Kyoto University
Economic Review

INTERRELATION BETWEEN THE WEALTH AND THE DENSITY OF POPULA- TION IN JAPAN

COMPARISON OF THE DENSITY OF POPULATION IN JAPAN WITH THE AVERAGE RENTAL VALUE OF LAND

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1. VARIOUS STUDIES IN THE DENSITY OF POPULATION

The study of the static statistics of population was formerly practically neglected in Japan, but as a result of the quinquennial censuses taken three times, the first on October 1st, 1920, this study has made remarkable progress in recent years. It is through the results of the three censuses in the past that we are able to form a correct idea of the population of this country, the state of the distribution of population in the provinces, classification of population by age and sex, and other details. In the present article, I intend to deal exclusively with the density of population in Japan.

A comparison of the results of the three censuses in the past, namely on October 1st, 1920, 1925 and 1930, reveals the fact that the percentage of population in rural districts declines, while in urban districts it makes a gradual increase. Whereas there is a steady growth in the density of popula- tion in the prefectures with big cities in consequence, there is little change in the density of population in other pre- fectures—or, in some exceptional cases, there is a positive decline in density. A laborious work by Mr. Ono on the density of population[1] is based in the results of the census

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(1) Onō, *Map of Japan representing the density of population for all districts and cities.*

A. ANDRÉADÉS, La Population du Japon.

taken in 1920 exclusively, and a study of the results of the
census taken in 1925 and that in 1930 discloses different
phases which the density of population has developed during
the last ten years. The causes of such changes in the
density of the population deserve careful attention in a
survey of the social life of this country.

Many causes may be adduced as influencing the density
of population. Some statisticians divide these causes into
natural causes and social ones[2]. There is a high density
of population where conditions are suited for living, viewed
from the standpoints of topography, atmospheric temperature,
the amount of precipitation, humidity, and the nature of
soil, and in this case natural causes operate. The population
is sparse where adverse conditions rule. Political causes,
constituting part of the social causes, are at work where
transfer of territorial rights and change of nationality cause
removal of abodes, or where the existence of frontiers
restricts migration. Since economic life began to assume
special importance in social life, however, economic causes
have come to form more powerful factors in the determina-
tion of places of residence than natural and political causes.
Even districts poor in natural resources can absorb a large
population, if sources of wealth are fostered by human
effort. On the other hand, no amount of political effort
will avail to increase population in places which offer
slender prospects of wealth. It is, thus, necessary to take
economic factors into careful consideration in the study of
the density of population. What economic factors must,
then, be regarded as influencing the density of the population
in this country?

Inasmuch as the density of population is denoted by
figures which, after all, illustrate the relation between land
and population, economic factors to be chosen for con-
sideration in the study of the density of population must
be those bearing on land. A variety of statistical figures

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(2) MAYO-SMITH, Statistics and Sociology. Book IV.

are made use of, as reflecting the economic power of certain districts. For instance, the amount of direct national taxes paid, the amount of the C-class income tax, the quantity of liquors consumed, the quantity of tobacco consumed, bank deposits and the rental value of land may commend them-selves for consideration in this connection. These figures may either be used separately or collectively. The economic power of various districts can be compared by means of synthetic index numbers created by combining these figures. Most of these figures do not always reflect truthfully the economic power of the districts concerned; they contain many errors. I do not, however, propose to discuss this phase of the question now. In the present article, my attention will be confined to the consideration of the rental value of land, as reflecting the economic power of districts, with a view to making clear through it the relation between economic life and the density of population.

2. THE INVESTIGATION OF THE RENTAL VALUE OF LAND

As one direct result of the enactment of the new land tax law to replace the land tax regulations, with the ap-proval of the 59th session of the Diet, that of 1930-1931, the land tax in rural districts has been reduced, while that in urban districts has been increased. This is due to the substitution of the rental value for the value of land as the standard of assessment. Whereas the value of land repre-sents the property price of land, the rental value of land embodies the returns on land. So, the dynamic economic power of a district can be seen by the local rental value of land, whereas the local value of land represents the static economic power of a district.

As is explained in the « Report on the Work of Inves-tigation into the Rental Value of Land » published by the Taxation Bureau of the Finance Department, the official investigation of the rental value of land was carried out in

accordance with the provisions of the Rental Value of Land
Investigation Law (Law No. 45, promulgated in Mach, 1926),
the procedure of investigation into the rental value of land
(notification No. 22, issued by the Director of the Taxation
Bureau under date of May 1st, 1926), the Land Rental Value
Inquiry Commission Law (Law No. 16, promulgated in
March, 1927), and the regulations for the enforcement of
the Land Rental Value Inquiry Commission Law (Finance
Department Order No. 18, issued under date of June 15th,
1927).   The work started in April, 1926, and finished in a
year and a half by the unresting effort of 887 full-time
officials and by the help of 9,000 officials of the Finance
Department, Taxation Bureau & Taxation Offices, the total
expenditure involved being put roughly at Y. 11,000,000.   It
is worthy of note in this connection that by the rental
value of land is meant « the amount of money accruing to
the lessor in case he leases land on condition that the lessor
bears the public levies, cost of repairs and other expenses
involved in the upkeep of the land » and that the rental
value of land inquired into, was that which ruled on April
1st, 1926.   This investigation made clear the returns on all
taxable lands throughout the country on April 1st, 1926.
Thus, in Japan, the census of the returns on land has been
completed, in addition to the census of the population.   The
results of this census of the rental value of land are of
special value in the study of the country's economic sta-
tistics.   Needless to say, this investigation was prompted
dy the financial motive of altering the standard of assessment
in regard to the land tax and was carried out as the prelude
to taxation reform.   But fortunately it incidentally served to
bring to completion the much-desired nation–wide inquiry
into the returns on land.

The rental value of land in this country, as classified
according to different descriptions of the land, viz. paddy
fields *(ta)*, fields *(hata)*, residential land, salt–fields, mineral
springs, ponds and marshes, forest land, meadows, waste
land, and miscellaneous land, is given in Table No. 1 :

Table No. 1.

The rental value of land for different classes of land.

CLASS OF LAND	Areas	Rental value (In Y. 1,000)	Average rental value (yen)
Paddy fields	2,973,413 (chō)	838,278	285.63 (per chō)
Fields	2,760,131 (chō)	215,567	78.57 (per chō)
Residential land	1,237,055 (1,000 tsubo)*	628,945	0.508 (per tsubo)
Salt-fields	5,806 (chō)	2,726	470.93 (per chō)
Mineral springs	13 (1,000 tsubo)*	382	97.664 (per chō)
Ponds & marshes ...	12,901 (chō)	331	25.73 (per chō)
Forest land	8,479,374 (chō)	41,482	4.89 (per chō)
Meadows	132,435 (chō)	201	1.52 (per chō)
Waste land	1,538,533 (chō)	4,536	2.95 (per chō)
Miscell neous land...	16,005 (chō)	2,264	141.49 (per chō)
	16,330,958 (chō)	1,734,719	

* 1 chō=3,000 tsubo

Table No. 1 shows the total amount of the rental value of land in Japan. In Table No. 2, the areas are similarly classified according to prefectures.

Table No. 2.

Taxable areas for different classes of land (chō).

PREFECTURES		Paddy fields	Fields	Residential land	Salt-fields	Mineral springs	Ponds & marshes	Forest land	Meadows	Waste land	Miscellaneous land	Total
Under jurisdiction of Tokyo Taxation Bureau.	Tokyo.........	14.649	41.141	14.622	—	0,00	137	40.867	—	5.764	111	117.203
	Kanagawa...	24.092	51.463	8.545	17,63	0,05	87	74.114	640	21.899	390	181.250
	Saitama......	67.744	97.683	16.121	—	—	380	70.894	—	8.680	76	261.581
	Chiba	105.768	84.906	16.162	125,92	—	925	127.612	1.854	22.833	626	360.816
	Yamanashi...	19.918	42.440	4.422	—	0,02	34	54.516	—	14.080	157	135.570
	Tochiki	69.845	64.138	11.926	—	0,01	118	183.787	8.123	19.533	243	357.719
	Ibaraki	92.393	126.681	18.097	—	0,01	586	163.749	1.466	21.345	1.096	425.417
	Gumma	33.380	77.068	9.955	—	0,27	302	128.521	3.676	30.684	69	283.658
Under jurisdiction of Osaka Taxation Bureau.	Osaka.........	54.168	12.894	9.369	—	0,00	209	25.701	—	1.447	148	103.940
	Kyoto	45.980	18.157	7.093	—	—	562	130.087	—	1.458	84	203.424
	Hyogo.........	111.926	28.066	12.395	899,14	0,03	75	394.485	—	11.033	260	559.142
	Nara	33.694	10.328	3.333	—	0,00	16	137.747	—	1.015	1	186.137
	Wakayama...	33.633	15.560	3.866	2,48	0,02	32	268.508	—	1.442	76	323.122
	Shiga	64.495	11.101	6.178	—	—	295	112.526	—	8.538	96	203.231
	Fukui	48.489	13.658	4.481	1,97	0,00	82	111.490	11	2.559	97	180.873
	Ishikawa ...	55.196	27.318	5.328	103,68	0,06	197	81.328	—	3.063	241	172.778
	Toyama	80.809	15.723	6.101	—	0,05	126	51.847	—	3.175	144	157.928
	Kagawa	39.977	11.009	4.859	894,76	0,00	53	77.404	—	204	74	134.477
	Tokushima...	28.665	34.620	4.766	478,20	—	164	164.575	—	1.297	204	234.772
	Kochi	36.427	87.143	3.493	68,76	—	201	258.878	—	2.106	100	388.420
Under jurisdiction of Sapporo Taxation Bureau.	Hokkaido ...	17.720	369.528	8.154	—	0,03	45	838.874	93.119	244.375	4.672	1.576.488

Under jurisdiction of Sendai Taxation Bureau.	Miyagi	89.054	44.488	9.593	74,73	0,09	506	174.672	751	11.720	12	330.875
	Iwate	55.049	87.019	10.081	1,18	0,02	61	443.559	1.815	112.627	56	710.275
	Fukushima....	99.084	89.949	11.269	4,61	0,16	214	304.280	32	39.055	44	543.931
	Akita	105.990	32.942	8.638	0,05	0,01	30	103.200	—	100.320	66	531.190
	Aomori	64.585	57.573	7.395	—	0,17	11	109.706	8.586	84.914	425	333.198
	Yamagata ...	91.841	42.870	8.849	—	0.06	96	183.048	—	27.867	55	354.629
Under jurisdiction of Nagoya Taxation Bureau.	Aichi	94.373	63.116	16.985	212,29	—	1.705	104.288	—	5.599	902	287.184
	Shizuoka ...	64.101	73.695	11.390	14,35	0,10	322	278.718	298	70.609	643	499.794
	Miye	74.608	28.684	8.055	—	0,00	568	243.984	—	4.077	740	360.719
	Gifu............	66.988	49.157	8.457	—	0,10	956	427.768	—	7.660	61	561.051
	Nagano	78.291	102.603	12.386	—	0,19	84	243.650	4.994	180.170	62	621.744
	Niigata	176.518	74.498	15.501	52,60	0,20	2.007	252.139	13	14.109	731	535.572
Under jurisdiction of Hiroshima Taxa-tion Bureau.	Hiroshima ...	76.840	35.431	8.574	551,04	0,02	66	420.042	10	2.595	334	544.448
	Yamaguchi...	81.435	32.293	8.620	953,96	0,01	292	235.654	—	3.100	291	362.642
	Okayama ...	88.694	36.853	9.010	497,75	0,14	139	260.858	—	4.082	34	400.170
	Tottori	33.649	15.605	3.221	—	0,08	19	74.877	181	59.823	190	187.569
	Shimane......	56.812	36.700	5.267	—	0,05	125	366.487	15	1.630	294	467.333
	Ehime.........	48.320	63.259	6.153	320,12	—	169	220.135	207	674	158	339.190
Under jurisdiction of Kumamoto Taxa-tion Bureau.	Kumamoto...	75.531	106.521	10.122	0,24	0,11	180	70.518	—	57.567	69	320.511
	Fukuoka......	117.320	45.610	13.113	181.68	0,10	258	70.114	84	48.091	587	295.363
	Oita............	56.408	42.243	6.692	159,31	1,43	123	64.909	—	64.432	443	235.414
	Nagasaki ...	33.627	57.814	6.054	12,21	0,00	37	68.174	49	28.551	328	194.649
	Saga	52.687	19.488	4.538	0,12	0,01	128	39.338	—	41.178	60	157.421
	Kagoshima...	59.651	159.932	12.780	73,97	0,61	111	89.812	1.211	76.234	156	399.964
	Miyazaki ...	44.818	65.623	6.317	1,06	0,02	14	69.199	31	37.744	45	223.794
	Okinawa ...	8.151	55.520	4.006	102,68	—	31	62.711	5.965	27.551	229	164.270
		2.973.413	2.760.131	412.351	5.806,62	4,09	12.901	8.479.374	132.435	1.538.533	16.005	16.330.958

As will be seen by Table No. 2, areas of paddy fields, fields, residential land, salt-fields, mineral springs, ponds and marshes, forest land, meadows, waste land, and miscellaneous land vary according to prefectures, and consequently the rental value of the lands is necessarily at variance as the conditions of the lands differ. Table No. 3 shows the rental value of taxable lands as classified according to classes of lands.

Table No. 3.

The rental value of land for different classes of land (In Y. 1.000).

Paddy fields	Fields	Residential land	Salt-fields	Mineral springs	Ponds & marshes	Forest land	Meadows	Waste land	Miscellaneous land	Total
838.278	215.567	628.945	2.726	382	331	41.482	201	4.536	2.264	1.734.719

3. THE RELATION BETWEEN THE DENSITY OF POPULATION AND THE AVERAGE RENTAL VALUE OF LAND

It is of interest to see the relation existing between the results of the population censuses and those of the nation-wide investigation of the rental value of land. In order to make this point clear, I first worked out the number of inhabitants per square kilometre in each prefecture on the basis of the results of the latest census taken on October 1st, 1930, and then made out the index number showing the percentage of the density of population in each prefecture to the average density of population. The results are shown in Table No. 4.

Table No. 4.

The density of population for all prefectures.

PREFECTURES	Area (square kilometre)	Population	POPULATION PER SQUARE KILOMETRE	
			Density	Index number (295 persons =100)
Tokyo	2.144	5.408.262	2.522	855
Kanagawa	2.353	1.619.584	688	234
Saitama	3.801	1.459.168	384	130
Chiba	5.078	1.470.099	289	98
Yamanashi	4.465	631.037	141	48
Tochiki	6.436	1.141.636	177	60
Ibaraki	6.100	1.487.057	244	83
Gumma	6.335	1.186.058	187	63
Osaka	1.813	3.539.989	1.952	662
Kyoto	4.621	1.552.813	336	114
Hyogo	8.322	2.646.050	318	108
Nara	3.730	596.222	160	54
Wakayama	4.723	830.734	176	60
Shiga	4.050	691.631	171	58
Fukui	4.017	618.141	154	52
Ishikawa	4.197	756.837	180	61
Toyama	4.257	778.963	183	62
Kagawa	1.845	732.818	397	134
Tokushima	4.135	716.534	173	59
Kochi	7.088	718.157	101	34
Hokkaido	88.656	2.812.342	32	11
Miyagi	7.273	1.142.697	157	53
Iwate	15.235	975.751	64	22
Fukushima	13.781	1.508.122	109	38
Akita	11.724	987.702	84	29
Aomori	9.630	879.814	91	31
Yamagata	9.306	1.080.037	116	38
Aichi	5.055	2.567.398	508	172
Shizuoka	7.769	1.797.778	231	73
Miye	5.702	1.157.404	203	69
Gifu	10.462	1.178.366	113	38
Nagano	13.557	1.717.097	127	43
Niigata	12.578	1.933.312	154	52
Hiroshima	8.436	1.692.053	201	68
Yamaguchi	6.082	1.135.637	187	63
Okayama	7.046	1.283.935	182	62
Tottori	3.489	489.269	140	48
Shimane	6.618	739.473	112	38
Ehime	5.667	1.142.113	202	69
Kumamoto	7.437	1.353.908	182	62
Fukuoka	4.939	2.527.079	512	174
Oita	6.333	945.751	149	51
Nagasaki	4.118	1.232.812	299	101
Saga	2.443	691.452	283	96
Kagoshima	9.081	1.556.674	171	58
Miyazaki	7.738	760.450	98	33
Okinawa	2.386	577.508	242	82

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Next, the rental value of land per square kilometre of taxable land was calculated on the basis of the results of the investigation into the rental value of land, as is given in Table No. 5. In this table, the percentage of the average rental value of land in each prefecture to that of the whole country is indicated by the index number.

Table No. 5.

The average rental value of land for all prefectures.

PREFECTURES	Taxable land area (square kilometre)	Rental value of land (In Y. 1,000)	RENTAL VALUE OF LAND PFR SQUARE KILOMETRE	
			Average rental value (yen)	Index number (Y.15.605=100)
Tokyo	1.163	80.428	155.108	997
Kanagawa	1.797	38.146	21.221	136
Saitama	2.594	41.550	16.016	103
Chiba	3.579	46.106	12.884	83
Yamanashi	1.344	13.147	9.778	63
Tochiki	3.547	34.080	9.607	62
Ibaraki	4.219	45.894	10.877	70
Gumma	2.813	27.978	9.945	64
Osaka	1.030	108.498	105.255	675
Kyoto	2.017	41.569	20.604	133
Hyogo	5.545	79.636	14.361	92
Nara	1.845	16.303	8.926	57
Wakayama	3.204	18.017	5.622	36
Shiga	2.015	26.048	12.923	83
Fukui	1.793	18.870	10.521	67
Ishikawa	1.713	23.506	13.718	88
Toyama	1.566	27.369	17.474	112
Kagawa	1.333	20.387	15.285	98
Tokushima	2.328	17.873	7.676	50
Kochi	3.852	16.584	4.305	28
Hokkaido	15.634	25.887	1.655	16
Miyagi	3.281	30.027	9.150	59

Iwate	7.044	19.988	2.837	18
Fukushima	5.394	38.003	7.044	45
Akita	3.482	31.942	9.171	59
Aomori	3.304	19.722	5.968	38
Yamagata	3.516	34.979	9.945	64
Aichi	2.848	72.595	25.488	163
Shizuoka	4.956	38.978	7.863	51
Miye	3.577	32.795	9.167	59
Gifu.....................	5.564	32.966	5.924	38
Nagano	6.166	42.947	6.965	72
Niigata	5.311	64.298	12.105	78
Hiroshima	5.399	40.931	7.580	49
Yamaguchi	3.596	33.924	9.432	61
Okayama	3.968	41.544	10.468	67
Tottori	1.860	13.913	7.479	48
Shimane..............	4.634	22.050	4.757	35
Ehime..................	3.363	26.679	7.931	51
Kumamoto...........	3.178	40.163	12.635	81
Fukuoka..............	2.928	60.582	20.684	133
Oita.....................	2.334	26.381	11.299	72
Nagasaki	1.930	21.728	11.255	72
Saga	1.561	23.518	15.064	97
Kagoshima...........	3.966	33.200	8.369	54
Miyazaki	2.219	18.479	8.325	53
Okinawa..............	1.629	4.488	2.754	18

A comparison of the density of population per square kilometre with the average rental value of land per square kilometre by putting Tables Nos. 4 and 5 together yields an interesting result. In Table No. 6, the prefectures are put in the order both of the density of the population and of the rates of the average rental value of the lands. Lest a mere arrangement of prefectures in the above-mentioned order should lead to a false idea of the true state of things, the index number has been attached both to the density of the population and to the average rental value of the lands.

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Table No. 6.

The average rental value of land and the density of population
for all prefectures.

Order of size	DENSITY OF POPULATION		AVERAGE RENTAL VALUE OF LAND	
	Prefectures	Index number	Prefectures	Index number
1	Tokyo	850	Tokyo	997
2	Osaka	662	Osaka	675
3	Kanagawa	234	Aichi	163
4	Fukuoka	174	Kanagawa	136
5	Aichi	172	Fukuoka	133
6	Kagawa	134	Kyoto	133
7	Saitama	130	Toyama	112
8	Kyoto	114	Saitama	103
9	Hyogo	108	Kagawa	98
10	Nagasaki	101	Saga	97
11	Chiba	98	Hyogo	92
12	Saga	96	Ishikawa	88
13	Ibaraki	83	Shiga	83
14	Okinawa	82	Chiba	83
15	Shizuoka	73	Kumamoto	81
16	Miye	69	Niigata	78
17	Ehime	69	Oita	72
18	Hiroshima	68	Nagasaki	72
19	Gumma	63	Ibaraki	70
20	Yamaguchi	63	Fukui	67
21	Toyama	62	Okayama	67
22	Kumamoto	62	Yamagata	64
23	Okayama	62	Gumma	64
24	Ishikawa	61	Yamanashi	63
25	Tochiki	60	Tochiki	62
26	Wakayama	60	Yamaguchi	61
27	Tokushima	59	Akita	59
28	Shiga	58	Miye	59
29	Kagoshima	58	Miyagi	59
30	Nara	54	Nara	57
31	Miyagi	53	Kagoshima	54
32	Niigata	52	Miyazaki	53
33	Fukui	52	Ehime	51
34	Oita	51	Shizuoka	51
35	Yamanashi	48	Tokushima	50
36	Tottori	48	Hiroshima	49
37	Nagano	43	Tottori	48
38	Yamagata	39	Fukushima	45
39	Gifu	38	Nagano	45
40	Shimane	38	Aomori	38
41	Fukushima	38	Gifu	38
42	Kochi	34	Wakayama	36
43	Miyazaki	33	Shimane	35
44	Aomori	31	Kochi	28
45	Akita	29	Iwate	18
46	Iwate	22	Okinawa	18
47	Hokkaido	11	Hokkaido	16

An examination of Table No. 6 shows, among other things, that the order of the rates of the average rental value of the lands and that of the density of the population accord, on the whole, with each other. In the case of the five prefectures of Tokyo, Osaka, Tochiki, Nara and Hokkaido, there is perfect accord between them; in the case of Kanagawa, Fukuoka, Saitama, Tottori, and Iwate prefectures, the accord is disturbed by one prefecture only; in the case of Aichi, Kyoto, Hyogo, Saga, Okayama, Kagoshima, Miyagi, Nagano, Gifu and Kochi prefectures by two; and in the case of Kagawa, Chiba, Shimane and Fukushima prefectures by three. Thus, in 24 out of the total of 47 prefectures, a large measure of accord, if not perfect accord, is observable. It is true that Okinawa, Ehime, Shizuoka and Hiroshima prefectures record a low average rental value of land despite a high density of population, while in Toyama and Niigata prefectures the average rental value of land is high, though the population is sparse. These are, however, exceptional cases. It is also observable that the index number of both are in fair accord in most cases. In the Map of Japan No. 1, the density of population for all prefectures is illustrated by four different shades of colour, while in the Map of Japan No. 2, the average rental value of land for all prefectures is indicated by similar means. A very close relation existing between these two things will easily be seen by these two maps.

If we know by numeration tables that both are in accord, on the whole, in point of order, by the index number that they are fairly in accord in regard to size, and by the maps that they closely related to each other, we cannot but attach much importance to the close relation existing between the density of population and the average rental value of land.
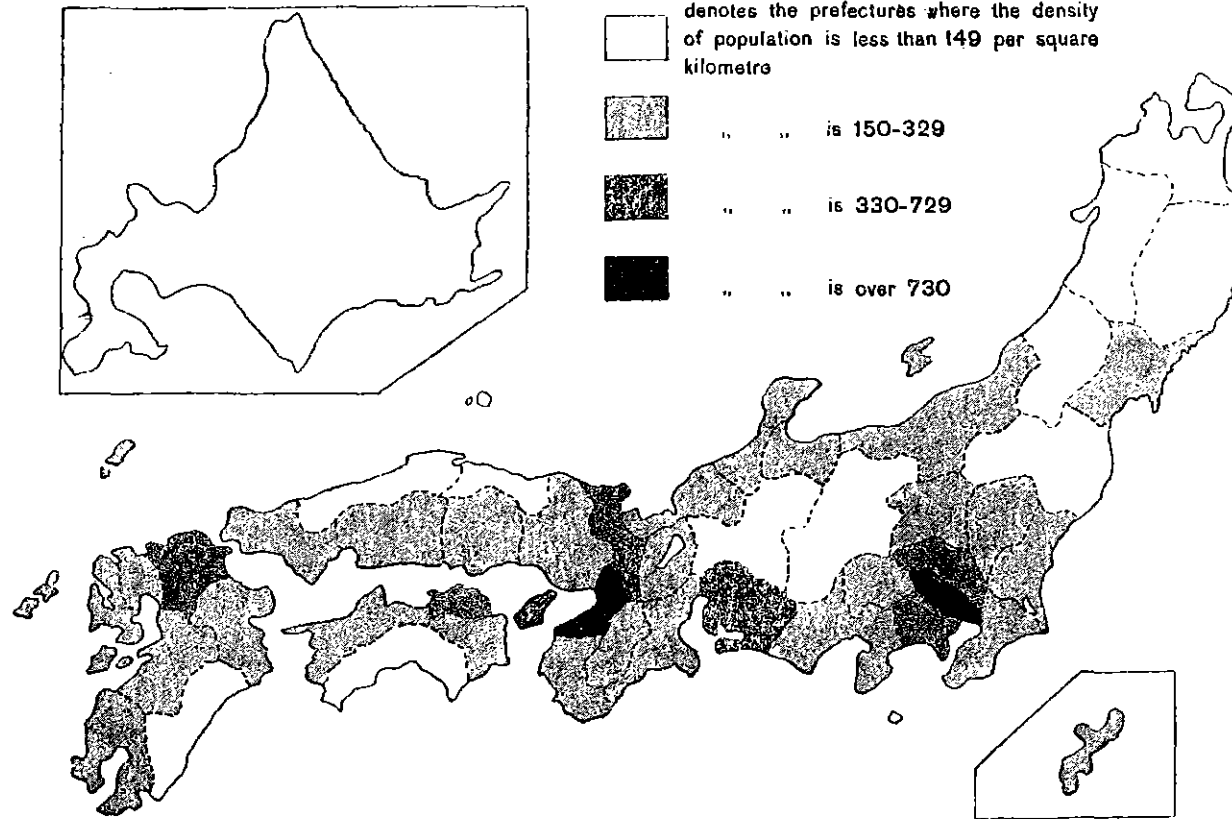
4. THE DENSITY OF POPULATION AND WEALTH
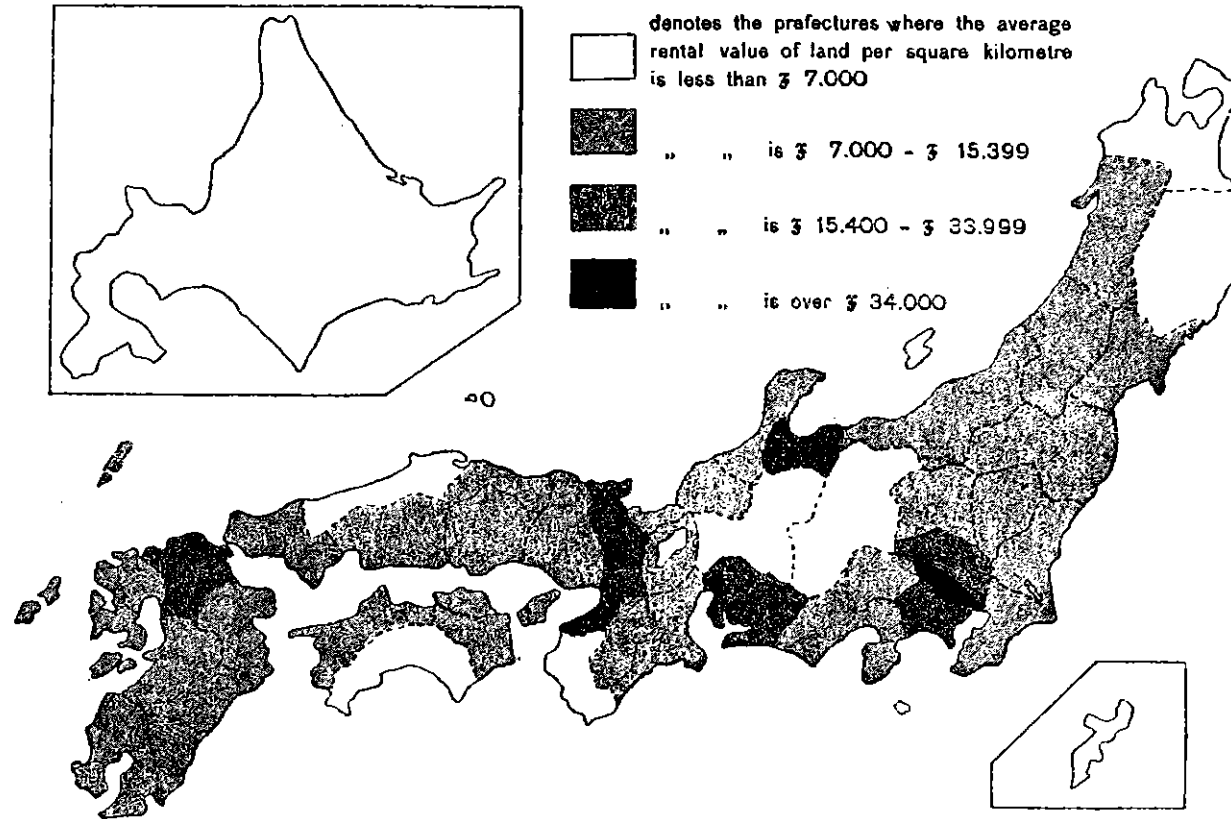
If the rental value of land, as revealed by the investiga-

Map of Japan N. 1.

Representing the density of population for all prefectures.

denotes the prefectures where the density of population is less than 149 per square kilometre

,, ,, is 150-329

,, ,, is 330-729

,, ,, is over 730

Map of Japan N. 2.
Representing the average rental value of land
for all prefectures.

denotes the prefectures where the average
rental value of land per square kilometre
is less than ろ 7.000

„ „ is ろ 7.000 - ろ 15.399

„ „ is ろ 15.400 - ろ 33.999

„ „ is over ろ 34.000

tion made by the Finance Department, illustrates the economic power of the provinces and if the census taken by the Statistical Bureau truthfully embodies the density of the population, the above-mentioned figures certainly disclose very interesting facts. In the districts, where the index number of the average rental value of land and that of the density of the population are fairly equal, the population is properly distributed, while in the districts, where the index number of the density of the population is larger than that of the average rental value of land, there is, no doubt, over-population. On the contrary, these districts, where the index number of the former is smaller than that of the latter, must be under populated. The following three difficulties must, however, be overcome before the above bold conclusion drawn from these two kinds of figures can be justified.

With regard to the population, the censuses so far taken by the Statistical Bureau merely refer to the quiescent state of population at midnight. The distribution of the population in the daytime, when there is economic activity, is not yet made clear. Such being the case, centres of day-time business activity, such as Marunouchi in Tokyo and Nakanoshima in Osaka, are often sparsely populated and suburban residential districts are densely inhabited, in so far as the census is concerned. It also sometimes happens that the area, which forms the denominator when calculating the density of population, include regions with comparatively little bearing on economic life. For instance, in the case of Ibaragi, Shiga, Akita, Shimane and Fukushima prefectures, the areas of lakes are included in the denominator, with the result that their population is represented as more scanty than it really is.

In regard to the rental value of land also, there is a similar drawback. As taxable land only is considered in the official investigation, in the case of prefectures where untaxable land plays an important part in economic life, the average rental value of land does not reflect their true

economic power. The same thing may be said of the districts where economic life has comparatively little to do with the extent of their areas.

Thirdly, as a drawback common to the density of the population and the average rental value of land, the choice of the prefecture as the regional unit for the calculation of both may be mentioned. The division of the country into prefectures was prompted by consideration of administrative facilities, and consequently it does not necessarily conform to natural and social requirements. In order to study the the relation between land and men statistically, therefore, it is necessary to choose as the unit a new regional division created independently of administrative districts. It is interesting to study the inter-relation between the density of population and the average rental value of land in respect of each city, but such a study is very difficult in existing circumstances, for there is now such a craze for the merger of neighbouring towns and villages by big cities that some cities contain more extensive agricultural areas than residential.

When these points are taken into due consideration, it will be seen that it is difficult to give a final verdict on the inter-relation between the density of population and the wealth of a country by force of mere comparison of the density of population with the average rental value of land. It is nevertheless a phenomenon too important to be ignored that, in this country, the density of the population and the average rental value of land are taking the same course.

SABURO SHIOMI.