SUMMARY

OF

" POTENTIAL OF METROPOLITAN CONCENTRATION OF POPU-

LATION FROM THE VIEWPOINT OF INTERRELATIONSHIP

BETWEEN REGIONAL DISTRIBUTION OF INCOME AND THAT

OF POPULATION "

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"Potential of metropolitan concentration
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1.

The purpose of the present paper is to study, from a

modern point of view, the interrelationship between two

classical laws in demography, i.e., "John Graunt's law on

urban population growth" and "Petty's law" as named by

Prof. Colin Clark.

The author has found out that one of the most important

economic functions of the internal migration of population

is to level out the regional distinction in real income per

capita.

2.

If the economic function of the internal migration of

population is such one as mentioned above, the ideal distribution of population at the ultimate state, must be one in which regional distinction in real income per capita is entirely canceled out. Therefore, the author has computed such a hypothetical distribution of population, taking prefecture as an unit area and using the income statistics by prefecture prepared by the Economic Planning Agency and the population census statistics and estimates of intercensal population made by the Bureau of Statistics. And if we compare the hypothetical population with the actual one by prefecture, the difference between hypothetical and actual population means a kind of potential of population migration.

The following table is one of the main results of such computation.

Potential of Population Migration
(000's)

Prefecture	1950				1955				1957			
	hypothetical population (1)	actual population (2)	(1)—(2) (3)	$\frac{(1)-(2)}{(2)}$ (4)	hypothetical population (5)	actual population (6)	(5)—(6) (7)	$\frac{(5)-(6)}{(6)}$ (8)	hypothetical population (9)	actual population (10)	(9)—(10) (11)	$\frac{(9)-(10)}{(10)}$ (12)
All Japan	83,198	83,198	(+14,419)	(+17.4)%	89,277	89,277	(+9,209)	(+10.3)%	91,087	91,087	(+11,945)	(+13.1)%
Hokkaido	4,544	4,296	248	5.8	4,839	4,773	66	1.4	4,802	4,898	96	2.0
Aomori	716	1,283	-567	-44.2	1,012	1,383	-371	-26.8	987	1,412	-425	-30.1
Iwate	716	1,347	-631	-46.8	1,018	1,427	-409	-28.7	993	1,445	-452	-31.3
Miyagi	914	1,663	-749	-45.0	1,352	1,727	-375	-21.7	1,289	1,745	-456	-26.1
Akita	835	1,309	-474	-36.2	1,076	1,349	-273	-20.2	1,035	1,349	-314	-23.3
Yamagata	902	1,357	-455	-33.5	1,056	1,354	-298	-22.0	1,013	1,350	-337	-25.0
Fukushima	1,276	2,062	-786	-38.1	1,646	2,095	-449	-21.4	1,495	2,094	-599	-28.6
Ibaraki	1,220	2,039	-819	-40.2	1,611	2,064	-453	-21.9	1,578	2,072	-494	-23.8
Tochigi	1,116	1,550	-434	-28.0	1,356	1,548	-192	-12.4	1,269	1,542	-273	-17.7
Gumma	1,122	1,601	-479	-29.9	1,321	1,614	-293	-18.2	1,186	1,608	-422	-26.2
Saitama	2,088	2,146	-58	-2.7	2,102	2,263	-161	-7.1	2,056	2,310	-254	-11.0
Chiba	1,899	2,139	-240	-11.2	1,860	2,205	-345	-15.6	1,770	2,236	-466	-20.8
Tokyo	14,480	6,278	8,202	130.6	13,053	8,037	5,016	62.4	14,560	8,666	5,894	68.0
Kanagawa	3,517	2,488	1,029	41.4	3,606	2,919	687	23.5	4,014	3,080	934	30.3
Niigata	2,549	2,461	88	3.6	2,132	2,473	-341	-13.8	1,969	2,463	-494	-20.1
Toyama	1,050	1,009	41	4.1	980	1,021	-41	-4.0	969	1,022	-53	-5.2
Ishikawa	837	957	-120	-12.5	889	966	-77	-8.0	842	970	-128	-13.2
Fukui	635	752	-117	-15.6	703	754	-51	-6.8	645	754	-109	-14.5
Yamanashi	503	811	-308	-38.0	614	807	-193	-23.9	583	798	-215	-26.9
Nagoya	1,528	2,061	-533	-25.9	1,738	2,021	-283	-14.0	1,598	2,002	-404	-20.2
Gifu	1,173	1,545	-372	-24.1	1,358	1,584	-226	-14.3	1,346	1,592	-246	-15.5
Shizuoka	2,118	2,471	-353	-14.3	2,511	2,650	-139	-52	2,534	2,692	-158	5.9
Aichi	4,114	3,391	723	21.3	4,303	3,769	534	14.2	5,025	3,948	1,077	27.3

Prefecture	1950				1955				1957			
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Mie	1,155	1,461	-306	-20.9%	1,276	1,486	-210	-14.1%	1,186	1,484	-298	-20.1%
Shiga	865	861	4	0.5	767	854	- 87	-10.2	732	849	-117	-13.8
Kyoto	2,154	1,833	321	17.5	2,171	1,935	236	12.2	2,146	1,967	179	9.1
Osaka	6,616	3,857	2,759	71.5	6,627	4,618	2,009	43.5	7,513	4,928	2,585	52.5
Hyogo	4,173	3,310	863	26.1	4,225	3,621	604	16.7	4,741	3,731	1,010	27.1
Nara	608	764	-156	-20.4	707	777	- 70	- 9.0	678	771	- 93	-12.1
Wakayama	616	982	-366	-37.3	995	1,007	- 12	- 1.2	880	1,006	-126	-12.5
Tottori	356	600	-244	-40.7	550	614	- 64	-10.4	452	612	-160	-26.1
Shimane	508	913	-405	-44.4	736	929	-193	-20.8	668	920	-252	-27.4
Okayama	1,413	1,661	-248	-14.9	1,515	1,690	-175	-10.4	1,402	1,693	-291	-17.2
Hiroshima	1,677	2,082	-405	-19.5	1,879	2,149	-270	-12.6	1,888	2,172	-284	-13.1
Yamaguchi	1,562	1,541	21	1.4	1,530	1,610	- 80	- 5.0	1,422	1,626	-204	-12.5
Tokushima	467	879	-412	-46.9	664	878	-214	-24.4	621	868	-247	-28.5
Kagawa	685	946	-261	-27.6	926	944	- 18	- 1.9	876	941	- 65	- 6.9
Ehime	778	1,522	-744	-48.9	1,346	1,541	-195	-12.7	1,248	1,540	-292	-19.0
Kochi	389	874	-485	-55.5	712	883	-171	-19.4	682	880	-198	-22.5
Fukuoka	3,650	3,530	120	3.4	3,917	3,860	57	1.5	4,223	3,957	266	6.7
Saga	785	945	-160	-16.9	801	974	-173	-17.8	718	969	-251	-25.9
Nagasaki	1,388	1,645	-257	-15.6	1,403	1,748	-345	-19.7	1,329	1,768	-439	-24.8
Kumamoto	1,257	1,828	-571	-31.2	1,499	1,896	-397	-20.9	1,378	1,909	-531	-27.8
Oita	828	1,253	-425	-33.9	1,039	1,277	-238	-18.6	1,010	1,274	-264	-20.7
Miyazaki	578	1,091	-513	-47.0	753	1,139	-386	-33.9	700	1,149	-449	-39.1
Kagoshima	838	1,804	-966	-53.5	1,103	2,044	-941	-46.0	1,036	2,025	-989	-48.8

3.

1)   According to this computation, the net migration
volume -- number of migrants -- in the whole country for 1950
amounts to about 14 million which means 17% of the total
population, 9.2 million for 1955, 10% of the total population,
and 12 million for 1957, 13% of the total population.

2)   Almost all part of the net migration volume is to
be absorbed by six prefectures in which six large cities
locate respectively, and other prefectures are to emigrate
a part of their actual population. This means that the popu-
lation of Japan concentrates intensively in six prefectures
with large cities, but more intensively the national income
concentrates in these six prefectures.

3)   Among the potentials of in-migration in six prefec-
tures with large cities, that in Tokyo Prefecture is largest,
in both absolute and relative numbers, in striking contrast to
the other prefectures. Its hypothetical population amounts
to 14 million. Next to Tokyo Prefecture, the hypothetial
population of Osaka Prefecture is very large. But it amounts
to just a half of that in Tokyo.

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4)   Factors which are considered to determine the
potential of migration, i.e., the difference between hypotheti-
cal and actual population by prefecture are A) the actual whole
country population, B) the regional distribution of actual
population, C) the amount of real national income, and D)
its regional distribution. According to our experience,
however, the factor which plays the most important part among
these four factors is D), that is, the difference in regional
distribution of real income per capita.

5)   Therefore, the most basic factor which is promot-
ing metropolitan concentration of population is the popula-
tion pressure which originates in the regional difference in
the distribution of real income per capita. Accordingly,
the problems to control the enormous influx of population in-
to a small number of prefectures with large cities are rather
nationwide problems than those of such several prefectures.
In other words, if we want to lessen the influx of population
into several prefectures with large cities, we have to make
an effort to minimize the regional difference in income
distribution.

6)   It has been empirically known that the business pros-
perity, i.e., a sharp increase in real national income, tends
to make the regional difference in real income distribution
greater. If so, then, the possibility is that a rapid growth
of real national income, under the present conditions, is
liable to accentuate the regional difference in real national
income distribution and the potential of internal migration
to be heightened.

7)   The most important factor which determines the
regional difference in income distribution is the structural
difference in industry among prefectures, that is, the degree
of industrialization in prefectures.