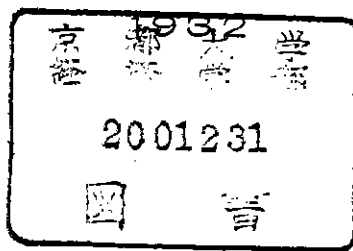


# Kyoto University Economic Review

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## ON THE FORM OF THE DISTRIBUTION OF OUR NATIONAL INCOMES

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### 1. STUDY OF THE DISTRIBUTION OF THE NATIONAL INCOMES

In conjunction with the plan to formulate Japan's national policy and also prompted by some other motives, a statistical study of our national wealth has attained much development of late. The Statistical Bureau, not confining its attention to its traditional study of the census, has come to study economic statistics also. Its investigation of the statistics of national wealth may be regarded as one indication of this tendency. It appears, however, that statistics of national wealth are, after all, fictitious. As one example indicative of its fictitiousness may be mentioned the fact that in the statistics of national wealth compiled in the era of Taisho, the value of the Inland Sea is worked out by reducing the produce from the Sea by the ruling interest rate and included the result in the national wealth. If national wealth is a real entity, the statistics of national wealth embody a mere statical representation of our economic life. If we want to know the yearly growth of the wealth of our nation, a dynamic study ought to be made by calculating the incomes of the people rather than a statistical study of the national wealth. The statistical study of national wealth attains its true value only when it proceeds side by side with the study of the incomes of the members of the nation.

The statistical study of the national incomes may be made either in regard to the total of incomes or in respect of the state of their distribution. It falls under the former category to calculate the yearly total incomes of the nation from various sources and find the average income per head

of population, thereby discovering the place of Japan among the nations of the world in this respect. Nowhere in the world are the incomes of the nation distributed fairly, however. There are a great variety of incomes. There are numerous incomes greater or less than the average, with the result that there spring up the forms of the distribution of the nation's incomes, with different degrees of disparity between the rich and the poor. As changes occur in the economic situation, the average income varies, and the percentage of bigger, medium-sized, and smaller incomes becomes affected, with the consequent changes in the degree of disparity between the rich and the poor. In this way, a study of the form of the distribution of incomes among the nation furnishes the barometer by which to gauge the gulf between the rich and the poor. In this country, Dr. Takata took the lead of all scholars in this kind of study, and he is actually carrying on his researches these days.

Income being a synthetic concept, the question of distribution in regard to individual incomes accruing from individual sources suggests itself before that of the distribution of total incomes for all. Accordingly, it is possible to distinguish the form of the distribution of individual incomes from that of the distribution of the total incomes. In the present article, I have studied, on the basis of the concrete materials available, the forms of distribution which these incomes of the people take in this country at present.

## 2. THE FORM OF DISTRIBUTION IN RESPECT OF INDIVIDUAL INCOMES

Income is a personal idea, and means a revenue which some particular subject of economy, to whom it accrues regularly within a certain fixed period, can dispose of at will. These incomes are of various kinds. Some represent incomes from property, some are the product of labour, and some others embody earnings from business in which both labour and property operate conjointly. Their nature

differs according as the sources of revenue are different. Such being the case, in the study of the form of the distribution of incomes, the sources of revenue must be traced. Classified according to their sources, incomes may be divided into three kinds, viz. incomes from property, incomes from business, and incomes from labour. With regard to the last-mentioned kind, there is a difference in the form of distribution between the salaries drawn by Government officials and the wages obtained by labourers. For this reason, I have classified the forms of distribution of incomes in this country into the one in respect of incomes from property, the one regarding incomes from business, the one about incomes from official salaries, and the one relating to incomes from salaries and wages other than official.

1. Property incomes can be divided into incomes from movable property and those from immovable property, but, here, attention will be confined to the study of the latter kind. For, as the interest on public bonds and debentures, which constitutes an important part of incomes from movable property, is taxed at the source as B-class income, it is absolutely impossible to ascertain the state of its distribution, while as regards dividends on shares, although they can be looked into by means of name lists of shareholders, there are complex circumstances which prevent an accurate estimate. In such circumstances, I was obliged to confine my attention to incomes from immovable property for the purpose of finding the form of the distribution of property incomes, making inquiries into the form of distribution in regard to forestry incomes and the rental value of land.

Table No. 1 has been drawn up on the basis of the list of the amounts of the land tax. The rental value of land has been worked out by reducing the land tax by a 4 per cent. tax rate. The number of landowners totals about 10,120,000, and the rental value of land ranges from less than ¥5 to ¥250,000 and over. The median is in a class the rental value of which is from ¥25 to ¥50.

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Table No. 1.

Number of landowners, as classified according to the amounts of rental value in the land tax (January 1st, 1932.)

Amount of rental value of land (In Yen).	Number of landowners.		
less than 5	1,785,764	375—500	282,883
5—12.5	1,542,986	500—750	261,344
12.5—25	1,565,020	750—1,250	178,863
25—50	1,430,105	1,250—2,500	104,944
50—75	721,158	2,500—5,000	40,718
75—125	725,098	5,000—12,500	17,149
125—175	467,585	12,500—25,000	3,709
175—250	476,138	25,000—50,000	1,139
250—375	514,257	50,000—125,000	404
		125,000—250,000	73
		over 250,000	17
		Total	10,119,354

Utilising the special method of taxation adopted in the C-class income tax in regard to forestry incomes, I have arranged, in Table No. 2, the number of the households of those who obtain forestry incomes, on the progressive grading basis.

Table No. 2.

Number of households of those who obtain forestry incomes, as classified according to the amount of revenue in the C-class income tax (for the fiscal year 1931-32.)

Amount of forestry incomes. (in Yen)	Number of households.		
1,200 & less	6,530	10,000—15,000	53
1,200—1,500	504	15,000—20,000	23
1,500—2,000	542	20,000—30,000	24
2,000—3,000	500	30,000—50,000	16
3,000—5,000	328	50,000—70,000	4
5,000—7,000	126	70,000—100,000	2
7,000—10,000	102	100,000—200,000	4
		200,000 & less	8,758

There are 8,758 households which get forestry incomes ranging in amount from ¥1,200 and under up to ¥200,000, and the median exists below the ¥1,200 mark.

As different bases of calculation have been adopted for making Tables No. 1 and No. 2, it is difficult to make a comparative study of them by these tables, but it is at least possible to draw this conclusion from them, that there is a very wide disparity between the biggest and smallest incomes from immovable property and that those who obtain small incomes constitute the majority, there being a very small number of those who get big incomes.

2. Incomes from commerce and industry can be divided into those of juridical persons and those of individuals. Here, however, the study of the state of the distribution of incomes from commerce & industry is exclusively in regard to the business-profit tax for individuals. From the statistics of the tax, we can obtain the following figures:—

Table No. 3.

Number of tradesmen, as classified according to the amounts of business profits in the individual business-profit tax.

Business net-profit. (In Yen)	Number of tradesmen.		
400—800	425,337	10,000—15,000	2,231
800—1,000	76,513	15,000—20,000	824
1,000—1,200	49,862	20,000—30,000	528
1,200—1,500	50,504	30,000—40,000	185
1,500—2,000	46,941	40,000—50,000	92
2,000—3,000	39,948	50,000—70,000	83
3,000—5,000	25,037	70,000—100,000	43
5,000—7,000	7,699	100,000—200,000	24
7,000—10,000	4,371	200,000—500,000	6
		1,297,000	1
		400—1,297,000	730,229

Tradesmen total 730,000, and the profits accruing from their forms and houses of business vary within the range of from ¥400 to ¥1,297,000, the median being in a class representing profits of ¥400 to ¥800. As in the case of incomes from immovable property, the centre of gravity is in the smaller incomes.

3. Of the incomes from service or labour, incomes of public servants may be divided into regular salaries and

pensions.

Again, salaries of public servants can be subdivided into those of army and navy men and those of civil servants. Table No. 4 shows the salaries paid the officers and men in the fighting services in the fiscal year 1931-32. It must, however, be noted that as the military pay in the table represents the figures in the itemised detailed account of the Budget for the fiscal year 1931-32, it may not be in exact accord with the actual figures of pay.

**Table No. 4.**  
Number of fighting men, as classified according to the amounts of yearly salaries drawn.

Annual salaries. (In Yen)	Army.	Navy (see "Note").
100—200	4,302	131
200—300	11,851	6,137
300—400		6,144
400—500	6,968	
500—1,000	6,090	7,975
1,000—1,500	4,763	3,666
1,500—2,000	5,083	1,589
2,000—3,000	2,029	1,271
3,220	906	702
4,150	522	338
5,000	152	67
5,800	35	33
6,000	17	
6,600	15	10
	42,733	28,062

(Note) In the naval pay, the figures appearing in the ordinary expenditure of the Navy Department only minus the pay for ordinary sailors have been taken. Prisoners and deserters have also been excluded from the list of officers of *hannin* rank.

The total number under the jurisdiction of the War Office is 42,733, the salaries drawn ranging from ¥117 to 6,600, the median being in the class ¥400 to ¥500. The Navy Department represents a total number of 28,062, salaries

drawn varying from ¥600 to ¥6,600. In this case, the median is at the ¥500 level. As compared with incomes from property or from business, military and naval salaries show a small disparity between the largest and smallest amounts, and, moreover, the centre of gravity does not lie in such small incomes as in property incomes.

As illustrating the state of pay for civil servants, I have made inquiries into the salaries drawn by officials of a certain prefectural office and by the members of the faculty of a certain Imperial University.

The faculty of the University, comprising 885, get salaries ranging in amount from less than ¥600 to ¥8,500, the median being in the class ¥600 to ¥1,200. The Prefectural Office has in its service 802 officials, whose salaries range from less than ¥600 to ¥6,500. In this case also, the median exists in the class ¥600 to ¥1,200. On the whole, the form of distribution in these instances is the same as in the case of military and naval officers.

Table No. 5.

Number of civil officials, as classified according to the amounts of salaries drawn.

Annual salaries. (In Yen)	Prefectural officials.	University faculty.
less than 600	222	220
600—1,200	440	355
1,200—1,500	60	37
1,500—2,000	40	48
2,000—2,500	19	30
2,500—3,000	9	31
3,000—3,500	7	33
3,500—4,000	3	27
4,000—4,500	1	24
4,500—5,000		29
5,000—5,500		33
5,500—6,000		9
6,000—6,500		7
6,500—7,000	1	
7,000—7,500		1
8,500		1
Total	802	885



Ordinary pensioners totalled 9,869 in 1930. Table No. 6 shows the details.

Table No. 6.

Number of pensioners, as classified according to the amount of pensions received. (Figures are those of 1930).

Annual pensions (In Yen)	Number.		
less than 100	3	2,000	50
over 100	141	2,100	63
200	2,499	2,200	89
300	2,374	2,300	29
400	980	2,400	28
500	1,150	2,500	12
600	528	2,600	19
700	323	2,700	19
800	271	2,800	30
900	240	2,900	21
1,000	177	3,000	5
1,100	122	3,100	5
1,200	136	3,200	10
1,300	117	3,300	2
1,400	66	3,400	5
1,500	60	3,500	4
1,600	71	3,600	5
1,700	112	3,700	2
1,800	51	3,800	3
1,900	46	4,400	1
		Total	9,869

4. Lastly, the average daily wage for 110,000 labourers in Tokyo and suburban towns and villages, and the average monthly income for 15,000 Tokyo women engaged in various kinds of office work have been investigated in order to know the form of the distribution of wages and salaries. The results are given in Table No. 7.

Table No. 7.

Number of salaried men and wage-earners, as classified by the amounts of their pay.

- (a) Number of labourers in Tokyo and suburban towns and villages, as classified by their average daily wages. (b) Number of women in office work, as classified by the amount of their monthly incomes.

Wages (In Sen)	Men.	Women.	Total.	Incomes (In Yen)	Number.
40 & less	492	123	615	less than 20	1,323
40-60	928	1,961	2,889	20-25	1,877
60-80	2,230	6,357	8,587	25-30	2,493
80-100	2,930	8,657	11,587	30-35	2,229
100-120	3,873	5,732	9,605	35-40	1,970
120-140	4,444	3,153	7,597	40-45	1,454
140-160	6,280	1,565	7,845	45-50	1,208
160-180	6,913	982	7,895	50-60	1,195
180-200	6,512	544	7,056	60-70	529
200-220	7,287	355	7,642	70-80	306
220-240	6,038	252	6,290	80-100	205
240-260	6,010	153	6,163	over 100	134
260-280	5,064	106	5,170		
280-300	4,662	69	4,731		
300-350	9,076	73	9,149		
350-400	5,581	13	5,594		
400-450	3,332	8	3,340		
450-500	1,713	1	1,714		
over 500	2,091	1	2,092		
unknown	433	215	648		
Total	85,889	30,320	116,209	Total	14,923

It will be seen from the above that in each case a margin of difference between the highest and lowest pay is small, and that the median is placed practically halfway between the highest and lowest.

### 3. THE FORM OF THE DISTRIBUTION ON THE TOTAL INCOMES

1. In the foregoing chapters, I have studied the forms of distribution separately in regard to incomes from property, from business, and from labour, taking the sources of income as the standard of study, and have made clear their respective characteristics. Each individual does not,

however, necessarily draw his income from one source only. He may be at once a Government official and a landowner. It often happens, therefore, that incomes from different sources accrue to one individual. Hence, the necessity of studying the form of distribution about the aggregate incomes, besides the form of distribution in regard to individual incomes, in order to gain a better knowledge of how incomes are distributed.

Some of these individual incomes easily combine and some do not, of course. For instance:—

(1) Incomes from one kind of property are apt to combine with incomes from another kind of property. That is to say, a landowner can at the same time be a bondholder or a shareholder. Indeed, possession of property of various kinds minimises the danger of loss and serves the possessor's purpose of preserving his property.

(2) Property incomes easily combine with incomes from labour. The public servant may possess public bonds, land or shares.

(3) Incomes from labour do not easily combine with incomes from labour offered elsewhere. The service regulations will not allow a military officer to be in the civil service at the same time, a professor to be connected with a firm, or a labourer to work in two or more factories. Even if it is not officially forbidden, it will be physically impossible to do so.

Although it must thus be admitted that some kinds of incomes combine comparatively easily and some do not, there must necessarily be combinations in certain circumstances. It, therefore, follows that the study of the form of the distribution of individual incomes must be extended to the study of the form of distribution in respect of the aggregate incomes.

2. In order to study the distribution of aggregate incomes, it is necessary to make official inquiries into the incomes of all people. But since the incomes of people vary every year, such an official inquiry cannot be made

annually. Moreover, as an official inquiry of this kind is hardly proper, the idea must be regarded as untenable. In all countries, therefore, statistics of taxable incomes are made use of in the study of the form of the distribution of incomes. In countries where the income tax system based on the principle of taxing at the source is adopted, after British fashion, an inquiry of this kind is very difficult. In Japan, fortunately, the principle of taxing collective incomes is adopted in the C-class income tax, and so it is possible to know the form of distribution in regard to total incomes by means of tax statistics. Of course, two exceptions are provided in the Japanese Income Tax Law in the application of the principle of taxing collective incomes. One refers to the B-class income tax "a", into which category falls "the interest on public bonds, company debentures and bank deposits, or the yield on trust loans." The principle of taxing at the source is adopted in this case. As regards the interest on national bonds, it has been exempt from the income tax since 1909. The other exception refers to the B-class income tax "b". In this case the exceptional treatment is imperative from the point of view of taxation technics. To the dividends and bonuses which people get from juridical persons, the principle of taxing at the source was for many years applied, but since the Income Tax Law was revised in 1920, the principle of taxing collective incomes has been substituted, the C-class income tax being levied on six-tenths of the amount of profit, or the dividend of interest, or the share in the surplus received from the juridical person. Such being the case, the method here adopted of inferring the distribution form of total incomes merely from the distribution of the C-class incomes is defective, but in default of better data, this is the only method available.

3. The Income Tax Law in this country was enacted in 1877, and in 1899 and in 1920 it was radically revised. The latest revision was effected by Law No. 8 in March, 1926. For the sake of uniformity of statistics, the figures

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for 1926 and for 1931 have been chosen for investigation for finding the form of the distribution of incomes.

Table No. 8.

Number of C-class income tax paying households, as classified by grades.

Grades of incomes. (In Yen)	Number of tax- paying households in 1926.	Number of tax- paying households in 1931.
1,200—1,500	286,057	182,204
1,500—2,000	185,186	133,971
2,000—3,000	136,564	104,078
3,000—5,000	109,484	84,575
5,000—7,000	35,773	26,991
7,000—10,000	22,648	16,710
10,000—15,000	13,685	9,722
15,000—20,000	5,546	4,099
20,000—30,000	4,595	3,279
30,000—50,000	2,793	1,995
50,000—70,000	957	620
70,000—100,000	531	368
100,000—200,000	411	312
200,000—500,000	163	100
500,000—1,000,000	17	11
1,000,000—2,000,000	8	9
2,000,000—3,000,000	1	1
Total	804,419	569,045

From Table No. 8 we can see the general trend of the distribution of incomes, but it alone does not suffice, for whereas the first grade covers incomes within a range of ¥300 (from ¥1,200 to ¥1,500), the range gradually widens as the grades go upwards until in the highest grade it grows to ¥1,000,000 (from ¥3,000,000 to ¥4,000,000). As an expedient for comparison, Table No. 9 has been prepared by calculating the number of tax-paying households by the uniform standard of a range of ¥1,000.

Table No. 9.

Number of C-class income tax paying households, as classified by grades  
(rated by the uniform range of ¥ 1,000).

Grades of incomes. (In Yen)	1926.	1931.
1,200—1,500	953,523	607,346
1,500—2,000	370,372	267,942
2,000—3,000	136,564	104,078
3,000—5,000	54,742	42,287
5,000—7,000	17,886	13,495
7,000—10,000	7,549	5,570
10,000—15,000	2,737	1,944
15,000—20,000	1,109	820
20,000—30,000	459	328
30,000—50,000	140	100
50,000—70,000	48	31
70,000—100,000	18	12
100,000—200,000	4	3

Fig. No. 1 is intended to illustrate the figures in Table No. 9 more vividly. As I could not use the ordinary scale for lack of space, I was obliged to adopt the logarithm scale both for the amount of incomes (independent variant) and for the number of tax-paying households (subordinate variant). What V. Pareto calls *la pyramide sociale*—a form of the distribution of incomes with the poor for the base and the rich for the apex—is observable in Fig. No. 1, which embodies the form of the distribution of incomes in this country for 1926 and for 1931.

#### 4. THE FORM OF THE DISTRIBUTION OF THE NATION'S INCOMES

As Pareto says, the form of the distribution of the nation's incomes is *les lois purement empiriques*. The distribution of wealth is always ruled by personal circumstances (nature of the individuals constituting society), social circum-

Amount of incomes (yen)

Fig. No. 1.

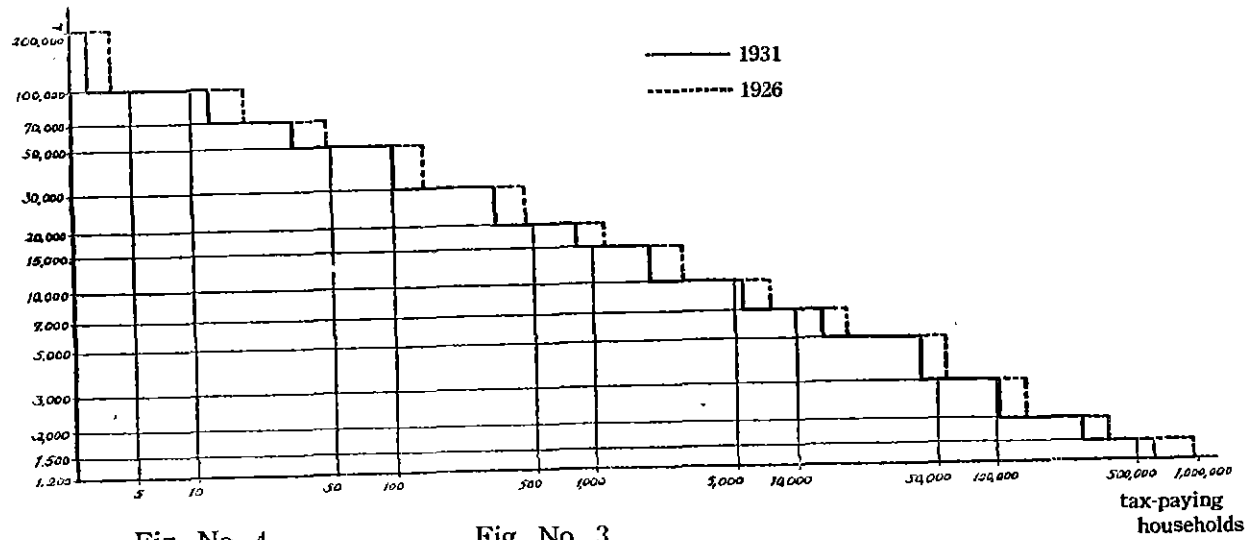


Fig. No. 4

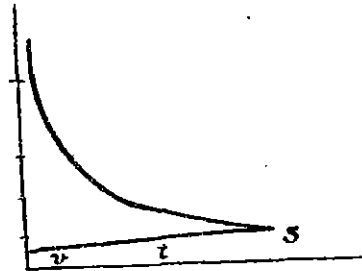


Fig. No. 3

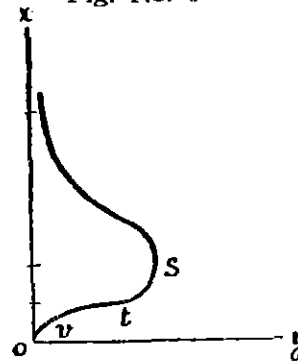
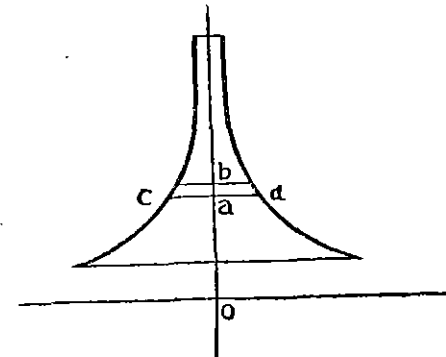


Fig. No. 2



stances (social organisation) and fortuitous circumstances. A combination of these circumstances operates to bring about *la pyramide sociale* as is shown in Fig. No. 2.

As Fig. No. 2. shows, men with large incomes are few, and the number expands as the amounts of income grow smaller. In actual society, however, no-propertied men, in the strict sense of the term, cannot exist, and therefore Fig. No. 2 must be supplanted by Fig. No. 3 or Fig. No. 4.

Opinion may differ as to whether the form of distribution as indicated in Fig. No. 2 or that shown in Fig. No. 3 or Fig. No. 4 should be taken. No matter which form may be taken, it must be borne in mind that the form of the distribution of individual incomes precedes the form of the distribution of aggregate incomes. The latter springs out of the variously interwoven and combined forms of the distribution of individual incomes.

With regard to methods of study about the form of the distribution of the nation's incomes, Professor L. von Bortkiewicz submitted a valuable report to the 19th International Statistical Conference held in Tokyo in 1930. In the present article, I have collected basic data bearing on the distribution of individual and aggregate incomes, with a view to fixing one standard of study for the form of the distribution of the incomes of the Japanese people.

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