	1.4260	5.2400	30.9446	71.6885	50.5729	26.6933
ΔROXY/ΔT	6.1943	7.0315	4.3158	2.9519	6.6448	1.9628	-4.4995	-4.7759

Table 7 ROXY-Index Values and Its Marginal Values for the Takasaki-line Region: For Classification of the Type of Family Household

(f) Aged population living with relatives or non-relatives

	1970-1975	1975-1980	1980-85	1985-1990	1990-1995	1995-2000
ROXY	34.8903	57.2444	41.7026	52.1299	53.7061	35.0831
ΔROXY/ΔT	4.4708	0.6812	-0.5114	1.2004	-1.7047	-3.7246

(g) Aged population living alone

	1970-1975	1975-1980	1980-85	1985-1990	1990-1995	1995-2000
ROXY	-13.0591	-25.9110	83.6954	63.0326	39.6826	47.5008
ΔROXY/ΔT	-2.5704	9.6755	8.8944	-4.4013	-1.5532	1.5636

We then calculate the ROXY-index values for each of the two categories of the two kinds of classification of the aged population:

(1) Age-specific classification

(d) Young Old population

(e) Old Old population

(2) Classification based on the type of family households

(f) Aged people living with either relatives or non-relatives

(g) Aged people living alone

The obtained results are provided in Tables 6 and 7.

From these tables, Figures 1-7 can be drawn which show the circular-cyclic paths for the Takasaki-line region in the Tokyo metropolitan area, for the seven categories of population.

In these figures, the abscissa axis which extends its positive direction to the right indicates the ROXY-

index value, while the ordinate axis which extends its positive direction downwards indicates the marginal value of the ROXY-index [8]. Note that each quadrant corresponds to the following spatial-cycle stages in light of Table 4.

(a) Second quadrant: Accelerating urbanization stage (first-half stage of urbanization)
ROXY < 0, △ROXY / △T < 0

(b) Third quadrant: Decelerating urbanization stage (second-half stage of urbanization)
ROXY < 0, △ROXY / △T > 0

(c) Fourth quadrant: Accelerating suburbanization stage (first-half stage of suburbanization)
ROXY > 0, △ROXY / △T > 0

(d) First quadrant: Decelerating Suburbanization stage (second-half stage of suburbanization)
ROXY > 0, △ROXY / △T < 0

Figure 1 Circular-cyclic Path for the Takasaki-line Region:
For the Population 65 and Over

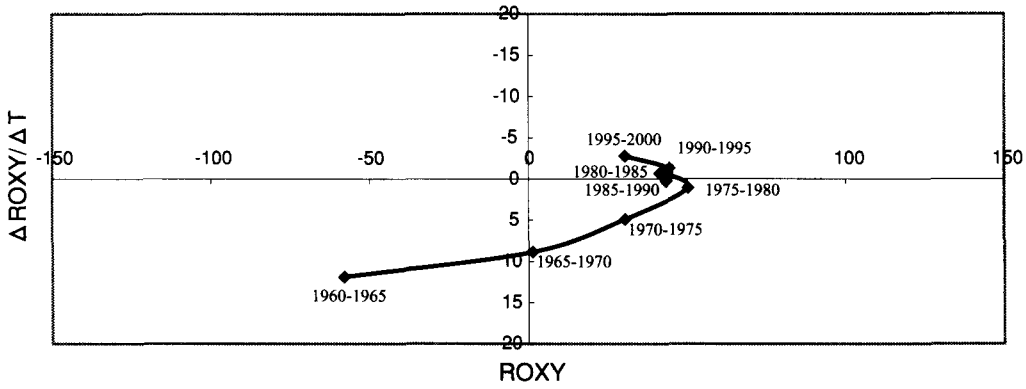


Figure 2 Circular-cyclic Path for the Takasaki-line Region:
For the Population 64 and Under

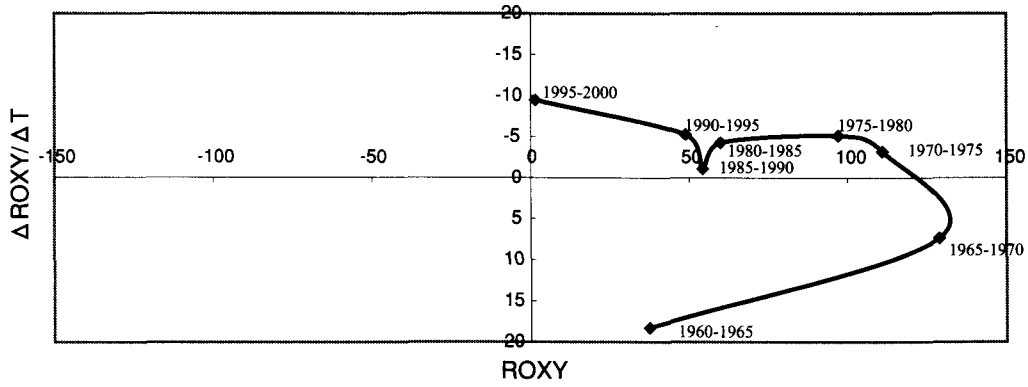


Figure 3 Circular-cyclic Path for the Takasaki-line Region:
For the Total Population

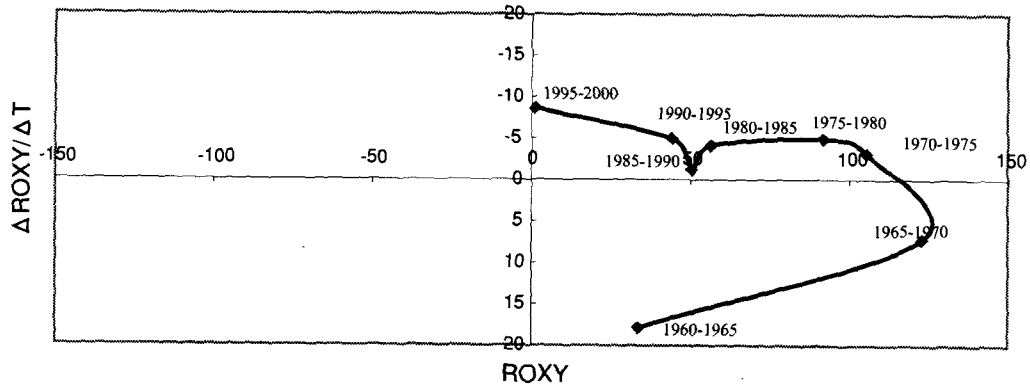


Figure 4 Circular-cyclic Path for the Takasaki-line Region:
For the Young Old (Over 65 but Under 74)

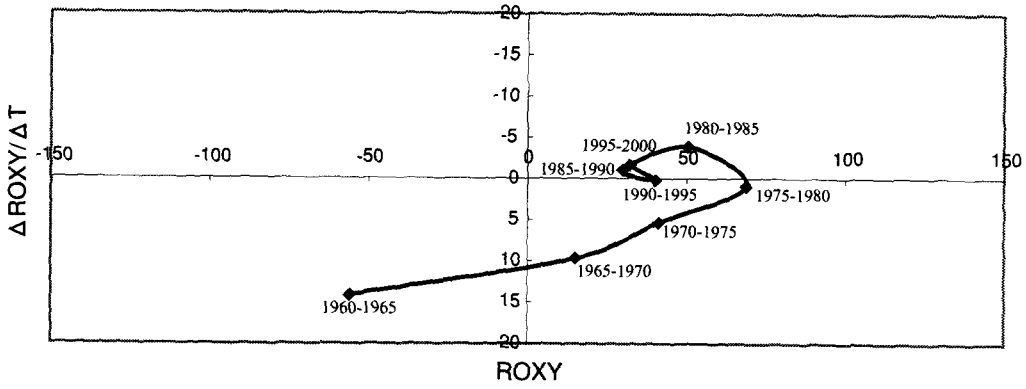


Figure 5 Circular-cyclic Path for the Takasaki-line Region:
For the Old Old (75 and Over)

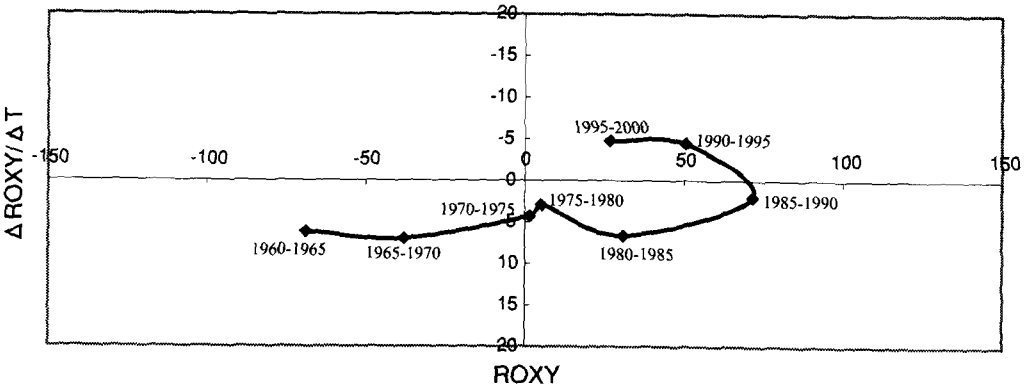


Figure 6 Circular-cyclic Path for the Takasaki-line Region:
For the Aged Population Living with Relatives or Non-relatives

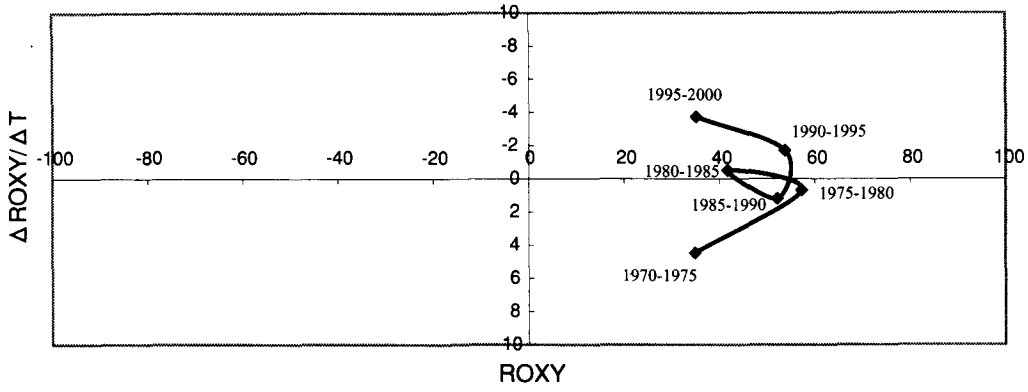
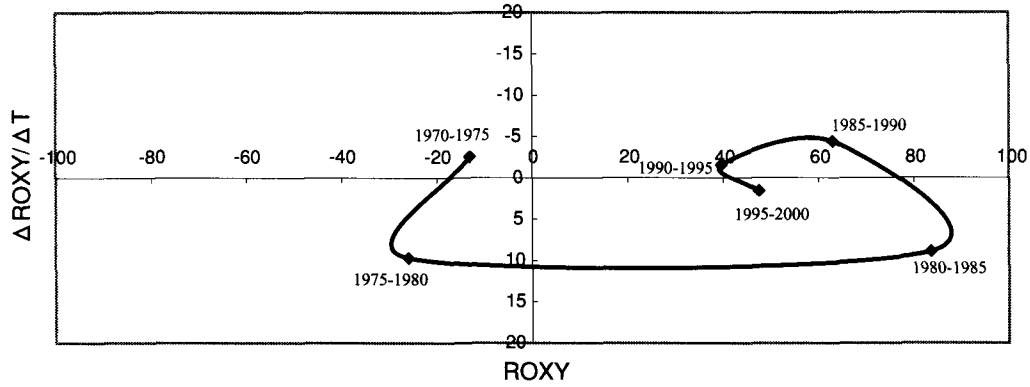


Figure 7 Circular-cyclic Path for the Takasaki-line Region:
For the Aged Population Living Alone



Based on Tables 5-7 and Figures 1-7, the following remarks can be made for the seven categories of population in the Takasaki railway-line region as to the ROXY-index values and the spatial-cycle stages.

(1) Age-specific classification (I)

(a) For the aged population, the value of the ROXY-index increases from -58.10 for the period 1960-1965 to 50.26 for the period 1975-1980. Then it decreases to 30.43 for the period 1995-2000.

(b) For the younger and productive-age population, the value of the ROXY-index changes in the same way as for the total population indicated below.

(c) For the total population of the Takasaki railway-line region, the value of the ROXY-index increases from 33.61 for the period 1960-1965 to 122.95 for the period 1965-1970. Then it decreases to 1.04 for the period 1995-2000.

From the above, the aged population seems to have been less advanced along the spatial-cycle path than

the younger and productive-age population as well as the total population.

(2) Age-specific classification (II)

(d) For the Young Old population, the value of the ROXY-index increases from -55.84 for the period 1960-1965 to 68.83 for the period 1975-1980. Then it decreases to 32.11 for the period 1995-2000.

(e) For the Old Old population, the value of the ROXY-index increases from -68.89 for the period 1960-1965 to 71.69 for the period 1985-1990. Then it decreases to 26.70 for the period 1995-2000.

From the above, we find that the Old Old population seems to have been less advanced than the Young Old population along the spatial-cycle path.

(3) Classification of type of family households

(f) For the aged population living with relatives or non-relatives, the value of the ROXY-index decreases from 53.71 for the period 1990-95 to 35.08 for the period 1995-2000.

(g) For the aged population living alone, the value of the ROXY-index seems to be decreasing from 63.03 for the period 1985-90 to somewhere near 40.0 for the period 1990-2000.

4. Conclusion

Through this study we find the following four characteristics of the ROXY-index path for the Takasaki railway-line region in conjunction with the aged population as compared with other population groups.

(1) The aged population seems to have been slightly less advanced than the other age groups. The younger and productive-age population as a whole was approaching the final stage of the decelerating suburbanization, and it was likely to reach the stage of revived-urbanization relatively soon after the end of 2000. On the other hand, the aged population was moving through the middle of the stage of decelerating suburbanization. It may take another twenty or thirty years to reach the stage of accelerating urbanization.

(2) Before the period 1965-1970, the urbanization stage was completed for the Young Old population and, before the period 1980-85, its spatial-cycle path entered the stage of the decelerating suburbanization from the stage of the accelerating suburbanization. At the same time, before the period 1965-1970, the Old Old population had stayed in the urbanization stages. Before the period 1970-1975, its urbanization stages were completed and, before the period 1990-1995, the spatial-cycle path entered the stage of decelerating suburbanization from the stage of accelerating suburbanization. The Old Old population therefore seems to have been slightly less advanced than the Young Old population. But for the period 1990-1995 and 1995-2000, the Old Old population caught up the Young Old population rapidly.

(3) For the aged population living with relatives or non-relatives, the spatial-cycle path has been hovering around the stage of suburbanization since the beginning of 1980. On the other hand, for the aged population living alone, the spatial-cycle path moves from the stage of accelerating urbanization to the stage of decelerating suburbanization in the middle of 1980s. Therefore the

latter seems to have been less advanced than the former.

(4) Klaassen's spatial-cycle hypothesis seems to work well in its description of the intra-railwayline-regional spatial shifts in the process of urbanization and suburbanization in the Takasaki railway-line region.

We are afraid that we are not in a position to talk about any significant implications from the results we have obtained as an absolute change in the aged population since the ROXY-index analysis mainly deals with their growth ratios. However, the results rather clearly illuminate (1) that the spatial redistribution process of the aged population tends to follow the spatial-cycle path as the total population does, and (2) that the spatial-cycle process of the aged population approaches the re-entry into the stage of reurbanization even with some slowing down of the total population change along the spatial-cycle path.

In light of the aforementioned, it would be useful to bear it in mind for a better design for future "urban-investment and social-welfare" policy-making and programmes for the Takasaki railway-line region. So far in the Tokyo Metropolitan Area, there has been a strong tendency for both public and private-enterprise facilities to provide aged persons with the necessary services located in the suburbs. However, considering the possible arrival of the reurbanization spatial-cycle stage for the aged persons in the not-too-distant future as our analysis indicates, more effort should be made to provide substantial facilities for them in the central part of the Tokyo Metropolitan Area. In other words, the urban investment should be made in such a way (1) that the aged persons residing in the central part of the Tokyo metropolitan area can enjoy their urban environment better, and (2) that the urban amenity should significantly include what the aged persons could contribute personally through their own general activities.

In those efforts, sufficient consideration extended to aged single persons is critically necessary since the spatial-cycle stage for them seems recently to have been constantly catching up that for the aged population living with relatives or non-relatives.

Concerning the future research agenda on the associated analytical issues, meanwhile, the author is eager to apply the double-weighting scheme to the calculation of the ROXY-index value by use of, as weighting factors, (1) the distance and (2) the percentage share of the aged population against the total population.

Notes

1) The aged population refers to the population of 65 years of age and over.
2) Kawashima has written about thirty papers on the ROXY-index through which he has developed a series of generalized versions of the Klaassen's original spatial-cycle hypothesis to facilitate research works, for both intra-metropolitan and inter-metropolitan analyses. For some of them, see the reference of Fukatsu and Kawashima (1999).
3) See, for the details for the basic original framework of the spatial-cycle hypothesis, Klaassen and Paelinck (1979) and Klaassen *et al.* (1981).
4) The spatial-cycle path is the locus of the spatial-cycle stages.
5) Households in this context are divided into "private households" and "institutional households."
6) Private households consist of households of (a), (b) and (c) below.

(a) A group of persons sharing living quarters and living expenses or a person who lived by himself/herself occupying a dwelling house.

(b) A person residing together with the household (a) above but keeping a separate budget, or a person residing in a boardinghouse.

(c) Each person who lives in a dormitory for unmarried employees of a company, corporation, store, government, etc.

Private households are classified, according to the relationship to the household head among household members, into three broad categories; "relatives households", "non-relatives households" and "one-person households".

7) We have two other kinds of spatial-cycle paradigms in Table 2: one with two stages and the other with eight stages, in columns A and C respectively. Meanwhile, as mentioned in note (1) of this table, the stage of urbanization in its second or further round should be referred to as revived-urbanization to emphasize the re-entry into the stages of urbanization.

8) We set the positive or negative direction of each of the two axes as indicated above so that the Klaassen's spatial-cycle path can move counter-clockwisely. Meanwhile, the marginal value of the ROXY-index defined here is calculated through the following steps:

① For the periods 1947-1950 and 1995-2000: the difference between " the value of the ROXY-index for the associated period" and " the value of the ROXY-index for its adjacent period."

② For other periods: the difference between the values of the ROXY-index for the two periods, both of which are adjacent to the assigned period.

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Appendix

A-1 Population in Various Categories for the Takasaki-line Region: 1960-2000 (unit: person)

a) Population 65 and over (aged population)

Code	Name	Distance	1960	1965	1970	1975	1980	1985	1990	1995	2000
13106	Taito-ku	4.2	12,111	14,454	17,056	19,883	22,422	24,170	25,825	28,715	32,988
13118	Arakawa-ku	6.7	9,539	11,995	14,187	16,731	19,663	22,095	25,240	29,211	34,045
13117	Kita-ku	8.9	14,894	19,061	23,307	28,340	33,329	38,454	44,758	53,313	62,885
11203	Kawaguchi-shi	14.8	5,635	8,218	10,963	14,792	19,896	25,335	31,895	40,648	55,875
11223	Warabi-shi	18.0	1,662	2,242	2,940	3,688	4,753	5,767	6,901	8,630	10,692
11204	Urawa-shi	23.2	7,715	10,316	13,810	18,041	23,205	28,445	35,076	44,810	57,995
11220	Yono-shi	26.0	1,565	2,065	2,717	3,696	4,924	5,937	7,209	8,894	10,968
11205	Omiya-shi	28.0	7,289	9,288	12,557	17,242	22,923	29,081	36,351	47,232	61,384
11219	Ageo-shi	36.5	2,069	2,504	3,569	5,069	7,061	9,503	12,906	17,770	25,028
11231	Okegawa-shi	40.2	1,053	1,344	1,771	2,301	3,292	4,224	5,452	7,227	9,748
11233	Kitamoto-shi	44.0	735	876	1,170	1,765	2,445	3,453	4,596	6,063	8,214
11217	Konosu-shi	48.0	1,750	1,905	2,241	2,921	3,813	4,686	6,071	7,897	10,395
11304	Fukiage-machi	54.5	607	676	846	1,086	1,486	1,787	2,183	2,905	3,759
11206	Gyohda-shi	58.0	3,202	3,654	4,246	5,114	6,442	7,824	9,442	11,588	13,602

b) Population 64 and under (younger and productive-population)

Code	Name	Distance	1960	1965	1970	1975	1980	1985	1990	1995	2000
13106	Taito-ku	4.2	306,778	271,870	223,713	187,766	163,626	152,634	137,144	125,203	123,337
13118	Arakawa-ku	6.7	275,941	266,417	232,826	201,174	178,463	167,966	159,569	147,675	146,423
13117	Kita-ku	8.9	403,709	433,003	407,912	391,656	354,129	329,125	309,889	280,814	263,879
11203	Kawaguchi-shi	14.8	164,431	240,894	294,923	330,746	359,464	377,680	406,785	408,206	404,152
11223	Warabi-shi	18.0	49,290	67,473	74,285	72,623	66,123	64,641	66,719	63,391	60,371
11204	Urawa-shi	23.2	161,042	211,021	255,587	313,104	334,980	348,790	383,195	408,490	426,850
11220	Yono-shi	26.0	39,275	49,681	60,085	67,348	67,402	65,660	71,851	73,050	71,969
11205	Omiya-shi	28.0	162,707	206,358	256,220	310,456	331,161	343,941	367,425	386,523	394,887
11219	Ageo-shi	36.5	36,820	52,272	107,223	141,289	159,182	169,084	182,041	188,320	187,919
11231	Okegawa-shi	40.2	20,256	26,764	36,946	45,733	52,455	57,275	63,577	65,857	64,219
11233	Kitamoto-shi	44.0	14,748	19,700	30,529	44,032	48,443	54,661	59,333	63,866	61,310
11217	Konosu-shi	48.0	30,118	34,621	39,749	48,711	53,272	55,879	66,364	72,457	73,705
11304	Fukiage-machi	54.5	11,488	13,806	16,401	17,688	21,119	23,203	24,745	25,085	24,410
11206	Gyohda-shi	58.0	51,544	52,498	55,889	60,955	66,763	71,535	73,739	74,582	72,706

c) Total population

Code	Name	Distance	1960	1965	1970	1975	1980	1985	1990	1995	2000
13106	Taito-ku	4.2	318,889	286,324	240,769	207,649	186,048	176,804	162,969	153,918	156,325
13118	Arakawa-ku	6.7	285,480	278,412	247,013	217,905	198,126	190,061	184,809	176,886	180,468
13117	Kita-ku	8.9	418,603	452,064	431,219	419,996	387,458	367,579	354,647	334,127	326,764
11203	Kawaguchi-shi	14.8	170,066	249,112	305,886	345,538	379,360	403,015	438,680	448,854	460,027
11223	Warabi-shi	18.0	50,952	69,715	77,225	76,311	70,876	70,408	73,620	72,021	71,063
11204	Urawa-shi	23.2	168,757	221,337	269,397	331,145	358,185	377,235	418,271	453,300	484,845
11220	Yono-shi	26.0	40,840	51,746	62,802	71,044	72,326	71,597	79,060	81,944	82,937
11205	Omiya-shi	28.0	169,996	215,646	268,777	327,698	354,084	373,022	403,776	433,755	456,271
11219	Ageo-shi	36.5	38,889	54,776	110,792	146,358	166,243	178,587	194,947	206,090	212,947
11231	Okegawa-shi	40.2	21,309	28,108	38,717	48,034	55,747	61,499	69,029	73,084	73,967
11233	Kitamoto-shi	44.0	15,483	20,576	31,699	45,797	50,888	58,114	63,929	69,929	69,524
11217	Konosu-shi	48.0	31,868	36,526	41,990	51,632	57,085	60,565	72,435	80,354	84,100
11304	Fukiage-machi	54.5	12,095	14,482	17,247	18,774	22,605	24,990	26,928	27,990	28,169
11206	Gyohda-shi	58.0	54,746	56,152	60,135	66,069	73,205	79,359	83,181	86,170	86,308

(d) Population over 65 and under 74 (young old population)

Code	Name	Distance	1960	1965	1970	1975	1980	1985	1990	1995	2000
13106	Taito-ku	4.2	9,230	10,841	12,551	14,137	14,996	14,993	15,089	17,079	19,427
13118	Arakawa-ku	6.7	7,505	9,291	10,721	11,996	13,473	14,245	15,422	17,822	20,357
13117	Kita-ku	8.9	11,559	14,512	17,309	19,875	22,166	24,227	27,239	32,743	37,570
11203	Kawaguchi-shi	14.8	4,276	6,189	8,271	10,917	14,331	17,164	20,396	26,100	36,766
11223	Warabi-shi	18.0	1,250	1,654	2,226	2,781	3,411	3,819	4,235	5,402	6,690
11204	Urawa-shi	23.2	5,676	7,484	10,109	12,740	15,804	18,219	21,466	28,158	36,317
11220	Yono-shi	26.0	1,184	1,505	2,019	2,716	3,515	3,920	4,476	5,499	6,759
11205	Omiya-shi	28.0	5,308	6,748	9,251	12,451	16,218	19,311	22,359	29,252	38,398
11219	Ageo-shi	36.5	1,480	1,715	2,546	3,646	5,059	6,516	8,291	11,355	16,426
11231	Okegawa-shi	40.2	737	970	1,268	1,626	2,303	2,824	3,335	4,529	6,182
11233	Kitamoto-shi	44.0	513	615	829	1,298	1,853	2,338	2,828	3,840	5,280
11217	Konosu-shi	48.0	1,262	1,345	1,597	2,062	2,647	3,177	3,839	5,001	6,496
11304	Fukiage-machi	54.5	438	492	640	780	1,050	1,209	1,334	1,796	2,390
11206	Gyohda-shi	58.0	2,356	2,581	3,029	3,564	4,388	5,138	5,819	6,944	7,707

(e) Population 75 and over (the old old poopulation)

Code	Name	Distance	1960	1965	1970	1975	1980	1985	1990	1995	2000
13106	Taito-ku	4.2	2,881	3,613	4,505	5,746	7,426	9,177	10,736	11,636	13,561
13118	Arakawa-ku	6.7	2,034	2,704	3,466	4,735	6,190	7,850	9,818	11,389	13,688
13117	Kita-ku	8.9	3,335	4,549	5,998	8,465	11,163	14,227	17,519	20,570	25,315
11203	Kawaguchi-shi	14.8	1,359	2,029	2,692	3,875	5,565	8,171	11,499	14,548	19,109
11223	Warabi-shi	18.0	412	588	714	907	1,342	1,948	2,666	3,228	4,002
11204	Urawa-shi	23.2	2,039	2,832	3,701	5,301	7,401	10,226	13,610	16,652	21,678
11220	Yono-shi	26.0	381	560	698	980	1,409	2,017	2,733	3,395	4,209
11205	Omiya-shi	28.0	1,981	2,540	3,306	4,791	6,705	9,770	13,992	17,980	22,986
11219	Ageo-shi	36.5	589	789	1,023	1,423	2,002	2,987	4,615	6,415	8,602
11231	Okegawa-shi	40.2	316	374	503	675	989	1,400	2,117	2,698	3,566
11233	Kitamoto-shi	44.0	222	261	341	467	592	1,115	1,768	2,223	2,934
11217	Konosu-shi	48.0	488	560	644	859	1,166	1,509	2,232	2,896	3,899
11304	Fukiage-machi	54.5	169	184	206	306	436	578	849	1,109	1,369
11206	Gyohda-shi	58.0	846	1,073	1,217	1,550	2,054	2,686	3,623	4,644	5,895

(f) Aged population living with relatives or non-relatives

			ordinary household			private household				
Code	Locality	Distance	1970	1975	1980	1980	1985	1990	1995	2000
13106	Taito-ku	4.2	15,247	17,269	19,052	19,070	20,137	20,576	21,699	23,654
13118	Arakawa-ku	6.7	12,812	14,721	16,862	16,862	18,566	20,652	23,070	26,126
13117	Kita-ku	8.9	21,351	25,228	28,637	28,637	32,203	36,100	41,700	47,225
11203	Kawaguchi-shi	14.8	10,225	13,580	17,899	17,899	22,350	27,766	35,030	46,480
11223	Warabi-shi	18.0	2,735	3,385	4,258	4,258	5,091	5,887	7,214	8,704
11204	Urawa-shi	23.2	12,837	16,549	21,080	21,080	25,451	30,807	38,758	48,509
11220	Yono-shi	26.0	2,536	3,439	4,504	4,504	5,383	6,393	7,663	9,319
11205	Omiya-shi	28.0	11,824	16,052	21,000	21,000	26,125	32,142	41,105	51,929
11219	Ageo-shi	36.5	3,431	4,799	6,597	6,597	8,836	11,815	15,851	21,659
11231	Okegawa-shi	40.2	—	2,217	3,117	3,117	3,855	4,853	6,407	8,487
11233	Kitamoto-shi	44.0	—	1,693	2,326	2,326	3,101	4,056	5,393	7,105
11217	Konosu-shi	48.0	2,151	2,735	3,542	3,542	4,325	5,547	7,116	8,989
11304	Fukiage-machi	54.5	—	1,036	1,417	1,417	1,686	2,020	2,617	3,348
11206	Gyohda-shi	58.0	4,034	4,869	6,014	6,014	7,209	8,652	10,488	11,858

(g) Aged population living alone

			ordinary household			private household				
Code	Locality	Distance	1970	1975	1980	1980	1985	1990	1995	2000
13106	Taito-ku	4.2	1,013	1,770	2,461	2,745	3,317	4,214	5,522	7,317
13118	Arakawa-ku	6.7	988	1,497	2,211	2,329	2,996	3,860	5,199	6,964
13117	Kita-ku	8.9	1,441	2,488	3,923	4,144	5,429	7,660	10,599	14,468
11203	Kawaguchi-shi	14.8	462	836	1,446	1,545	2,248	3,349	4,870	8,374
11223	Warabi-shi	18.0	153	264	434	462	571	884	1,268	1,783
11204	Urawa-shi	23.2	517	990	1,523	1,635	2,291	3,458	5,084	8,064
11220	Yono-shi	26.0	116	206	339	363	495	747	1,079	1,475
11205	Omiya-shi	28.0	448	830	1,391	1,482	2,017	3,100	4,701	7,662
11219	Ageo-shi	36.5	91	178	311	333	473	819	1,420	2,537
11231	Okegawa-shi	40.2	—	75	108	114	208	356	530	863
11233	Kitamoto-shi	44.0	—	63	96	99	177	287	450	769
11217	Konosu-shi	48.0	58	108	164	175	259	398	592	1,008
11304	Fukiage-machi	54.5	—	46	58	63	97	155	240	330
11206	Gyohda-shi	58.0	129	181	275	287	391	564	768	1,127

[Notes] Households are classified into ordinary households and quasi-households or private households and institutional households. They are defined as follows;

Ordinary household: An ordinary household is defined as a group of persons sharing living quarters and living expenses as well as a person who lives by himself occupying a dwelling house.

Private household: A private household includes "Single persons in boardinghouses or rented rooms", Single persons in company dormitories for unmarried employees and ordinary households.

[Source] Japan Statistical Association (1960, 65, 70, 75, 80, 85, 90, 95, 2000).

Appendix

A-2 Five-Year Growth Ratios of Population in Various Categories for the Takasaki-line Region: 1960-2000

a) Population 65 and over (aged population)

Code	Name	Distance	1960-1965	1965-1970	1970-1975	1975-1980	1980-1985	1985-1990	1990-1995	1995-2000
13106	Taito-ku	4.2	1.1935	1.1800	1.1657	1.1277	1.0780	1.0685	1.1119	1.1488
13118	Arakawa-ku	6.7	1.2575	1.1827	1.1793	1.1752	1.1237	1.1423	1.1573	1.1655
13117	Kita-ku	8.9	1.2798	1.2228	1.2159	1.1760	1.1538	1.1639	1.1911	1.1795
11203	Kawaguchi-shi	14.8	1.4584	1.3340	1.3493	1.3451	1.2734	1.2589	1.2744	1.3746
11223	Warabi-shi	18.0	1.3490	1.3113	1.2544	1.2888	1.2133	1.1966	1.2505	1.2389
11204	Urawa-shi	23.2	1.3371	1.3387	1.3064	1.2862	1.2258	1.2331	1.2775	1.2942
11220	Yono-shi	26.0	1.3195	1.3157	1.3603	1.3323	1.2057	1.2142	1.2337	1.2332
11205	Omiya-shi	28.0	1.2742	1.3520	1.3731	1.3295	1.2686	1.2500	1.2993	1.2996
11219	Ageo-shi	36.5	1.2102	1.4253	1.4203	1.3930	1.3458	1.3581	1.3769	1.4084
11231	Okegawa-shi	40.2	1.2764	1.3177	1.2993	1.4307	1.2831	1.2907	1.3256	1.3488
11233	Kitamoto-shi	44.0	1.1918	1.3356	1.5085	1.3853	1.4123	1.3310	1.3192	1.3548
11217	Konosu-shi	48.0	1.0886	1.1764	1.3034	1.3054	1.2290	1.2956	1.3008	1.3163
11304	Fukiage-machi	54.5	1.1137	1.2515	1.2837	1.3683	1.2026	1.2216	1.3307	1.2940
11206	Gyohda-shi	58.0	1.1412	1.1620	1.2044	1.2597	1.2145	1.2068	1.2273	1.1738

b) Population 64 and under (younger and productive-population)

Code	Name	Distance	1960-1965	1965-1970	1970-1975	1975-1980	1980-1985	1985-1990	1990-1995	1995-2000
13106	Taito-ku	4.2	0.8862	0.8229	0.8393	0.8714	0.9328	0.8985	0.9129	0.9851
13118	Arakawa-ku	6.7	0.9655	0.8739	0.8641	0.8871	0.9412	0.9500	0.9255	0.9915
13117	Kita-ku	8.9	1.0726	0.9421	0.9601	0.9042	0.9294	0.9416	0.9062	0.9397
11203	Kawaguchi-shi	14.8	1.4650	1.2243	1.1215	1.0868	1.0507	1.0771	1.0035	0.9901
11223	Warabi-shi	18.0	1.3689	1.1010	0.9776	0.9105	0.9776	1.0321	0.9501	0.9524
11204	Urawa-shi	23.2	1.3103	1.2112	1.2250	1.0699	1.0412	1.0986	1.0660	1.0449
11220	Yono-shi	26.0	1.2650	1.2094	1.1209	1.0008	0.9742	1.0943	1.0167	0.9852
11205	Omiya-shi	28.0	1.2683	1.2416	1.2117	1.0667	1.0386	1.0683	1.0520	1.0216
11219	Ageo-shi	36.5	1.4197	2.0513	1.3177	1.1266	1.0622	1.0766	1.0345	0.9979
11231	Okegawa-shi	40.2	1.3213	1.3804	1.2378	1.1470	1.0919	1.1100	1.0359	0.9751
11233	Kitamoto-shi	44.0	1.3358	1.5497	1.4423	1.1002	1.1284	1.0855	1.0764	0.9600
11217	Konosu-shi	48.0	1.1495	1.1481	1.2255	1.0936	1.0489	1.1876	1.0918	1.0172
11304	Fukiage-machi	54.5	1.2018	1.1880	1.0785	1.1940	1.0987	1.0665	1.0137	0.9731
11206	Gyohda-shi	58.0	1.0185	1.0646	1.0906	1.0953	1.0715	1.0308	1.0114	0.9748

c) Total population

Code	Name	Distance	1960-1965	1965-1970	1970-1975	1975-1980	1980-1985	1985-1990	1990-1995	1995-2000
13106	Taito-ku	4.2	0.8979	0.8409	0.8624	0.8960	0.9503	0.9217	0.9445	1.0156
13118	Arakawa-ku	6.7	0.9752	0.8872	0.8822	0.9092	0.9593	0.9724	0.9571	1.0203
13117	Kita-ku	8.9	1.0799	0.9539	0.9740	0.9225	0.9487	0.9648	0.9421	0.9780
11203	Kawaguchi-shi	14.8	1.4648	1.2279	1.1296	1.0979	1.0624	1.0885	1.0232	1.0249
11223	Warabi-shi	18.0	1.3682	1.1077	0.9882	0.9288	0.9934	1.0456	0.9783	0.9867
11204	Urawa-shi	23.2	1.3116	1.2171	1.2292	1.0817	1.0532	1.1088	1.0837	1.0696
11220	Yono-shi	26.0	1.2670	1.2137	1.1312	1.0180	0.9899	1.1042	1.0365	1.0121
11205	Omiya-shi	28.0	1.2685	1.2464	1.2192	1.0805	1.0535	1.0824	1.0742	1.0519
11219	Ageo-shi	36.5	1.4085	2.0226	1.3210	1.1359	1.0743	1.0916	1.0572	1.0333
11231	Okegawa-shi	40.2	1.3191	1.3774	1.2406	1.1606	1.1032	1.1224	1.0587	1.0121
11233	Kitamoto-shi	44.0	1.3289	1.5406	1.4447	1.1112	1.1420	1.1001	1.0939	0.9942
11217	Konosu-shi	48.0	1.1462	1.1496	1.2296	1.1056	1.0610	1.1960	1.1093	1.0466
11304	Fukiage-machi	54.5	1.1974	1.1909	1.0885	1.2041	1.1055	1.0776	1.0394	1.0064
11206	Gyohda-shi	58.0	1.0257	1.0709	1.0987	1.1080	1.0841	1.0482	1.0359	1.0016

(d) Population over 65 and under 74 (young old population)

Code	Name	Distance	1960-1965	1965-1970	1970-1975	1975-1980	1980-1985	1985-1990	1990-1995	1995-2000
13106	Taito-ku	4.2	1.1745	1.1577	1.1264	1.0608	0.9998	1.0064	1.1319	1.1375
13118	Arakawa-ku	6.7	1.2380	1.1539	1.1189	1.1231	1.0573	1.0826	1.1556	1.1422
13117	Kita-ku	8.9	1.2555	1.1927	1.1482	1.1153	1.0930	1.1243	1.2021	1.1474
11203	Kawaguchi-shi	14.8	1.4474	1.3364	1.3199	1.3127	1.1977	1.1883	1.2797	1.4087
11223	Warabi-shi	18.0	1.3232	1.3458	1.2493	1.2265	1.1196	1.1089	1.2756	1.2384
11204	Urawa-shi	23.2	1.3185	1.3507	1.2603	1.2405	1.1528	1.1782	1.3117	1.2898
11220	Yono-shi	26.0	1.2711	1.3415	1.3452	1.2942	1.1152	1.1418	1.2286	1.2291
11205	Omiya-shi	28.0	1.2713	1.3709	1.3459	1.3025	1.1907	1.1578	1.3083	1.3127
11219	Ageo-shi	36.5	1.1588	1.4845	1.4321	1.3875	1.2880	1.2724	1.3696	1.4466
11231	Okegawa-shi	40.2	1.3161	1.3072	1.2823	1.4164	1.2262	1.1809	1.3580	1.3650
11233	Kitamoto-shi	44.0	1.1988	1.3480	1.5657	1.4276	1.2617	1.2096	1.3579	1.3750
11217	Konosu-shi	48.0	1.0658	1.1874	1.2912	1.2837	1.2002	1.2084	1.3027	1.2989
11304	Fukiage-machi	54.5	1.1233	1.3008	1.2188	1.3462	1.1514	1.1034	1.3463	1.3307
11206	Gyohda-shi	58.0	1.0955	1.1736	1.1766	1.2312	1.1709	1.1325	1.1933	1.1099

(e) Population'75 and over (old old population)

Code	Name	Distance	1960-1965	1965-1970	1970-1975	1975-1980	1980-1985	1985-1990	1990-1995	1995-2000
13106	Taito-ku	4.2	1.2541	1.2469	1.2755	1.2924	1.2358	1.1699	1.0838	1.1654
13118	Arakawa-ku	6.7	1.3294	1.2818	1.3661	1.3073	1.2682	1.2507	1.1600	1.2019
13117	Kita-ku	8.9	1.3640	1.3185	1.4113	1.3187	1.2745	1.2314	1.1742	1.2307
11203	Kawaguchi-shi	14.8	1.4930	1.3268	1.4395	1.4361	1.4683	1.4073	1.2652	1.3135
11223	Warabi-shi	18.0	1.4272	1.2143	1.2703	1.4796	1.4516	1.3686	1.2108	1.2398
11204	Urawa-shi	23.2	1.3889	1.3069	1.4323	1.3962	1.3817	1.3309	1.2235	1.3018
11220	Yono-shi	26.0	1.4698	1.2464	1.4040	1.4378	1.4315	1.3550	1.2422	1.2398
11205	Omiya-shi	28.0	1.2822	1.3016	1.4492	1.3995	1.4571	1.4321	1.2850	1.2784
11219	Ageo-shi	36.5	1.3396	1.2966	1.3910	1.4069	1.4920	1.5450	1.3900	1.3409
11231	Okegawa-shi	40.2	1.1835	1.3449	1.3419	1.4652	1.4156	1.5121	1.2744	1.3217
11233	Kitamoto-shi	44.0	1.1757	1.3065	1.3695	1.2677	1.8834	1.5857	1.2574	1.3198
11217	Konosu-shi	48.0	1.1475	1.1500	1.3339	1.3574	1.2942	1.4791	1.2975	1.3463
11304	Fukiage-machi	54.5	1.0888	1.1196	1.4854	1.4248	1.3257	1.4689	1.3062	1.2344
11206	Gyohda-shi	58.0	1.2683	1.1342	1.2736	1.3252	1.3077	1.3488	1.2818	1.2694

(f) Aged population living with relatives or non-relatives

			ordinary household		private household			
Code	Locality	Distance	1970-75	1975-80	1980-85	1985-90	1990-95	1995-2000
13106	Taito-ku	4.2	1.1326	1.1032	1.0560	1.0218	1.0546	1.0901
13118	Arakawa-ku	6.7	1.1490	1.1454	1.1011	1.1124	1.1171	1.1325
13117	Kita-ku	8.9	1.1816	1.1351	1.1245	1.1210	1.1551	1.1325
11203	Kawaguchi-shi	14.8	1.3281	1.3180	1.2487	1.2423	1.2616	1.3269
11223	Warabi-shi	18.0	1.2377	1.2579	1.1956	1.1564	1.2254	1.2065
11204	Urawa-shi	23.2	1.2892	1.2738	1.2074	1.2104	1.2581	1.2516
11220	Yono-shi	26.0	1.3561	1.3097	1.1952	1.1876	1.1987	1.2161
11205	Omiya-shi	28.0	1.3576	1.3082	1.2440	1.2303	1.2789	1.2633
11219	Ageo-shi	36.5	1.3987	1.3747	1.3394	1.3371	1.3416	1.3664
11231	Okegawa-shi	40.2	—	1.4060	1.2368	1.2589	1.3202	1.3246
11233	Kitamoto-shi	44.0	—	1.3739	1.3332	1.3080	1.3296	1.3174
11217	Konosu-shi	48.0	1.2715	1.2951	1.2211	1.2825	1.2829	1.2632
11304	Fukiage-machi	54.5	—	1.3678	1.1898	1.1981	1.2955	1.2793
11206	Gyohda-shi	58.0	1.2070	1.2352	1.1987	1.2002	1.2122	1.1306

(g) Aged population living alone

			ordinary household		private household			
Code	Locality	Distance	1970-75	1975-80	1980-85	1985-90	1990-95	1995-2000
13106	Taito-ku	4.2	1.7473	1.3904	1.2084	1.2704	1.3104	1.3251
13118	Arakawa-ku	6.7	1.5152	1.4770	1.2864	1.2884	1.3469	1.3395
13117	Kita-ku	8.9	1.7266	1.5768	1.3101	1.4109	1.3837	1.3650
11203	Kawaguchi-shi	14.8	1.8095	1.7297	1.4550	1.4898	1.4542	1.7195
11223	Warabi-shi	18.0	1.7255	1.6439	1.2359	1.5482	1.4344	1.4062
11204	Urawa-shi	23.2	1.9149	1.5384	1.4012	1.5094	1.4702	1.5862
11220	Yono-shi	26.0	1.7759	1.6456	1.3636	1.5091	1.4444	1.3670
11205	Omiya-shi	28.0	1.8527	1.6759	1.3610	1.5369	1.5165	1.6299
11219	Ageo-shi	36.5	1.9560	1.7472	1.4204	1.7315	1.7338	1.7866
11231	Okegawa-shi	40.2	—	1.4400	1.8246	1.7115	1.4888	1.6283
11233	Kitamoto-shi	44.0	—	1.5238	1.7879	1.6215	1.5679	1.7089
11217	Konosu-shi	48.0	1.8621	1.5185	1.4800	1.5367	1.4874	1.7027
11304	Fukiage-machi	54.5	—	1.2609	1.5397	1.5979	1.5484	1.3750
11206	Gyohda-shi	58.0	1.4031	1.5193	1.3624	1.4425	1.3617	1.4674

Appendix

A-3 Annual Growth Ratios of Population in various Categories and Their Simple Average for the Takasaki-line Region: 1960-2000

a) Population 65 and over (aged population)

Code	Name	Distance	1960-1965	1965-1970	1970-1975	1975-1980	1980-1985	1985-1990	1990-1995	1995-2000
13106	Taito-ku	4.2	1.0360	1.0337	1.0311	1.0243	1.0151	1.0133	1.0214	1.0281
13118	Arakawa-ku	6.7	1.0469	1.0341	1.0335	1.0328	1.0236	1.0270	1.0297	1.0311
13117	Kita-ku	8.9	1.0506	1.0410	1.0399	1.0330	1.0290	1.0308	1.0356	1.0336
11203	Kawaguchi-shi	14.8	1.0784	1.0593	1.0617	1.0611	1.0495	1.0471	1.0497	1.0657
11223	Warabi-shi	18.0	1.0617	1.0557	1.0464	1.0520	1.0394	1.0366	1.0457	1.0438
11204	Urawa-shi	23.2	1.0598	1.0601	1.0549	1.0516	1.0416	1.0428	1.0502	1.0529
11220	Yono-shi	26.0	1.0570	1.0564	1.0635	1.0591	1.0381	1.0396	1.0429	1.0428
11205	Omiya-shi	28.0	1.0497	1.0622	1.0655	1.0586	1.0487	1.0456	1.0538	1.0538
11219	Ageo-shi	36.5	1.0389	1.0735	1.0727	1.0685	1.0612	1.0631	1.0661	1.0709
11231	Okegawa-shi	40.2	1.0500	1.0567	1.0538	1.0743	1.0511	1.0524	1.0580	1.0617
11233	Kitamoto-shi	44.0	1.0357	1.0596	1.0857	1.0673	1.0715	1.0589	1.0570	1.0626
11217	Konosu-shi	48.0	1.0171	1.0330	1.0544	1.0547	1.0421	1.0532	1.0540	1.0565
11304	Fukiage-machi	54.5	1.0218	1.0459	1.0512	1.0647	1.0376	1.0408	1.0588	1.0529
11206	Gyohda-shi	58.0	1.0268	1.0305	1.0379	1.0473	1.0396	1.0383	1.0418	1.0326
Simple Average of Growth Ratio			1.0450	1.0501	1.0537	1.0535	1.0420	1.0421	1.0475	1.0492

b) Population 64 and under (younger and productive-population)

Code	Name	Distance	1960-1965	1965-1970	1970-1975	1975-1980	1980-1985	1985-1990	1990-1995	1995-2000
13106	Taito-ku	4.2	0.9761	0.9618	0.9656	0.9729	0.9862	0.9788	0.9819	0.9970
13118	Arakawa-ku	6.7	0.9930	0.9734	0.9712	0.9763	0.9879	0.9898	0.9846	0.9983
13117	Kita-ku	8.9	1.0141	0.9881	0.9919	0.9801	0.9855	0.9880	0.9805	0.9876
11203	Kawaguchi-shi	14.8	1.0794	1.0413	1.0232	1.0168	1.0099	1.0150	1.0007	0.9980
11223	Warabi-shi	18.0	1.0648	1.0194	0.9955	0.9814	0.9955	1.0063	0.9898	0.9903
11204	Urawa-shi	23.2	1.0555	1.0391	1.0414	1.0136	1.0081	1.0190	1.0129	1.0088
11220	Yono-shi	26.0	1.0481	1.0388	1.0231	1.0002	0.9948	1.0182	1.0033	0.9970
11205	Omiya-shi	28.0	1.0487	1.0442	1.0391	1.0130	1.0076	1.0133	1.0102	1.0043
11219	Ageo-shi	36.5	1.0726	1.1545	1.0567	1.0241	1.0121	1.0149	1.0068	0.9996
11231	Okegawa-shi	40.2	1.0573	1.0666	1.0436	1.0278	1.0177	1.0211	1.0071	0.9950
11233	Kitamoto-shi	44.0	1.0596	1.0916	1.0760	1.0193	1.0244	1.0165	1.0148	0.9919
11217	Konosu-shi	48.0	1.0283	1.0280	1.0415	1.0181	1.0096	1.0350	1.0177	1.0034
11304	Fukiage-machi	54.5	1.0374	1.0350	1.0152	1.0361	1.0190	1.0130	1.0027	0.9946
11206	Gyohda-shi	58.0	1.0037	1.0126	1.0175	1.0184	1.0139	1.0061	1.0023	0.9949
Simple Average of Growth Ratio			1.0385	1.0353	1.0215	1.0070	1.0052	1.0096	1.0011	0.9972

c) Total population

Code	Name	Distance	1960-1965	1965-1970	1970-1975	1975-1980	1980-1985	1985-1990	1990-1995	1995-2000
13106	Taito-ku	4.2	0.9787	0.9659	0.9708	0.9783	0.9899	0.9838	0.9886	1.0031
13118	Arakawa-ku	6.7	0.9950	0.9764	0.9752	0.9811	0.9917	0.9944	0.9913	1.0040
13117	Kita-ku	8.9	1.0155	0.9906	0.9947	0.9840	0.9895	0.9929	0.9882	0.9956
11203	Kawaguchi-shi	14.8	1.0793	1.0419	1.0247	1.0189	1.0122	1.0171	1.0046	1.0049
11223	Warabi-shi	18.0	1.0647	1.0207	0.9976	0.9853	0.9987	1.0090	0.9956	0.9973
11204	Urawa-shi	23.2	1.0557	1.0401	1.0421	1.0158	1.0104	1.0209	1.0162	1.0135
11220	Yono-shi	26.0	1.0485	1.0395	1.0250	1.0036	0.9980	1.0200	1.0072	1.0024
11205	Omiya-shi	28.0	1.0487	1.0450	1.0404	1.0156	1.0105	1.0160	1.0144	1.0102
11219	Ageo-shi	36.5	1.0709	1.1513	1.0573	1.0258	1.0144	1.0177	1.0112	1.0066
11231	Okegawa-shi	40.2	1.0569	1.0661	1.0441	1.0302	1.0198	1.0234	1.0115	1.0024
11233	Kitamoto-shi	44.0	1.0585	1.0903	1.0764	1.0213	1.0269	1.0193	1.0181	0.9988
11217	Konosu-shi	48.0	1.0277	1.0283	1.0422	1.0203	1.0119	1.0364	1.0210	1.0092
11304	Fukiage-machi	54.5	1.0367	1.0356	1.0171	1.0378	1.0203	1.0151	1.0078	1.0013
11206	Gyohda-shi	58.0	1.0051	1.0138	1.0190	1.0207	1.0163	1.0095	1.0071	1.0003
Simple Average of Growth Ratio			1.0387	1.0361	1.0233	1.0099	1.0079	1.0125	1.0059	1.0035

(d) Population over 65 and under 74 (young old population)

Code	Name	Distance	1960-1965	1965-1970	1970-1975	1975-1980	1980-1985	1985-1990	1990-1995	1995-2000
13106	Taito-ku	4.2	1.0327	1.0297	1.0241	1.0119	1.0000	1.0013	1.0251	1.0261
13118	Arakawa-ku	6.7	1.0436	1.0290	1.0227	1.0235	1.0112	1.0160	1.0294	1.0270
13117	Kita-ku	8.9	1.0466	1.0359	1.0280	1.0221	1.0179	1.0237	1.0375	1.0279
11203	Kawaguchi-shi	14.8	1.0768	1.0597	1.0571	1.0559	1.0367	1.0351	1.0506	1.0709
11223	Warabi-shi	18.0	1.0576	1.0612	1.0455	1.0417	1.0229	1.0209	1.0499	1.0437
11204	Urawa-shi	23.2	1.0569	1.0620	1.0474	1.0440	1.0288	1.0333	1.0558	1.0522
11220	Yono-shi	26.0	1.0491	1.0605	1.0611	1.0529	1.0221	1.0269	1.0420	1.0421
11205	Omiya-shi	28.0	1.0492	1.0651	1.0612	1.0543	1.0355	1.0297	1.0552	1.0559
11219	Ageo-shi	36.5	1.0299	1.0822	1.0745	1.0677	1.0519	1.0494	1.0649	1.0766
11231	Okegawa-shi	40.2	1.0565	1.0550	1.0510	1.0721	1.0416	1.0338	1.0631	1.0642
11233	Kitamoto-shi	44.0	1.0369	1.0615	1.0938	1.0738	1.0476	1.0388	1.0631	1.0658
11217	Konosu-shi	48.0	1.0128	1.0349	1.0524	1.0512	1.0372	1.0386	1.0543	1.0537
11304	Fukiage-machi	54.5	1.0235	1.0540	1.0404	1.0613	1.0286	1.0199	1.0613	1.0588
11206	Gyohda-shi	58.0	1.0184	1.0325	1.0331	1.0425	1.0321	1.0252	1.0360	1.0211
Simple Average of Growth Ratio			1.0422	1.0517	1.0494	1.0482	1.0296	1.0280	1.0491	1.0490

(e) Population 75 and over (old old population)

Code	Name	Distance	1960-1965	1965-1970	1970-1975	1975-1980	1980-1985	1985-1990	1990-1995	1995-2000
13106	Taito-ku	4.2	1.0463	1.0451	1.0499	1.0526	1.0433	1.0319	1.0162	1.0311
13118	Arakawa-ku	6.7	1.0586	1.0509	1.0644	1.0551	1.0487	1.0458	1.0301	1.0375
13117	Kita-ku	8.9	1.0641	1.0569	1.0713	1.0569	1.0497	1.0425	1.0326	1.0424
11203	Kawaguchi-shi	14.8	1.0835	1.0582	1.0756	1.0751	1.0798	1.0707	1.0482	1.0561
11223	Warabi-shi	18.0	1.0737	1.0396	1.0490	1.0815	1.0774	1.0648	1.0390	1.0439
11204	Urawa-shi	23.2	1.0679	1.0550	1.0745	1.0690	1.0668	1.0588	1.0412	1.0542
11220	Yono-shi	26.0	1.0801	1.0450	1.0702	1.0753	1.0744	1.0626	1.0443	1.0439
11205	Omiya-shi	28.0	1.0510	1.0541	1.0770	1.0695	1.0782	1.0745	1.0514	1.0504
11219	Ageo-shi	36.5	1.0602	1.0533	1.0682	1.0707	1.0833	1.0909	1.0681	1.0604
11231	Okegawa-shi	40.2	1.0343	1.0611	1.0606	1.0794	1.0720	1.0862	1.0497	1.0574
11233	Kitamoto-shi	44.0	1.0329	1.0549	1.0649	1.0486	1.1350	1.0966	1.0469	1.0571
11217	Konosu-shi	48.0	1.0279	1.0283	1.0593	1.0630	1.0529	1.0814	1.0535	1.0613
11304	Fukiage-machi	54.5	1.0172	1.0228	1.0824	1.0734	1.0580	1.0799	1.0549	1.0430
11206	Gyohda-shi	58.0	1.0487	1.0255	1.0496	1.0579	1.0551	1.0617	1.0509	1.0489
Simple Average of Growth Ratio			1.0533	1.0465	1.0655	1.0663	1.0696	1.0677	1.0448	1.0491

(f) Aged population living with relatives or non-relatives

			ordinary household		private household			
Code	Locality	Distance	1970-75	1975-80	1980-85	1985-90	1990-95	1995-2000
13106	Taito-ku	4.2	1.0252	1.0198	1.0109	1.0043	1.0107	1.0174
13118	Arakawa-ku	6.7	1.0282	1.0275	1.0194	1.0215	1.0224	1.0252
13117	Kita-ku	8.9	1.0339	1.0257	1.0237	1.0231	1.0293	1.0252
11203	Kawaguchi-shi	14.8	1.0584	1.0568	1.0454	1.0444	1.0476	1.0582
11223	Warabi-shi	18.0	1.0436	1.0470	1.0364	1.0295	1.0415	1.0383
11204	Urawa-shi	23.2	1.0521	1.0496	1.0384	1.0389	1.0470	1.0459
11220	Yono-shi	26.0	1.0628	1.0554	1.0363	1.0350	1.0369	1.0399
11205	Omiya-shi	28.0	1.0630	1.0552	1.0446	1.0423	1.0504	1.0479
11219	Ageo-shi	36.5	1.0694	1.0657	1.0602	1.0598	1.0605	1.0644
11231	Okegawa-shi	40.2	—	1.0705	1.0434	1.0471	1.0571	1.0578
11233	Kitamoto-shi	44.0	—	1.0656	1.0592	1.0552	1.0586	1.0567
11217	Konosu-shi	48.0	1.0492	1.0531	1.0408	1.0510	1.0511	1.0478
11304	Fukiage-machi	54.5	—	1.0646	1.0354	1.0368	1.0532	1.0505
11206	Gyohda-shi	58.0	1.0383	1.0431	1.0369	1.0372	1.0392	1.0249
Simple Average of Growth Ratio			1.0477	1.0500	1.0379	1.0376	1.0432	1.0429

(g) Aged population living alone

			ordinary household		private household			
Code	Locality	Distance	1970-75	1975-80	1980-85	1985-90	1990-95	1995-2000
13106	Taito-ku	4.2	1.1181	1.0681	1.0386	1.0490	1.0556	1.0579
13118	Arakawa-ku	6.7	1.0867	1.0811	1.0517	1.0520	1.0614	1.0602
13117	Kita-ku	8.9	1.1154	1.0954	1.0555	1.0713	1.0671	1.0642
11203	Kawaguchi-shi	14.8	1.1259	1.1158	1.0779	1.0830	1.0778	1.1145
11223	Warabi-shi	18.0	1.1153	1.1045	1.0433	1.0913	1.0748	1.0705
11204	Urawa-shi	23.2	1.1388	1.0900	1.0698	1.0858	1.0801	1.0967
11220	Yono-shi	26.0	1.1217	1.1048	1.0640	1.0858	1.0763	1.0645
11205	Omiya-shi	28.0	1.1313	1.1088	1.0636	1.0898	1.0868	1.1026
11219	Ageo-shi	36.5	1.1436	1.1181	1.0727	1.1161	1.1164	1.1231
11231	Okegawa-shi	40.2	—	1.0757	1.1278	1.1135	1.0828	1.1024
11233	Kitamoto-shi	44.0	—	1.0879	1.1232	1.1015	1.0941	1.1131
11217	Konosu-shi	48.0	1.1324	1.0871	1.0816	1.0897	1.0826	1.1123
11304	Fukiage-machi	54.5	—	1.0475	1.0901	1.0983	1.0914	1.0658
11206	Gyohda-shi	58.0	1.0701	1.0873	1.0638	1.0760	1.0637	1.0797
Simple Average of Growth Ratio			1.1181	1.0909	1.0731	1.0859	1.0794	1.0877

Appendix

A-4 Weighted Growth Ratios of Population in Various Categories and Their Total Value (*i.e.*, Weighted Average of Growth Rratio) for the Takasaki-line Region: 1960-2000

a) Population 65 and over (aged population)

Code	Name	Distance	1960-1965	1965-1970	1970-1975	1975-1980	1980-1985	1985-1990	1990-1995	1995-2000
13106	Taito-ku	4.2	0.0106	0.0106	0.0105	0.0105	0.0104	0.0104	0.0104	0.0105
13118	Arakawa-ku	6.7	0.0171	0.0169	0.0168	0.0168	0.0167	0.0167	0.0168	0.0168
13117	Kita-ku	8.9	0.0227	0.0225	0.0225	0.0224	0.0223	0.0223	0.0224	0.0224
11203	Kawaguchi-shi	14.8	0.0388	0.0381	0.0382	0.0382	0.0378	0.0377	0.0378	0.0384
11223	Warabi-shi	18.0	0.0465	0.0462	0.0458	0.0461	0.0455	0.0454	0.0458	0.0457
11204	Urawa-shi	23.2	0.0598	0.0598	0.0595	0.0594	0.0588	0.0589	0.0593	0.0594
11220	Yono-shi	26.0	0.0669	0.0668	0.0673	0.0670	0.0657	0.0658	0.0660	0.0660
11205	Omiya-shi	28.0	0.0715	0.0724	0.0726	0.0721	0.0714	0.0712	0.0718	0.0718
11219	Ageo-shi	36.5	0.0923	0.0953	0.0953	0.0949	0.0942	0.0944	0.0947	0.0951
11231	Okegawa-shi	40.2	0.1027	0.1034	0.1031	0.1051	0.1028	0.1029	0.1035	0.1038
11233	Kitamoto-shi	44.0	0.1109	0.1134	0.1162	0.1143	0.1147	0.1134	0.1132	0.1138
11217	Konosu-shi	48.0	0.1188	0.1206	0.1231	0.1232	0.1217	0.1230	0.1231	0.1234
11304	Fukiage-machi	54.5	0.1355	0.1387	0.1394	0.1412	0.1376	0.1380	0.1404	0.1396
11206	Gyohda-shi	58.0	0.1449	0.1454	0.1465	0.1478	0.1467	0.1465	0.1470	0.1457
Weighted Average of Growth Ratio			1.0390	1.0503	1.0569	1.0588	1.0463	1.0466	1.0521	1.0524

b) Population 64 and under (younger and productive-population)

Code	Name	Distance	1960-1965	1965-1970	1970-1975	1975-1980	1980-1985	1985-1990	1990-1995	1995-2000
13106	Taito-ku	4.2	0.0100	0.0098	0.0099	0.0099	0.0101	0.0100	0.0100	0.0102
13118	Arakawa-ku	6.7	0.0162	0.0159	0.0158	0.0159	0.0161	0.0161	0.0161	0.0163
13117	Kita-ku	8.9	0.0220	0.0214	0.0215	0.0212	0.0213	0.0214	0.0212	0.0214
11203	Kawaguchi-shi	14.8	0.0389	0.0375	0.0368	0.0366	0.0364	0.0365	0.0360	0.0359
11223	Warabi-shi	18.0	0.0466	0.0446	0.0436	0.0430	0.0436	0.0441	0.0433	0.0434
11204	Urawa-shi	23.2	0.0596	0.0587	0.0588	0.0572	0.0569	0.0575	0.0572	0.0569
11220	Yono-shi	26.0	0.0663	0.0657	0.0647	0.0633	0.0629	0.0644	0.0635	0.0631
11205	Omiya-shi	28.0	0.0714	0.0711	0.0708	0.0690	0.0686	0.0690	0.0688	0.0684
11219	Ageo-shi	36.5	0.0953	0.1025	0.0938	0.0910	0.0899	0.0901	0.0894	0.0888
11231	Okegawa-shi	40.2	0.1034	0.1043	0.1021	0.1005	0.0995	0.0999	0.0985	0.0973
11233	Kitamoto-shi	44.0	0.1134	0.1169	0.1152	0.1091	0.1097	0.1088	0.1086	0.1062
11217	Konosu-shi	48.0	0.1201	0.1201	0.1216	0.1189	0.1179	0.1209	0.1189	0.1172
11304	Fukiage-machi	54.5	0.1376	0.1373	0.1346	0.1374	0.1351	0.1343	0.1330	0.1319
11206	Gyohda-shi	58.0	0.1416	0.1429	0.1436	0.1437	0.1431	0.1420	0.1414	0.1404
Weighted Average of Growth Ratio			1.0424	1.0487	1.0329	1.0168	1.0112	1.0151	1.0060	0.9973

c) Total population

Code	Name	Distance	1960-1965	1965-1970	1970-1975	1975-1980	1980-1985	1985-1990	1990-1995	1995-2000
13106	Taito-ku	4.2	0.0100	0.0099	0.0099	0.0100	0.0101	0.0101	0.0101	0.0103
13118	Arakawa-ku	6.7	0.0162	0.0159	0.0159	0.0160	0.0162	0.0162	0.0162	0.0164
13117	Kita-ku	8.9	0.0220	0.0215	0.0215	0.0213	0.0214	0.0215	0.0214	0.0216
11203	Kawaguchi-shi	14.8	0.0389	0.0375	0.0369	0.0367	0.0364	0.0366	0.0362	0.0362
11223	Warabi-shi	18.0	0.0466	0.0447	0.0437	0.0432	0.0437	0.0442	0.0436	0.0437
11204	Urawa-shi	23.2	0.0596	0.0587	0.0588	0.0573	0.0570	0.0576	0.0574	0.0572
11220	Yono-shi	26.0	0.0663	0.0658	0.0648	0.0635	0.0631	0.0645	0.0637	0.0634
11205	Omiya-shi	28.0	0.0714	0.0712	0.0709	0.0692	0.0688	0.0692	0.0691	0.0688
11219	Ageo-shi	36.5	0.0951	0.1022	0.0939	0.0911	0.0901	0.0904	0.0898	0.0894
11231	Okegawa-shi	40.2	0.1034	0.1043	0.1021	0.1008	0.0998	0.1001	0.0989	0.0980
11233	Kitamoto-shi	44.0	0.1133	0.1167	0.1152	0.1093	0.1099	0.1091	0.1090	0.1069
11217	Konosu-shi	48.0	0.1200	0.1201	0.1217	0.1192	0.1182	0.1210	0.1192	0.1179
11304	Fukiage-machi	54.5	0.1375	0.1373	0.1349	0.1376	0.1353	0.1346	0.1336	0.1328
11206	Gyohda-shi	58.0	0.1418	0.1431	0.1438	0.1440	0.1434	0.1425	0.1421	0.1412
Weighted Average of Growth Ratio			1.0422	1.0488	1.0341	1.0192	1.0136	1.0176	1.0103	1.0036

(d) Population over 65 and under 74 (young old population)

Code	Name	Distance	1960-1965	1965-1970	1970-1975	1975-1980	1980-1985	1985-1990	1990-1995	1995-2000
13106	Taito-ku	4.2	0.0106	0.0105	0.0105	0.0103	0.0102	0.0102	0.0105	0.0105
13118	Arakawa-ku	6.7	0.0170	0.0168	0.0167	0.0167	0.0165	0.0166	0.0168	0.0167
13117	Kita-ku	8.9	0.0227	0.0224	0.0223	0.0221	0.0220	0.0222	0.0225	0.0223
11203	Kawaguchi-shi	14.8	0.0388	0.0382	0.0381	0.0380	0.0373	0.0373	0.0378	0.0386
11223	Warabi-shi	18.0	0.0463	0.0465	0.0458	0.0456	0.0448	0.0447	0.0460	0.0457
11204	Urawa-shi	23.2	0.0597	0.0599	0.0591	0.0589	0.0581	0.0583	0.0596	0.0594
11220	Yono-shi	26.0	0.0664	0.0671	0.0671	0.0666	0.0647	0.0650	0.0659	0.0659
11205	Omiya-shi	28.0	0.0715	0.0726	0.0723	0.0718	0.0705	0.0702	0.0719	0.0719
11219	Ageo-shi	36.5	0.0915	0.0961	0.0954	0.0948	0.0934	0.0932	0.0946	0.0956
11231	Okegawa-shi	40.2	0.1033	0.1032	0.1028	0.1049	0.1019	0.1011	0.1040	0.1041
11233	Kitamoto-shi	44.0	0.1110	0.1136	0.1171	0.1150	0.1122	0.1112	0.1138	0.1141
11217	Konosu-shi	48.0	0.1183	0.1209	0.1229	0.1228	0.1211	0.1213	0.1231	0.1231
11304	Fukiage-machi	54.5	0.1357	0.1398	0.1380	0.1407	0.1364	0.1352	0.1407	0.1404
11206	Gyohda-shi	58.0	0.1437	0.1457	0.1458	0.1471	0.1456	0.1447	0.1462	0.1441
Weighted Average of Growth Ratio			1.0364	1.0533	1.0538	1.0554	1.0348	1.0311	1.0534	1.0524

(e) Population 75 and over (old old population)

Code	Name	Distance	1960-1965	1965-1970	1970-1975	1975-1980	1980-1985	1985-1990	1990-1995	1995-2000
13106	Taito-ku	4.2	0.0107	0.0107	0.0107	0.0108	0.0107	0.0105	0.0104	0.0105
13118	Arakawa-ku	6.7	0.0173	0.0171	0.0174	0.0172	0.0171	0.0170	0.0168	0.0169
13117	Kita-ku	8.9	0.0230	0.0229	0.0232	0.0229	0.0227	0.0226	0.0224	0.0226
11203	Kawaguchi-shi	14.8	0.0390	0.0381	0.0387	0.0387	0.0389	0.0386	0.0377	0.0380
11223	Warabi-shi	18.0	0.0470	0.0455	0.0459	0.0474	0.0472	0.0466	0.0455	0.0457
11204	Urawa-shi	23.2	0.0603	0.0596	0.0607	0.0603	0.0602	0.0598	0.0588	0.0595
11220	Yono-shi	26.0	0.0683	0.0661	0.0677	0.0680	0.0680	0.0672	0.0661	0.0660
11205	Omiya-shi	28.0	0.0716	0.0718	0.0734	0.0729	0.0735	0.0732	0.0716	0.0716
11219	Ageo-shi	36.5	0.0942	0.0935	0.0949	0.0951	0.0962	0.0969	0.0949	0.0942
11231	Okegawa-shi	40.2	0.1012	0.1038	0.1037	0.1056	0.1049	0.1062	0.1027	0.1034
11233	Kitamoto-shi	44.0	0.1106	0.1129	0.1140	0.1123	0.1215	0.1174	0.1121	0.1132
11217	Konosu-shi	48.0	0.1200	0.1201	0.1237	0.1241	0.1230	0.1263	0.1230	0.1239
11304	Fukiage-machi	54.5	0.1349	0.1356	0.1435	0.1423	0.1403	0.1432	0.1399	0.1383
11206	Gyohda-shi	58.0	0.1480	0.1447	0.1481	0.1493	0.1489	0.1498	0.1483	0.1480
Weighted Average of Growth Ratio			1.0460	1.0425	1.0656	1.0668	1.0729	1.0754	1.0501	1.0519

(f) Aged population living with relatives or non-relatives

			ordinary household		private household			
Code	Locality	Distance	1970-75	1975-80	1980-85	1985-90	1990-95	1995-2000
13106	Taito-ku	4.2	0.0158	0.0104	0.0103	0.0103	0.0103	0.0104
13118	Arakawa-ku	6.7	0.0253	0.0168	0.0166	0.0167	0.0167	0.0167
13117	Kita-ku	8.9	0.0338	0.0222	0.0222	0.0222	0.0223	0.0222
11203	Kawaguchi-shi	14.8	0.0575	0.0381	0.0376	0.0376	0.0377	0.0381
11223	Warabi-shi	18.0	0.0690	0.0459	0.0454	0.0451	0.0456	0.0455
11204	Urawa-shi	23.2	0.0896	0.0592	0.0586	0.0586	0.0591	0.0590
11220	Yono-shi	26.0	0.1015	0.0668	0.0656	0.0655	0.0656	0.0658
11205	Omiya-shi	28.0	0.1093	0.0719	0.0712	0.0710	0.0716	0.0714
11219	Ageo-shi	36.5	0.1433	0.0946	0.0942	0.0941	0.0942	0.0945
11231	Okegawa-shi	40.2	—	0.1047	0.1021	0.1024	0.1034	0.1035
11233	Kitamoto-shi	44.0	—	0.1141	0.1134	0.1130	0.1133	0.1131
11217	Konosu-shi	48.0	0.1850	0.1230	0.1215	0.1227	0.1228	0.1224
11304	Fukiage-machi	54.5	—	0.1412	0.1373	0.1375	0.1397	0.1393
11206	Gyohda-shi	58.0	0.2212	0.1472	0.1463	0.1464	0.1467	0.1446
Weighted Average of Growth Ratio			1.0513	1.0560	1.0423	1.0430	1.0489	1.0465

(g) Aged population living alone

			ordinary household		private household			
Code	Locality	Distance	1970-75	1975-80	1980-85	1985-90	1990-95	1995-2000
13106	Taito-ku	4.2	0.0172	0.0109	0.0106	0.0107	0.0108	0.0108
13118	Arakawa-ku	6.7	0.0267	0.0176	0.0171	0.0171	0.0173	0.0173
13117	Kita-ku	8.9	0.0365	0.0237	0.0229	0.0232	0.0231	0.0230
11203	Kawaguchi-shi	14.8	0.0612	0.0402	0.0388	0.0390	0.0388	0.0401
11223	Warabi-shi	18.0	0.0737	0.0484	0.0457	0.0478	0.0471	0.0469
11204	Urawa-shi	23.2	0.0970	0.0615	0.0604	0.0613	0.0610	0.0619
11220	Yono-shi	26.0	0.1071	0.0699	0.0673	0.0687	0.0681	0.0673
11205	Omiya-shi	28.0	0.1163	0.0755	0.0725	0.0742	0.0740	0.0751
11219	Ageo-shi	36.5	0.1533	0.0993	0.0953	0.0991	0.0991	0.0997
11231	Okegawa-shi	40.2	—	0.1052	0.1103	0.1089	0.1059	0.1078
11233	Kitamoto-shi	44.0	—	0.1165	0.1202	0.1179	0.1171	0.1192
11217	Konosu-shi	48.0	0.1996	0.1270	0.1263	0.1273	0.1264	0.1299
11304	Fukiage-machi	54.5	—	0.1389	0.1446	0.1456	0.1447	0.1413
11206	Gyohda-shi	58.0	0.2279	0.1534	0.1501	0.1518	0.1501	0.1524
Weighted Average of Growth Ratio			1.1166	1.0880	1.0821	1.0928	1.0836	1.0929