

Research-data
B No. 12.

Birth Place Composition of
Population of 109 Cities in
1930

by

Minoru Tachi

Masao Ueda

Institute of Population Problems,
Welfare Ministry, Tôkyô, Japan.

1. Aim:

The concentration of population in the cities can be considered from two view points, namely natural moving phase and social moving phase. In another words, it is an investigation of Natural increase and Migration. We have made the basic investigation about natural increase of urban population in the other report.

As the result it was proved that the natural increase of populations of cities have regional characteristics. As one of the influential factors which regulates those regional characteristics the spacial limit of population movement seems to affect it.

In statistics of population, natural and social movement of population have been treated separately. But to consider together them, we can theoretically depend upon following two ways of sociological investigation. One is the conflict between the civilization the urban and rural civilization, in the city. The other is an application of, so called "Ravenstein's Law".

It is our aim of this research that, through this theory, we clarify the spacial limit of migration and want to trace the local phase of migration in the city.

11. Method

As the first step to catch the local phase of the concentration of the population in the cities, we determined, in this research, to investigate the birth place composition of population in the cities. We availed inevitably ourselves of static statistics of population because there is not almost perfect statistics in movement concerning migration.

We used the result of the census in 1930, because it is impossible to get a clear idea of birth place composition of population if we use the census after 1935. And from other point of view, that year 1930 may be considered to have been at the kottom of business depression, it can also be said that it may show us a normal picture of local form of migration.

111. Result

III. Result.

(1) First of all we worked out in the table I about 109 cities to the whole population of the city the proportion of (a) its population born in their (b) its population born outside of the city, in the same prefecture. (c) its population born outside of the prefecture, and (d) its population born outside of Japan Proper.

The city where the proportion of the population born in their city is small and that of the population born outside of the city is large, shows that the force of absorbing population is surpass the natural increase force and the factors making the force of absorbing population to be strong, are firstly its industry and trade, and secondly its politics, its military affairs and its civilization. Those cities which have large proportion of population born out side of the city, such as Kawasaki, Yokosuka, Osaka, Kyōto, Tobata, Moji, Saseho, Amagasaki, Wakamatsu (in Fukuoka prefecture) Yawata, Yokohama, Toyohashi, Kōbe, Nishinomiya, Muroran, Kushiro, Hakodate. Those are such as.

- (a) Industrial cities, above all the cities of heavy industry.
- (b) The port Cities.
- (c) The cities of naval port.
- (d) The cities in Hokkaido which have much of colonial characteristics. (They have also qualities of industrial cities and that of port city.)

Of the six greatest cities, it calls our attention, Nagoya has comparatively more proportion of population born in its own city. It must be also considered that Nagoya has highest rate of natural increase rate, and its degree of industrialization and its condition of border.

(2) We worked out the proportion to the total population born outside of that prefecture, of the population born the other prefectures and outside of Japan proper.

We

We tried whether Ravenstein's Law which is one of the famous laws in sociology can be applied to the actual facts of Japan or not, that is, whether this law can be verified by the actual facts of Japan or not. As the result, the two principles of Ravenstein's laws:

(a) the migrants to the great cities walk only a short distance, (b) the Cities developing rapidly are filled with the people from towns and the villages which directly surround the cities and the vacancies of rural population, made by those people, will be filled up by the people from remoter regions.

These two principles are generally proved. The principle that the main streams cause the contra-streams which fill up the vacancies cannot be all proved, but we can conjecture the fact that there is contra-stream.

And we can generally admit the principle that those who go a long way will like to march to the great centers of commerce and industry. Finally women is greater than men as to movement. But the principle that those going a very great distance are mostly men, cannot be proved so clearly. On the contrary, we can find the fact that men are more than women even in the case of migrants of shorter distance. This point attract our notice in relation to the fact, that in Japan the circumstances are quite different from that of main cities in foreign countries, that is, men are more numerous than women.

From the view point of research of population phenomena main facts got from the research are as follows: -

(a) The centralization of population in city are limited by distance. We cannot find out such definite relation as Young's equation. But we can conjecture that there is a tendency that the degrees of movement becomes less and less as the distance from the city becomes larger.

(b)

(b) The above facts can be generally admitted without any relation with the scale of the city, and the proportion of the population that streams into the city, and character of the city.

(c) The exceptions of the limitation of migration by distance are the cities on a bay, especially naval ports or colonial cities.

(d) Most of the population of the cities born in the other prefectures, are born in the block, to which they belong or are in the neighbouring block which have the same similarity. (Such as North block of Kyūshū districts or Chūgoku districts.)

The birth places of these population are only from to 5, 6, or 7 prefectures among the majority of the cities and shows a strong tendency of centralization of the birth places.

(e) In the great cities especially the six greatest cities, the birth place of the population who were born outside their prefectures are disperse. Those are most in the districts to which the cities belong, and next in the neighbouring special blocks.

The population which centralize in a large city have a definite direction of migration.

(3) In order to investigate the fields from which various cities absorb their population, that is, the area where the city is principally absorbing its population from, to investigate the conditions that those circles become complicated, we arrange the populations, born outside of the prefectures beginning with the biggest ones until we get prefectures, the populations

of which in total attain or exceed 60% of populations of those born outside of the prefecture to which their cities belong, and we stop there. And as a radius of the following circle, we take the distance between the city and the most remotest prefecture in them. We draw a circle, the center of which is that city, with this radius and we defined the area which is contained in this circle, the Principal absorbing circle (area) of the city. But we excluded the cities in Hokkaido and Okinawa for the time, being because they are

distributed in a very special way.

If we put down what the table suggest us, they will be as follows:-

(a) From the fact that the centralization of population is limited by distance, as we have noticed in the above article, principal absorbing circles and their mixing conditions show a little clear tendency of the block.

(1) The principal absorbing circles of cities in the Tohoku districts, cluster in the Tohoku Hokkaido districts. Including Hokkaido districts, their radio reach from 300 km to 550 km.

If we exclude Hokkaido, it falls in Tohoku district and the radii of those cities are from 100 km to 150 km.

(2) The absorbing circles of cities in Kwanto district are clustered in the circle drawn with a radius of 180 km from its geographical center.

That circle contains Tohoku, district, Hokuriku district and part of Tokai district. Of course, main parts of the circles are Kwanto district itself.

(3) The radius of the absorbing circle of cities in Tokai district is the longest. The circle drawn with a radius of 230 k.m. from its geographical center, contains most of them, and contain Kwanto, Hokuriku and a part of Kinki districts.

(4) As the cities in Hokuriku have exchanging stream to Hokkaido districts, their radii are remarkably great, but if we exclude Hokkaido district, their radii are from 70 k.m. to 120 k.m. It contains principally Hokuriku district.

(5) The absorbing circles of the cities in Kinki district are contained in the circle drawn with a radius of 180 k.m. from the geographical center. It contains Chugoku, Shikoku, Tokai and part of Hokuriku districts.

(6) The absorbing circle of cities in Chugoku district are clustered in the circle drawn with a radius of 120 k.m. from geographical center, excluding Yamaguchi prefecture.

(7) The greater part of Shikoku districts is contained in above circle and most part of the absorbing circle of the cities in Shikoku district also contained.

(8) Kyūshū district are divided into North and South. In the circle drawn with a radius of 180 k.m., its center being Moji, most of absorbing circles, of the cities of North Kyūshū are contained.

Most of the absorbing circles of the cities of South Kyūshū are in circles of radii of from 60 k.m. to 120 k.m.

(b) We can find four regions where many absorbing circles cluster.

(1) The first one of them in Hokkaidō district which supplies population to almost all cities in Tōhoku, Hokuriku districts by exchanging stream.

(2) The second is Niigata prefecture. It is sending many people to south west, especially to almost every city in Kantō districts.

(3) The third is Hiroshima prefecture. This is also sending a great many people to the East. We can conjecture that it is supplying not a small population to the cities in Chūgoku, Kinki and Shikoku districts.

(4) The last one is Kagoshima prefecture, we can conjecture that it is supplying not a small population to the cities in North Kyūshū, Chūgoku, Shikoku and Kinki districts.

(c) The cities which have the absorbing circles (as their supply field) of which radii are quite big are those, such as Seto, Shimizu, Toyama, Takada, Nagaoka, Uji-Yamada Niigata. Their radii ranges from 600 k.m. to 960 k.m. In general, the cities with large circles belong to one of the following types.

(1) The six greatest cities (230 k.m. - 550 k.m)

(2) Port cities, such as Kure, Yokkaichi, Yokosuka, Shimonoseki, (approximately 250 k.m. - 500 k.m.) and Nagasaki's radius 140 k.m. and Saseho's 90 k.m. are exceptions.

(3) Industrial cities and developing cities (above 180 k.m)

The cities whose radii are comparatively small especially less than 100 k.m., are generally small and are not developing, except Saseho and Kanagawa. Middle cities, whose populations are over 50,000, have almost all the radii more than 150 k.m. with some exceptions.

Table I Birth Place Composition of
City Population by Districts

Cities by districts	In their own city	outside of the city	in the prefecture	Outside of Japan proper
	%	%	%	%
Total	62.08	20.73	16.26	0.93
Urban districts	44.17	19.55	34.44	1.83
Rural districts	67.72	21.10	10.53	0.65
HOKKAIDŌ DISTRICT				
SAPPORO	34.16	30.25	34.95	0.64
ASAHIKAWA	31.19	31.44	36.70	0.68
OTARU	39.84	22.85	36.35	0.96
HAKODATE	42.62	17.34	38.06	1.99
MURORAN	38.29	19.84	41.02	0.84
KUSHIRO	35.77	22.84	40.71	0.68
TOHOKU DISTRICT				
HIROSAKI	60.99	26.15	12.39	0.47
AOMORI	49.63	36.88	13.12	0.37
HACHINOHE	68.69	20.28	10.87	0.16
MORIOKA	56.93	28.32	14.16	0.59
SENDAI	52.13	23.66	23.44	0.77
AKITA	51.79	36.41	11.33	0.47
YAMAGATA	56.61	34.83	8.16	0.39
YONEZAWA	69.12	22.07	8.57	0.23
TSURUOKA	64.60	29.67	5.31	0.43
FUKUSHIMA	41.90	36.28	21.45	0.37
WAKAMATSU	57.20	29.69	12.79	0.32
KORIYAMA	44.01	39.40	16.23	0.36
NIIGATA	54.54	37.82	7.30	0.33
NAGAOKA	56.08	37.65	5.91	0.36
TAKADA	52.45	38.12	9.01	0.41

KANTO DISTRICT

MIYO	42.01	32.51	18.85	0.62
UTSUNOMIYA	48.88	32.90	17.89	0.33
ASHIKAGA	47.98	27.64	24.04	0.33
KIRIU	45.98	20.51	33.09	0.42
MAEBASHI	43.31	29.10	27.15	0.43
TAKASAKI	49.61	27.54	22.55	0.30
KAWAGOE	52.32	31.81	15.53	0.35
CHIBA	41.39	32.92	25.09	0.59
TOKYO	41.24	4.57	52.97	1.22
HACHIOJI	47.22	26.40	27.95	0.43
YOKOHAMA	45.52	9.26	43.24	1.99
YOKOSUKA	30.85	13.80	54.52	0.83
KAWASAKI	34.69	8.99	54.68	1.64
KOFU	48.19	38.65	12.02	1.15

HOKURIKU DISTRICT

TOYAMA	59.88	30.40	9.13	0.60
TAKAOKA	66.83	24.55	8.21	0.41
KANAZAWA	50.71	30.91	17.60	0.78
FUKUI	49.86	37.61	11.71	0.82

TOKAI DISTRICT

NAGANO	56.95	27.95	14.24	0.86
MATSUOTO	44.03	40.47	14.58	0.93
UEDA	50.38	32.11	17.00	0.51
GIFU	36.84	44.19	18.31	0.67
OGAKI	41.57	32.54	24.68	1.22
SHIZUOKA	56.01	31.51	12.03	0.45
HAMAMATSU	39.88	43.27	16.31	0.55
NUMAZU	48.60	32.62	17.57	1.21
SHIMIZU	59.79	29.02	9.67	1.53
NAGOYA DISTRICT	49.78	20.27	27.99	1.97
TOYOHASHI	34.94	40.31	21.48	3.27
OKAZAKI	46.27	41.60	10.71	1.43
ICHINOHIYA	41.06	29.78	27.88	1.28
TSU	45.87	40.73	12.75	0.65
SETO	52.04	30.27	11.53	6.16
YOKKAICHI	49.12	33.31	16.32	1.25
UZIYAMADA	50.28	37.01	11.48	1.23

KINKI DISTRICT

UTSU	43.77	28.21	27.21	0.81
KYOTO	48.95	9.50	39.27	2.27
FUSHIMI	43.16	22.33	32.55	1.96
OSAKA	40.82	4.76	51.00	3.42
SAKAI	47.65	20.00	29.70	2.65
KISHIWADA	49.22	22.89	25.12	2.78
KOBE	38.09	18.33	40.61	2.97
AKASHI	48.80	31.34	18.75	1.12
AMAGASAKI	36.70	13.50	47.54	2.26
NISHINOMIYA	35.39	22.26	41.24	1.11
HIMEJI	40.01	40.97	17.85	1.16
NARA	46.16	25.70	26.85	1.29
WAKAYAMA	41.07	33.39	14.20	1.34

THUGOKU DISTRICT

TOTTORI	53.13	31.80	14.33	0.74
YONAGO	43.38	25.04	30.85	0.73
MATSUE	56.02	30.26	12.14	0.58
OKAYAMA	37.75	38.61	22.39	1.25
KURASHIKI	44.13	37.02	17.03	0.92
TSUYAMA	56.76	34.93	7.54	0.77
HIROSHIMA	48.37	29.76	18.55	3.32
KURE	44.95	23.26	31.01	0.77
ONOMICHI	47.43	39.10	12.79	0.68
FUKUYAMA	41.50	41.25	15.74	1.51
UBE	36.17	32.63	26.94	4.26
SHIMONOSEKI	35.67	24.97	34.69	4.67
YAMAGUCHI	39.45	40.97	16.89	2.69

SHIKOKU DISTRICT

TOKUSHIMA	56.53	34.03	9.05	0.39
TAKAMATSU	54.49	32.56	12.34	0.61
MARUGAME	55.73	32.24	11.28	0.75
NATSUYAMA	47.24	42.12	9.88	0.76
IMABARI	42.09	45.19	11.60	1.12
UYAJIMA	44.32	44.67	10.29	0.72
KUCHI	38.59	49.45	11.11	0.85

KYUSHU DISTRICT

FUKUOKA	44.90	26.64	26.63	1.83
YAKAMATSU	31.16	21.06	43.76	4.03
YAWATA	30.10	24.23	43.45	2.22
KURUME	46.92	29.84	21.80	1.43
UMUDA	39.08	24.99	35.03	0.90
KOKURA	37.50	24.27	35.51	2.72
MOJI	33.87	14.11	48.47	3.56
TOBATA	23.71	24.11	48.76	3.41
SAGA	44.21	38.08	16.06	1.58
NAGASAKI	46.24	31.17	20.60	1.98
SASEHO	32.92	16.10	50.13	0.84
KUMAMOTO	47.13	33.61	17.88	1.37
OITA	43.32	37.32	18.04	1.32
BEPPU	29.25	36.93	32.07	1.75
NAKATSU	55.79	21.85	20.84	1.53
MIYAZAKI	38.11	32.51	28.38	1.01
MIYAKONOJYO	56.14	17.14	26.02	0.70
KAGOSHIMA	46.09	41.58	11.12	1.22
NAWA	63.55	30.63	5.28	0.55
SHURI	89.82	8.66	1.13	0.38

* Those are the ratio of the population classified by the birth place population of each city.

Table II Radius of the area where the City is principally absorbing its population from

City by Districts	Radius (km)	City by Districts	Radius (km)	City by Districts	Radius (km)
TOHOKU DISTRICT		HAMAMATSU	570	IMABARI	270
HIROSAKI	300	NUMAZU	320	UWAJIMA	210
AOMORI	280	SHIMIZU	950	KOCHI	300
HACHINOE	290	NAGOYA	380	KYŪSHŪ DISTRICT	
MORIOKA	390	TOYOHASHI	100	FUKUOKA	220
SENDAI	170	OKAZAKI	380	WAKAMATSU	200
AKITA	390	ICHINOMIYA	360	YAMATA	180
YAMAGATA	550	TSU	580	KURUME	110
YONEZAWA	210	SETO	960	OMUDA	70
TSURUOKA	510	YOKKAICHI	400	KOKURA	170
FUKUSHIMA	140	UJIYAMADA	660	MOJI	170
WAKAMATSU	130	KINKI DISTRICT		TOBATA	180
KOORIYAMA	110	ŌTSU	190	SAGA	140
NIIGATA	610	KYŪTO	230	NAGASAKI	140
NAGAOKA	680	FUSHIMI	310	SASEHO	90
TAKADA	740	ŌSAKA	280	KUMAMOTO	140
KANTŌ DISTRICT		SAKAI	270	UITA	210
MITO	220	KISHIWADA	530	BEPPU	160
UTSUNOMIYA	180	KOBĒ	550	NAKATSU	180
ASHIKAGA	60	AKASHI	530	MIYAZAKI	260
KIRIU	190	AMAGASAKI	550	MIYAKONOJYŪ	60
MAEBASHI	180	NISHINOMIYA	480	KAGOSHIMA	220
TAKASAKI	230	HIMEJI	520		
KAWAGOE	230	NARA	90		
CHIBA	280	WAKAYAMA	250		
TŌKYŪ	270	CHŪGOKU DISTRICT			
HACHIŪJI	90	TOTTORI	100		
YOKOHAMA	300	YONAGO	30		
YOKOSUKA	370	MATSUE	200		
KAWASAKI	120	OKAYAMA	150		
KŌFU	270	KURASHIKI	120		

HOKURIKU DISTRICT		TSUYAMA	160
		HIROSHIMA	310
TOYAMA	810	KURE	430
TAKAOKA	570	ONOMICHI	290
KANAZAWA	70	FUKUYAMA	170
FUKUI	120	UBE	230
		SHIMONOSEKI	290
TOKAI DISTRICT		YAMAGUCHI	230
NAGANO	180	SHIKOKU DISTRICT	
MATSUMOTO	220		
UEDA	200	TOKUSHIMA	200
GIFU	350	TAKAMATSU	150
OGAKI	380	MARUGAME	130
SHIZUOKA	350	MATSUYAMA	230

HOKURIKU DISTRICT		TSUYAMA	160
		HIROSHIMA	310
TOYAMA	810	KURE	430
TAKAOKA	570	ONOMICHI	290
KANAZAWA	70	FUKUYAMA	170
FUKUI	120	UBE	230
		SHIMONOSEKI	290
TOKAI DISTRICT		YAMAGUCHI	230
NAGANO	180	SHIKOKU DISTRICT	
MATSUMOTO	220		
UEDA	200	TOKUSHIMA	200