Kyoto University
Economic Review

MEMOIRS OF
THE DEPARTMENT OF ECONOMICS
IN
THE IMPERIAL UNIVERSITY OF KYOTO

VOLUME VIII
1933

PUBLISHED BY THE DEPARTMENT
OF ECONOMICS IN
THE IMPERIAL UNIVERSITY OF KYOTO

338 Kyoto University Economic Review. Vol.VIII. 1933.- Tokyo: Publ. by the Dep. of Economics in the Imperial University of Kyoto, 1933.- 73p.

ЭКОНОМИЧЕСКИЙ ОБЗОР

Ученые записки департамента экономики университета Киото. О необходимости проведения реформы налогообложения без фундаментального изменения существующей системы. Прогрессивное налогообложение доходов корпораций : обсуждение различных методов увеличения государственных доходов при помощи налогообложения.

Июнь 1995г.
Жукова г.Н.

NUMBER 1 JULY

NUMBER 2 DECEMBER

VOLUME VIII · NUMBER 1

Kyoto University
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DEPARTMENT OF ECONOMICS

RULES

1. The Memoirs will be published at least twice a year from time to time.

2. The names of books and periodicals printed in italics were originally written in Japanese.

3. The articles herein contained have been translated from Japanese into English by Mr. Leonard Goroku Masui, M.A., B.A., and Mr. Hisashi Terao, of *The Japan Chronicle*, and subsequently looked over by Professor Eadward Clarke of the Department of Literature in the Imperial University of Kyoto.

KYOTO UNIVERSITY

ECONOMIC REVIEW

MEMOIRS OF THE DEPARTMENT OF
ECONOMICS IN THE IMPERIAL
UNIVERSITY OF KYOTO

VOLUME VIII (*July 1933*) NUMBER 1

PROGRESSIVE TAXATION ON THE INCOMES OF CORPORATIONS

FOREWORD

One may recommend by way of coping with the existing financial difficulties of our country either a policy of sparing or an increase in State revenue through an additional tax burden. But I would rather urge that both of these elements be embodied in the financial reform. I shall not here dwell on a policy of sparing; I shall confine my discussions to different methods of increasing the State revenue through taxation. There are many different schemes of increasing taxes and various methods may be employed in carrying out each of these schemes. But, if we are to effect a tax reform without fundamentally altering the existing tax system, I would recommend a revision of the present system of taxing corporations on their incomes. Our corporate income tax is a proportional tax. I contend that it should be turned into a progressive tax. The minimum rate of the

new tax should be five per cent (the same as the present rate for ordinary incomes in the existing income tax system), and the maximum rate should be 20 per cent. The above minimum rate will be little higher than the minimum rate for Class C incomes now in force; and the above maximum rate will be little lower than the maximum rate for Class C incomes now in force.

Such a tax reform will not only enable us to attain the object of increasing State revenue, but will be harmonious with the principle of justice in taxation as well as with the ideals of social policy. It is noted that the taxes on corporate incomes in such countries as Great Britain, France, the United States, Germany, Italy, Austria, and Czechoslovakia are proportional and not progressive. This fact is taken by some as a formidable proof of the superiority of a proportional income tax over a progressive scheme. We cannot accept such a sweeping view. On the other hand, a deeper examination into the merits and demerits of both of these two systems seems to indicate that the progressive scheme has many reasons, often outweighing those in favour of the other system. There are divergent ways of imposing such a progressive income tax on corporate incomes. I am inclined to believe that the tendency of the Powers is towards the adoption of a progressive corporate income tax. I shall, therefore, treat this important subject in detail in both theory and practice.

PART I
REASONS FOR PROGRESSIVE TAXATION OF CORPORATE INCOMES

Before proceeding to evince reasons for the adoption of the principle of progression for the taxation of corporate incomes, I shall first examine the reasons for the principle of proportion now forming the basis of the existing income tax systems of many nations, including our own.

1. Reasons for the proportional corporate income tax:

(A) Consideration from justice in taxation:

(a) From the standpoint of taxation according to the ability principle:—

(i) From the standpoint that regards the corporation as a means of profit-making for individuals. There are two views of the nature of a corporation: the one regards it as an independent personality with all the attributes of a personality; the other considers it as a means of profitmaking for those individuals who are its members. We shall refer to the former view later and we shall here dwell only on the latter. According to this view, the income tax is levied on corporations on the theory that it is more convenient to tax corporations than individuals who compose it and who use it in making profits. The obvious objection to this view is that the members of shareholders of corporations are unknown to the revenue officials to some degree and that they present the difficulty arising from their mobility. One may further object to such a view that it is impossible to tax corporations according to the shareholders' ability to pay. In actuality, it is seen that the ability to pay varies among the members or shareholders of corporations in an amazing degree. Some of them have only a single share each and depend thereon as the only source of income; and their income, if classified as Class C of the Income Tax Law, should be below the exemption point. On the other hand, other members or shareholders have an enormous number of shares, the income from which would be taxed at very high progressive rates, were it classified as Class C income. Such people may also have much income from some other sources which, if classified as Class C income, would be also taxed at the highest progressive rates. In other words, it is impossible to tax the shareholders of corporations indirectly and according to their ability to pay. If the income tax is to be levied indirectly on the shareholders of corporations, the adoption of some average or middle rate will be necessary in order to assure a measure of justice to different shareholders.

Nor can the size of corporations be taken as a basis of taxation. For such a tax basis presupposes that all the shareholders of big corporations making vast profits have large incomes, and that all of the shareholders of small corporations having a small earning capacity have but small incomes—a supposition which does not hold water. Of course, if such a supposition is true, then the taxation of different corporations according to their incomes would eventually result in a similar indirect taxation on their shareholders. But the fact is that there is no relationship between the size of corporations and the amounts of their shareholders' incomes. Big corporations may include among their shareholders those having but a single share each; while some of the shareholders of small corporations may have large incomes. It is clear then that, if the size of corporations be taken as the basis of taxation, it would be unfair to their shareholders; such a tax would prove relatively too light for the big shareholders of small corporations and relatively too heavy for the small shareholders of large corporations. Because of this injustice, the adoption of some average or middle rate for the proportional income tax has been found imperative.

(ii) From the standpoint that regards the corporation as an independent personality. The corporation may be treated as a taxpayer who is the subject of independent rights. But even from such a standpoint, the revenue of a corporation cannot be properly be called "income" in the real sense of the term; it is rather more properly be regarded as a sum of products. Corporate incomes are real rather than personal in nature, and the tax thereon is not an income tax but a tax on products or business. Corporate income should be more rather considered as an object of the business tax. Now, in the case of such real objects, progression has no place; rather a proportional tax should be levied. The conception of income involves the idea of consumption. But the corporation does not consume, although it is engaged in business and realizes profits. Its

activities do not include personal consumption, although it is regarded as an independent personality, shoulders the duty of paying taxes, and carries on business in its name. For this reason, it may be argued that the principle of progression cannot be applied to corporate incomes, or rather products, because that principle in the case of personal incomes is really based upon the fact of consumption :— wasteful consumption is taxed heavily and necessary consumption is taxed lightly, there being various degrees according to the nature of consumption of incomes. Thus, justice in taxation is assured by progression in the case of personal incomes. Obviously, such a principle is inapplicable to corporate incomes. Rather, the principle of proportion should be adopted, because it is more appropriate for all taxes on products or business.

(b) *From the standpoint of taxation according to the* benefit principle. Taxation according to the benefits received by taxpayers are applicable to local taxes but not to national taxes. Inasmuch as local additional charges are allowed to be attached to the corporate income tax which is a national tax, and so long as corporate revenue is "income" only in name and in reality is a sum of corporate products (and therefore the tax thereon is a sort of business tax), we cannot leave out the benefit principle. One may indeed say that corporations earning big incomes receive greater public services than those earning small incomes. However, no one can say that the former receive relative greater benefits than the latter. Such is the chief objection to the adoption of progression in the taxation of corporate incomes.

(B) Consideration from social policy. The argument advanced in (A), (a), i.e. that when the corporation is regarded as a means of profit-making for individuals, the progressive taxation of corporate incomes does not assure justice to the shareholders of corporations, may be further extended to prove that such a system of taxation is inconsistent with the social feeling on the part of individuals. Such a progressive system may place an excessively heavy

burden on poor shareholders and an excessively light burden on wealthy shareholders, and thus may prove objectionable from the standpoint of social policy. One may, therefore, urge the adoption of proportional taxation in order to escape from such evil consequences.

(C) Consideration from State revenue. As to State revenue, progressive taxation based upon the methods I have explained at the outset is, perhaps, more remunerative than the present proportional taxation. But, such a progressive tax may induce corporations to report their incomes as small as possible to the revenue office, the result being that the amount of State revenue is smaller than under a system of proportional taxation at an average rate.

(D) Consideration from economic policy. The development of modern industry was largely due to the activities of big corporations, and if its further growth is desired, they should be allowed to develop themselves by carrying on their enterprises unmolested and unchecked by any heavy tax burden. One may assert that the imposition of a progressive tax will certainly impede their future development. Proportional taxation, on the contrary, will prove advantageous to big corporations and stimulate industrial progress. It will prove advantageous and beneficial not only to investors, especially big investors, who will be enabled to have a more reliable calculation of their business investment, but also to the general public which will be benefitted by a general industrial progress. For it will ultimately assist the development and growth of industry.

(E) Consideration from tax technique. Proportion is simpler and more convenient in the administration of taxation than progression, when considered from the standpoint of tax technique. Where progression is adopted, attempts are made to make the tax-bases as small as possible by taxpayers in their hope to evade the payment of taxes. Thus, the adoption of progression will have immoral effects.

So far I have given the reasons for the adoption of a proportional tax for corporal incomes. They are quite

plausible and are entitled to due respect. On the other hand, there are reasons for the adoption of progression and some of them have a greater force than these for the other principle. At any rate, a comparative study of the two is highly desirable. I shall next set forth the reasons in favour of progressive taxation.

2. Reasons for progressive corporate income tax:

(A) Reasons themselves:

(a) Consideration from justice in taxation:

(1) In the case of progression based on the amounts of incomes:—There are two forms of progression: progression based on the amounts of incomes and progression based on profit-rates (the proportion which profits bear to capital invested). Taking the former as more desirable, I shall proceed to explain it in detail.

a. When the corporation is regarded as an independent person. Although a corporation may be said to be an independent person, the fact remains that it does not consume like natural persons. In consequence, no reason in favour of progression can be given from the standpoint that regards a tax as a sacrifice of consumption. But since the corporation is engaged in an act of earning and the size of its earning power may be taken as the basis of a progressive tax. The corporation (which is a juridical person) is an industrial entity with a big capacity to pay. It is enabled to remain a big organisation with such a capacity because of this essential nature. Big industries usually have greater profits than smaller industries. Those individuals and corporations who are wealthy and having great amounts of capital can secure greater profits than those who are less wealthy and having lesser amounts of capital. Corporations as independent persons carry on enterprises and compete with others both corporations and individuals. Corporations having comparatively greater capitals and efficient managers occupy a position much advantageous over smaller corporations and individuals. The former are able to realize profits which are both absolutely and relatively greater than those

secured by the latter. Thus, big corporations are able to pay a greater amount of tax out of their profits than smaller corporations. In other words, big corporations or corporations having an enormous earning power can successfully compete against individuals having a small earning power; and have a greater capacity to pay than individuals having a smaller earning power. Thus, viewed from the standpoint of earning capacity, corporations should be taxed progressively according to the amounts of their capitals, or rather according to the amounts of their incomes, for such a system of taxation would be highly conformative to the ability principle.

b. When a corporation is regarded as a method of earning for individuals. It is true that the shareholders of big corporations which secure big profits are not necessarily big earners; nor are the shareholders of small corporations which secure small profits always small earners. In actuality, however, it is seen that the incomes of big corporations which earn big profits usually go into the pockets of big earners, while the majority of the shareholders of small corporations with small earning powers are small earners. Even when a corporation is regarded as an instrument of earning for individuals, and, in consequence, the corporate income tax is considered as an indirect method of taxing shareholders, the fact is seen that the tax on big corporations fall ultimately on big earners. In other words, a differential tax based on the amounts of corporate incomes proves a differential tax on individuals. Of course, such a tax cannot be considered as an appropriate tax in which the amounts of individual incomes are directly known and taken into consideration. But the results of the two systems are similar to each other. Where a proportional (middle rate) tax is levied on the incomes of corporations, individuals with big earning powers will form corporations in order to evade the high progressive income tax rate for individuals; and thus there will be an unfair distribution of the tax burden for those who do not form corporations, and who

in consequence must pay the high progressive tax on their incomes. If, on the other hand, progression is applied to corporate incomes, such unfairness can be mollified to a large extent.

(2) In the case of progression based on the rates of corporate profits:

a. Affirmative reasons from the standpoint of justice in taxation:—(i) When viewed from the real ability to pay on the part of the capital invested by a corporation, progressive taxation based on that corporation's profit-rate would be more appropriate than progressive taxation according to that corporation's incomes, because the investor having a high profit-rate is able to pay a correspondingly great amount of tax. The same assertion may be made from the standpoint which regards the corporation as an independent person. At any rate, no one can reasonably declare that a corporation's capacity to pay has no relationship with the amounts of its profits, although we can safely say that profit-rates are more adequate as a tax basis than the amounts of corporate incomes.

(ii) From the standpoint of unearned gain:—It may be said that the high rates of profit are often due to forces external to one's efforts as much as to the efforts put in by the earner. For this reason, it is just that he be taxed heavily.

b. Negative reasons:

(i) The assertion that real capacity to bear is better indicated by profit-rates only applies to corporations but not to natural persons. Under the system, wealthy persons who are able to make big profits (but whose profit-rate is comparatively low) will be more lightly taxed than less wealthy individuals with small capital (but whose profit-rate is comparatively high). If such a progressive taxation is adopted for corporations, it must not be applied to individuals. In other words, there should be two sets of such progressive taxation—one for corporations and the other for individuals. The former should be based on profit-rates and

the latter on the amounts of profits. The only conceivable ground for such a differentiation may be expressed as follows: "The corporation is a person only in name; it is a real entity but does not consume like individuals; it is only engaged in business; therefore, it should be taxed differently from individuals who are engaged in consumption economy." Such an assertion will be met by the refutation that some of individuals consume to such a negligible extent that they are not substantially different from corporations. Thus, the ground for differentiation has some theoretical weakness. It appears that progressive taxation of corporate incomes according to their amounts is more logical than that according to profit-rates.

(ii) As to the second reason, it should be noted that the high rate of profit is not entirely due to external forces, but due, in a large measure, to the ability, efforts and initiatives of the taxpayers. Such consideration greatly weakens the second reason, but is not sufficiently formidable to overturn it.

(iii) Another objection to this progression is found in the technical difficulty of determining the definition of capital, which is to be the basis of the progressive tax. This difficulty may be somewhat alleviated by the existence of such an income tax precedent as the excess income tax in our country. But the economic effects on the taxpayer will be felt, inasmuch as this method of taxation will tend to have a retarding effect on his economic activities. Moreover, the rates of corporate profits are not the same for different sort of industries. Enterprises involving high risks usually have high rates of profit which are higher than those of less risky enterprises. But such a fact is not taken into consideration by this progressive taxation which regards all industries in the same light. This is the most serious objection to the scheme of progressive taxation.

(b) Reasons from social policy:—It is generally seen that corporations with big capitals and big earning powers are in a position to overcome the competition of other

corporations with smaller capitals and smaller earning powers as well as individual enterprisers. So powerful are the former that the very existence of the latter is threatened. This is widely seen in our business world. Such a state of affairs should not be allowed to exist unchecked, when viewed from the standpoint of social policy. The best way to control the undue exercise of power by big corporations is to apply progression in the taxation of corporate incomes. A proportional taxation such as now in force will only tend to augment the power of the big corporations and weaken the position of the weaker ones, because it treats them all as equals. Corporations with greater earning powers should be taxed more heavily. Such a differential taxation is necessary to protect corporations with less earning powers. True, as we have pointed out before, there is the danger of placing a too heavy burden on poor individuals who are the shareholders of big corporations. But such an excessive burden is pardonable. At any rate, the evils resulting from the unchecked power of big corporations are much more serious upon the business world in general.

(c) Consideration from State revenue :—We have already seen that when the proportional tax is levied as a middle rate, it would meet the needs of State revenue more successfully than a progressive tax. However, it would be impossible in our country today to increase the rate of our proportional tax on the ordinary incomes of corporations, for the reason that smaller corporations would be unable to bear such an increased burden, although bigger corporations may be able to bear it. But if we should adopt a progressive tax according to my plan such a difficulty will not result. A progressive scheme, as I have planned out, will allow the continuation of the existing tax rate for small corporations (namely, 5 per cent) and higher progressive rates (the maximum being 20 per cent) will be levied on big corporations. Such a system would place no additional burden on smaller corporations, nor any unbearably heavy burden on bigger corporations. Moreover, it will enable the State to

increase its revenue.

(d) Consideration from tax technique:—Proportion may be simpler and more convenient than progression when seen from the standpoint of tax technique. However, the latter cannot be said to be impracticable. It will be able to overcome whatever difficulties it may meet.

(e) Consideration from the nature of corporation:

(1) Inasmuch as the corporation is an independent personality, it should be taxed along the same line with natural persons. True, the corporation has peculiarities of its own and does not consume like natural persons; and, in consequence, is entitled to some special consideration. However, it is highly desirable that the methods employed in the taxation of natural persons should be extended over to corporations as far as possible. If natural persons are taxed progressively and corporations are taxed proportionally, there will be partiality in favor of the latter which will pay a lighter tax burden than competing individual enterprises. Moreover, the burden on smaller corporations will be unduly heavy. Such consequences should by all means be avoided. Corporations should be made to pay the tax to the same degree in which they would have to pay, were they individuals. The imposition of the tax burden being excessively heavy or light, simply because the taxpayer happens to be a corporation, should not be allowed.

(2) Since its very nature is a privilege given by the law, the corporation should be taxed more heavily than individuals. A corporation comes into existence through the special privilege of the law and the State is thus entitled to tax it heavily in return; at any rate, it is unjust to show a greater leniency to the corporation. But if corporate income is taxed proportionally, at least big corporations will be greatly favored. In order to avoid such a double privilege, the adoption of progressive taxation is necessary.

(B) Necessary precautions. As we have seen, there are many reasons in favor of the progressive taxation of incorporate income, but there are some necessary precautions

we have to observe.

(a) From the standpoint of the ability principle:

(1) Lack of basis from the standpoint of consumption:—As has been pointed out, corporations earn but do not consume. Therefore, there is no basis of progressive taxation from that standpoint, although there is a basis from the standpoint of their earning power. Because of this fact, it seems fair that some consideration should be given to the rate of progression for corporations.

(2) There is no necessary connection between the amounts of corporate incomes and that of the incomes of shareholders. As we have already pointed out, inasmuch as the income of corporations ultimately become the income of shareholders, it may happen that the income of big corporations go into the pockets of small earners instead of big earners; and the income of small corporations may go into the pockets of big earners. Thus, progressive taxation on corporate income may not conform to the ability principle, which fact should entitle corporations to some favourable consideration in fixing the rate of their income tax.

(b) From social and economic policies:—We have already seen that there are arguments pro and con regarding the progressive taxation of corporate income from the standpoint of social policy. We have also seen that the argument in favour of progressive taxation has a greater force than the negative reasons. On the other hand, we must admit that the negative reasons from the standpoint of economic policy have a greater force than the affirmative argument from the same standpoint. Thus, we have to decide between the two alternatives: the affirmative reasons from the standpoint of social policy and the negative reasons from the standpoint of economic policy. We are inclined to believe that the question as to which we should choose largely depends on the national importance of the two at a particular time; and that at present in our own country greater importance should be attached to the considerations of social policy. However, it is well to note the injurious effects of

progressive taxation on the economic world, and due consideration should, therefore, be given to corporations in order that the development of industry may not be impeded.

(c) From the standpoint of tax technique:—If the progressive tax is levied on the dividend only, corporations will reserve their income as much as possible in order to reduce the amount of their dividend in their hope to pay a lesser amount of tax. It is therefore necessary to tax the entire income of corporations.

PART II
METHODS OF PROGRESSIVE TAXATION ON CORPORATE INCOME

We have set forth reasons for the progressive taxation of corporate income. Let us next consider what kind of method we should employ in the administration of such a tax. There are precedents of some methods employed both here and abroad. We shall take these and add to them other conceivable methods.

1. *To tax the shareholders of corporations on their* dividend. This is an indirect tax on corporate income. Such taxation may be truly regarded as part of the personal general income tax, and thus may be considered as outside of our present question. There are two different methods in this form of taxation.

(A) The entire dividend of shareholders are added together with their other incomes and a general income tax is imposed on their total lump sum. This method is seen in the general income tax or surtax on income in such countries as Great Britain, France, Italy, Austria and the United States.

(B) Some deduction is made from the dividend of shareholders before it is added to other incomes and a general income tax is levied on the combined amount. In Japan, the rate of deduction is 40 per cent. In Germany, a deduction of 10 per cent from dividend is made in the

income tax of individual taxpayers whose income is below 20,000 marks and whose income includes dividend by some limited corporation, the utmost amount being ten per cent of 5,000 marks.

2. Progressive taxation on the income of corporations themselves: There are various progressive taxes on the income of corporations themselves. An example of such taxes is found in the progressive tax on family companies which have as their purpose the evasion of the tax on Class C income. But there are the following other methods:

(A) Ordinary progression, or progression according to the amounts of corporate incomes:

(a) Such a progressive tax only may be levied on all corporations:—I am in favour of this system because of the reasons I have already presented.

(b) A basic proportional tax may be levied on all corporations alike and then in addition a surtax may be levied on some of them, or a degressive tax may be attached to the basic proportional tax. There are the following different forms of this scheme:

(1) A progressive surtax is levied on corporations with comparatively great earning powers. This system has the following two forms:

a. A progressive surtax according to the excess amounts of incomes is levied on corporations whose incomes are above some definite amount (say one million yen).

b. A progressive surtax according to the excess amounts of incomes is levied on corporations whose rates of profits is above some definite point (say seven per cent).

(2) Degressive taxation for corporations with comparatively small earning powers. This system is adopted in Germany, Austria and France, and it is attached to the basic proportional income tax. Here are found the germs of a progressive tax such as I am advocating. In Germany, the basic corporate income tax of 20 per cent is levied. In that country a progressive tax is levied on limited corporations having head offices within the country and whose paid

capital or asset does not exceed 50,000 marks each. The highest rate of this progressive tax is 30 per cent, but the tax is limited below 20 per cent of the whole income and in no case is higher than the proportional rate. In Austria, the general rate is 25 per cent, but different tax rates are adopted in the case of savings banks as follows: 10 per cent for those whose incomes are below 10,000 shillings; 17.5 per cent for those whose incomes rang between 10,000 shillings and 30,000 shillings; and 25 per cent for those whose incomes are above 30,000 shillings. Cooperative societies and building associations whose incomes are below 1,500 shillings are exempted from the income tax; an 8 per cent tax is levied on those whose incomes are between 1,500 and 3,000 shillings; and a ten per cent tax on those whose incomes are between 3,000 shillings and 4,500 shillings; and a 12 per cent tax on those whose incomes are above 4,500 shillings. The basic rate of the French business income tax (which is also levied on corporations) is 15 per cent. But this rate is applied to corporations whose income is above 50,000 francs. For the incomes below this amount, a degressive tax is levied, the lowest rate (for under 800 francs) being 2.81 per cent.

(B) Specific progression:

(a) Differential tax according to profit-rates:

(1) A simple progressive tax according to the profit-rates may be levied. Such an example may be found in the corporate income tax of the State of Wisconsin (adopted in 1911). The rates of this tax ranged between the minimum rate of 1/2 per cent for profit-rates below one per cent and the maximum rate of 6 per cent for rates above 11 per cent.

(2) A progressive surtax according to profit-rates may be levied on corporations whose profit-rates exceed a certain fixed point (say 10 per cent), in addition to a basic proportional tax which is levied irrespective of differences in profit-rates or in addition to a basic progressive tax according to the amounts of incomes. Such a surtax is found in the case of our excess income tax which is levied on corporations

whose profit-rates are 10 per cent or more. Czechoslovakia also has such a tax. That country levies a basic special corporate income tax of 8 per cent and a surtax on stock companies, etc., in addition to the basic tax. The rates of the excess income tax in Czechoslovakia are as follows: 2 per cent for profit-rates between 6 and 8 per cent; 3 per cent for profit-rates between 8 and 10 per cent; 4 per cent for rates between 10 and 12 per cent; 5 per cent for rates between 12 and 14 per cent; and 6 per cent for all rates above 14 per cent.

(b) A differential tax according to the variety of business. Some kind of corporations may be levied at lower rate, for the sake of its national importance, than the others.

CONCLUSIONS

To summarise: the prevailing view is that unlike individual incomes, corporate incomes should be taxed proportionally rather than progressively, and the existing tax systems of most countries support the view. A closer scrutiny into the matter, however, reveals that there are many reasons in favour of progressive taxation of corporate incomes from the standpoint of the ability principle, social policy, and State revenue. These reasons are open to some doubts, it is true, but the objection is not powerful enough to overturn my contention. Such objection should be overcome and the present system of proportional taxation should be replaced by a progressive method. Nor are insurmountable difficulties involved in tax technique. Various methods of progressive taxation may be suggested, but the germs of such taxation can be found in the existing tax system of this country as well as those in several other countries. These germs should be given impetus for development. The adoption of a system of progressive taxation on corporate income is urgent in view of the existing necessity for finding new sources for State revenue.

MASAO KAMBE

THE IMPORTANCE OF "*GOYŌKIN*" OR FORCED LOANS IN THE MEIJI RESTORATION

1. *FINANCIAL DISTRESS OF THE MEIJI* GOVERNMENT

"The Imperial régime has been at last restored; the fundamental policy of the State has been duly established; the Emperor will hereafter administer State affairs in person; and all things pertaining to the State are about to be provided. But there is one thing lacking—State revenue. This is due to the fact that Keiki Tokugawa (徳川慶喜) has not yet transferred to the new Government the State revenue which he should have transferred at the time he gave up the political power in favour of the new Government. Although the Imperial Court has to defray various expenses for the disposition of State affairs, it has no source of revenue at its command".

The above is a quotation from a public declaration issued by the Council of State on May 8, the first year of Meiji (1868). It clearly indicates the extreme financial distress to which the Meiji Government was subjected at the beginning of its existence.

Reviewing the series of momentous events that took place at that time, one will find that it was on October 14, the third year of Keio (1867) that Keiki Tokugawa addressed a memorial to the Throne requesting Imperial permission to transfer the political power to the Imperial Court. The permission asked was granted on the very following day, namely, May 15, and a public declaration of the Restoration of the Imperial régime was made on December 14, the same year. But even at that time Keiki was still occupying the

official position of Naidaijin or Prime Minister, and still held his domain; while the daimyos, shrines and temples likewise held their respective fiefs. The newly formed Meiji Government enjoyed a very feeble existence, as its only source of revenue was a domain which annually yielded 30,000 koku of rice and which the Imperial Court had held in possession during the feudal period. It was obvious that such a negligible amount of revenue was utterly insufficient for the administration of the new Government. Truly, "there was one thing lacking—State revenue".

The financial distress of the Meiji Government at that stage of its existence can never be adequately imagined. Tomomi Iwakura (岩倉具視) urged the priests of temples such as the Higashi Hongwanji and the Nishi Hongwanji to make monetary contributions to the Government. He also instructed the leading merchants of Kyoto such as Saburosuke Mitsui (三井三郎助), Zensuke Ono (小野善助), and Hachiroemon Shimada (島田八郎右衛門) to do likewise. He also ordered Kyuemon Kumagai (熊谷久右衛門) (the then proprietor of the Kyukyodo 鳩居堂) to urge wealthy merchants and landowners of Kyoto and its vicinity to lend their financial assistance to the Imperial Government. On December 26, the Revenue Office gave out the following instruction to the Mitsuigumi:

"Now that the Shogunate Government has returned the political power to the Imperial Court and the Shogun himself has withdrawn to Osaka Castle, all government orders shall hereafter be issued by the Imperial Court. However, as the transfer of revenue affairs has not yet been made by the Shogunate Government, the Imperial Court is confronted by financial want. Accordingly, the Revenue Office has been established for the purpose of securing the necessary State revenue. Indications at present are that hostilities may be commenced at any moment between the Imperial Court and the Shogunate, and we are constrained to secure revenue for the general administration of State affairs and conducting military campaigns in order to maintain peace

in the realm. Now, as your firm has been in the financial service to the Imperial Court from the olden time, you are ordered to be in service of the Revenue Office hereafter. Consider the gravity of the present condition of the Imperial Court and serve it with all your fidelity".

Mitsui-gumi responded to this order with promptitude and made a donation of 1,000 ryo. The same firm also presented 1,000 ryo to the army of the Satsuma Clan quartered at the Sokokuji, Kyoto, and which was faced by a serious financial want with its resulting blow to the morale of the soldiers. This forced loan or contribution was made on the eve of the Fushimi-Toba Battle that really heralded the open hostilities of the Imperial Court and the crumbling Shogunate. In January, next year, Mitsui-gumi together with the two families of Ono and Shimada made a loan of 2,000 ryo to the new Government.

There were other instances of such loans. The transfer of the political power by the Shogunate placed a heavy financial burden on the new Government and the burden was further increased in weight by the Battle of Fushimi-Toba. As the Government had no permanent source of revenue, it inevitably depended on the donations and loans by wealthy commoners in the disposition of its immediate problems.

2. FORCED LOANS DURING THE EARLY STAGE OF MEIJI

The Revenue Office was established on December 23, 1867 and Samon Hayashi (林左門) and Hachiro Mitsuoka (Kimmasa Yuri) (三岡八郎, 由利公正) were appointed as its directors, and charged with the duty of securing revenue for the Government. Mitsui-gumi was represented by several of its own men at the Revenue Office. These men carried out the financial work. They often found it impossible to make both ends meet, and the Mitsui-gumi had to make up the deficit by accomodating loans. According to an official

statement made under date of January 15, 1868, Mitsui, together with Ono and Shimada, filled the financial requirements of the Government by accomodating loans out of the bills of exchange which people had drawn with these three financial houses on their credit. There was a persistent danger of an over-imposition of forced loans resulting in a stoppage of the payment of the bills and thus in a loss of confidence in the credit power of these houses—which loss would have prevented them from further serving the Revenue Office. Accordingly, on January 17, the same year, the Revenue Office issued a statement saying that funds given to the Government were to be regarded as loans and would not be therefore confiscated (as was often done under the old régime) and that the payment of bills of exchange in big sums might be suspended at the convenience of the Government. On January 19, a loan of 10,000 ryo was made jointly by Mitsui, Ono and Shimada.

Thus, the forced loans extended by these three financial houses enabled the new Government to defray its immediate expenses. But it was faced by the need of raising funds for sending a punitive expedition to Edo, which step became necessary after the Battle of Fushimi-Toba. The Council of State met on January 7 in order to discuss the problem. The meeting was presided over by Tomomi Iwakura and attended by the following officials: Hachiro Mitsuoka, Ichizo Okubo (大久保一藏), Hyosuke Hirozawa (廣澤兵助), and Shojiro Goto (後藤象二郎). Hirozawa expressed his opinion that a fund of 200,000 ryo was required for undertaking the proposed military expedition to the seat of the old government, but Mitsuoka argued that at least 3,000,000 ryo was absolutely required. The meeting accepted Mitsuoka's opinion and decided to raise it at once.

On January 21 the Revenue Office assembled the representatives of Mitsui and other houses which were in its service and asked them to present a list of the names of leading business firms and wealthy citizens in Kyoto, Osaka and near by districts. This instruction was followed by the

presentation by these firms of three lists of such names. The first list included such names in Kyoto and its vicinity; the second list contained those of Osaka and of its neighborhood; and the third list contained those of the Province of Ohmi. The new Government accordingly invited more than 100 merchants of Osaka and Kyoto to the Imperial Palace of Nijo on January 29, and asked them for their cooperation for raising a fund of 3,000,000 ryo.

Mitsui-gumi wrote a letter to the Revenue Office under date of February 2 regarding the right method of raising this fund. It urged that the only way to overcome the difficulty involved was to despatch an official of the Revenue Office to Osaka for the purpose of securing the agreement of the wealthy citizens of that city as a preliminary step for raising the needed fund.

This suggestion was accepted and on February 12 Hachiro Mitsuoka was despatched to Osaka. On the following day he summoned 15 leading commoners of Osaka headed by Zen-emon Konoike (鴻池善右衛門). These men were instructed to assist the Revenue Office in raising the proposed fund and put under the employment of the Revenue Court. On February 19 and 20 650 wealthy citizens of Osaka were summoned (322 on the first day and 328 on the second day) and were instructed to assist the new Government in its attempt to raise the fund.

This fund (goyokin) the Revenue Office tried to raise was really a domestic loan redeemable through the tax on land. When the Emperor's visit to Osaka as a preliminary step for sending a punitive expedition to Edo was decided on February 3, a fund of 50,000 ryo each was raised at both Kyoto and Osaka to be used as the travelling expense of the Imperial visit. The stupendous difficulty the officials of the new Government faced in raising the needed fund of 3,000,000 ryo is described by "kojo-oboegaki" (口上覚書) which gives an account of the efforts made by the Mitsui-gumi in conjunction with the two houses of Ono and Shimada at the command of the Government under date of November,

1869. It says in part: "When the Revenue Office tried to raise the funds, many expressed their misgivings (as to the possibility of redemption) and we had to act as guarantors. We have collected the money from the persons whose names are given in the list attached. The total amount now collected at Kyoto and other places is about 1,300,000 ryo." In a report to the Government by Tomomi Iwakura in May of the same year, he says: "Recently we tried to raise only 3,000,000 ryo and we fail to understand why we have not succeeded in raising even half of that amount." It appears, however, that even Mitsuoka had not really believed that he could raise the amount he proposed; he wanted to impress the wealthy merchants with the statement of the amount in his wish to raise as much as possible under the circumstances.

Prior to all this, just before Iwakura set out on his journey to Tosando following the decision to send an expedition against Edo, the Mitsui-gumi was ordered to join his suite and two representatives of the firm joined it. They were given the full privilege of samurai and proved instrumental in raising funds on many occasions on the way. At Otsu, they donated a fund of 10,000 ryo (January 24), another 10,000 ryo at Ogaki (February 21); they purchased 1,000 bales of polished rice after the party had arrived at Warabi in Musashi Province (March 13) and stored them in the Mitsui warehouse at Fukagawa, Edo (the value being 1,712 ryo); on April 16 a donation of 25,000 ryo and at later date another donation of 10,000 ryo were made to the headquarters of the Iwakura expedition. Still another donation of 30,000 ryo was made after H.I.H. Prince Arisugawa (有栖川宮), commander-in-chief of the Expeditionary Army arrived at the Zojoji Temple, Shiba, Edo.

In leap-month April (閏四月) of the Same year, the Government levied a loan of 500,000 ryo among the wealthy merchants and trade guilds of Osaka and its vicinity, as the expense of sending a superintendant-general to Edo. Prior to this the Imperial Army took over Edo Castle. Although dis-

contented samurai betook themselves to Ueno for the purpose of resistance, no move was made by the Imperial Army because it was under financial privation. It was because of this that Sanetomi Sanjo (三條實美) was ordered to go to Edo in the capacity of superintendant-general. But there was another reason for raising this fund; the Government had to purchase a warship. The fund was apportioned as follows: 100,000 ryo among 15 merchants headed by Konoike who were in the service of the Revenue Office; 50,000 ryo among Mitsui, Ono and Shimada who were engaged in the exchange business; 344,000 ryo among some 87 guilds of various trades such as *sake*-brewing, pawning, exchange, etc. The merchants in the service of the Revenue Office actually turned in 80,000 ryo and Mitsui and two others paid 40,000 ryo; but the amount paid by the various commercial guilds is unknown.

The Government on May 15 issued the so-called Dajokan notes (太政官札) (Notes of Council of State), but it was unable to defray all expenses with these notes. It had to use cash in the payment of salaries to the soldiers of the Imperial Army in the O-u district where people were not accustomed to the use of such paper money, and also in the purchase of military weapons from foreign countries. The Government, accordingly, had to depend on Mitsui-gumi in securing the needed cash. On May 22, the firm furnished the Government with a fund of 50,000 Mexican dollars. Again, on August 25, the Government summonsed the representatives of Mitsui and other firms in Tokyo to the Imperial Palace at Tokyo in order to raise a fund of 860,000 ryo. On this occasion, Mitsui, Ono, and Shimada supplied a total of 60,000 ryo. This loan was redeemed entirely by gold paper notes when they were issued in December, 1869.

3. THE SIGNIFICANCE OF "GOYOKIN"

The foregoing account will be enough to show the financial distress under which the Meiji Government laboured

in the early years of the new régime. The following table indicates the receipts and disbursements of the Government in four different periods:

	1st period (Dec. 1867— Dec. 1868)	2nd Period (Jan.— Sept. 1869)	3rd Period (Oct. 1869— Sept. 1870)	4th Period (Oct. 1870— Sept. 1871)
	(yen)	(yen)	(yen)	(yen)
Ordinary revenue	3,664,780	4,666,055	10,043,627	15,340,922
Extraordinary revenue	29,424,533	29,772,348	10,915,871	6,803,675
	Sub-division:			
Dajokan notes	24,037,389	23,962,610		
Funds and Domestic Loans	3,838,107	811,000		
Foreign loans	894,375	100,500		
Total Revenue	33,089,313	34,438,404	20,959,499	22,144,597
Ordinary expenditure	5,506,253	9,360,230	9,750,003	12,226,382
Extraordinary expenditure	24,998,832	11,425,609	10,357,669	7,008,775
Total expenditure	30,505,085	20,785,839	20,107,672	19,235,158

As the above figures show, the extraordinary revenue constitutes the greater portion of the total revenue of the first period. The same is true to some extent of the second period, but just the reverse is the case for the third period. The extraordinary revenue during the first period was derived from three sources, namely, Dajokan notes, money contributed or loaned by citizens, and foreign loans. Because of the difficulty of accounting, the Government raised or loaned money first from among the citizens of Tokyo, Kyoto, Osaka, Hyogo and Otsu and then further from those in other parts of the country. The Government also commandeered rice stored in the municipal warehouses of Tokyo and Yokohama with a promise to pay for it at later dates. As to foreign loans, the Government borrowed 500,000 dollars from the Oriental Bank, a British financial house in Yokohama and 400,000 dollars from a British firm. Dajokan notes also constitute a greater portion of the extraordinary revenue during the second period and domestic as well as foreign loans are also included.

The foregoing statistics in the first and second periods

in the government finance of the early Meiji years evince the fact that the Government found it impossible to cope with its financial distress only by depending on financial accomodations by the wealthy merchants in Kyoto, Osaka etc.—a policy which had been handed down from the Shogunate days. Thus, the Government felt the necessity of issuing notes and borrowing from foreign sources. In other words, the three financial policies of raising funds and domestic loans, of seeking the aid of paper money and of borrowing foreign capital, were employed in order to patch-up the financial problem of the time. I have above dwelt chiefly on one of these three policies, namely, the policy of raising "goyokin" or forced loans the Government raised from wealthy citizens. Now, it is to be noted that "goyokin" during the feudal days was not the same with that in the period under our consideration. During the Tokugawa Period, "goyokin" and "kenkin" or monetary contribution was differentiated only in name, and although the redemption of "goyokin" was presupposed, it was not actually practised. In some cases, "goyokin" was arbitrarily changed into "kenkin" afterwards. Let us now consider the nature of "goyokin" as it was raised by the Meiji Government. As we have already pointed out, the government declaration issued on January 17, the first year of Meiji (1868) made it clear that the "goyokin" raised by the Government was to be regarded as loans and would not be confiscated. We regret that very little is known now of the methods of raising this money and of the conditions of it subscription, etc., each time it was raised by the Meiji Government.

When 3,000,000 ryo was raised as the basic fund of the Revenue Office, the tax on land was made security. And we know that the land tax was the only source of revenue for the Government at that time. Later, when the Government announced its intention to raise money as the expense for the Imperial expedition, the assurance was given that no subscribers would be placed in a condition of

distress, thereby hinting that the money would be paid back at some future date. When another fund was raised as the expense of sending a superintendant-general to Edo, the rate of interest was specified as 1.5 per cent a month, and the Government assured lenders that the money would be paid back within October. Thus, the Government promised as to the rate of interest as well as the time of redemption. The Government fulfilled its promises. It paid a monthly interest of one per cent for the Revenue Office fund and 1.5 per cent for the money which was raised on the occasion of the sending of the superintendant-general to Edo.

Both the principal and interest of the "goyokin" raised by the Meiji Government were paid, as the following table of figures indicates:

	1st Period (yen)	2nd Period (yen)	3rd Period (yen)	4th Period (yen)	Total (yen)
Funds raised	3,838,107	811,000	—	—	4,649,107
Funds redeemed	263,293	1,465,301	1,449,318	1,471,193	4,649,104
Interest paid	197,636	202,724	195,963	84,089	680,412

The interest paid includes that which was paid on foreign loans. The very fact that both principal and interest were paid back shows that the "goyokin" raised by the Meiji Government during the first few years of its existence was radically different from that which was raised under the feudal régime.

It is clear that the funds raised by the Meiji Government were used mostly for political and military affairs during the turbulent period immediately following the Meiji Restoration. But even the wealthy citizens of that time had no magic box from which they could produce as much money as they wished. Many of them were unable to raise the amount specified by the Government. Take the Mitsui case, for instance. That firm was commanded to turn in 50,000 ryo in cash and in a lump sum on August 25, 1868, at Tokyo. The firm paid 20,000 ryo immediately and promised to pay 10,000 ryo more in the following month, but the Government allowed no delay and demanded the immediate

payment of the remainder. There was no other way than to submit to the order, and Mitsui han to sell gold and silver wares it had kept in its safe in order to raise the necessary amount of money. Merchants in Osaka also faced similar distress. Mitsui's report to the Revenue Office stated that some of the well-known merchants in Osaka had closed their doors and discontinued business. A statement issued by a drug dealers' guild pointed out the dire effects of the Government's attempt to raise money on its members who were forced to financial embarrassment thereby. Thus, it was impossible for wealthy merchans to comply with the Government's demand to the latter's complete satisfaction. The Government felt the obvious necessity of altering its financial policy. Thus, there appeared the policy of issuing the so-called Dajokan notes, promulgated on leap-month April 19.

As these notes were inconvertible, they failed to circulate smoothly, and the Government had to issue decrees several times urging their circulation. (For instance, on July 18, 1868 and July 23 the same year). Various other methods were employed in order to facilitate the circulation of the notes. Later, the Government established the Commercial Office (*Shohoshi*) which loaned out Dajokan notes to daimyos and merchants in Kyoto Osaka etc., as industrial funds. In Osaka, the notes were given to those who possessed the certificates of subscription to "goyokin". As the "goyokin" collected under the feudal régime was not paid back, merchants of Osaka thought it much safer to take the notes and they eagerly accepted them. Thus, they received these notes with the certificates of the funds they had paid on various occasions as securities. As the rate of interest on the Revenue Office funds was one per cent per month and the merchants had to pay an interest of 0.6 per cent per month, what the Government did amounted to the issuance of bearer certificates at the interest rate of 0.4 per cent per month. But the rate of interest on the notes was not uniform. In the case of the fund raised for the purpose of

sending a superintendant-general to Edo, the rate was one per cent per month instead of 0.6 per cent in other cases. This is because of the fact that the interest rate on that particular fund was 1.5 per cent per month. In consequence, in this case the Government's action amounted to the transfer to the merchants of bearer certificates at the interest rate of 0.5 per cent per month.

Let us next consider how the funds were paid back. The Osaka Prefectural Government issued the following notification on October 20, 1869:

"The Government since last spring has on several occasions raised funds to be used for military campaigns. The money so raised will be eventually repaid in due course of time. The Government is ready to repay in cash the loans it raised when it purchased the steel warship on which Lord Sanjo was despatched to Tokyo in April. Creditors are hereby asked to present themselves at the Finance Department on the 24th instant to get repayment. Those having received notes for the loan certificates shall return them to the Finance Department to receive the cash payment".

Again, on November 28, the following notification was issued by the same Prefectural Government:

"Both the principal and interest of the loans raised in the three cities shall be repaid to the creditors after the end of November. The creditors shall present themselves to the Finance Department to get repayment. As cash and notes have equal value, the payment will be paid in either of them. Those wishing to receive cash shall return the notes they received from the Government in exchange for loan certificates."

We may assume then that the loans were repaid by the Government. As the creditors had received the notes in exchange for their loan certificates as a rule, they must have received cash by presenting the notes to the Finance Department. In case the presentation of a great sum of notes was impracticable, the amount representing the difference

between the loans (goyokin) and the notes was repaid, we presume, by the Government. In other words, the loans were redeemed in notes issued by the Government. There is an historical record showing that the loan of 50,000 dollars and the loan of 60,000 ryo accommodated by Mitsui and others, were all redeemed in notes. We may summarise the policy of loan redemption by the Government as follows: the Government insisted on the delivery of notes the same as bond certificates. Then, taking advantage of the great difficulty of their delivery, the Government settled the debts by paying the difference between the loans and notes. The Government adopted the rate of 120 ryo in notes for every 100 ryo of gold in the settlement of the loans incurred in the second year of Meiji.

We have seen that the Government was able to secure revenue in the early part of Meiji years through Mitsui and other wealthy families of the time. Under the old régime, the daimyos entertained before wealthy merchants, offered them social positions and treated them the same as samurai, in return for the financial assistance then rendered. The Meiji Government also made similar recompenses to Mitsui, Konoike and other wealthy merchants for the financial help they had given. There is no doubt, of course, that loyalty was the motive of their act; they could not stand seeing the financial distress of the struggling Government and offered their helping hands in coping with the financial exigencies of the time. However, the fact remains that the new Government succeeded in securing the financial help of these merchants and in carrying out its work of overthrowing the feudal régime, because it could attract these merchants by the slogan of loyalty to the Imperial Court.

Osaka was the financial centre of Japan during the feudal period and the Shogunate Government often levied "goyokin" on the wealthy merchants of the city. There were such instances of requisitioning funds during the closing years of the period. When the critical stage of the Shogunate régime was reached, both the authorities of the Edo Govern-

ment as well those of the new Government cast coquettish glances towards Osaka. When the new Government summoned the wealthy merchants of Osaka on December 29, the third year of Keio (1867) to present themselves at Kyoto, they failed to present themselves under one pretext or another. But on January 7 Shogun Keiki returned to Edo on board the Kaiyo Maru and on January 10 H.I.H. Prince Yoshiakira (嘉彰親王) went to Osaka in the capacity of the commander-in-chief of the Imperial Expeditionary Force. This was followed by the Imperial visit of the Emperor Meiji to Osaka and the city was placed under the control of the Imperial Court. The firm establishment of the new Government was greatly aided by the financial aid thus rendered by the wealthy commoners of Osaka and other cities. This financial co-operation was made by few wealthy citizens at times, but it was rather necessary to secure money from many citizens. We have already stated that the Government summoned 650 commoners of Osaka when it tried to raise three million ryo as the fund of the Revenue Office. There is no way of knowing the exact number of the merchants who made contributions, but the following figures taken from the Osaka Section of the Government Revenue Ledger will indicate the general outline of the loans:

Loans (ryo)	No. of Creditors	Amount (ryo)
10,000 and above	1	50,000
Between 5,000 and 10,000	5	32,593
Between 1,000 and 5,000	76	149,800
Between 500 and 1,000	84	55,102
Between 450 and 500	17	7,294
Between 400 and 450	26	10,865
Between 350 and 400	38	13,316
Between 300 and 350	67	20,986
Between 250 and 300	48	12,803
Between 200 and 250	95	19,969
Between 150 and 200	176	28,452
Between 100 and 150	354	41,232
Between 50 and 100	552	35,073

Below 50	185	5,629
Total	1,724	483,114

The loans accomodated by various guilds:

10,000 and above	2	40,000
Between 1,000 and 10,000	29	53,234
Between 500 and 1,000	30	19,146
Between 100 and 500	72	17,884
Below 100	36	1,294
Total	169	131,558

The foregoing figures regarding the individuals' burden of loans indicate that the number of the persons who contributed 500 ryo or more each, constitute 60 per cent of the total amount; but the number of persons who contributed less than 150 ryo each constitute 73 per cent of the total number of persons. This shows how comparatively small amounts were raised from among a large number of commoners.

It was on occasion of despatching the Superintendent-General to Edo in leap-month April that an enormous burden was imposed on the various guids; but the foregoing figures show that the guilds also shared the burden of raising the Revenue Office funds.

The same is true of the raising of the Revenue Office funds in the city of Sakai, as the following figures indicate:

Loans (ryo)	No. of Creditors	Amount (ryo)
1,000 and above	2	2,300
Between 500 and 1,000	2	1,450
Between 400 and 500	2	960
Between 300 and 400	2	740
Between 200 and 300	6	1,265
Between 100 and 200	34	4,510
Between 50 and 100	48	3,060
Between 30 and 50	57	1,948
Between 20 and 30	53	1,175
Between 10 and 20	372	4,115
Total	578	21,523
Sake brewers' guild in Saikai		1,400
Sake brewers' guild in Kishiwada		125

The number of those contributed less than 100 ryo, especially those whose amounts were 10 or 20 ryo, is very large. This is additional evidence of the fact that the money was raised from many people in small amounts.

When the Emperor Meiji's expedition to Osaka was decided, a sum of 50,000 ryo was raised from Kyoto and Osaka each. Although a few wealthy persons played a prominent rôle in the raising of this money, many others in Osaka, Sakai, Nishinomiya, Itami and other points in the old province of Settsu made contributions in various amounts. The money is subdivided as follows:

Individuals' burden (ryo)	No. of persons
1,500	2
1,000	6
700	1
600	3
500	8
400	9
Between 300 and 400	38
200	1
100	2
70	1
50	1
Total	72

There are also many cases in which a number of persons jointly contributed, their number sometimes being several scores. A group of persons numbering 893 made a contribution of 84,035 ryo, the average amount per person being little over 94 ryo.

As the above table shows the number of individuals who contributed less than 100 ryo and only four and the total amount is comparatively large. But if we think of adding the case of contributions made by groups of individuals, the total number of persons is 965 and they raised a total sum of 167,000 ryo. This is another proof of the undeniable fact that the raising of the funds was participated in by many instead of few.

We have already seen that the Government no longer could raise funds through forced loans and had to resort to

the policy of issuing Dajokan notes which was regarded as similar to bond certificates. In a debate held among an official council in March, the second year of Meiji, arguments pro and con were advanced regarding the proposed abolition of the system of "goyokin". The council decided in favour of its abolition in April of the same year and addressed a memorial to the Throne in favor of the replacement of goyokin by a system of government loans. The memorial was accompanied by the following recommendations:

"As we have decided to abolish goyokin and establish a system of government loans, we recommend that all indispensable government expenditure be met by floating loans, that all goyokin which have been levied on landlords and merchants since the Restoration be turned into government loans without delay; and that the interest on the loans be paid at the request of the bondholders."

However, as the grant of Dajokan notes was made in order to carry out the same function as government loans, one may say that the idea contained in the above memorial to the Throne had been carried out before the presentation of the memorial.

It was the samurai of the lower ranks who actually carried out the political reformation of the Meiji Restoration, and there is no denying that the activities of commoners participated in the same movement were characterised by passivity. But would the establishment of the Meiji Government have been possible without the financial assistance of commoners? We gravely doubt such a possibility. The accomplishment of the Restoration was possible because the Meiji Government could raise forced loans from wealthy commoners and then issue paper money. For this reason, the efforts made by the commoners in the Restoration movement cannot be lightly regarded, although they appear to have been passive. Moreover, although few commoners played the rôle of leadership, a large number of commoners also participated in the movement and its final success was due to their co-operation and assistance. We may then say

that the power of the many rather than of the few brought about the Restoration and gave it their support.

EIJIRO HONJO

SURVEY OF THE DISTRIBUTION OF THE PEOPLE'S INCOMES IN THE LIGHT OF THE HOUSEHOLD RATE.

CHAPTER 1. A GENERAL SURVEY.

The income tax affords the only datum for the study of the distribution of the people's incomes in Japan. In other words, the only method available for this study is to single the figures of C-class incomes out the income tax revenue statistics and see how these particular incomes are distributed among individuals or individual households. The C-class incomes, however, constitute only a small part of the revenues of the Japanese people. In an announcement made by the Statistical Bureau of the Cabinet, for instance, it is mentioned that of the total incomes of individuals for 1925, amounting to ¥12,900,000,000, the C-class incomes stood at ¥3,400,000,000.[1] If this estimate is correct, the people's earnings covered by the C-class incomes represent no more than 22.66 per cent. of the total revenue of the people. That is to say, a study of the distribution of the people's incomes, which is based on the C-class incomes, goes no further than the study of their distribution in regard to only one-fourth of the total incomes of the people.

That the C-class incomes constitute only one-fourth of the total incomes of the people may not vitiate the value of the study very seriously, if the number of individuals or households which get the C-class incomes constitute a large proportion of the population or households of the whole country. What, then, is the actual proportion of the households which pay the C-class income tax to the total number of the households in the country? Table No. 1 shows the figures for the 28 years from 1903 to 1930. The reason why in this table the tax-paying households, instead of in-

1) Japan's national income in 1925 (the *Official Gazette* of November 31st, 1928).

Table No. 1.

Percentage of the C-class income tax paying households to the total number of households in the country.[2]

Year.	Total households in the country.	C-class income tax paying households.	Percentage of C-class income tax paying households to the total number of households in the country.
1903	8,718,356	507,923	5.83
1904	8,737,851	543,048	6.21
1905	8,808,323	580,540	6.59
1906	8,983,839	638,390	7.11
1907	9,122,662	702,356	7.70
1908	9,239,813	860,047	9.31
1909	9,237,872	930,438	10.07
1910	9,365,682	947,578	10.12
1911	9,492,291	964,450	10.16
1912	9,620,259	1,013,545	10.54
1913	9,720,436	707,854	7.28
1914	9,842,701	727,089	7.39
1915	9,979,990	717,870	7.19
1916	10,106,049	712,580	7.05
1917	10,255,356	770,972	7.52
1918	10,469,616	779,480	7.44
1919	10,581,543	1,079,796	10.20
1920	10,833,475	994,194	9.18
1921	10,902,037	1,168,187	10.72
1922	11,131,014	1,280,916	11.50
1923	11,027,695	1,400,465	12.70
1924	11,282,307	1.389,916	12.32
1925	11,999,609	1,432,287	11.94
1926	11,704,182	804,419	6.87
1927	11,970,710	732,236	6.12
1928	12,224,998	693,808	5.68
1929	12,429,846	700,518	5.64
1930	12,705,896	677,870	5.34

2) The Annual Statistical Report of the Taxation Bureau.

dividual tax-payers, are given is that the number of individual C-class income tax payers is not of much value for the study of the distribution of the people's incomes. The investigation of the number of the C-class income tax paying households made it necessary to make use of the figures of the item "Numer of households" in the official statistical tables, and such figures for the years prior to 1903 were not available. In Table No. 1, I have calculated the percentage of the number of households throughout the country. The "number of households" representing the total number of the whole country does not necessarily tally in definition with the "number of households" denoting the C-class income tax paying households. But for the purpose of ascertaining the general trend, I have sought the proportion of both to each other.

Owing to changes in business conditions and to alterations in the untaxable point (exemption), the percentage of the C-class income tax paying households to the total number of households throughout the country has been subject to constant fluctuations. In the period of the 28 years under review, the highest percentage recorded stood at 12.70% and the lowest at 5.34%. Such being the case, in the study of the distribution of the people's incomes, conducted on the basis of the statistical figures of the C-class income tax revenue, 87 to 96 per cent. of the total number of households in the country are inevitably left out of consideration.

Table No. 1 represents the figures for the whole nation, but since, in this country, the circumstances ruling in the six big cities are very different from those prevalent in all other districts, it is necessary to study them separately. Table No. 1 shows that, in 1930, 5.34 per cent. of the total number of households throughout the country paid the C-class income tax, but when divided into the six big cities and all other districts, the figures in Table No. 2 are obtained.

The population includes children, women and old people, who, as a rule, get no incomes, and, moreover, the figures

Table No. 2.

Number of C-class tax paying households and that of individual tax-payers, as classified into the six big cities and other districts.[3]

	Number of households.	Population.	C-class income tax payers.		Percentage of C-class income tax paying households.	Percentage of individual C-class income tax payers.
			Households.	Individuals.		
Six big cities[4]	1,622,372	7,604,534	187,084	238,079	11.53%	3.13%
Other than six big cities	11,083,523	56,843,190	490,786	700,846	4.42%	1.23%

representing the individual tax-payers are of little value for the present study, so that my attention will here be confined to the percentage of the number of the C-class income tax paying households to the total number of households in the country. From Table No. 2, it will be seen that whereas in the six big cities over 11 per cent. of the total number of households is paying the C-class income tax, in the cities, towns and villages other than these six big cities, the percentage of the C-class income tax paying households is only 4.42 per cent. In other words, whereas 11 households out of every 100 households are paying this income tax in the six big cities, only five out of every 100 households are paying it in the districts other than these six cities. Mr. Tadao Oda has made public the results of his study, in which the conclusions reached are the same as mine. His figures appear in Table No. 3.[5]

The percentage of the C-class income tax paying households to the total number of households is 7.8% in the four

3) The Annual Statistical Report of the Taxation Bureau.

4) The statistics of the Tokyo Taxation Superintendense Bureau.
The statistics of the Osaka Taxatian Superintendence Bureau.
The statistics of the Nagoya Taxation Superintendence Bureau.

5) The meaning of the income tax as a town levy (the *Town Problems* Vol. 14, No. 6.)

Table No. 3.

Percentage of the C-class income tax paying households to the total number of households in the country.

Cities.					Number of House-halds.	Number of C-class income tax paying house-holds.	Percentage of tax-paying households to the total number of households.
Six big cities with a population of over				600,000	1,629,333	187,886	11.5%
Three cities with a population of over				200,000	145,280	15,169	10.4
Seven	,,	,,	,,	150,000	248,089	25,314	10.2
Twelve	,,	,,	,,	100,000	302,436	28,499	9.4
Six	,,	,,	,,	90,000	121,606	10,403	8.6
Six	,,	,,	,,	80,000	99,636	9,679	9.7
Six	,,	,,	,,	70,000	93,356	7,704	8.8
Seven	,,	,,	,,	60,000	92,292	6,685	7.2
Twenty one	,,	,,	,,	50,000	224,479	18,179	8.1
Forteen	,,	,,	,,	40,000	123,503	10,011	8.1
Seventeen	,,	,,	,,	30.000	127,793	11,766	9.2
Four	,,	,,	,,	20.000	23,265	1,813	7.8
Total					3,231,068	333,108	10.3%

Note: The city of Fushimi is included in the city of Kyoto.

cities with a population of over 20,000 and 11.5% in the six big cities boasting a population of over 600,000. The average percentage for all the cities is 10.3%. To take a general view, the larger the population of the cities, the larger percentage of their citizens pay the C-class income tax, and vice versa, though exceptions to the rule are afforded by 14 cities with a population of over 40,000, seven cities with a population of over 60,000, and six cities with a population of over 90,000.

It is obviously impossible to elucidate the true aspects of Japanese national life by a study of the distribution of the incomes which represent only one fourth of the total incomes of the whole nation and with which 80 or 90 per cent. of the total households of the country—95 per cent.

of the total households in the districts other than the six big cities—has nothing to do. But in default of better materials for study, I have hitherto carried on my study on the basis of the income tax revenues, though fully awake to the defective nature of this method. It is necessary to make up for this defectiveness by some means. Various devices have been employed to this end, but none has been found satisfactory. There is, indeed, no better way, in the existing circumstances, than to have recourse to the household rate for making good the above-mentioned defectiveness.

Of what value are, then, the statistics of the household rate in the study of the distribution of the people's incomes? Let me explain it in the following chapters.

CHAPTER 2. MEANING OF INCOME IN THE HOUSEHOLD RATE.

The household rate has its origin in the Dajôkan Decree providing for the local tax regulations, issued in 1878. These regulations have gone through many vicissitudes since. In 1921, the Prefectural Household Rate Regulations were enacted, and in the following year the detailed rules for the operation of the above-mentioned Regulations were promulgated. Then, for the first time was unified legislation governing the household rate made in this country. Subsequently, in 1926, a law relating to local taxation was enacted under which the household rate was abolished as a prefectural tax and converted into a municipal, town and village levy. In Article 22 of this law it is provided: "The municipality, town or village can under this law impose a household rate." Article 23 of the same law further says: "The household rate is levied on a person who keeps house. It can also be imposed on a person who, though not keeping house, earns his own livelihood." The household rate is assessed on the means of the subject of taxation, and the basis of assessment is his income (over 80 per cent. of it)

and the state of his property (under 20 per cent. of it). This is why the household rate is regarded as a sort of income tax.

The incomes on which the household rate is assessed are described in the following provisions of the regulations for the enforcement of the Law governing local taxation :—

Article 20. The amount of incomes, which forms the basis of calculating the means of household ratepayers, is worked out according to the rules given below :—

(1) The amount of revenue for the previous year in regard to the interest on non-business loans and the interest on public bonds, debentures, bank deposits and savings.

(2) The total amount of revenue for the previous year minus the necessary expense in regard to forestry incomes.

(3) The amount of income from March 1st of the previous year to the end of February of the current year in regard to bonuses, or allowances partaking of the nature of a bonus.

(4) The amount of revenue from March 1st of the previous year to the end of February of the current year in regard to dividends of profits or interest, or shares in the surplus accruing from juridical persons. With regard to dividends on unregistered shares, however, the amount received in the said period.

In case the amount received on account of the amortisation of shares or that received as refund of one's shares, on retirement from one's company, exceeds the amount of shares paid in or the amount of investments made, the excess sum shall be regarded as dividend of profits received from the juridical person concerned.

(5) The amount of income for the previous year in regard to salaries, wages, annual allowances, annuities, pensions and retirement allowances, and other grants of a similar nature. With regard to such allowances, not received continually from January 1st of the previous year, the estimated amount of income for the current year.

(6) The total amount of revenue for the previous year

minus the necessary expense in regard to the incomes other than those falling under the foregoing items. With regard to the incomes from property, business or occupation, not accruing continually from January 1st of the previous year, the estimated amount of income for the current year.

Article 21. The expenses to be deducted from the total revenue under items 1, 2 and 6 of the foregoing Article refer to the cost of purchasing seedlings, cost of buying silkworm eggs and fertiliser, cost of rearing cattle, etc., purchase cost of the stock-in-trade, cost of raw materials, cost of repairing business places or their rent, imposts on such places or business, wages for employees and other costs necessary for realising the revenue. Household expenses and other costs relating thereto shall not be deducted.

Again, the Regulations for the Enforcement of the Law governing local taxation carry the following two articles providing for deductions for assessment in favour of earned incomes and persons with dependants to support:

Article 23. When the amount worked out in accordance with the provisions of from Article 20 to the previous Article is under ¥12,000, one-tenth shall be deducted in respect of the incomes from salaries, wages, annual allowances, annuities, pensions, retirement allowances, and bonuses and other kinds of pay analogous in nature to these; when it is under ¥6,000, two-thirds; when it is under ¥3,000 three-tenths; when it is under ¥1,500, four-tenths; and when it is under ¥800, five-tenths.

Article 24. When the amount worked out in accordance with the provisions of from Article 20 to the previous Article is under ¥3,000 and the tax-payer has among the members of his household persons who were either under 14 years or over 60 years on the first day of the fiscal year, or persons who are deformed or disabled, the following deductions are made from his incomes in assessment, on application by the tax-payer:—

1. When the income is under ¥1,000, at the rate of ¥100 per head of persons under 14 years or over 60

years, or deformed or disabled persons.

2. When the income is under ¥2,000, at the rate of ¥70 per head of these persons.

3. When the income is under ¥3,000, at the rate of ¥50 per head of these persons.

By deformed or disabled persons mentioned in the foregoing paragraph are meant persons of mental derangement, deaf, dumb or blind persons, and persons who are either severely injured or afflicted with incurable diseases so that they require constant care and protection.

As will be seen from the above-mentioned Artieles, the methods of calculating the incomes for the assessment of the household rate are, on the whole, identical with those adopted in the assessment of the income tax, though, as Mr. Hirotaro Tanaka[6] points out, they are different in details. In six respects, they may be contrasted as follows;—

(a) The household rate follows the lines of lump sum method taxation more closely than the income tax. For instance, in the household rate, the incomes accruing from interest on public bonds, debentures, bank deposits and savings, from property and business abroad, and from other earnings originating in foreign countries are considered collectively.

(b) Whereas under the Income Tax Law the incomes of the householder and those of the members of his family who live in the same house only are added up, in the household rate all the iucomes of those living with the ratepayer are added together for purposes of assessment, no matter whether they are members of the householder's family or not.

(c) Incomes exempted from taxation under the Income Tax Law, from the point of view of national policy, as, for example, the interest on national bonds, are taxed in the household rate.

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6) *The Commentary on the Municipal, Town and Village Household Rate.* pp. 106—108.

(d) In the household rate, unlike the C-class income tax, a 40 percent. deduction is not made on the dividends from juridical persons. Nor is there any qualification provision as to the application of the rates of taxation to forestry incomes.

(e) Deductions on earned incomes are graded more numerously and are higher in rates in the household rate.

(f) The provisions governing deductions on account of dependants of the family differ between the household rate and the income tax.

Setting apart the question of whether or no the assessment of incomes in the household rate is being performed smoothly, the standard of assessment covers a wider range than in the income tax, in so far as legal provisions are concerned.

In short, each municipality, town or village can levy the household rate on any person who keeps house or who, if not keeping house, is leading an independent life, and this rate is asressed mainly on the basis of the ratepayer's income. The methods of calculating incomes in this case are far better than those provided for in the Income Tax Law. If, therefore, we look into the state of the distribution of such incomes as are mainly considered in the assessment of the household rate, we can gain an accurate idea of the distribution of the incomes of the Japanese people. There are, however, two obstacles in the way.

The first obstacle is that in thirty-six cities and 188 towns and villages the household rate is not levied, the hause surtax, income surtax, the income tax or a substitute for the household rate being imposed instead.[7] Of a total of 109 cities in this country, the household rate was not in force in 36 cities in the fiscal year 1931—1932, and these cities were Muroran, Sendai, Maebashi, Takasaki, Chiba,

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7) *The Present State of the Substitute for the Household Rate and Its Revisions*, by Hyakuji Nagayasu. (Summary of the proceedings of the Third All-Japan Town Problems Congress, p. 62 downwards).

Tokyo, Hachioji, Yokohama, Yokosuka, Kawasaki, Toyama, Takaoka, Fukui, Hamamatsu, Nagoya, Toyohashi, Okazaki, Ichinomiya, Seto, Kyoto, Osaka, Sakai, Kobe, Himeji, Amagasaki, Akashi, Nishinomiya, Wakayama, Okayama, Kurashiki, Hiroshima, Tokushima, Wakamatsu, Yawata, Nagasaki and Kagoshima.[8] As the household rate is not, thus, adopted by many important cities, including the six big cities, the investigation of the distribution of the people's incomes on the basis of this particular rate naturally loses some of its value.

The second obstacle is that the household rate is not enforced so successfully as its drafters desired. As it is a municipal, town or village levy, the necessary investigations about its inposition may be conducted more thoroughly than in the case of national and prefectural taxes, but it is at the same time conceivable that the municipal, town and village authorities are not so adept as the tax official authorities in the technique of calculating incomes. When it is remembered that the tax offices are actually experiencing great difficulties in the assessment of incomes amenable to the national income tax, it is a matter of course that the municipalities, towns and villages are unable to make perfect inquiries into the incomes on which the household rate is levied, the investigation of which is admittedly more difficult.

But the ideal method of inquiry can never be found, so I have contented myself with the study of the state of the distribution of incomes, as reflected in the household rate imposed by the Kumamoto Municipality in the fiscal year 1931—1932, with my eyes wide open to the above-mentioned handicaps. My choice of the Kumamoto Municipality for this purpose was due to the fact that I could avail myself of the results of the study made by Mr. Môri, former Chief of the Kumamoto Tax Office, of the distribution of the incomes of the citizens of Kumamoto on the basis of the household rate—a research of which kind has never been

8) Summary of Local Finance.

made in any other city. The following two chapters merely deal with the results of Mr. Môri's study.

CHAPTER 3. THE KUMAMOTO MUNICIPALITY AND ITS HOUSEHOLD RATE.

The city of Kumamoto had an area of 2.43 square *ri* (one *ri* being 2.44 miles), a population of 164,449 and 32,383 households on October 1st, 1930. In point of population, it takes the fifteenth place among the cities of this country, its population being smaller than that of Kure, Sendai and Yawata but larger than that of Kanazawa, Otaru, Okayama, Kagoshima and Shidzuoka. In Kyushu, it takes the fourth rank, Fukuoka, Nagasaki, and Yawata occupying the first, second and third place respectively. It takes the precedence of Kagoshima, however. Among the Japanese cities where the household rate is levied, it is the fifth biggest city, Fukuoka being the biggest and then following in order Hakodate, Kure and Sapporo. With exclusive reference to the cities in Kyushu where the household rate is imposed, it is the second biggest city. Kumamoto is a principal city in Kyushu where many important local Government offices and educational institutions are located (as, for example, the Army Division headquarters, the local Chiho Saibansho, the Prefectural Office, the Communications Bureau, the Forestry Bureau, the local Monopoly Office, the Government Medical University, the Pharmaceutical College, the Fifth High School, and the Higher Technical School).[9] As a commercial and industrial city, it has the branches of big banks as well as a number of companies. It is a well-balanced city where occupations are comparatively evenly distributed among its citizens.

In order to make clear the economic conditions of the citizens of Kumamoto, the classified figures of the C-class incomes in that city for the fiscal year 1931—1932 are given in Table No. 4.

9) Year Book of the Japanese Cities (the 1931 Edition).

Table No. 4.

Classified figures of C-class incomes in the city of Kumamoto (for the fiscal year 1931—1932).

Kinds.	Number of persons	Amount of incomes
Fields {Cultivated by owners	73	¥ 20,153
Fields {Tenanted	575	267,695
Truck farms {Cultivated by owners	74	11,142
Truck farms {Tenanted	650	74,148
Rented residential land and houses	1.632	2,034,325
Stock-farming and sericulture	15	38,837
Industry	115	354,768
Commerce	2.021	2,756,535
Money-lending	221	672,922
Transport and communications	25	48,856
Amusements, entertainments and "service" business	283	694,851
Interest on non-business loans, deposits, etc.	763	287,520
Dividends	1.217	1,054,861
Salaries, wages and annunities	1.950	2,781,113
Bonuses	1.593	633,810
Various allowances	617	508,934
Miscellaneous trades	313	954,633
Labour	19	26,667
Forestry incomes	2	1,220
Other incomes	222	99,344
Total	12.380	13,322,335

Of all persons with such incomes, totalling 12,380, those who derive their incomes from commerce are largest in number (2,021), followed by those with incomes from salaries, wages and annunities (1,950), landlords and house owners (1,632), recipients of bonuses (1,593), persons with incomes from fields and truck farms (1,372) and recipients of dividends (1,217). In reference to the total income of ¥13,322,335, salaries, wages and annuities (¥2,781,113) stand first on the list, and then come in order commerce (¥2,756,-

535), rented residential land and houses (¥2,034,325), dividends (¥1,054,861), miscellaneous trades (¥954,633), amusements, entertainments, and "service" trades (¥694,851). The statistical figures given in the above table gives a fairly good illustration of the economic life of the Kumamoto citizens. In view of this and other circumstances, it seems not altogether improper to study the state of the distribution of incomes on the basis of the household rate levied by the Kumamoto Municipality, nor does it seem difficult to infer the state of the distribution of incomes in other cities from the data supplied by that city. It may, of course, be hazardous, for various reasons, to infer the conditions in the whole country from the results of the statistical study of the state of things prevailing in a single city, but since the state of the distribution of the incomes of Government and public officials, shool teachers and petty company clerks in Kumamoto is comparatively typical, it may safely be applied to all cities in this country. Mr. B. Seebohm Rowntree, in the introduction in his book, "Poverty, a Study of Town Life," says: "At the outset I had to decide whether to collect information on the "extensive" method or on the "intensive." In other words, the choice lay between gathering together and analysing such statistics regarding towns in the United Kingdom as were to be found in Government Returns, Reports of Medicial Officers of Health, the records of the various branches of the Charity Organisation Society, etc., etc., or studying in detail the conditions of a single typical town. A very little inquiry sufficed to show that any picture of the condition of the working class of provincial England based on the former method would be very incomplete and of doubtful service." Instead of basing his study on the data secured from all sources in the country, he took the city of York as the subject of his study and made a detailed analysis of the conditions there. It seems that the method adopted by Mr. Rowntree is positively effectual in some cases. From such a point of view, I have studied the state of the distribution of incomes on the basis

of the household rate of the Kumamoto Municipality.

The household rate levied by the Kumamoto Municipality has some points of contrast as well as many points of similarity to that imposed by other municipalities, towns and villages. The main points of the household rate in Kumamoto are as follows:—

The main points of the household rate, a special levy of Kumamoto.

1. The household rate is imposed on any person, who, even if not keeping house, is leading an independent life.

2. The houshold rate is imposed on any person who had an income taxable on April 1st in each fiscal year.

3. The following are exempt from the household rate:—

   (a) Persons who receive public relief because of poverty (there were 100 households so circumstanced in Kumamoto in the fiscal year 1931–1932).

   (b) Workers and coolies who lodge together in dormitories or in the grounds of factories.

   (c) Students. Such students as keep house conjointly or have servants in their employ to do cooking for them are excepted.

   (d) Servants, geisha, prostitutes and waitresses who live with their employers or keepers.

   (e) Such persons as the Mayor deems too poor to be able to bear the household rate (there were 120 such households in Kumamoto in the fiscal year 1931–1932).

4. With regard to deductions on earned incomes, one-tenth is deducted when the total income is less than ¥12,000; two-tenths when it is less than ¥6,000; three-tenths when it is less than ¥3,000; four-tenths when it is less than ¥1,500; and five-tenths when it is less than ¥800.

5. With regard to deductions on dependants, the following deductions are made, on application by the ratepayer, when a family with an income of less than ¥3,000 has

inmates who are either under 14 or over 60 in age, or who are deformed or disabled :—

(a) ¥70 per head, when the income is less than ¥1,000.

(b) ¥50 per head, when the income is less than ¥2,000.

(c) ¥35 per head, when the income is less than ¥3,000.

6. In the household rate, unlike the national income tax, the life insurance premium is not deducted.

CHAPTER 4. DISTRIBUTION OF THE INCOMES IN THE CITY OF KUMAMOTO.

In studying the distribution of the incomes of the city of Kumamoto, it may be apposite to recall the view of Vilfredo Pareto, the originator of Pareto's line, who made a valuable contribution to the study of the distribution of incomes.

1. In the general conclusion in his book "Cours d'economie politique," Pareto says: "It was induction that enabled us to know the form of the curve of incomes, while it was by deduction that we could induce two important theorems. One of these theorems is that the distribution of incomes is not accidental, and the other is that, for the lowest level of incomes to be elevated and for the inequality of incomes to be reduced, it is essential that wealth should increase more quickly than the population."

In his book, "Les Inégalités économiques," published in 1931, R. Gibrat, while criticising Pareto's principles in detail, stresses the necessity of correcting the figures of his rate of inequality in the cistribution of incomes. As it is not my intention to induce any definite principle, I will refrain from any comment on Pareto's two theorems, and confine myself to the elucidation of points relating to induction. In the following two respects, the distribution of the incomes in the city of Kumamoto bears on Pareto's theory :—

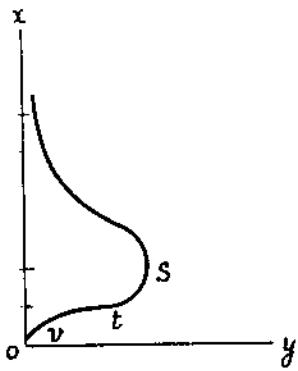
1.—Regarding the form of distribution in the lowest part of incomes and the part a little higher.[11]

2.—Regarding the distribution curve of earned incomes.[12]

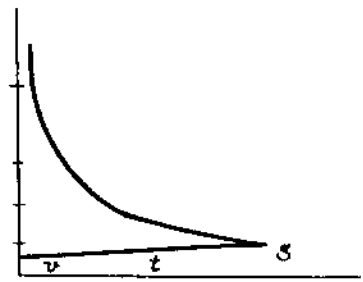
Pareto's views on the above-mentioned points are as follows:—

Concerning the first point, he says: "With regard to *la pyramide sociale*, as nobody has yet offered an analytical explanation, it is difficult to affirm that it is just the same in countries where widely different conditions rule. A certain writer asserts, in the light of his theoretical concept, that the part near the base (which will be denoted hereafter by "s.t.v.") is of the form given in Graph No. 1, but no statistical figures are available to substantiate this assertion. It is more probable that this s.t.v. part will be of a very compressed form like the one shown in Graph No. 2. It is not a mere matter of curiosity to know what this part is like; it is of great consequence to know how it is shaped. If the s.t.v. part of *la pyramide sociale* is very compressed, then the form of the part nearest to the base will be plane. If it is extremely compressed, a pyramidal form will result."

Graph No. 1.



Graph No. 2.



With reference to the second point, he says that although, as a rule, each line connecting the logarithmic

11) Vilfredo Pareto: Cours d'économie politique, pp. 314—315.

12) Cours. p. 308.

coordinates of the amounts of income and the number of persons (accumulative) who get incomes over each designated amount forms a straight line, the line is not straight, when earned incomes and incomes from movable property are considered separately from other incomes. He had, however, no ample data to prove this contention. His argument was based merely on the following tax statisties for Canton de Vaud in 1892.

Francs.	Incomes from movable property.	Incomes from immovable property.	Earned incomes.	Total.
1,250	3,524	386	2,162	5.900
2,500	1,786	172	804	2,693
5,000	885	69	241	1,172
10,000	389	23	69	471
20,000	137	10	29	171
40,000	42	5	16	63

He asserts that the graph of the incomes from movable property is convex, while that of the earned incomes is concave. But that of the sum total of these incomes and the incomes from immovable property forms a line which is practically straight, he avers.

2. I will proceed to examine the state of the distribution of incomes among the citizens of Kumamoto in the light of these arguments of Pareto's. There were 31,969 households in Kumamoto which paid the household rate in the fiscal year 1931—1932. As the total number of the households in that city was 32,383, practically all the households paid the rate. On the other hand, the households which paid the C-class income tax numbered 3,815, or only about 12 per cent. of the total number of the households. I will first direct attention to the C-class income tax paying households, and then to those paying the household rate.

As Table No. 5 shows, the C-class incomes totalled ¥12,107,350, while the number of households which paid the C-class income tax was 3,715.

Table No. 5.

Number of the C-class income tax paying households in Kumamoto (in the fiscal year 1931–1932).

Grades.	Number of households.	Amount of income.
¥ 1,200	143	171,600
Less than ¥ 1,500	985	1,327,180
„ „ 2,000	868	1,503,000
„ „ 3,000	653	1,583,380
„ „ 5,000	581	2,211,390
„ „ 7,000	214	1,274,010
„ „ 10,000	125	1,062,850
„ „ 15,000	74	889,010
„ „ 20,000	34	586,560
„ „ 30,000	21	511,180
„ „ 50,000	9	325,410
„ „ 70,000	4	248,920
„ „ 100,000	2	170,860
„ „ 200,000	2	243,000
Total	3,715	12,107,350

Simpson's actual relative average difference η' in regard to the C-class incomes of the Kumamoto citizens for the fiscal year 1931–1932, worked out according to the formula :[13] $\eta'=\frac{2\{2(y_1+y_3)+y_2-2\cdot5\}}{3}$ is 0.879588. The related figures necessary for finding η' are :—

(a) The first quartile of incomes (in Yen) x_1... 2.008
(b) The median of incomes (in Yen) x_2..... 3.047
(c) The third quartile of incomes (in Yen) x_3... 3.564
(d) Percentage of men with incomes less than the first quartile y_1 .... 0.540512

13) Kumao Masuda : On the Method of Compiling the Statistics of the Income Distribution Rate (*The Anuual Report of the Economic Study* of the Osaka Commercial University).

L. von Bortkiewicz : Die Disparitätsmasse der Einkommensstatistik.

(e) Percentage of men with incomes less than the median y_2..... 0.819650

(f) Percentage of men with incomes less than the third quartile y_3..... 0.959354

3. Next, as to the distribution curve of the incomes of the citizens of Kumamoto, as revealed in the household rate. Table No. 6 shows the distribution of the total incomes.

Table No. 6.

Distribution of the total incomes of the citizens of Kumamoto (in 1930).

Grades	Number of persons with graded incomes.	Number of persons with bigger incomes.
Nil	3,463	31,969
¥1 & over	4,753	28,506
¥ 100 ,,	5,795	23,753
¥ 200 ,,	4,343	17,958
¥ 300 ,,	3,114	13,615
¥ 400 ,,	1,875	10,501
¥ 500 ,,	1,740	8,626
¥ 600 ,,	1,263	6,886
¥ 700 ,,	779	5,623
¥ 800 ,,	520	4,844
¥ 900 ,,	438	4,324
Total	24,620	
¥ 1,000 ,,	456	3,888
¥ 1,100 ,,	386	3,430
¥ 1,200 ,,	367	3,044
¥ 1,300 ,,	306	2,677
¥ 1,400 ,,	262	2,371
¥ 1,500 ,,	214	2,109
¥ 1,600 ,,	161	1,895
¥ 1,700 ,,	130	1,734
¥ 1,800 ,,	131	1,604
¥ 1,900 ,,	109	1,473
Total	2,522	

Grades	Number of persons with graded incomes.	Number of persons with bigger incomes.
¥ 2,000 ,,	108	1,364
¥ 2,100 ,,	59	1,256
¥ 2,200 ,,	55	1,197
¥ 2,300 ,,	70	1,142
¥ 2,400 ,,	59	1,072
¥ 2,500 ,,	31	1,013
¥ 2,600 ,,	35	982
¥ 2,700 ,,	26	947
¥ 2,800 ,,	28	921
¥ 2,900 ,,	19	893
Total	490	
¥ 3,000 ,,	20	874
¥ 3,100 ,,	32	814
¥ 3,200 ,,	22	822
¥ 3,300 ,,	22	800
¥ 3,400 ,,	25	778
¥ 3,500 ,,	18	763
¥ 3,600 ,,	13	735
¥ 3,700 ,,	14	722
¥ 3,800 ,,	10	708
¥ 3,900 ,,	16	698
Total	192	

Grades	Number of persons with graded incomes.	Number of persons with bigger incomes.
¥ 4,000 ,,	33	682
¥ 4,100 ,,	23	649
¥ 4,200 ,,	27	626
¥ 4,300 ,,	25	599
¥ 4,400 ,,	21	574
¥ 4,500 ,,	19	553
¥ 4,600 ,,	17	534
¥ 4,700 ,,	19	517
¥ 4,800 ,,	11	498
¥ 4,900 ,,	11	487
Total	206	
¥ 5,000 ,,	13	476
¥ 5,100 ,,	11	463
¥ 5,200 ,,	11	452
¥ 5,300 ,,	11	441
¥ 5,400 ,,	15	430
¥ 5,500 ,,	19	415
¥ 5,600 ,,	8	396
¥ 5,700 ,,	10	388
¥ 5,800 ,,	11	378
¥ 5,900 ,,	10	367
Total	119	

Grades	Number of persons with graded incomes.	Number of persons with bigger incomes.
¥ 6,000 ,,	52	357
¥ 6,500 ,,	26	305
¥ 7,000 ,,	20	279
¥ 7,500 ,,	26	259
¥ 8,000 ,,	19	233
¥ 8,500 ,,	21	214
¥ 9,000 ,,	17	193
¥ 9,500 ,,	14	176
¥ 10,000 ,,	118	162
¥ 20,000 ,,	26	44
¥ 30,000 ,,	8	18
¥ 40,000 ,,	2	10
¥ 50,000 ,,	1	8
¥ 60,000 ,,	0	7
¥ 70,000 ,,	1	7
¥ 80,000 ,,	1	6
¥ 90,000 ,,	0	5
¥ 100,000 ,,	4	5
¥ 150,000 ,,	1	1
Grand total	31,969	

Remarks: (1) The classification in this table was made from the draft measure for the imposition of the household rate in Kumamoto for the fiscal year 1931–1932.

(2) The amount of incomes represents the balance of total incomes after due deductions have been made on account of dependants and earned incomes.

(3) The high proportion of the number with no income is due mainly to the deductions as mentioned in (2).

From Table No. 6 it will be seen that the total incomes of the citizens of Kumamoto are graded widely from nil to ¥150,000, but that peoyle with incomes of from ¥100 to ¥200 are most numerous. In the main, the distribution is

within the range of from ¥100 to ¥3,500. The results of the study made along the same lines in regard to the earned incomes, that is, the total earned incomes, incomes of Government and public officials, incomes of soldiers and sailors, incomes of educationists, incomes of company employees, and incomes of manual workers, are given in Table No. 7.

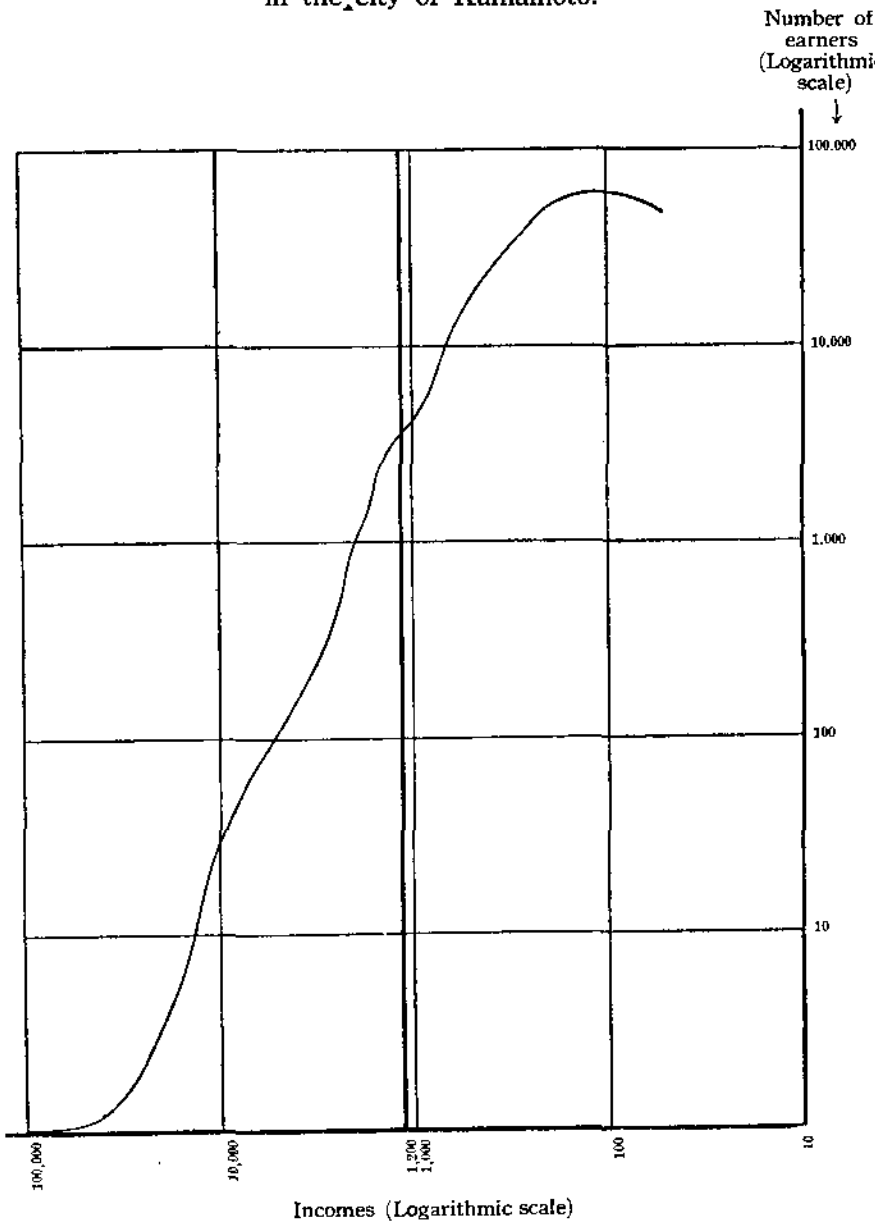
Table No. 7.

Distribution of the earned incomes in the city of Kumamoto.

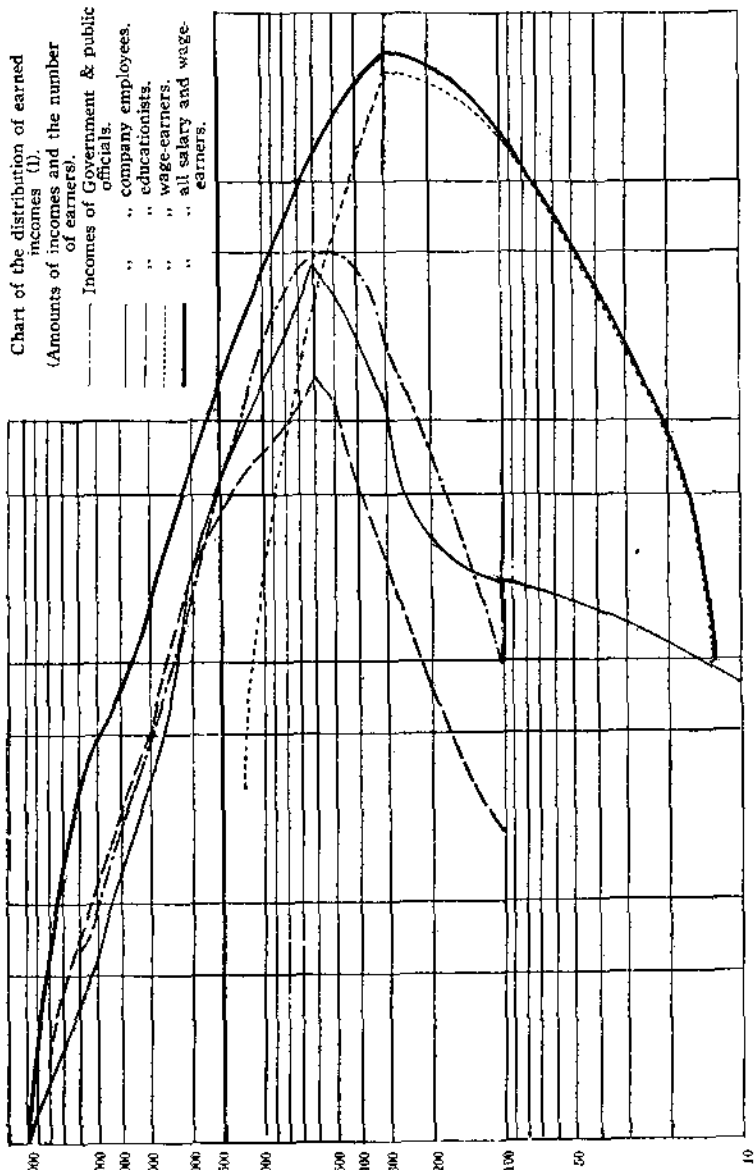
Incomes of	State of distribution. (In Yen)			Average income per head (in ¥)	Percentage of earners of less than ¥1,000 to the total number of earners.	Percentage of incomes of earners of less than ¥1,000 to the incomes of all earners.
	Biggest income.	Highest percentage part.	Smallest income.			
All earners	39,330	300–400	13	625	84	57
Government & public officials	10,762	500–600	122	903	71	50
Soldiers & sailors	7,923	900–1,000	150	1,554	39	19
Educationists	7,700	600–700	150	1,253	51	28
Company emplyees	39,336	600–700	50	966	70	44
Wage-earners	1,289	300–400	13	314	99	99

The above table shows that (a) in regard to the Government and public officials, their incomes vary from the lowst ¥122 to the highest ¥10,762, though the main range of distribution is from ¥200 to ¥650 (b) Concerning the soldiers and sailors, their incomes range from the lowest ¥150 to the highest ¥7,923, though they are, as in the case of the Government and public officials, mainly distributed within the range of from ¥200 to ¥650. (c) The incomes of the educationists range from ¥150 to ¥7,700, being mainly distributed within the range of from ¥300 to ¥650. The lowest income in this category is higher by ¥100 than that of the Government and public officials. (d) With regard to the incomes of the company employees, the range of their distribution is widest, namely, from ¥50 to ¥39,300. This is because company employees comprise persons with highly

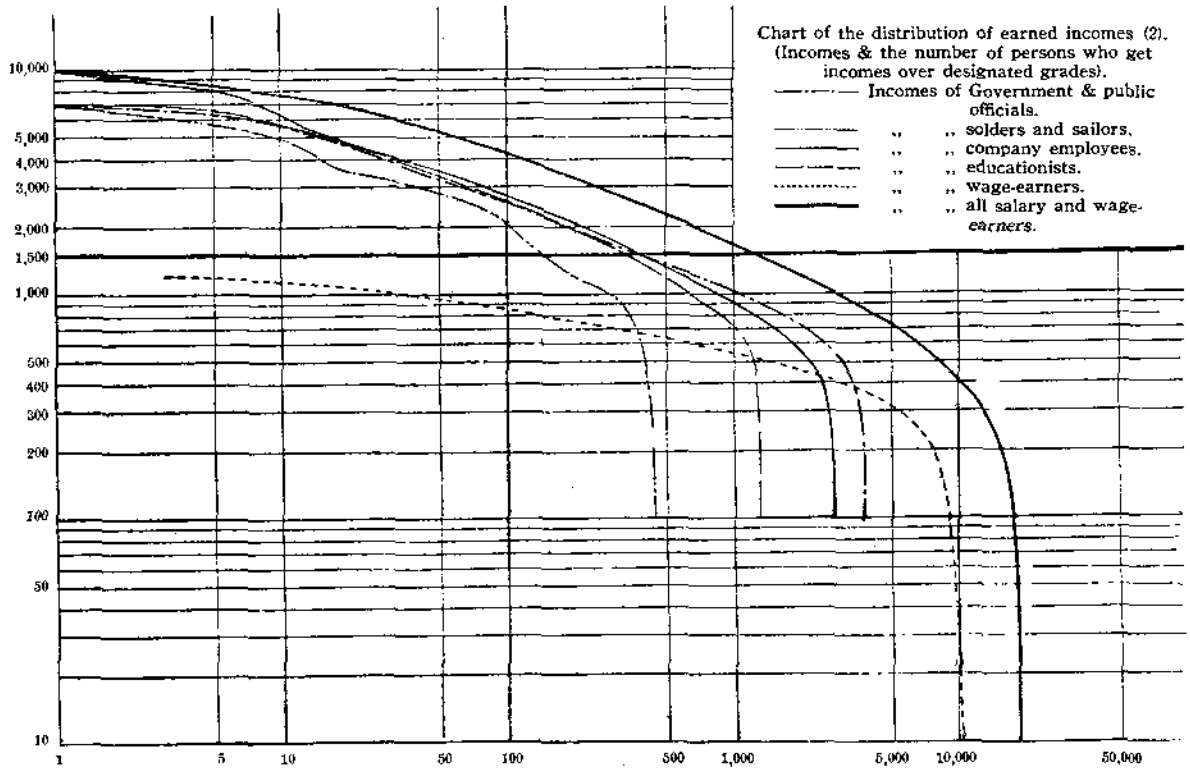
Graph No. 3. Distribution of the total incomes in the city of Kumamoto.



Graph No. 4. Distribution of the earned incomes of various kinds in the city of Kumamoto (distribution chart).



Graph No. 5. Distribution of the earned incomes of various kinds in the city of Kumamoto (accumulation chart).

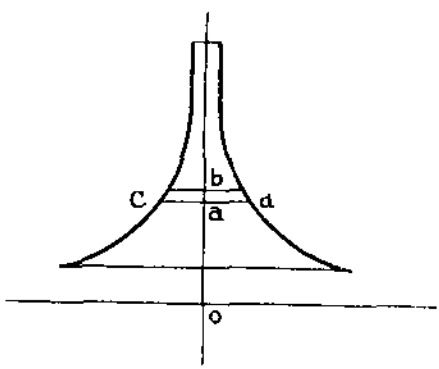


diversified incomes, from poorly-paid servants to senior employees who belong to the so-called managerial class. (e) So far as the incomes of manual workers are concerned, the biggest income is only ¥1,289, a fact which shows that the range of distribution is here more limited than is commonly imagined. The smallest income is shown by the fractional figure of ¥13.

Graph No. 3 represents in a curve the form of the distribution of the total incomes, while Graph No. 4 and Graph No. 5 show the distribution of the earned incomes of various kinds and their accumulation state respectively. In these three Graphs illustrating the state of the distribution of the incomes, the amounts of income are placed on the vertical lines and the number of earners on the horizontal lines. For reasons of limited space, logarithmic diagrams have been adopted in all of these graphs. The scales of both the vertical and horizontal lines are logarithmic.

As to the shape of the lower part of the pyramidal curve of the distribution of the incomes, it is very compressed in the lowest part, but in a part a little higher, the compression is somewhat modified. Hitherto, it has generally been conceived that the curve of the distribution of incomes forms like Mount Fuji as Graph No. 6 shows, but this is an illusion, for which the use of the statistics of the C-class income tax, in which the exemption (untaxable) point is placed comparatively high, is responsible. In Graph No. 3, the exemption point is set at ¥1,200, and in Graph No. 4 at ¥1,500, so as to seen how the exemption point and the curve of the distribution of the incomes are related to each other. The reason why the

Graph No. 6.



exemption point was set at ¥1,500 in the curve in Graph No. 4, which indicates the distribution of the earned incomes, is that on the earned incomes a 20 per cent. deduction is allowed in assessment so that a 1,500-yen income is reckoned as a 1,200-yen income, which corresponds to the sum at the exemption point. Either in Graph No. 3 or in Graph No. 4 is observabie that the main body of the curve of income distribution lies belew the line showing the exemption point, the whole Graph looking like an iceberg. The incomes of wage-earners even take the shape of flat sheets buried in the ground. Their entire form lies far below the exemption point.

Next, the characteristics of the distribution of the earned

Table

Comparison of the actual relative average difference η'

	First quartile of incomes (x_1).	Median number of incomes (x_2).	Third quartile of incomes (x_3).
(a) Total incomes	¥ 550	¥ 1,550	¥ 6,500
(b) Total earned incomes	450	850	1,550
(c) Incomes of Government & public officials	650	950	1,550
(d) Incomes of soldiers & sailors.	1,050	1,950	2,850
(e) Incomes of educationists	950	1,450	2,350
(f) *Incomes of company* employees	650	1,150	1,950
(g) Incomes of wage-earners	250	350	450

Whereas η' *in regard to the C-class incomes of the city* of Kumamoto is 0.879588, that in respect of the incomes subject to the household rate is 1.281509. There is, thus, a wide difference between the two. Again, as ¥1,550 represents the median number of the incomes, the incomes exceeding the exemption point of the C-class income tax although the exemption point is ¥1,200, it will actually be somewhere in the neighbourhood of ¥1,500, when the

incomes have been made clear in Graph No. 5, in which the accumulation form of their curves is shown. The result does not support Pareto's contention that the curve of earned incomes is always concave. On the contrary, this Graph shows that it is in most cases convex.

Lastly, Simpson's actual relative average difference η' has been found true in regard to the total incomes and the various kinds of earned incomes, the result being shown in Table No. 8. I have taken the occasion to work out the quarter numbers for the various kinds of incomes, viz. x_1, x_2, and x_3, and also the numbers y_1, y_2, and y_3, which are needed for finding the actual relative average difference η'.

No. 8.

for all kinds of incomes in the city of Kumamoto.

Percentage of persons with incomes of less than x_1 (y_1).	Percentage of persons with incomes of less than x_2 (y_2).	Percentage of persons with incomes of less than x_3 (y_3).	η'
0.757390	0.937377	0.990053	1.281509
0.503936	0.796043	0.938160	0.786823
0.388547	0.681563	0.907412	0.515654
0.443662	0.753521	0.889671	0.613458
0.479725	0.726855	0.913542	0.675593
0.395482	0.766583	0.924704	0.604637
0.355670	0.598910	0.807819	0.284259

deductions on account of earned incomes, dependants and life insurance premiums are allowed for embody one half of the total incomes. Witb regard to the actual figures, the C-class incomes on which the C-class income tax is levied total ¥12,100,000, or about 60 per cent. of the incomes on which the household rate is assessed, totalling ¥18,850,000. That is to say, the example of Kumamoto shows that the C-class incomes constitute about one half of the total in-

comes. Now, as to the γ' for the earned incomes. That for the incomes of wage-earners is 0.284259; that for Government and public officials, 0.515654; that for company employees, 0.604637; that for soldiers and sailors, 0.613458; that for educationists, 0.675593; and that for all earners of incomes, 0.786823. Collating these facts, we can reach the following noteworthy conclusions:—

Firstly, of the total incomes in the city of Kumamoto, only about half the amount falls under the category of the C-class incomes, and, moreover, the distribution of the whole incomes is far more uneven than the distribution of the C-class incomes.

Secondly, in the city of Kumamoto, the distribution of the incomes of the wage-earners shows the largest measure of evenness, while the distribution of the incomes of the Government and public officials, company employees, soldiers and sailors, and educationists is somewhat uneven, the greatest unevenness being shown in the distribution of property incomes. In other words, the incomes from property are less evenly distributed than the earned incomes, of which the distribution of the incomes from salaries is less even than that of the incomes from wages.

It may be a most question whether the state of the distribution of incomes in the city of Kumamoto can be taken as truthfully reflecting the state of the distribution of incomes in all other cities and districts in the country, but it is nevertheless noteworthy that the state of the distribution of incomes revealed by the study of the data supplied by the household rate statistics is found to possess the above-mentioned remarkable characteristics.

CHAPTER 5. ADDENDUM

The following table shows the national incomes for 1925, as made priblic by the Statistical Bureau of the Cabinet:—[14]

14) K. Môri: The Estimate of the National Wealth & Incomes of Japan Proper.

	Yen
Total	13,382,323,000
I. State and public income	425,385,000
From State undertakings and State properties	355,014,000
From forests	42,972,000
Rents and hire on State properties	816,000
Profits of Naval arsenals	1,998,000
Profits of the State iron foundry	1,358,000
Profits of State railways	143,259,000
Profits of monopolies	153,029,000
Profits of the Printing Bureau	1,911,000
Dividends of banks and companies	9,671,000
Income of public bodies	70,371,000
Receipts from electric undertakings	51,338,000
Receipts from gas works	233,000
Receipts of industrial associations	18,022,000
Receipts of central treasuries of industrial associations	778,000
II. Private income	12,956,938,000
Taxed income	5,104,221,000
Class I—Reserved income of corporations	320,554,000
Class II—Interests on bonds, debentures, &c.	555,392,000
Class III—Other income of individuals	3,455,108,000
Untaxed income	7,852,717,000
Income below the income tax exemption limit	6,960,194,000
Income from agriculture	1,658,540,000
" " aquatic products industry	233,076,000
" " mining	224,648,000
" " manufacturing industry	1,852,390,000
" " commerce	1,301,478,000
" " transport and communications	482,016,000
" " public service and professional occupations	571,994,000
" " domestic service	8,000,000
Income of servants in households	199,728,000
Income from other occupations	221,446,000
Income of those having only subsidiary jobs	29,800,000
Dividends	190,349,000
Other untaxed income	892,523,000
Interests on postal savings, national bonds, &c	119,317,000
Annuities and pensions of untaxable kind	66,546,000
Income under special exemption	2,541,000
Remittances from nationals abroad	25,453,000
Other untaxed income*	678,666,000

Note: * This category includes the income entirely evading the income tax, assumed to be 10 per cent of the total of income below the exemption limit; and other items of income than above specified whose totals are capable of rough estimate.

In this investigation, "the amount of taxes evaded" and "the untaxed incomes" deserve special attention. It is especially necessary, though very difficult, to calculate the incomes below the exemption limit. It is regrettable that no authentic expositions are available which may help us to make an accurate estimate of these incomes, but it seems that the researches made by Mr. K. Mori and Mr. T. Nakagawa in this connection are valuable.[15] Mr. Nakagawa's study is a valuable one, in which the results of researches made by Bowley, Helfferich, and Stamp are utilised. No other scholar has, indeed, made a study of this kind in this country. It has nevertheless this drawback, that its results are largely conjectural. The study of the subject of tax evasion is in itself a matter of great interest and significance, and in this field of study A. Victor Tranter's book, "Evasion of Taxation" is very suggestive. As the author makes an extensive use of the literature bearing on the estimates and studies of the amounts of taxes dodged in many countries, his book is, no doubt, very useful for the study of this subject.

The scope of the present study is limited to the city of Kumamoto, but as it is based on the household rate of that city, it covers all kinds of incomes. By extending the statistical investigation of this kind to all districts of the country, it is to be hoped that the total amount of incomes below the exemption point and other untaxed incomes as well as the state of their distribution can be ascertained. By collating the figures thus secured and those of the taxable incomes, we shall be able to acquire an accurate knowledge of the total amount of the people's incomes and the state of their distribution.

I have now made clear the state of the distribution of the incomes in the city of Kumamoto on the basis of the

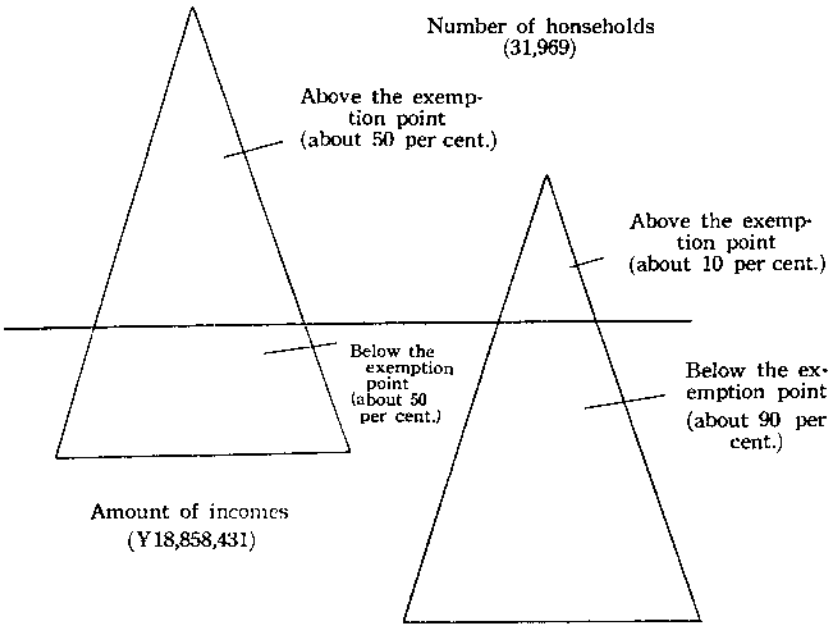
15) K. Mōri: The Estimate of the National Wealth and Incomes of Japan Proper.

Tomonaga Nakagawa: A Study of Wages and Incomes (the *Keizai Kenkyu* Vol. 5,.No. 3).

incomes on which the household rate is assessed in that city. The inquiry has revealed the fact that the C-class incomes constitute only about one half of the total amount of incomes and that the households which are paying the C-class income tax form only about 10 per cent. of the total number of the households in the city. The discovery of the fact that "the amount of the incomes accruing to the people whose households represent 10 per cent. of the total number of households" is fairly equivalent to "the amount of the incomes of the people representing the remaining 90 per cent. of the total households" supplies, no doubt, a very valuable datum.

In order to give a more vivid illustration of how the incomes and the number of households are divided by the exemption point, I have prepared Graph No. 7.

Graph No. 7. Comparison of the incomes of the citizens of Kumamoto, as divided by the exemption point in the C-class income tax.



SABURO SHIOMI

EFFECTS OF THE OPERATION OF THE RICE LAW

CONTENTS

1. A GENERAL SURVEY

I have already explained the objects of the Rice Law and the revisions which have been effected in the Law[1]. The agricultural crisis since 1930 has brought prominently to the fore the question of controlling the prices of agricultural products—the price of rice, the most important of all agricultural products, in particular—and the need is pressing of some fundamental policy being adopted for the settlement of this problem. Since the Minister of Agriculture and Forestry promised in the extraordinary session of the Diet last summer that the Government would introduce a drastic Bill for the control of the price of rice in the next session of the Diet, the Government has called meetings of the Rice Advisory Council and the Rice Control Inquiry Commission to study various plans such as the official fixing of the price of rice, the control of the supply of rice, and a monopoly of rice. At a recent plenary meeting of the Commision, a concrete measure for the control of price of rice was adopted, and its introduction in the Diet assured.

1) cf. p. Yagi, On the Fixing of a Standard of the Price of Rice (Kyoto University Economic Review, Vol. V. No. 2) 1930.

Yagi, A Study of the Cost of Rice Production (Kyoto University Economic Review, Vol. VII, No. 1) 1932.

This rice control plan is intended to give fresh strength to the Rice Law in force, and its outstanding features are: (1) Provision is made either for the increase, reduction or remission of the import duties on foreign rice, millet and other cereals or for the restriction of the importation of millet and other cereals for a designated period, when such course is deemed necessary for the control of rice. Thus, it stipulates for the restriction of imports, from which the Rice Law in force deliberately refrains. (2) The new plan strives to rectify both a wide disparity that often occurs in the volume of the rice marketed in different seasons and the concentration of rice supplies in certain districts. That is to say, for the regulation of the quantities of Japanese, Korean and Formosan rice leaving their respective producing prefectures or countries each month, it is so provided that the Government should make a monthly calculation of such quantities and make purchases in the season of brisk movement of rice and sell its stocks where a shortage of supply arises after this season, with a view to securing a monthly balance of the quantity of rice leaving its producing districts throughout the country. This stipulation is quite novel, for it is absent from any of the rice laws hitherto operated. (3) The abovementioned two points embody the essentials of the new control plan in its relation to the regulation of rice supplies, and in reference to the regulation of price, its salient feature lies in its attempt to fix the official price of Japanese rice. The methods adopted in this regard are to fix the highest and the lowest price of rice—the lowest price in due consideration of the cost of producing rice, and the highest price by taking into account the prices of commodities and other economic factors and at a level not exceeding the bearing capacity of the consumer. The Rice Law in force simply provides that the Government can sell its stocks of rice or make fresh purchases for the regulation of the price of rice, when the actual price of rice either rises above the legally-fixed highest price or falls below the legally-fixed lowest price, and these sales or purchases are

not obligatory. Under the new control plan, however, the Government must make purchases when anybody asks it to buy his rice at the lowest price, and it must also sell its rice if anybody offers to buy it at the highest price. In this respect, the new rice control plan goes a step further than the present Rice Law in the sense of fixing the price of rice officially. (4) Provision is also made that with the enforcement of the rice control law, the limit of loans to be made by the special account for the regulation of the demand and supply of rice should be extended from the present ¥ 480,000,000 to ¥ 700,000,000.

In the event of the enforcement of the projected rice control law, it is expected that better results than hitherto will be reaped in the matter of regulating the price of rice. In the present article, however, attention will be confined to the study of the contribution which the present Rice Law, since its enactment in 1921, has actually made to the stabilisation of the price of rice, which is the true aim of the legislation.

The true aim of the Rice Law is to prevent violent fluctuations in the price of rice so as to enable the producer of rice to follow his avocation at ease, on the one hand, and to ensure the security of living for the consumer, on the other. Seeing, however, that since the promulgation of the Rice Law in April, 1921, the price of rice has, on the whole, been on the downward course, and as, moreover, the price of Japanese rice has been subject to pressure from Korean and Formosan rice, the importation of which into Japan has been on the increase of late years, the Law has chiefly been operated in the direction of forcing up the price of Japanese rice through its purchases by the Government. On a few occasions only have there been sales of Government rice for regulation purposes—and this either in the name of conversion purchases or in that of the disposal of the old rice in stock.

(a) PURCHASES OF RICE FOR REGULATION PURPOSES

Although the Rice Law has for its object the prevention of sharp falls in the price of rice so that the rice producer may follow his avocation with an easy mind, there are on the side of rice producers landowners as well as peasant proprietors and tenant farmers who actually produce rice, and their interests in the price of rice are not always and necessarily identical. As the quantities of rice marketed by the sellers of rice in agricultural districts, namely, landowners and peasant proprietors and tenant farmers, differ according to seasons, if the Government purchases rice in a season when the actual producers of rice have no stocks of rice for sale, such purchases, if they bring up the price of rice, will not benefit such producers.

The following table shows the dates of purchases of Japanese rice by the Government, the quantity announced for purchase, and the quantity actually purchased, since the promulgation of the Rice Law :—

Table No. 1.

Dates of purchases of Japanese rice and the quantities purchased.

Purchase number	Year	Quantity announced for purchase	Quantity actually purchased	Percentage of the quantity purchased to the quantity announced	Date of announcement	Period of offers for sale	The duration accepting offers
		koku	*koku*				
First	1921	1,000,000	358,179.6	35.8%	May 25	From June 10 to June 30	21 days
Second	1923	1,000,000	221,854.8	22.1	Feb. 14	From Feb. 20 to March 20	29 days
Third	1927	1,000,000	213,965.2	21.4	Sept. 13	From Sept. 20 to Oct. 5	16 days
Fourth	1927	500,000	514,196.0	102.8	Nov. 9	From Nov. 17 to Dec. 10	24 days
Fifth	1927	1,000,000	1,021,046.4	102.1	Dec. 15	From Dec. 23 to Jan. 31	40 days

Sixth	1929	1,000,000	**1,054,898.8**	103.5	April 1	From April 11 to May 10	30 days
Seventh	1930	2,000,000	**2,019,024.0**	101.0	Dec. 3	From Dec. 16 to Dec. 20	5 days
Eighth	1931	1,000,000	**743,370.4** **257,000.0**	100.0	Feb. 1 Feb. 25	From Feb. 10 to Feb. 24 From March 5 to March 7	15 days 3 days
Ninth	1931	1,000,000	**1,000,000**	100.0	Oct. 14	From Oct. 31 to Nov. 2	3 days

Classified according to years, these purchases were made once in 1921, 1923, 1929, and 1930, three times in 1927 and twice in 1931.

If classified according to the new rice marketing season, the between-season period, and other seasons, they show the following :—

Seasons	Purchases	Number of purchases
New rice marketing season (From November to January)	Fourth, fifth, seventh and ninth	Four times
Between-season period (From July to September)	Third	Once
Other seasons (From February to June)	First, second, sixth and eight	Four times

If purchases are to be made with the advance of the true interests of rice producers in view, they ought to take place in the season when new rice is put on the market, but not all the purchases were made in this particular season.

I will first study the effects which each of these purchases for regulation purposes produced on the price of rice, in the light of the state of rice harvest and the economic conditions generally in the years concerned, and then will make a statistical study of the matter.

The first purchase (in June, 1921). The rice harvest for

1920 was very rich, the total yield amounting to 63,200,000 koku (9.8 per cent. over the average annual crop). Due to the financial panic of March, 1920, the market price of rice had gradually fallen from ¥ 50 odd of 1920 to ¥ 27 odd in January, 1921, and to ¥ 25 odd in March. In the middle of April, it rose to ¥ 26 odd. In the Tokyo Rice Market, rice quotations advanced from ¥ 25 odd in March to ¥ 27 odd in April at a bound. This rise was presumably partly due to the fact that the prices of commodities had gradually been taking an upward course since April, when they reached bottom, but it was probably owing in part to some psychological effects which the promulgation of the Rice Law had on those moving in the Rice Market. On May 25th, an official announcement was made of the purchase of 1,000,000 koku of rice, but it did not affect the market price of rice. As this first official purchase was made at a time when the price of rice was gradually rising, there were few offers of sale, resulting in the Government's purchase of only 358,000 koku. As the quantity purchased was so small, it was no wonder that it produced little effect on the price. From June, the market price made a further advance until it reached ¥ 31 odd in August. This steady rise was evidently due to the fact that since the planting of rice in 1921 the weather had been generally unfavourable and the pessimistic forecast of the rice crop was further accentuated in summer[1]. It may be that the purchase of 380,000 koku of rice did something to stimulate this rising tendency. Nor was the time for the first purchase well chosen, for it took place in June.

The second purchase (in February, 1923). The rice crop for 1922 was 60,690,000 koku, or an increase of about 5,000,000 koku as compared with the previous year. In consequence, the price of rice fell from ¥ 38 odd in August, 1922, to ¥ 30 odd in October of the same year. It further

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1) The rice harvest for 1921 was 55,180,000 koku, or a decrease of 8,000,000 koku from the previous year.

declined to ¥ 29 in November and to ¥ 26 in December. In January of the following year, it recovered to ¥ 27, and in February to ¥ 28, when the Government announced its decision to purchase 1,000,000 koku. As a further advance in the price of rice was generally anticipated at the time, few responded to the Government overtures for purchase, with the result that the Government could purchase no more than 220,000 koku. Indeed, this purchase ought to have been made in December at the latest, when the new rice was put on the market. There was a steady rise in the price of rice after February until it reached ¥ 35 in August, but this was largely due to the poor harvest of the previous year. All that the 220,000 koku purchase did was perhaps to stimulate this tendency somewhat.

The third purchase (in September, 1927). In 1927, the price of rice rose from ¥ 33 odd in January to ¥ 37 odd in July, and then fell to ¥ 36 in August and to ¥ 35 in September. Yet the ratio of the price of rice (which means the quotient obtained by dividing the index number of the price of rice by that of the price of commodities) still stood at 1.366 in August. The Government nevertheless announced the purchase of 1,000,000 koku on September 13th. As this announcement synchronised with the between-season period, it is difficult to understand what this purchase was for. In the summarised report on the operation of the Rice Law, published by the Agricultural Affairs Bureau, we find the following statement: "As the price of rice developed a downward tendency in the latter part of July this year, the Rice Committee met on August 6th to discuss measures to be taken to meet the situation, as the result of which it was decided that, if the falling tendency was accentuated and proper regulation deemed necessary, the 1926 rice should be purchased to a quantity not exceeding 1,000,000 koku. The weak tone of the price of rice persisted in September and much anxiety was occasioned to the rice producers because it was generally felt that if nothing was done to check this tendency, it would become difficult to maintain

at the proper level the price of new rice, which would soon be harvested, so the Government decided to purchase 1,000,000 koku of the 1926 rice, in pursuance of the decision of the Rice Committee." The Government's purchase of rice connot, however, be justified on such grounds only, and, quite naturally, this purchase called forth public condemnation on suspicion that it was designed for the furtherance of party interests. Although the Government announced for the purchase of 1,000,000 koku, the quantity actually purchased was only 210,000 koku.

The fourth purchase (in November, 1927). The rice yield for 1927 amounted to 62,100,000 koku, or about 6,000,000 koku more than the previous year. As the price of rice, which ruled at ¥ 35 odd in September, fell to ¥ 31 odd in November, the purchase of 500,000 koku was announced on November 9th. The time of purchase coincided with the new rice marketing season and was consequently opportune. For the first time since the Rice Law was enacted could the Government buy rice to the quantity officially announced for purchase. Seeing, however, that the ratio of the price of rice still stood at 1.229 at the time (November), it is doubtful whether this purchase was really called for. In spite of this purchase, the price of rice dropped from ¥ 31 or ¥ 32 in the early part of November to ¥ 30 in the latter part of the same month.

The fifth purchase (in December, 1927). Because the price of rice was still below the ¥ 32 mark in December, despite the 500,000 koku purchase in the previous month, another purchase of 1,000,000 koku was announced on December 15th, and the desired quantity was purchased in the latter part of December and January of the following year. As this purchase was followed by a rise in price to ¥ 32 odd in the latter part of January from ¥ 31 odd in the early part of the month, it seems fair to conclude that it brought some results.

The sixth purchase (in April, 1929). The year 1928 yielded a normal rice crop of 60,300,000 koku, but the

general economic depression forced down the price of rice, which declined from ¥ 33 odd in September, 1928, to ¥ 28 odd in January, 1929. As this price level was kept up for some time afterwards, the Government announced the purchase of 1,000,000 koku on April 1st. Seeing, however, that the ratio of the price of rice, which dropped to 1.058 in December of the previous year and to 1.049 in January, had subsequently been going up, this purchase was not altogether opportune. In the months from April to June inclusive, subsequent to this purchase, the price of rice ruled at ¥ 29 odd, and so the effects of the purchase could not be doubted, but the interests of the actual rice producers were not evidently fully considered in this purchase.

The seventh purchase (in December, 1930). The rice harvest of 1930 was unprecedentedly bumper, the total yield amounting to 66,800,000 koku. This, coupled with the general economic depression, brought the price down disastrously, that is, from ¥ 30 odd in August, 1930, to ¥ 18 odd in November. In order to check this falling tendency, the Government announced its intention to purchase 2,000,000 koku on December 3rd. Although rice was purchased to the quantity announced its price dropped to ¥ 17 odd in January and February of the following year, so that no positive results ensued from this purchase.

The eighth purchase (in Februry, 1931). Another purchase of 1,000,000 koku was made in February, 1931, which brought some results, for the price recovered to ¥ 18 odd in March.

The ninth purchase (in October, 1931). Because the price of rice which rose to ¥ 20 odd in August slumped to ¥ 17 odd in October, in spite of the poor harvest of the year, another 1,000,000 koku purchase was effected in October, but no material effect was produced.

To give a general view of the rice purchases made by the Government on nine different occasions since the enactment of the Rice Law, the fact cannot be denied that the time was often ill chosen and there was undue delay in the

application of the Law. It must, however, be recognised at the same time that there was a gradual improvement in the choice of the time for purchase and that the Law, if properly operated, can do something in the way of forcing up the price of rice.

With regard to delivery places, they were increased from four in the first purchase to twenty in the sixth purchase, thereby gradually increasing the chances of small farmers to participate in offers for sale. The reduction of the minimum quantity, offerable for sale, of one and the same description of rice from 50 koku in the first purchase to 20 koku was also commendable from the point of view of promoting the interests of small farmers. Again, as to the precedence of purchases, priority was given to offers for sale by local public bodies, co-operative sale associations, federations of co-operative sale associations, and agricultural warehouses and federations of agricultural warehouses, and offers by proxy by prefectural, district or municipal agricultural societies and sales offices of the Imperial Agricultural Society, in preference to all other offers, and, moreover, these sellers were exempted from the obligation of putting up security money. In this way, preference was given to transactions with actual producers and organisations of such producers, instead of to purchases from the rice market, with a view to protecting the interests of producers as far as possible.

(b) SALES OF RICE FOR REGULATION PURPOSES

Sales of rice under the Rice Law took place on several occasions, but as they were invariably for the purpose of disposing of old rice stocks, the quantity involved was small in each case. There has been no sale of rice for the regulation of the price. On three occasions in 1930, altogether 1,000,000 koku of old rice was disposed of. The first sale took place in the latter part of June, when 438,000 koku was sold, and the second sale in the latter part of August,

the quantity sold being 338,000 koku. In each case, the quantity which the Government desired to dispose of was 500,000 koku. As the quantity actually sold fell short of the desired quantity, a third sale of 185,000 koku of old Japanese rice was effected in the latter part of September. Because these sales took place in the between-season period, they did not affected the market price of rice.

(c) EXCHANGES OF RICE FOR STORAGE

The exchange of rice, as mentioned in the Rice Law, means the disposal of such old rice in the Government stocks as does not allow of longer storage and the purchase of new rice of the same quantity to make good the depleted stocks. It is intended for the keeping of Government rice in perfect state, not designed for the regulation of the market price of rice. This is why the Rice Law of 1921 excused the Government from the duty of officially announcing the price, when making such purchases, and why, in the revised Law enacted in March, 1931, also, it is stipulated that exchanges of rice can be effected even when the market price of rice does not rise or fall beyond the highest or lowest price officially fixed by the Government. Such being the case, exchanges of rice ought to take place at a time when they are expected to affect the price of rice least. Seeing, however, that, in exchanges of rice, the rice to be sold is old and of degraded quantity, while that to be bought is new rice, the rice market will be affected more by the purchase of new rice than by the disposal of old rice, provided the sale price of old rice is fixed properly. This is especially so when such action is taken in the between-season period. It is, therefore, proper that the purchase of rice by way of conversion purchases should be made in the season when the marketing of new rice is most brisk. On the contrary, the disposal of old rice ought to take place in the between-season period, as, if it is effected in the brisk new rice marketing season, the marketing

operations will be further stimulated. By this means, the effects of the sales of old rice on the market price can be minimised, on the one hand, and old rice can be sold at comparatively high prices and new rice purchased at comparatively low prices, on the other, so that losses to the national treasury can be made small.

The following table shows the principal exchanges of Japanese rice hitherto carried out:—

Table No. 2.

Exchanges of rice for storage.

Number of exchanges of rice	Sold		Bought	
	Date	Quantity	Date	Quantity
		koku		*koku*
First	Dec. 10, 1921	60,241	Dec. 13, 1921	75,000
Second	(A) Sept. 4, 1922	56,735	From Jan. 15, 1922 to Jan. 29, 1922	365,226
	(B) From Feb. 1923 to June 1923	246,435		
Third	From Sept. 1924 to Nov. 1924	251,000	From Feb. 12, 1925 to Feb. 14, 1925	251,740
Fourth	From July 10, 1925 to Oct. 27, 1925	277,855	From Jan. 7, 1926 to Jan. 9, 1926	407,361
Fifth	(A) Feb. 15, 1927	5,576	From Jan. 13, 1927 to Jan. 15, 1927	177,721
	(B) March 18, 1927	4,283		
Sixth	From Dec. 21, 1928 to Jan. 20, 1929	476,947	From Dec. 21, 1928 to Jan. 20, 1929	476,947
Seventh	(A) Oct. 18, 1929	149,155	Jan. 14, 1930	432,969
	(B) Jan. 11, 1930	388,934		
Eighth	(A) From April 1, 1932 to April 13, 1932	500,000	From April 14, 1932 to April 25, 1932	500,000
	(B) May, 14, 1932	500,000	May 17, 1932	500,000
	(C) June 15, 1932	500,000	June 21, 1932	500,000

From the above table it will be seen that the first, sixth and seventh sales took place in the new rice marketing season; the second, third and fourth sales in the between-season period; the fifth sale in spring; and the sixth sale

in early summer or before the between-season period. On the other hand, the purchases were mostly made in the season when the marketing of new rice was brisk. The only exceptions were the third purchase, which took place in the middle of February, and the eighth purchase which was made in April and later.

Indications are not altogether lacking that some of these sales and purchases in the nature of exchanges of rice were carried out with the regulation of the price of rice somewhat in view. The third and the fourth sales are cases in point. It seems that these sales were in some measure prompted by a desire to depress more or less the price of rice which kept high at ¥ 40 odd from August, 1924, to the autumn of the following year. With regard to the purchases also, there are indications that the fourth and the fifth purchases had for their collateral object the raising of the price of rice. The eighth purchase, which was effected at three stages, was apparently not altogether free from such motives. But since the sales and purchases by way of conversion purchases are not essentially for the purpose of regulating the price of rice, it is only proper that special care should be used to see that they do not affect the price of rice.

2. A STATISTICAL STUDY

As already explained, the Rice Law aims at the prevention of violent fluctuations in the price of rice so that the range of fluctuations may be limited as far as possible. It is, therefore, necessary to examine how far the stabilisation of the price of rice has been achieved by the operation of the Rice Law. There are very many factors which combine to determine the price of rice, and it is absolutely impossible to ascertain the exact extent to which each of these numerous factors operates to influence the price of rice. So, I must content myself with finding the general trend by the methods described below.

First, the standard deviation and coefficient of variability of the monthly quotations in the Fukagawa rice market (Tokyo) are worked out in order to see how far the range of fluctuations in the price of rice was contracted by the operation of the Rice Law. The periods chosen for this study are the 120 months from January, 1921,—the year in which the Rice Law came into force—to December, 1930[1]; the 120 months from January, 1901, to December, 1910; the 120 months from January, 1911, to December, 1920; and the 120 months from January, 1909, to December, 1917. The years 1918, 1919 and 1920, when abnormal conditions prevailed, have been excepted. The rice quotations cited here represent the actual market prices; they do not embody prices from which the effects of the prices of commodities have been eliminated.

Table No. 3.

Comparison of the state of fluctuations in the price of rice.

Periods		Average price of rice	Standard deviation	Coefficient of variability
		Yen	*Yen*	
First period	From Jan., 1901 to Dec., 1910	13.00	1.69	12.16%
Second period	(A) From Jan., 1911 to Dec., 1920	24.58	12.35	50.24
	(B) From Jan., 1908 to Dec., 1917	16.48	3.09	18.75
Third period	From Jan., 1921 to Dec., 1930	33.78	5.46	16.16

Note. The figures appearing at p. 48 in the *Beikoku Yoran* (Rice Manual) for 1932, published by the Agricultural Affairs Bureau were taken as the basis of calculation.

The above table shows that the range of fluctuations in the price of rice was smallest in the first period, and next comes in order the period in which the Rice Law was in operation. It is, however, difficult to judge the effects of

1) As the market was closed in September, 1923, owing to the Great Earthquake, the number of months under review is, in, fact, 119.

the operation of the Rice Law by this limited material, for the figures are not duly stript of the influences exerted by other factors on fluctuations in the price of rice. In order to secure more reliable figures for each period for comparison, I will, therefore, proceed to delete the influences exerted on the price of rice by the fluctuations in the prices of commodities generally and by the state of the rice harvest. There are, of cource, many factors, besides these, operating to affect the price of rice, but it is very difficult, or rather practically impossible, to make an accurate estimate of the influences of these factors.

To begin with, to exclude influences from fluctuations in the prices of commodities, the annual actual rice price has been divided by the Bank of Japan's chain index number of the prices of commodities, as reduced to geometrical mean based on the previous year's standard.

Next, the following methods have been applied to exclude the influences exerted by the state of the rice harvest from the deflated price of rice. By the study of the correlation between the total rice yield and the price of rice, the writer of the present article has found that the rice price for the current rice year (from October 1st of the previous year to September 30th of the current year) is influenced by the state of rice harvest for the current and the previous rice years, and has obtained the following formulae in regard to the multiple correlation then inquired into.

$$a=0.7842 \qquad b_{12.3}=-1.40008 \qquad b_{13.2}=-0.86067$$
$$X_1=0.7842-1.40008\,X_2-0.86067\,X_3 \quad \ldots\ldots \quad (1)$$
$$S_{1.23}=10.384 \qquad R_{1.23}=0.6738$$

In the above formula (1), each coefficient of X_2 and X_3, merely indicates the weight which it shares when acting conjointly on the price of rice. If we now take the coefficient of X_2 as the standard and reduce the coefficient of X_3 proportionally, we shall get the ratio of 100 and 61 respectively. If we are to adjust the variables of X_2 and X_3 by this ratio to convert them into simple constants and find a

simple relation with the price of rice, the result will not greatly differ from that of the formula (1) of multiple correlation referred to. From this point of view, the total rice yields for two successive years have been weighted and averaged yearly by the above-mentioned ratio with the results shown in the following table:—

Table No. 4.

The index number of weighed biennial mean of rice production.

Rice Year	Total yield of Japanese rice (in 1,000,000 koku)	Total rice yields for two successive years which habe been weighted	The index number of weighted biennial mean of rice production
1899	39.69		
1900	41.46	40.79	**100.0**
1901	46.91	44.84	**109.9**
1902	36.93	40.71	**99.8**
1903	46.47	42.85	**105.0**
1904	51.43	49.55	**121.5**
1905	38.17	43.19	**105.9**
1906	46.30	43.22	**106.0**
1907	49.05	48.01	**117.7**
1908	51.93	50.84	**125.6**
1909	52.43	52.24	**128.1**
1910	46.63	48.82	**119.7**
1911	51.71	49.78	**122.0**
1912	50.22	50.78	**124.5**
1913	50.25	50.24	**123.2**
1914	57.00	54.44	**133.5**
1915	55.92	56.33	**138.1**
1916	58.45	57.49	**140.9**
1917	54.56	56.03	**137.4**
1918	54.70	54.65	**134.0**
1919	60.81	58.49	**143.4**
1920	63.20	62.29	**152.7**
1921	55.18	58.22	**142.7**
1922	60.69	58.60	**143.7**
1923	55.44	57.43	**140.8**
1924	57.17	56.51	**138.5**
1925	59.70	58.74	**144.0**
1926	55.59	57.15	**140.1**
1927	62.10	59.63	**146.2**
1928	60.30	60.98	**149.5**
1929	59.55	59.83	**146.7**

By dividing the deflated price of rice by the results shown in Table No. 4, we can find the rice price from which the influences from the state of harvest have been excluded.

Table No. 5.

Deflated rice price stript of the influences from the state of harvest.

Rice year	Deflated rice price October—September	Index number of biennial mean rice production	Deflated rice price stript of influences from harvest state
	Yen		*Yen*
1901	12.36	100.0	**12.36**
1902	13.00	109.9	**11.83**
1903	14.75	99.8	**14.78**
1904	12.69	105.0	**12.08**
1905	11.29	121.5	**9.29**
1906	12.44	105.9	**11.75**
1907	13.13	106.0	**12.39**
1908	13.19	117.7	**11.21**
1909	12.17	125.6	**9.69**
1910	10.67	128.1	**8.33**
1911	14.09	119.7	**11.77**
1912	15.93	122.0	**13.06**
1913	16.92	124.5	**13.59**
1914	14.53	123.2	**11.79**
1915	11.06	133.5	**8.28**
1916	9.51	138.1	**6.89**
1917	10.19	140.9	**7.23**
1918	12.45	137.4	**9.06**
1919	15.74	134.0	**11.75**
1920	14.31	143.4	**9.98**
1921	11.45	152.7	**7.50**
1922	14.74	142.7	**10.33**
1923	12.83	143.7	**8.93**
1924	14.40	140.8	**10.23**
1925	16.15	138.5	**11.66**
1926	16.70	144.0	**11.60**
1927	17.10	140.1	**12.20**
1928	15.14	146.2	**10.35**
1929	13.84	149.5	**9.26**
1930	15.95	146.7	**10.87**

Now, let us find the standard deviations and coefficients of variability of the prices of rice in Table No. 5, which embody rice prices exclusive of the influences both from fluctuations in the prices of commodities and from the state of harvest.

Table No. 6.

Comparison of the state of fluctuations in the price of rice, stript of the influences from both fluctuations in the prices of commodities and from the state of harvest. (From October of the preceding year to September of the current year forms one rice year.)

Periods		Average rice price	Standard deviation	Coefficient of variability
		Yen	*Yen*	
First period	1901—1910	11.37	1.76	15.48%
Second period (A)	1911—1920	10.34	2.27	21.95
Second period (B)	1908—1917	10.18	2.30	22.59
Third period	1921—1930	10.29	1.35	13.12

The annual range of fluctuations in the price of rice, found in this way, is smallest in the period in which the Rice Law was in operation. It is, however, wrong to attribute this contraction of the range of fluctuation solely to the effects of the operation of the Rice Law, for it is necessary to take into due consideration the effects of the importation of Formosan rice in recent years in checking the rising tendency of the price of Japanese rice and also the ups and downs in the state of business and the rise and fall in the purchasing power of the consumers generally, which are indeterminable quantitatively. The fact cannot nevertheless be impugned that the operation of the Rice Law has made some contribution to the reduction of the range of fluctuations. As things stand to-day, nobody will be able to indicate quantitatively the exact extent of the effects which the operation of the Rice Law has produced on the price of rice, separately from the effects of many other factors.

So far, I have examined the effects which the operation

of the Rice Law has produced on the annual fluctuations in the price of rice.

The price of rice is subject to seasonal fluctuations too. There is a tendency for it to decline in the season of the brisk movement of new rice and to rise as the between-season period draws nearer. Then, how far has the Rice Law affected these seasonal fluctuations? In order to study this point, I have sought the index number of seasonal fluctuations, by means of W. M. Persons's link relatives method, in regard to the actual quotations in the Fukagawa rice market, for the period covering January, 1921, to December, 1930 (latter period); for the period from January, 1911, to December, 1920 (former period "A"); and for the period from January, 1908, to December 1917 (former period "B"). Each period consisting of ten years, the average of the middle two terms is taken as median. In regard to the latter period, however, as there were no rice quotations for September, 1923, owing to the Great Earthquake, the middle of the 9 terms was taken as median for the month.

Table No. 7.

Comparison of the index number of seasonal fluctuations in the price of rice.

Months	Latter period (Jan., 1921—Dec., 1930)	Former period "A" (Jan., 1911—Dec., 1920)	Former period "B" (Jan., 1908—Dec., 1917)
January	**95.7**	98.8	97.0
February	96.5	97.3	96.6
March	97.4	97.4	97.9
April	99.6	97.6	99.1
May	100.1	97.8	100.2
June	101.2	99.7	102.1
July	103.3	103.0	102.8
August	105.4	106.1	106.6
Septemper	104.2	103.1	103.5
October	102.6	101.3	100.1
November	98.9	99.0	97.3
December	**95.3**	98.9	96.8
Average	100.0	100.0	100.0

In each case, the index number is low in the new rice marketing season and rises as the between-season period draws nearer. In the latter period, when the Rice Law was in force, this tendency was more marked, as compared with the former period. In all of the three period, it is highest in August, and of the index numbers of August, that for the latter period is the lowest. This is presumably due to the fact that in recent years Formosan rice—first crop of the year in the island—has been imported into Japan in the between-season period.

Thus, the Rice Law has done nothing to minimise the seasonal fluctuations in the price of rice. It must, therefore, be said that small farmers who are obliged to sell their rice soon after it is harvested are put at a disadvantage.

Why, then, has the Rice Law proved ineffectual in modifying the seasonal fluctuations in the price of rice? The chief cause must be sought in the uncontrolled importation of Korean rice in recent years in the new rice marketing season. The index number of seasonal fluctuations in the supplies of Japanese rice from its principal producing centres in the period between October, 1920, and September, 1930, is shown in the following table:—

Table No. 8.

Index number of seasonal fluctuations in rice supplies.

Months	Imported from Korea	Imported from Formosa	Imported from abroad[1]	Japanese rice leaving its producing prefectures	Niigata	Toyama	Akita	Yamagata	Shiga	Kumamoto
October	57.4	84.8	85.1	**112.5**	**162.5**	**159.7**	77.9	79.9	95.9	51.9
November	**137.9**	83.5	70.0	**131.6**	**197.8**	**175.4**	99.8	98.3	**108.9**	65.2
December	**210.2**	**243.7**	70.8	**159.6**	**168.4**	**148.1**	**119.9**	99.7	**171.0**	**154.5**
January	**146.5**	**122,2**	79.7	**125.0**	91.1	63.4	**119.7**	93.1	**120.1**	**147.1**

1) The index number of the seasonal fluctuations in the quantities of foreign rice imported refers to the period from January, 1901, to December, 1928.

February	**116.6**	77.4	85.5	84.7	65.5	48.4	**112.8**	76.0	**111.3**	96.1
March	**120.0**	60.8	**138.1**	91.8	77.6	68.4	**111.7**	90.4	96.8	**112.3**
April	**110.7**	33.7	**150.5**	89.1	78.1	83.2	**108.7**	82.3	88.4	**105.0**
May	86.5	20.9	**124.6**	88.9	77.5	84.7	**114.4**	**101.3**	89.7	**105.8**
June	77.8	38.4	**108.5**	82.3	86.2	90.3	**102.7**	**115.3**	84.9	98.7
July	51.6	**175.0**	**110.9**	75.5	72.8	86.6	73.2	**138.1**	77.4	**106.3**
August	42.5	**153.2**	88.6	72.6	59.6	66.9	77.6	**135.1**	79.1	87.8
September	42.4	**106.4**	87.7	86.4	63.0	**124.6**	81.6	90 5	76.5	71.3
Average	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

The importation of Korea rice in large quantities in the new rice marketing season naturally operates to lower the price of Japanese rice. If the Rice Law is to operate successfully, it is urgent that proper control should be exercised over the importation of rice.

3. THE CONCLUSION

I think I have made clear in the foregoing chapters the part which the Rice Law has played in stabilising the price of rice. When we see, however, that the loss of about ¥ 200,000,000 has been caused to the national treasury through the operation of the Rice Law since its enactment, the rice price regulation measure, for which the Law provides, has, no doubt, been quite costly. At the time the Rice Law was promulgated, it was thought that its operation would not involve the State in any loss, because, it was contended, under this legislation rice was to be purchased when its price was low and to be sold when its price was high. As a matter of fact, however, the rice purchased when it was low in price must be sold as old rice in the following year at a price a few yen lower per koku. Moreover, its storage entails pretty heavy expenses in the way of interest rates and storage charges.

Annual storage expenses (calculated on the basis of ¥ 30 per koku).

	Interest rates (annual)	Interest rates on building costs (annual)	Warehouse repairs costs	Fumigation costs (twice)	Total
Japanese rice (per koku)	*Yen* 1.650	*Yen* 1.179	*Yen* 0.214	*Yen* 0.100	*Yen* 3.143

Such being the case, a loss is inevitable unless the rice purchased can be sold in the same rice year and at higher prices, or the price of rice witnesses a big rise in the following year. Furthermore, as the price of rice, though there have been occasional ups and downs in the interval, has been on the downward course generally since the promulgation of the Rice Law, purchase had to be made frequently, while sales were necessitated on rare occasions, a fact which furnished another contributory cause for the heavy loss, If the new Rice Bill, which is now before the Diet, is passed, a more efficient control can probably be exercised on rice supplies, as under the Bill the funds available for the operation of the Rice Law are to be increased to ¥ 700,000,000. But at the same time the financial loss arising out of its operation will increase.

YOSHINOSUKE YAGI

ON OUTPUT-CURTAILING IN MODERN INDUSTRY

FOREWORD

The wholesale shrinkage of demand force forms a vital factor of the prevailing economic crisis throughout the world. In consequence, it has been accompanied by a tendency of depreciation in the market prices of various manufactures. It is generally recognized that, if the fall of the market prices is impeded by some artificial means, the amount of demand for productive goods and, in consequence, the amount of productive output, will be inevitably reduced. Indeed, as Pigou has pointed out, the stability of productive output is synonymous with the instability of prices, and the stability of prices is synonymous with the instability of output.

Inasmuch as industrial production is undertaken for the purpose of profit-making, the maintenance of prices greater in amount than cost of production is a fundamental condition. When, therefore, a fall is registered in prices due to an over-balancing of between normal demand and the amount of output, the productive margin will vanish, followed by a reduction in the amount of market stock and a return to normal prices—provided there are no circumstances that may prevent functioning of the principles on which the Classical laissez-faire stands.

However, in the organisation of the modern industrial production, there exist circumstances that tend to impede the smooth functioning of industrial principles which are calculated to adjust the over-balance between the amount of market output and that of normal demand. Thus, there is a tendency for industries to continue their over-production

for a considerable long period, ever when market prices have gone down below cost of production, inasmuch as the industries are in a position to carry on free competition. This point has been observed by scholars like Wiendenfeld and Schwalenbach. It is clear the sales competition under such circumstances is bound to drive the weaker industries into a state of destitution and ultimately to destruction. Scholars agree that the industrial combination known as the cartel was born of desires to escape from such destructive competition and to effect industrial relief.

We have an example of all this in our country today. Many industrial cartels here are endeavouring to avoid or mollify cut-throat competition, or to maintain or raise the market prices of their products.

Needless to state, the object of industrial cartels wishing to check destructive competition and the fall of market prices at a time of depression like the present can be realized only by limiting or curtailing productive output. Thus, even among those who are not experiencing any difficulty in getting the supply of capital the curtailing of output by means of organisation has become a vogue. It has been reported that the curtailing of output by the industrial monopolies in our country tended to raise the market prices of productive goods. But will these monopolies be able to attain their fundamental object of maintaining, or increasing or restoring the rates of their profit-making only by this means? Suppose the distress of capitalistic production is not relieved only by the reduction of supplies for the market through the curtailing of output. In what direction will one look about for methods of relief?

I shall attempt to give answers to these questions in the present article.

I

When a monopoly in a given branch of industry limits the output through its organised power and in consequence

the amount of its stock is reduced, the prices of its commodities will necessarily rise, provided the circumstances on the part of the consuming public are left out of consideration.

By "monopoly" here is not meant absolute monopoly or monopoly maintained by natural scarcity of products or by legal limitation, for such a form of monopoly implies the total absence of competition in the market. By "monopoly" here is meant that which exists in the economic world when a supplier or a combination of suppliers controls the amount of supply which is powerful enough to influence severely the formation of the market prices, although they may not be able to control the whole supply.

When a monopoly at a crisis like the present one attempts to increase its power of earning through the curtailing of its output, it is essential that the reduction in stock due to output-curtailing should cause a rise in prices. However, no one will overlook the fact that such is not the sole condition. One should consider another condition, namely, the question as to what will be the development of cost of production when output is curtailed in a given industry.

Here, the decisive question is whether the product of decreased sales quantities by the enhanced price unit will exceed the whole production cost of the industry and whether the excess, if produced, will expand. In judging the advisability of output-curtailing by monopolies as their business policy in times of crisis, one should study the development of cost of production which is made as a result of such a policy.

All agree that the concept of cost of production falls under the head of industrial cost. Although many scholars have endeavoured to define industrial cost, there is no unified conception of its nature. However, I am of the opinion that the ideas of Leitner and Schmalenbach are most appropriate and acceptable. True, these scholars show some difference in the forms of their expression, but they agree

on the fundamental conception of what industrial cost is.

My own conception of general industrial cost is identical in substance with that of these scholars, although it takes a different form of expression. I define industrial cost as value-loss occasioned as means of production in the process of industry. And its amount must always be expressed in terms of monetary value. Inasmuch as industrial cost is thus value-loss due to the employment of means in industrial process, its ultimate recovery with a surplus value through the prices of commodities (which are sold in general transaction) is presupposed. Industrial cost being as explained above, the precise pre-determination of the amount of value-loss for the productive means of commodities to be sold and of the calculated prices of the commodities is an indispensable condition for the rational control of industry. The accounting of value-loss for productive means in industrial process is called cost-accounting (Selbstkostenrechung). The value, which is to be treated as "cost" in cost-accounting and that which is treated as "loss" in the accounting of profit and loss, do not have the same sphere, although their spheres intermingle.

By "loss" is simply meant the phenomenon of value-loss within a period of time and is contrasted with the profit of the same period and thus is made the basis of calculating net profit. For example, the loss occasioned by the additional collection of taxes which were to be paid in the previous year or by the excess depreciation of properties, and all accidental value-loss occasioned by fire and other causes are to be regarded as "loss" in the accounting of profit and loss. But they are not inherent costs in the cost-accounting in the same period. Schmalenbach calls these losses which are not costs by the name of "neutral losses" (Neutraler Aufwand). This has the same meaning as Leitner's "inorganic costs" (Anorganische Kosten). Also the amount of depreciation that is not included in the accounting of profit and loss or reserves provided for the welfare of workers, are to be regarded as costs, they are not inherent

losses, inasmuch as they are value-losses as industrial means. As has been clarified, value-loss as means in the various stages in the process of industry, whether it is caused by physical relations or social relations, and whether the physical loss occurs in tangible objects or in intangible labour, is cost in each stage of industrial production. Therefore, the views of Nicklisch and Schmaltz both of whom regard as elements of gain such labour-values as salaries and wages as well as interest on the borrowed capital and exclude them from the conception of cost, are at variance with my idea of cost.

The nature of cost of production treated in this article may be summarised as follows: cost of production is value which is lost as productive means in the process of industrial production. It is the value the recovery of which is demanded by industrial principles through the sales prices of products created by that loss. Cost of production with the foregoing significance may be computed regarding products of quantity-unit as well as the total amount of products during a definite period. Cost of production in the former case is called unit cost of production while the latter is called total cost of production.

In considering the effects of output-curtailing on the development of cost of production, it is necessary to define output and output-curtailing at the outset. For further discussion of the present problem, I shall give them definitions as follows: By industrial output is meant that certain goods are produced in an industrial undertaking. Let us suppose that a given industry is provided with a given industrial equipment consisting of such basic factors as land, buildings, operative apparatus, implements, and machinery. Then, the maximum amount of goods produced by that industrial undertaking during a day, or a month or a year is inherently determined and controlled by the NORMAL capacity of its equipment and the NORMAL amount of working hours. The condition of production in which such maximum quantities of goods are produced by a given

industry is called "the normal degree of output". Thus, each industry's normal degree of output is fixed inasmuch as that industry is provided with a fixed equipment of production. The normal degree of output is a theoretical concept, but one may indicate the real quantities of output during some definite period. The condition of production indicated by real quantities of output during such a period may be termed the actual degree of output. Usually, the actual degree of output does not correspond with the normal degree of output, and the disparity between the two is all the more pronounced at a crisis like the present one.

As has been already shown in the above exposition, the content of the idea of the degree of output is the quantities of production during a definite period. The actual degree of output may be expressed in both absolute and relative figures. The absolute figures of quantities of production during a certain definite period indicate the absolute degree of output during the same period, while the percentage of actual quantities of production during a certain definite period to the normal quantities of production during the same period indicates the relative degree of output.

The term "output-curtailing" as treated in the present article signifies the fact that the actual degree of output in a given industry is reduced below the normal degree of output and that the actual quantities of production during a certain definite period are reduced below the normal quantities of production during the same period.

II

I have above defined the conception of cost of production, output, and output-curtailing. I shall next consider the development of cost of production which arises from output-curtailing.

Usually an industrial undertaking is conditioned by the organic composition of its assets from time to time, necessitates a definite amount of production with which the unit

cost of production will show the minimum amount. Such a degree of output is called the "optimum degree of output."

If the total cost of production in an industrial undertaking during a certain period of time varies proportionally with the changes in the amounts of productive output during the same period, the unit cost of production will remain intact by the condition of output, and will prove constant in the absence of other influences.

If such a development is made by the cost of production in an industrial undertaking as a result of output-curtailing, such an industrial enterprise has not any optimum degree of output such as we have already seen. In actuality, there exists no industry whose total cost of production varies proportionally with the degree of its output; but there are cases in which the two maintain proportional relations to a considerably high degree.

In the face of the development made by capitalistic economy today, manufacturing industries of such a nature occupy a very insignificant position in the capitalistic production on the whole. An example of this may be found in handicraft industries which are unworthy to be called "industries." The effects which industries having a decisive significance in the capitalistic production receive from output changes in their unit cost of production are totally different from those on handicraft industries. It is the former industries that we are concerned here.

III

Let us consider the question as to why the important manufacturing industries are vitally affected in their unit cost of production by the output curtailing. Before taking up this question, it is desirable for us to consider their material facilities, the condition of the management of production and monetary supply. Because there is a vast difference in these elements of production between those

industries whose unit costs of production are vitally affected by the output curtailing and those others whose unit costs of production are not thereby affected.

Let us first consider the material facilities for the production of manufacturing industries. It is generally known that since the middle of the 17th century, small-scale and hadicraft industries made a rapid advance towards larger and more intensified methods of production, apparently under the stimulation of a great demand for war supplies and commodities of luxury. The motive power of this change undoubtedly is to be found in the fact that the latter system was more conductive to the object of capitalistic profit-making than the former. This transformation was destined to make a further advance. Of the various and manifold differences between the large-scale, intensive work and the small scale handicraft workshop, the one that attracts our keenest attention is the difference between material facilities. Needless to state, human labour was the decisive factor in the production of small-scale and handicraft industries. As the method of production shifted from smallscale and handicraft, and as the old method was changed to large-scale manufacturing organisation, the decisive factor in the process of production was gradually shifted from human labour to material facilities or implements. When the factory system finally came into existence, direct human labour could only maintain its subsidiary and supplementary significance. Such, indeed, is the essential indication of the large-scale machine-operated industrial organisation.

The mechanization of the means of production made rapid strides during the 18th century and down to the middle of the 19th century when the highest stage of capitalistic production was attained. Marx gives the reports of the inspector of British factories in elucidating the rapid shifting of position between direct human labour and machinery in the processes of production during the middle of the 19th century. Thus, the material characteristic of the internal organisation of the factory (which is the model workshop of

the modern industry) is the organic unity of operating, motor and transportation machines. The organic unity of such material factors of production has brought about the automatic operation of the workshop. Such operation may be taken as the model form of the so-called factory system. All this means that the work hitherto done by direct labour is now carried on by machinery or material equipment and that man only performs an insignificant and supplementary part in the internal organisation of production.

This superiority of material elements over human elements in the process of production really forms the central phenomenon in the communities of highly developed capitalism—a phenomenon which has made a great development in all industrial countries during the decade following the close of the Great War. This ascendancy of the material equipment in the manufacturing is undoubtedly due to the internal necessity of the relations of capitalistic production which had become international. At the same time, it was also stimulated and accelerated externally by the movement of rationalisation.

The application of automatic machinery and the adoption of the conveyer system are the highest earmarks of rationalisation in productive facilities. Moreover, rapid and frequent improvements made in machinery and the intensification of industrial competition have increased during the same period the number of machines which a single worker attends to. One need not present any positive demonstration to prove that, coupled with the expansion of land and buildings and the advance of horizontal consolidation in industrial organisation, the advance of the technical position of the material facilities in principal manufacturing industries have enabled them to occupy a decisive position as an industrial asset.

Let us next review the features in the management of production in manufacturing industries. The features herein observed are produced by the pressure of the ascendancy of the material equipment in the composition of assets above

noted. On the one hand, these features show the systematization and materialization (Vergeistigung und Versachlichung) of industrial control and calculation: on the other hand, they show the expansion of indirect labour due to the development of the so-called Taylorism as well as to the facilities of industrial research within each industrial undertaking. These two features tend to expand the field of employment for persons of higher grades who are not direct labourers.

Lastly, we shall survey the financial aspect of manufacturing industries in recent years. The most remarkable feature observed in this connection is the increasing importance of credit against owned capital. We shall not inquire into the causes of this phenomenon. We shall be here content with the elucidation of facts in joint stock companies which occupy representative position in our present manufacturing industries.

The following table indicates the percentages of the amounts of debentures and loans to these of shareholders' capitals in important industrial corporations:

Year	First Term	Last Term
1925	28.7	32.5
1926	36.5	37.4
1927	39.0	40.8
1928	42.6	45.1
1929	46.5	48.0
1930	49.2	50.2
1931	51.2	—

The foregoing discussion has pointed out the characteristic features of modern manufacturing industries in their material facilities, the management of production and financing, as compared with purely handicraft manufacturing. These, together with the consumption of direct labour and raw materials, from the causes of value-loss in the means of production or, in other words, the causes of the cost of production.

However, it is generally recognized that there is an enormous difference between the costs of production caused by the foregoing factors and those caused by the direct labour and the consumption of materials, in respect of the relations between the amount of unit cost of production and the degree of output. In other words, this difference is seen in the development of cost according to the degree of output. True, a cause of cost does not rigidly prescribe the amount of cost, but there is no denying that there is a definite relationship between the two. All this means that, whereas the total amount of direct labour cost and cost of materials in a given industry proportionally very according to the amount of production or according to the degree of output, the total amount of cost for material equipment, for labour supervision and for credit-capital is not affected *directly by the variation of output.*

To begin with, so long as material equipment for production as a means of production is maintained in the industrial assets, its value is depreciated due to its natural wear, general economic depression, technical improvements, and special industrial relations, etc.: and thus it adds to the cost of production. It is recognized that the depreciation of value because of these causes occurs at a uniform rate during a definite period in case an industry's output is below the normal degree, regardless of the degree of its productive output. In consequence, industrial principles demand that the amount of cost-depreciation during a definite period irrespective of the degrees of output should be fixed beforehand. In this connection, the amount of insurance on the material equipment should also be given consideration.

Secondly, the elevation and standardisation of the management of production necessarily increase the number of indirect laborers such as directors, clerks and shop-foremen, etc., whose relations of employment are comparatively fixed and whose wages are usually larger in amount than those of direct workers. As a result of this, industries are given constant indirect labor cost which is enormous in amount

and which occurs regardless of the degrees of output.

Thirdly, the interest on debentures and other forms of loans places a heavy burden on industries regardless of the degrees of output.

We have already seen that these costs showing a tendency toward an invariable development has increasingly become an important element in the composition of the industrial cost is one of the characteristics of the principal modern industries.

IV

As has been explained above, the total cost of production in the modern manufacturing industries during a definite period of time is the resultant of two sets of costs, namely, those having a tendency to be proportional with the degree of output and those having a tendency to remain constant. Supposing K represents the total production cost, p represents the unit of proportional cost, x represents the degrees of output, and F represents the invariable cost, we may have the following equation: $K = p.x + F$

The total cost of production of these industries during a definite period will expand with the rise of the degree of output during the same period: but the rate of the former will be smaller than the rate of the latter. As regards k or unit cost of production, we may have the following equation: $k = \frac{K}{x} = p + \frac{F}{x}$. Thus, the unit cost of production becomes the minimum amount on the maximum degree of output within the sphere in which there is no excessive degreciation due to the over-employment of the various means of production. Such a maximum degree of output in each industry is determined in respect to the total amount of production which, in turn, is limited by the amount and composition of the capital invested in each industry. Such a degree of output is called the normal degree of output, as we have already explained.

When the degree of output rises above the normal degree, there will inevitably rise an excessive use of the means of production, followed by an increase in the unit cost of production: on the other hand, when the degree of output has fallen below the normal degree, the unit cost of production will also tend to increase. In other words, the lowest unit cost of production is attained when an industry's output has become normal. Such a degree of output is also called the optimum degree of output. Now, the most important question in connection with this matter is what angle will be shown by the increase of the unit cost of production consequent on the expansion of the rate of output-curtailing, when the degree of output is fallen due to some cause. This increase of unit cost of production is not gradually made in a uniform rate of variation. When the unit cost of production increases due to the fall of the degree of output (below the normal degree), it does not greatly go up unless the point of output-curtailing goes far beyond the optimum degree. But when this point is passed and output-curtailing is still pushed on further, the rate of the increase registered on the part of unit invariable cost greatly widens, and unit cost of production consequently will expand sharply. This is the chief characteristic of the development of the unit cost of production consequent on output-curtailing in principal modern industries. True, the greater the proportion of the invariable cost in the composition of the total cost of production at the normal degree of output, the quicker will be the pressure of the invariable cost in the expansion of the unit cost of production due to output-curtailing. Heidebroek states that the heavy pressure of invariable cost makes itself felt when the rate of output-curtailing becomes between 30 or 50 per cent to the normal degree as the base of computation. It must be noted, however, that the foregoing discussion on the effects of output-curtailing on unit cost of production does not take into consideration the mollifying effects of the fall of labour wages, interest, and the prices of materials and other similar

circumstances. When output-curtailing is made, therefore, there will be cases in which unit cost of production does not actually expand as stated above.

V

Suppose an over-production has resulted from the wholesale reduction of demand in the economic world and that some industries have formed monopolies in order to curtail their output and thereby to check the falling down of prices of their products. Other things being equal, the unit cost of production in these industries will be affected by their own act of output-curtailing in the manner already noted.

When, therefore, the prevailing prices (tending to depreciate) have been merely maintained, the resulting profit will be automatically cancelled by the expansion of the cost of production, and there will be no positive profit gained. Nor will such a maintenance of prices positively improve the power of profitability, although it may enable industries to escape from the destructive competition which is apt to beset modern industries. Thus, the policy of output-curtailing only has negative benefits and it cannot satisfy the essential want of industries. It is clear that the original objects of forming monopolies are not confined to such negative benefits.

Monopolies will not, therefore, be content with such a negative policy of output-curtailing. They will further go on to enforce output-curtailing to a greater degree, thereby decreasing the amount of stock in the market and raising prices beyond the prevailing rates, in their wish to secure greater possible profits. It is theoretically recognised that inasmuch as monopolies possess a power to control price relations in accordance with the degrees of general economic demand and with those of demand for their particular products, they may realise the foregoing object to a considerable extent, within the sphere limited by the intensity

of these general and particular economic market demands. *In actuality even monopolies cannot raise prices unlimitedly.* At the first monopolies are subject to the limitation of these demands and then if they should raise prices beyond a certain limit, there will appear various phenomena which will inevitably impede the attempt. The following will be the more important of such phenomena:

1. Competition of all kinds of goods to satisfy the *entire market demand.*

2. Competition on the part of industries supplying with substitutes having a similar power of satisfying the same market demand.

3. Increase in the power of the enterprisers of the same industry who are unwilling to participate in the monopolies.

4. *The necessity of expanding the productive equip*ment of the monopolies themselves.

5. Dumping by members of the monopolies themselves.

We have already seen that when monopolies have raised the degree of output-curtailing by 30 or 50 per cent of full capacity (in order to meet the difficulties of an economic depression), the unit cost of production of these products will greatly expand. It is clear that market prices that will enable the monopolies to secure some profit over and above the increased cost of production will be far higher than the market prices that prevail when the normal degree of output is maintained. When, therefore, prices are so severely raised up by monopolies, there will arise various impediments above noted. In consequence, even if output-curtailing has been pushed beyond a certain point, it will be difficult to raise the prices to the degree that will enable the monopolies to compensate the augmented cost of production.

Nor will obstacles to an attempt to raise the prices of commodities by monopolies to such an extreme degree be limited to competition due to various economic causes: such attempt will undoubtedly meet the opposition of State action and hostile public opinion, the pressure of which will be

ultimately be brought to bear on monopolies making such anti-social attempt.

VI

The policy of curtailing output resorted to by modern industries in order to meet the difficulties of economic crisis enables them to raise the prices of their products to a certain extent, but is unable positively to improve their business condition. It is imperative then that the policy of output-curtailing should be re-enforced by other means. In the first place, curtailment should be effected in the cost of raw material. The prices of raw materials will fall as the result of output-curtailing and other causes which will cause the reduction of demand. Reduction should be also made in wages and other material provision of direct labourers whose power of resistance is comparatively weak. Side by side with output-curtailing, rationalisation should be effected in the use of the labour force, and a relative reduction of the number of employees should be made. All these will tend to weaken the inherent expansion of the cost of production which is made inevitable, for these are a super-proportional curtailment of the relative costs of materials and the direct labour.

However, in the case of output-curtailing in modern industries, the curtailment of proportional cost does not yet give any decisive effect on the composition of cost of production. Accordingly, attention should be directed to a more important matter. In other words, curtailment should be made in invariable costs: to be more exact, the number and salaries of high-grade employees should be reduced: a reduction should be made in the value of the fixed equipment: and the rate of interest on credit capital should be lowered. However the difficulty of curtailing these invariable expenses far surpasses that of curtailing the proportional expenses. Thus, it becomes inevitable that the work of coping with industrial distress should extend beyond the

individual undertaking and into the entire field of economic activities. First of all, the expansion of demand in the market should be extended as far as possible: the policy of monetary inflation should be pursued: public works for the purpose of relief should be undertaken. The leaders of industry will naturally welcome these and other attempts at enhancing demand power from their economic standpoint. It is, however, clearly perceived that all these policies of artificial inflation are bound to give rise to injurious reactions all over the national economy.

So lastly, an attempt will be made by capital for a thorough-going monopolisation of industries through the intervention of State power in order to eliminate all together the obstacles in the way of realizing the agreeable effect that are inherently possible by output-curtailing. Such an attempt will be manifested by demand for higher tariff rates, for industrial amalgamation and for an industrial licence system. Such a demand will be given stimulation by a cry for a national planning of industries such as has been raised at the present crisis.

The tendency of monopolisation will be pushed until the ideal of "one national organisation" in each industry is asserted. However, it must be noted that the further monopolisation is carried out, the greater will be the function of relieving the profitability of each industry through output-curtailing as a method of coping with economic distress. But, so far as the economic demand of the market increasingly dwindles wholesale, it would be impossible, however throughouly an industry be monopolised, to escape from economic privation by raising prices indefinitely through output-curtailing. At any rate, it is undeniable that industries, necessitated by the pressure of invariable cost will advance towards a more and more through-going monopolisation. I am not here concerned with the nature of reactions to such a thorough-going monopolisation.

ICHIRO OTSUKA

MARX'S ANALYSIS OF CAPITALISM AND THE GENERAL EQUILIBRIUM THEORY OF THE LAUSANNE SCHOOL

INTRODUCTION.

The general equilibrium theory enunciated by economists of the mathematical school is regarded as the best economic theory that has so far been advanced. It is true that it has many critics and that, as a matter of fact, it contains points requiring correction, but it cannot be denied that it possesses features which entitle it to the claim that it is the best of all economic theories hitherto evolved. It is, in this sense, gratifying that increasing attention is now being directed to the general equilibrium theory.

It must, however, be admitted that the general equilibrium theory of economists of the mathematical school suffers from its being much too formal. It is ineffectual in making clear systematically either the organisation of present-day capitalistic society or the laws of its development. Some economists are prone to regard this as of little account. But it cannot be denied that political economy has always had for one of its important subjects of study the systematic grasp of the organisation of historical economic society and the laws of its development. Nor can it be denied that anybody who makes a speciality of economics cannot stop short of the systematic grasp of the organisation of the present-day capitalistic society and the laws of its development. For this purpose the general equilibrium theory of the mathematical school is too ineffectual. The dynamic theory dealt with in it has too feeble a relation to the general equilibrium theory elaborately developed by means of intricate high mathematics, with the result that it amounts almost to economics devoid of theorising. It is by no means without reason that the general equilibrium theory is denounced by some critics as a mere sport of

logic devised to conceal entity or a claptrap designed to gloss over the lack of theory.

On the contrary, the Marxian political economy, though it is now shown to contain many defects, sets forth theories which are either intended to enunciate systematically the organisation of present-day capitalistic society and the laws governing its development or have inseparable and necessary bearings on them.

What is it, then, that makes Marxian economics so powerful and the general equilibrium theory of the mathematical school so inert? It is simply this, that whereas in the Marxian economics the organisation of capitalistic production and the laws of its development are analysed in a direct way, in the general equilibrium theory the main attention is directed to the analysis of the mental structure of the individuals who take part in the organisation of capitalistic production. This is, of course, a general description. In its abstractest phase the organisation of capitalistic production is dealt with even in the general equilibrium theory, but the analysis of the organisation of capitalistic production, as we see it in the general equilibrium theory, is quite abstract. What makes the Marxian economics grasp the organisation of capitalistic production and the laws of its development and makes the general equilibrium theory incapable of doing so? For this the direction of concern *conditioned by the existence of students may be somewhat* responsible, but I do not think this is the sole reason. In my opinion, the structure of the general equilibrium theory, as it stands, renders the analysis of the organisation of capitalistic production and consequently a firm grasp of the laws of its development logically impossible.

What is it, then, which the structure of the general equilibrium theory contains and which makes the analysis of the organisation of capitalistic production and consequently the grasp of the laws of its development logically impossible? And how can it be eliminated? The object of the present article is to study these points.

According to the view which I hold at present, by settling these points can the general equilibrium theory be made to attain great potency in analysing both the organisation of capitalistic production and the laws of its development. By their solution also can many important questions which were either looked over or misjudged even by Marx be put in a clear light and be solved. In the present article, I wish to set forth the starting point of my line of thought.

1. THE GENERAL EQUILIBRIUM THEORY.

In order to make clear the points which I propose to study in the present article, I must first briefly explain the general equilibrium theory. The general equilibrim theory, as I here explain, is not, however, the one in its original form, but one in a form somewhat rewritten. One reason for rewriting it is to facilitate the development of the discussion of the subject in the present article (as is evidenced by the addition of the assumption that society is clearly divided into the capitalist and the working classes). The other reason is that the general equilibrium theory, as it stands, has been deemed inadequate. It might be better to explain in detail these points of alteration, but as the present article is not directly concerned with these points, I will here desist from the attempt.

As is usually done in theoretical economic study, it is here assumed that there obtains simple re-production, that capital is all floating, fixed capital being ruled out, that the time of the rotation of capital and the duration of its rotation is equal in all branches of production, that all manufactures are produced capitalistically, that there is perfect capitalistic free competition with the consequent elimination of the participation of the State and other controlling bodies, that property can be differentiated and its demand functions are accordingly continuous, that there is no friction in the process of circulation, and that the given factors undergo

no change. Such assumptions are, of course, permissible in the initial stage of a theoretical economic study. Inasmuch, however, as the present article is not concerned with these assumptions themselves, I may as well refrain from any detailed exposition of these points.

The fundamental productive goods (which are not manufactures in themselves, but are things which are paid for as productive goods) include, first of all, labour-power of all kinds. Given certain conditions, land-power may also be counted among them. But as the present article is concerned with the factors involved before the question of land-power comes in, it is here assumed that the fundamental productive goods consist exclusively of labour-power of all kinds. This assumption is also permissible in the initial stage of a theoretical economic study.

Now, let us assume a society which consists exclusively of m capitalists and θ labourers. Let it be further assumed that the capitalists live on the money which they possess before exchange and on the profit on their capital, and the labourers on their wages only. In this case, according to the subjective value theory, the amount of capital which each of the capitalists invests and the kinds and quantity of goods which he demands, or the amount of labour-power each of the labourers offers and the kinds and quantity of goods he demands depend on the point at which the subjective value which they recognise in each kind of goods finds the equilibrium. Let it be supposed that this society possesses consumable goods of $n-1$ kinds, and let the prices of these kinds be represented by $p_2, p_3, \cdots\cdots p_n$ respectively, and the amount of money possessed by the first of m capitalists after exchange[1] be denoted by N_{11}', that of the second capitalist $N_{21}'\cdots\cdots$, and that of the last mth capitalist N_{m1}'. If the quantity of consumable goods of

1) By the term "possessed..... after exchange" it is not necessarily meant that one possesses things in substantial form. Things may as well have been consumed already. They can be zero too. This definition applies to all cases hereunder mentioned.

the first kind possessed by the first capitalist after exchange is represented by N_{12}', that of the second capitalist by N_{22}', and that of the last mth capitalist by N_{m2}'; the quantity of consumable goods of the n-1th kind held by the first capitalist after exchange by N_{1n}', that of the second capitalist by N_{2n}'....., and that of the last mth capitalist by N_{mn}', if the average rate of profit is denoted by p', the amount of capital invested by each of m capitalists by K_1, K_2,.....K_n respectively; and if the amount of money possessed before exchange is assumed to[2] be G_1, G_2.....G_m, we get the first set of equations, containing mn equations which denotes the equilibrium[3] of marginal utility each of the capitalists of m number has in regard to the goods of $n+1$ kinds (one of which shows the principal and interest accruing in future in the shape of the investments recovered, another is money and the rest the consumable goods of $n-1$ kinds).

$$
(\mathrm{I})\quad
\begin{cases}
\psi N_{11}' = \dfrac{1}{p_2}\,\psi N_{12}' = \dfrac{1}{p_3}\,\psi N_{13}' = \cdots\cdots \\
\qquad\qquad = \dfrac{1}{p_n}\,\psi N_{1n}' = (1+p')\,\psi\{K_1(1+p')\}^{4} \\
\psi N_{21}' = \dfrac{1}{p_2}\,\psi N_{22}' = \dfrac{1}{p_3}\,\psi N_{23}' = \cdots\cdots \\
\qquad\qquad = \dfrac{1}{p_n}\,\psi N_{2n}' = (1+p')\,\psi\{K_2(1+p')\} \\
\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots \\
\psi N_{m1}' = \dfrac{1}{p_2}\,\psi N_{m2}' = \dfrac{1}{p_3}\,\psi N_{m3}' = \cdots\cdots \\
\qquad\qquad = \dfrac{1}{p_n}\,\psi N_{mn}' = (1+p')\,\psi\{K_n(1+p')\}
\end{cases}
$$

2) Some of these may denote zero.

3) To be exact, the quantity of all goods so combined as to procure the highest whole value differentiated unilaterally in regard to money.

4) $K(1+P')$ is what is purchased by the investment of the K capital. $\psi\{K(1+p')\}$ denotes the function of the present value of the future goods $K(1+p')$. Now, a marginal value of a commodity, divided by its price, is

We also get the second set of equations, containing m equations, which shows the equilibrium of individual revenue and expenditure in respect of the m capitalists:

$$(\mathrm{II})\quad \begin{cases} N_{11}' + p_2 N_{12}' + p_3 N_{13}' + \cdots\cdots + p_n N_{1n}' = K_1 p' + G_1 \\ N_{21}' + p_2 N_{22}' + p_3 N_{23}' + \cdots\cdots + p_n N_{2n}' = K_2 p' + G_2 \\ \cdots\cdots \\ N_{m1}' + p_2 N_{m2}' + p_3 N_{m3}' + \cdots\cdots + p_n N_{mn}' = K_m p' + G_m \end{cases}$$

Again, let it be supposed that the same community has labour-power of e kinds and let the wages for labour-power of these kinds be represented by $q_1, q_2 \cdots\cdots q_e$. If the amounts of labour-powers of all kinds offered by the first of θ labourers are denoted by $E_{11}, E_{12} \cdots\cdots E_{1e}$, that offered by the second labourer by $E_{21}, E_{22} \cdots\cdots E_{2e}$, and that by the last θth labourer by $E_{\theta 1}, E_{\theta 2} \cdots\cdots E_{\theta e}$, and if the amount of money possessed by the first labourer after exchange is denoted by N_{11}, and the quantity of consumable goods of the first kind by $N_{12} \cdots\cdots$, and the quantity of the consumable goods of the last $n-1$th kind by N_{1n}, those held by the second labourer by $N_{21}, N_{22}, \cdots\cdots N_{2n}$ respectively and those held by the last θth labourer by $N_{\theta 1}, N_{\theta 2} \cdots\cdots N_{\theta n}$ respectively, then we obtain the third set of equations containing $(n+e-1)\theta$ equations, which indicates the equilibrium of marginal utility each of the θ labourers has in regard to the goods of $n+e$ kinds (one of which is money, $n-1$ represent the consumable goods of $n-1$ kinds and e embody labour-powers of e kinds):—

$$\begin{cases} \psi N_{11} = \dfrac{1}{p_2}\psi N_{12} = \dfrac{1}{p_3}\varphi N_{13} \cdots\cdots \\ \quad = \dfrac{1}{p_n}\psi N_{1n} = \dfrac{1}{q_1}\psi E_{11} = \dfrac{1}{q_2}\psi E_{12} = \cdots\cdots = \dfrac{1}{q_e}\psi E_{1e} \end{cases}$$

---

equal to the marginal value of present-money, and the price of a future money is equal to $\frac{1}{1+p'}$. So, it follows that the marginal value of future money, divided by its price $\frac{1}{1+p'}$, in other words, multiplied with $(1+p')$, is equal to the marginal value of present-money.

$$
\text{(III)}\left\{\begin{array}{l}
\psi N_{21}=\frac{1}{p_2}\,\psi N_{22}=\frac{1}{p_2}\,\psi N_{23}=\ldots\ldots\ldots \\
\qquad =\frac{1}{p_n}\,\psi N_{2n}=\frac{1}{q_1}\,\psi E_{21}=\frac{1}{q_2}\,\psi E_{22}=\ldots\ldots\ldots=\frac{1}{q_e}\,\psi E_{2e} \\
\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \\
\psi N_{\theta 1}=\frac{1}{p_2}\,\psi N_{\theta 2}=\frac{1}{p_3}\,\psi N_{\theta 3}=\ldots\ldots\ldots \\
\qquad =\frac{1}{p_n}\,\psi N_{\theta n}=\frac{1}{q_1}\,\psi E_{\theta 1}=\frac{1}{q_2}\,\psi N_{\theta 2}=\ldots\ldots\ldots=\frac{1}{q_e}\,\psi E_{\theta e}
\end{array}\right.
$$

And another fourth set of equations, containing θ equations, which indicates the equilibrium of individual revenue and expenditure of each of the θ labourers, is obtained:—

$$
\text{(IV)}\left\{\begin{array}{l}
N_{11}+p_2N_{12}+p_3N_{13}+\ldots\ldots+p_nN_{1n}=q_1E_{11}+q_2E_{12}+\ldots\ldots+q_eE_{1e} \\
N_{21}+p_2N_{22}+p_3N_{23}+\ldots\ldots+p_nN_{2n}=q_1E_{21}+q_2E_{22}+\ldots\ldots+q_eE_{2e} \\
\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \\
N_{\theta 1}+p_2N_{\theta 2}+p_3N_{\theta 3}+\ldots\ldots+p_nN_{\theta n}=q_1E_{\theta 1}+q_2E_{\theta 2}+\ldots\ldots+q_eE_{\theta e}
\end{array}\right.
$$

The first set of equations contains $(mn+m+n)$ unknown quantities, viz. $n-1$ in regard to the prices of the coosumable goods of $n-1$ kinds, m regarding the amount of capital which each of m kapitalists invests, 1 concerning the average rate of profit, and mn about the quantity of each of n kinds of goods possessed by each of m capitalists after exchange (although, as a matter of fact, there is still another in regard to each capitalist, vis. $K(1+p')$, which represents the goods held after exchange, it contains no new unknown quantity). As regards the third set of equations, it contains $(n+e)\theta+e$ new unknown quantities, viz. θn in regard to the quantity of each of the goods of n kinds which each of θ labourers demands, θe in respect of the amount of each of labour-power of e kinds which each of them supplies, and e respecting the price of labour-power of e kinds. Neither the second nor the fourth set of equations contains any new unknown quantities.

Social products can roughly be divided into productive

means and consumptive means. Here it is assumed that all these things are produced capitalistically, and the former is called capital means and the latter consumable goods. In order to turn out products, both capital goods and labour-power are required (land-power is ruled out by a previous assumption). The amount of capital goods and labour-power needed for producing products, multiplied by their respective prices forms the cost of production (as viewed from the capitalist's point of view) necessary for producing these products. As the capitalist tries to produce them in such branches as can secure the largest possible surplus value in excess of this cost of production, the prices of products are, in the ultimate, normally fixed at the cost of production plus the average profit and accordingly at the cost of production multiplied by $(1+p')$, provided complete free capitalistic competition prevails. Now, let us suppose that society possesses capital goods of s kinds, and let the prices of goods of these kinds be represented by $k_1, k_2 \ldots\ldots k_s$ respectively. Be it further supposed that the amount of each capital goods and labour power required for the production of each unit of each product is technically given (that is, let the amount of capital goods of the first, the second, ... and the sth kinds needed for the production of one unit of money be $a_{11}, a_{12} \ldots\ldots a_{1s}$; the amount of labour-power of the first, the second, ... and the sth kinds be a_{e1}, a_{e2} ..... a_{es}: the amount of capital goods of the first, the second, ... and the sth kinds required for the production of one unit of consumable goods of the first kind be a_{21}, a_{22} ..... a_{2s}; the amount of labour-power of the first, the second, ... and the eth kinds be a_{e1}, a_{e2}, ... a_{es}; the amount of capital goods of the first, the second, ... and the sth kinds necessary for the production of one unit of consumable goods of the last n-1th kind be $a_{n1}, a_{n2} \ldots\ldots a_{ns}$; the amount of labour-power of the first, the second, ... and the eth kinds be $a_{e1}, a_{e2} \ldots\ldots a_{es}$; the amount of capital goods of the first, the second, ... and the sth kinds needed for

producing one unit of kapital goods of the first kind be β_{11}, β_{12},.....β_{1s}; the amount of labour-power of the first, the second, ... and the *e*th kinds be b_{11}, b_{12},..... b_{1e}.....; the amount of capital goods of the first, the second, ... and the *s*th kinds required for producing one unit of capital goods of the last *s*th kind be β_{s1}, β_{s2}, ... β_{ss}; and the amount of labour-power of the first, the second, ... and the *e*th kinds be b_{s1}, b_{s2}, ... b_{se}. These are assumed to be known quantities and unalterable by the amount of production. It is further assumed that all of these embody floating capital which is used up in one round of production, that no fixed capital is required, and that in all branches of production the period of the rotation of capital is equal). Then, the fifth set of equations containing n equations can be obtained in regard to money and the consumable goods of each of n-1 kinds:

$$(V)\begin{cases}(a_{11}k_1+a_{12}k_2+\ldots+a_{1s}k_s+a_{11}q_1+a_{12}q_2+\ldots+a_{1e}q_e)(1+p')=1\\(a_{21}k_1+a_{22}k_2+\ldots+a_{2s}k_s+a_{21}q_1+a_{22}q_2+\ldots+a_{2e}q_e)(1+p')=p_2\\\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\\(a_{n1}k_1+a_{n2}k_2+\ldots+a_{ns}k_s+a_{n1}q_1+a_{n2}q_2+\ldots+a_{ne}q_e)(1+p')=p_n\end{cases}$$

Also, we obtain the sixth set of equations containing s equations in regard to the capital goods of s kinds:

$$(VI)\begin{cases}(\beta_{11}k_1+\beta_{12}k_2+\ldots+\beta_{1s}k_s+b_{11}q_1+b_{12}q_2+\ldots+b_{1e}q_e)(1+p')=k_1\\(\beta_{21}k_1+\beta_{22}k_2+\ldots+\beta_{2s}k_s+b_{21}q_1+b_{22}q_2+\ldots+b_{2e}q_e)(1+p')=k_2\\\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\\(\beta_{s1}k_1+\beta_{s2}k_2+\ldots+\beta_{ss}k_s+b_{s1}q_1+b_{s2}q_2+\ldots+b_{se}q_e)(1+p')=k_s\end{cases}$$

The fifth set of equations contains s new unknown quantities in respect of the prices of each of the capital goods of s kinds, while the sixth set of equations contains no new unknown quantities.

The total amount of the various consumable goods and money in social demand is nothing but the total amount of money and various consumable goods held by all persons

after exchange. Consequently, if the total amount of money held by all persons after exchange is to be denoted by N_1, and that of the consumable goods of the first, the second, ... and the last n-1th kinds by N_2, N_3, ... N_n respectively, the seventh set of equations containing n equations can be obtained:

$$\text{(VII)}\begin{cases} N_1 = N_{11}' + N_{21}' + \cdots\cdots + N_{m1}' + N_{11} + N_{21} + \cdots\cdots + N_{\theta 1} \\ N_2 = N_{12}' + N_{22}' + \cdots\cdots + N_{m2}' + N_{12} + N_{22} + \cdots\cdots + N_{\theta 2} \\ \cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots \\ N_n = N_{1n}' + N_{2n}' + \cdots\cdots + N_{mn}' + N_{1n} + N_{2n} + \cdots\cdots + N_{\theta n} \end{cases}$$

This set of equations contains n new unknown quantities in respect of the total amount of money and of each of the consumable goods of n-1 kinds held after exchange. If the assumption is accepted that all production is carried on capitalistically and that competition is carried on to the extent of the equilibrium being attained, all the consumable goods held after exchange ought to have been produced capitalistically and all the consumable goods produced ought to be sold out without any portion being left unsold on the hands of capitalist producers. So the quantity of consumable goods of n-1 kinds held after exchange, viz. N_2, N_3,..... ... N_n, embodies at the same time the quantity produced. With regard to the money held after exchange, however, it, by its own peculiar nature and also under the present assumption, includes that which was held before exchange. Therefore, the amount of money to be produced is equal to the amount of money held after exchange minus the amount of money held before exchange. Thus, supposing N_1'' to denote the amount of money to be produced, we obtain the eighth equation:

$$\text{(VIII)} \qquad N_1'' = N_1 - (G_1 + G_2 + \cdots\cdots + G_m)$$

This equation contains one new unknown quantity regarding the amount of money to be produced.

The total amount of labour-power of each kind in social

demand is the sum total of the labour-power of that kind required for the production of money and consumable goods of all kinds and capital goods of all kinds. Consequently (since the quantity of each kind of labour-power necessary for the production of one unit of money and consumable goods and capital goods of all kinds is technically given and the total amount of the money and the consumable goods of all kinds to be produced are denoted, as previously provided, by N_1'' N_2, N_3.....N_n), if S_1, S_2,.....S_s be taken to denote the total amount of each of capital goods of the first, the second, ... the *s*th kinds to be produced, the ninth set of equations containing *e* equations can be obtained:

$$(IX)\begin{cases} E_1 = a_{11}N_1'' + a_{21}N_2 + \cdots\cdots + a_{n1}N_n + b_{11}S_1 + b_{21}S_2 + \cdots\cdots + b_{s1}S_s \\ E_2 = a_{12}N_1'' + a_{22}N_2 + \cdots\cdots + a_{n2}N_n + b_{12}S_1 + b_{22}S_2 + \cdots\cdots + b_{s2}S_s \\ \cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots \\ E_e = a_{1e}N_1'' + a_{2e}N_2 + \cdots\cdots + a_{ne}N_n + b_{1e}S_1 + b_{2e}S_2 + \cdots\cdots + b_{se}S_s \end{cases}$$

This set of equations contains e+s new unknown quantities, viz. *e* regarding the total amount of each of labour-power of *e* kinds to be supplied and *s* respecting the total amount of each of capital goods of *s* kinds to be produced.

The total amount of capital goods of each kind in social demand is the total amount of capital goods of that kind required for the production of money and consumable goods of all kinds and capital goods of all kinds. Under the assumption that all production is carried on capitalistically and that competition is carried on to the extent of the equilibrium being attained, all kinds of capital goods in demand ought to have been produced capitalistically. Moreover, as any portion of the producers' goods that have been produced is not to be left unsold on the hands of the capitalist producers concerned after meeting the demand of that branch of production concerned, the total amount of the capital goods of the first, the second, ... and the *s*th kinds in demand ought to be equal to that of those produced—which are, as previously provided, denoted by S_1,

S_2, ... and S_s. Since, on the other hand, the amount of each of the capital goods of all kinds required for producing one unit of money and of each of the consumable goods and capital goods of all kinds is given, we get the following tenth set of equotions containing s equations:

$$\text{(X)} \quad \begin{cases} S_1 = \alpha_{11}N_1'' + \alpha_{21}N_2 + \cdots\cdots \alpha_{n1}N_n + \beta_{11}S_1 + \beta_{21}S_2 + \cdots\cdots + \beta_{s1}S_s \\ S_2 = \alpha_{12}N_1'' + \alpha_{22}N_2 + \cdots\cdots \alpha_{n2}N_n + \beta_{12}S_1 + \beta_{22}S_2 + \cdots\cdots + \beta_{s2}S_s \\ \cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots \\ S_s = \alpha_{1s}N_1'' + \alpha_{2s}N_2 + \cdots\cdots \alpha_{ns}N_n + \beta_{1s}S_1 + \beta_{2s}S_2 + \cdots\cdots + \beta_{ss}S_s \end{cases}$$

This set of equations contains no new unknown quantities.

Unlike capital goods, labour-power is not produced capitalistically. The total amount of labour-power of e kinds supplied socially—which is to be equal to what is denoted by E_1, E_2,..... and E_e, as previously provided,—being the sum total of the amount of labour-power of each of the first, the second, ... and the eth kinds supplied by θ labourers, we obtain the eleventh set of equations containing e equations:

$$\text{(XI)} \quad \begin{cases} E_1 = E_{11} + E_{21} + E_{31} + \cdots\cdots + E_{\theta 1} \\ E_2 = E_{12} + E_{22} + E_{32} + \cdots\cdots + E_{\theta 1} \\ \cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots \\ E_e = E_{1e} + E_{2e} + E_{3e} + \cdots\cdots + E_{\theta e} \end{cases}$$

This set of equations contains no new unknown quantities.

The total amount of social capital must be large enough to meet the total cost of production required for the production of social products. Nor does it exceed it in equilibration. Therefore, we get the following twelfth equation;

$$\text{(XII)} \quad K_1 + K_2 + \cdots\cdots + K_m = E_1q_1 + E_2q_2 + \cdots\cdots + E_eq_e + S_1k_1 + S_2k_2 + \cdots\cdots + S_sk_s$$

This may be converted into:

$$(\text{XIII})K_1+K_2\ldots\ldots+K_m=N_1''(\alpha_{11}k_1+a_{12}k_2+\ldots\ldots+\alpha_{1s}k_s+a_{11}q_1+a_{12}q_2+\ldots\ldots+a_{1e}q_e)+N_2(\alpha_{21}k_1+\alpha_{22}k_2+\ldots\ldots+\alpha_{2s}k_s+a_{21}q_1+a_{22}q_2+\ldots\ldots+a_{2e}q_e)+\ldots\ldots+N_n(\alpha_{n1}k_1+\alpha_{n2}k_2+\ldots\ldots+\alpha_{ns}k_s+a_{n1}q_1+a_{n2}q_2+\ldots\ldots a_{ne}q_e)+S_1(\beta_{11}k_1+\beta_{12}k_2+\ldots\ldots+\beta_{1s}k_s+b_{11}q_1+b_{12}q_2+b_{1e}q_e)+\ldots\ldots+S_s(\beta_{s1}k_1+\beta_{s2}k_2+\ldots\ldots+\beta_{ss}k_s+b_{s1}q_1+b_{s2}q_2+\ldots\ldots+b_{se}q_e)$$

Neither the twelfth nor the thirteenth equation contains any new unknown quantities.

What I have so far described will suffice to explain in its abstractest form the organisation of capitalistic production where labour-power alone constitutes the fundamental productive goods, all capital goods represent floating capital, the productive coefficients are given, the production is, without exception, carried on capitalistically and under perfect free competition, no friction exists in the process of circulation, and the time and period of the rotation of capital is equal. To sum up, we see:

Sets of equations.	Wherein are contained	
	Unknown quantities.	Equations.
I	$mn+m+n$	mn
II		m
III	$(n+e)\theta+e$	$(n+e-1)\theta$
IV		θ
V	s	n
VI		s
VII	n	n
VIII	1	1
IX	$e+s$	e
X		s
XI		e
XII		1
Total	$mn+m+2n+n\theta+e\theta+2e+2s+1$	$mn+m+2n+n\theta+e\theta+2e+2s+2$

From the above, it will be seen that the number of the equations contained is one in excess of that of the unknown quantities therein contained. But one of the equations contained in the second, fourth and fifth to the twelfth sets of equations is so circumstanced that it can be deduced from the other equations.

In oder to explain it, let us first add together separately the left and the right terms of all the equations contained in the second and the fourth sets of equations and transform them into one equation. Then, we obtain:

$$(a)\quad (N_{11}'+N_{21}'+\cdots\cdots+N_{m1}'+N_{11}+N_{21}+\cdots\cdots+N_{\theta 1})+P_2(N_{12}'+N_{22}'+\cdots\cdots+N_{m2}'+N_{12}+N_{22}+\cdots\cdots+N_{\theta 2})+P_3(N_{13}'+\cdots\cdots+N_{m3}'+N_{13}+N_{23}+\cdots\cdots+N_{\theta 3})+\cdots\cdots+P_n(N_{1n}'+N_{2n}'+\cdots\cdots+N_{mn}'+N_{1n}+N_{2n}+\cdots\cdots+N_{\theta n})=p'(K_1+K_2+\cdots\cdots+K_m)+G_1+G_2+\cdots\cdots+G_m+q_1(E_{11}+E_{21}+\cdots\cdots+E_{\theta 1})+q_2(E_{12}+E_{22}+\cdots\cdots E_{\theta 2})+\cdots\cdots+q_e(E_{1e}+E_{2e}+\cdots\cdots+E_{\theta e})$$

Let this be called *a* equation.

Next, let us multiply all of the n equations contained in the seventh set of equations by 1, p_2, p_3, $\cdots\cdots p_n$ successively, and then form one equation by adding together separately the left and the right terms. Then, we obtain:

$$(b)\quad N_1+N_2p_2+\cdots\cdots+N_np_n=(N_{11}'+N_{21}'+\cdots\cdots+N_{m1}'+N_{11}+N_{21}+\cdots\cdots+N_{\theta 1})+p_2(N_{12}'+N_{22}'+\cdots\cdots+N_{m2}'+N_{12}+N_{22}+\cdots\cdots+N_{\theta 2})\cdots\cdots+p_n(N_{1n}'+N_{2n}'+\cdots\cdots+N_{mn}'+N_{1n}+N_{2n}+\cdots\cdots+N_{\theta n})$$

Let this be called *b* equation.

Next, let us multiply all of e equations contained in the eleventh set of equations by q_1, q_2,$\cdots\cdots q_e$ successively, and then form one equation by adding together separately the left and the right terms. Then, we obtain:

$$(c)\quad E_1q_1+E_2q_2+\cdots\cdots+E_eq_e=q_1(E_{11}+E_{21}+\cdots\cdots+E_{\theta 1})+q_2(E_{12}+E_{22}+\cdots\cdots+E_{\theta 2})+\cdots\cdots+q_e(E_{1e}+E_{2e}+\cdots\cdots+E_{\theta e})$$

Let this be called *c* equation.

The right term of *b* equation is equal to the left term of *a* equation, while the right term of *c* equation is equal to the right term of *a* equation with $p'(K_1+K_2+\ldots\ldots+K_m)+G_1+G_2+\ldots\ldots+G_m$ struck out. By taking *b* and *c* equations into due consideration, *a* equation may be turned into:

(*d*) $N_1+N_2p_2+\ldots\ldots+N_np_n=p'(K_1+K_2+\ldots\ldots+K_m)+G_1+G_2+\ldots\ldots+G_m+E_1q_1+F_2q_2+\ldots\ldots E_eq_e$

Let this be called *d* equation.

Next, let us multiply all of $n+s$ equations contained in the fifth and the sixth sets of equations by N_1'', N_2, ... N_n, S_1, S_2,..... S_s respectively, and then form one equation by adding together separately the right and the left terms. Then, we obtain:

(*e*) $\{k_1(\alpha_{11}N_1''+\alpha_{21}N_2+\ldots\ldots+\alpha_{n1}N_n+\beta_{11}S_1+\beta_{21}S_2+\ldots\ldots+\beta_{s1}S_s)+k_2(\alpha_{12}N_1''+\alpha_{22}N_2+\ldots\ldots+\alpha_{n2}N_n+\beta_{12}S_1+\beta_{22}S_2+\ldots\ldots+\beta_{s2}S_s)+\ldots\ldots+k_s(\alpha_{1s}N_1''+\alpha_{2s}N_2+\ldots\ldots+\alpha_{ns}N_n+\beta_{1s}S_1+\beta_{2s}S_2+\ldots\ldots+\beta_{ss}S_s)+q_1(a_{11}N_1''+a_{21}N_2+\ldots\ldots+a_{n1}N_n+b_{11}S_1+b_{21}S_2+\ldots\ldots+b_{s1}S_s)+q_2(a_{12}N_1''+a_{22}N_2+\ldots\ldots+a_{n2}N_n+b_{12}S_1+b_{22}S_2+\ldots\ldots+b_{s2}S_s)+\ldots\ldots+q_e(a_{1e}N_1''+\ldots\ldots+a_{ne}N_n+b_{1e}S_1+b_{2e}S_2+\ldots\ldots+b_{se}S_s)\}(1+p')=N_1''+N_2p_2+\ldots\ldots+N_np_n+S_1k_1+S_2k_2+\ldots\ldots S_sk_s$

Let us call this *e* equation.

Next, if we multiply all of $e+s$ equations contained in ninth and the tenth sets of equations by q_1, q_2,.....q_e, k_1, k_2,.....k_s and then form one equation by adding together separately the left and the right terms, we obtain:

(*f*) $E_1q_1+E_2q_2+\ldots\ldots+E_eq_e+S_1k_1+S_2k_2+\ldots\ldots+S_sk_s=q_1(a_{11}N_1''+a_{21}N_2+\ldots\ldots+a_{n1}N_n+b_{11}S_1+b_{21}S_2+\ldots\ldots+b_{s1}S_s)+q_2(a_{12}N_1''+a_{22}N_2+\ldots\ldots+a_{n2}N_n+b_{12}S_1+b_{22}S_2+\ldots\ldots+b_{s2}S_s)+\ldots\ldots+q_e(a_{1e}N_1''+a_{2e}N_2+\ldots\ldots+a_{ne}N_n+b_{1e}S_1+b_{2e}S_2+\ldots\ldots+b_{se}S_s)+k_1(\alpha_{11}N_1''+\alpha_{21}N_2+\ldots\ldots+\alpha_{n1}N_n+\beta_{11}S_1+\beta_{21}S_2+\ldots\ldots+\beta_{s1}S_s)+k_2(\alpha_{12}N_1''+\alpha_{22}N_{22}+\ldots\ldots+\alpha_{n2}N_n+\beta_{12}S_1+\beta_{22}S_2+\ldots\ldots+\beta_{s2}S_s)+\ldots\ldots+k_s(\alpha_{1s}N_1''+\alpha_{2s}N_2+\ldots\ldots+\alpha_{ns}N_n+\beta_{1s}S_1+\beta_{2s}S_2+\ldots\ldots+S_{ss}S_s)$

Let this be called *f* equation.

The right term of *f* equation, multiplied by $1+p'$, is equal to the left term of *e* equation. Consequently, by taking *f* equation into consideration, *e* equation can be turned into:

$$(E_1q_1+E_2q_2+\cdots\cdots+E_eq_e+S_1k_1+S_2k_2+\cdots\cdots+S_sk_s)(1+p')$$
$$=N_1''+N_2p_2+\cdots\cdots+N_np_n+S_1k_1+S_2k_2+\cdots\cdots+S_sk_s$$

This may be converted into:

$$(g)\quad E_1q_1+E_2q_2+\cdots\cdots+E_eq_e+(E_1q_1+E_2q_2+\cdots\cdots+E_eq_e+S_1k_1+$$
$$S_2k_2+\cdots\cdots+S_sk_s)p'=N_1''+N_2p_2+\cdots\cdots+N_np_n$$

This we call *g* equation.

N_1'' in *g* equation is shown in the eighth equation. Therefore, *g* equation becomes:

$$(h)\quad E_1q_1+E_2q_2+\cdots\cdots+E_eq_e+(E_1q_1+E_2q_2+\cdots\cdots+E_eq_e+S_1k_1+$$
$$S_2q_2+\cdots\cdots S_sk_s)p'+G_2+G_2+\cdots\cdots+G_m=N_1+N_2p_2+\cdots\cdots+$$
$$N_np_n$$

Let this be called *h* equation.

As the right term of *h* equation is equal to the left term of *d* equation, *d* equation may be turned into:

$$E_1q_1+E_2q_2+\cdots\cdots+E_eq_e+(E_1q_1+E_2q_2+\cdots\cdots+E_eq_e+S_1k_1+$$
$$S_2k_2+\cdots\cdots+S_sk_s)p'+G_1+G_2+\cdots\cdots+G_m=p'(K_1+K_2+\cdots\cdots$$
$$+K_m)+G_1+G_2+\cdots\cdots+G_m+E_1q_1+E_2q_2+\cdots\cdots+E_eq_e$$

This may ultimately be converted into:

$$E_1q_1+E_2q_2+\cdots\cdots+E_eq_e+S_1k_1+S_2k_2+\cdots\cdots+S_sk_s=K_1+K_2$$
$$+\cdots\cdots+K_m$$

This equation is nothing more or less than the twelfth equation.

Thus, it will be seen that one of the equations contained in the second, fourth, and fifth to twelfth sets of equations can be deduced from the other equations. Accordingly, where it appears at first sight that the number of the equa-

tions is one more than that of the unknown functions, the truth is that one of the equations contained is invalid. In reality, the number of the equations and that of the unknown functions are in accord. So long, therefore, as it assumed that the goods can be differentiated and the subject value functions are continuous, a system of equilibrium can be formed. The prices of all commodities and the rate of profit are determined where this equilibrinm is attained.

2. POINTS AT ISSUE.

The general equilibrium theory stands on a number of premises which I have laid down in the previous chapter. In most cases, critics of this theory contend that such premises are not permissible. In my opinion, however, they are quite permissible in the process of theoretical study. Certainly the general equilibrium theory so far enunciated is not sufficiently perfect. For instance, such method of representation as has been employed in the preceding chapter is based, in fact, on the atomic view of society, and is naturally open to question on that account. This point is, however, amenable to easy correction. If I accept the somewhat defective representation as it stands, it is because correction tends to and to the complexity of the whole problem, and also because such correction has no direct relation to what this article is concerned with.

As will be clear from what I have already explained, the organisation of capitalistic production, as shown in the general equilibrium theory, is very complex. Although expressed in figures, these figures baffle calculation, in actual practice. If calculation is impossible, it must be hopeless to analyse the organisation of capitalistic production by means of these figures. If they are of no practical help in analysing the organisation of capitalistic production, they can be of no use in the way of grasping the laws of development as seen in their necessary relationship to the laws of organisation. No matter how elaborate the figures,

actual analysis follows the lines different from those suggested by these figures; it is of the kind to be effected without the aid of such figures. It is for this very reason that the general equilibrium theory hitherto advanced has proved too ineffective in analysing the organisation of capitalistic production itself or in the grasp of the laws of development based on it, if it is of some help in the analysis of the mental structure of individuals. This is why I maintain that the structure of the general equilibrium theory as it stands is such as to render a logical analysis of the organisation of capitalistic production and accordingly the grasp of the laws of its development impossible.

But the fact that the general equilibrium theory is so complexly constituted that mathematical calcutation is impossible in practice does not by any means imply that the theory is mistaken. The capitalistic society which we see now is far more complex. The general equilibrium theory has been evolved by idealising and simplifying some special phases of capitalistic society of this highly complex nature. The complexity of the theory is a mere illustration of the fact that the complexity of the subject under discussion has not been sufficiently and duely simplified yet. It by no means implies that the theory is mistaken. But if a complex reality is to be dealt with as it presents itself in all its complexity, it will be hopeless to grasp it theoretically. In order to grasp it theoretically, we must single out simple phases which are amenable to our power of reasoning. By starting from the analysis of these phases, we must gradually proceed to add more complex rules so far as calculation is possible until we reach that point thence we must face the reality armed with the theories so long attained. If we want to apply the power of mathematical reasoning, we must first simplify the problem so that it can be properly exercised. This process of simplification is wanting in the general equilibrium theory hitherto advanced. How, then, can such simplification as admits of the exercise of our power of mathematical calculation be possible? This is the

problem which the present article proposes to discuss.

3. SIMPLIFICATION OF THE GENERAL EQUILIBRIUM EQUATION SYSTEM.

The devices which I propose to apply in order to simplify the general equilibrium equation system so as to make it amenable to calculation is to assume denifite real wages for the suppliers of labour-power of all kinds, on the one hand, and a definite ratio of the demand of capitalists for all kinds of goods, on the other. On what grounds are such assumptions permissible. How can such assumptions be expected to render the calculation of the general equilibrium equations possible? How does the addition of these assumptions affect the general equilibrium equation system? In the present chapter, I propose to deal with these points.

What amount of what kinds of goods do the suppliers of labourpower of various kinds demand? This varies greatly according to individuals, time and place. But it is quite permissible in the process of theoretical study to fix it in some definite form. For only by conducting our study on the basis of a certain fixed form first and then on the basis of a different fixed form can we obtain clues by means of which we can infer the influences changes in the demand of various kinds of labourers exert. Moreover, as the changes in the demand of various kinds of labourers are not, on a general estimate, very sudden and drastic, it seems not very irrelevant to put, for the sake of a general survey, the respective demand of various kinds of labourers in a certain definite form and infer conclusions therefrom.

Now, let it be supposed that l_{11}, l_{12},..... and l_{1n} represent the quantities of money and n-1 kinds of consumable goods demanded by the suppliers of labour-power of the first kind, l_{21}, l_{22}, ... and l_{2n} represent those demanded by the suppliers of labour-power of the second kind, and l_{e1}, l_{e2}, ... and l_{en} represent those demanded by the suppliers of labour-power of the last eth kind. As each of the prices

of labour-power of e kinds, that is, each wage, ought to be equal normally to the sum total of the products of the quantities and prices of the various goods demanded by the suppliers of labour-power in question, we obtain, on such an assumption, the I' set of equations:

$$(\mathrm{I}') \qquad \begin{cases} q_1 = l_{11} + l_{12}p_2 + l_{13}p_3 + \cdots\cdots + l_{1n}p_n \\ q_2 = l_{21} + l_{22}p_2 + l_{23}p_3 + \cdots\cdots + l_{2n}p_n \\ \cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots \\ q_e = l_{e1} + l_{e2}p_2 + l_{e3}p_3 + \cdots\cdots + l_{en}p_n \end{cases}$$

A study of this I' set of equations and the fifth and sixth sets of equations reveal the fact that they contain s unknown quantities regarding the prices of capital goods of s kinds, e unknown quantities regarding the prices of labour-power of e kinds, *1* unknown quantity regarding the average rate of profit, and $n-1$ unknown quantities regarding the prices of consumable goods of $n-1$ kinds, making a total of $n+e+s$ unknown quantities, and that the fifth set of equations contains n equations, the sixth set of equations s equations, and the I' set of equations e equations, making a total of $n+e+s$ equations. That is to say, the number of equations and the number of unknown functions which they contain are the same. This fect means that the unknown functions contained in them—the prices of the various consumable goods, capital goods, and labour-power and the rate of profit—can be calculated without taking the complex demand functions into consideration. Here it is assumed that the quantity of various goods to be produced and various productive goods can be of infinite variety. In actual study, however, it will be possible to limit these to the necessary minimum. If so, it will be easy to calculate the influences exerted by the prices of the various consumable goods, of various capital goods. and of various kinds of labour-power and by the rate of profit upon one another. It appears that herein lies one of the reasons why the system of the so-called labour value theory, and, there-

fore, the Marxian theory especially, has proved very cogent in the systematic grasp of the organisation of capitalist society and the laws of its development. For instance, Marx says: "The value of labour-power, like that of all other commodities, is determined by the hours of labour necessary for the production, and, therefore, the reproduction of this particular goods..... The hours of labour necessary for the production of labour-power means, after all, the hours of labour necessary for the production of the necessaries of life for labourers..... Natural desires for nourishment, clothing, fuel and housing vary according to the climatic and other natural features of the countries in which people live. On the other hand, the scope of and the form of satisfying what is called the necessary desires are in themselves historical products, which largely depend on the degree of civilisation attained by the countries concerned. Above all and essentially, it depends on the conditions under which—and accordingly with what customs and demands of livelihood—the classes of free workers have come into being. Thus, unlike all other commodities, historical and moral factors enter into the determination of the value of labour-power. But *in regard to a certain specified country and a certain specified period, the average scope of the necessaries of life is determined.*" (Italics are those of the writer of the present article). On this score he proceeds with his analytic work by putting the labourers' necessaries of life in a definite form.

However, the problems which can be handled by giving definite form to the requirements (necessaries of life) of labourers of all kinds are limited to those relating to the prices of various capital goods, various kinds of labour-power and various consumable goods, and the rate of profit. In order to study the movement of social capital, it is necessary to consider, furthermore, the total quantities of various capital goods, various kinds of labour-power and various consumable goods, the sum total of capital and profit, the requirements of capitalists, etc. The assumption

which I propose to provide in order to make the general equilibrium equation system amenable to practical calculation in this regard also is to fix the ratios of each capitalist's demands for various goods and the amount of his investments.

The extent of demand on the part of each capitalist for various goods vary greatly according to individuals, time and place. The ratio of his demand for various goods—as, for instance, the ratio of his purchases of coal or silk clothes to the quantity of rice bought—is by no means definite, but what I have already said in regard to the demand of labourers holds true in this case also. That is to say, by putting the ratio of the capitalist's demand in definite form first and carrying on further study by converting it into another form next can we obtain the clues by which to infer the influences exerted by changes in the capitalist's demand. Again, since, on a general view, the ratio of the capitalists' demands are not subject to very sudden and drastic changes, the inference to be drawn in this way does not seem to lead us very far from the general truth. Such being the case, it is quite allowable in the process of theoretical study that the capitalists' demands should be given some definite form.

Let us now suppose that the ratios of demands of capitalists for money and the consumable goods of the first, the second, ... and the $n-1$th kinds are given. If, then, the ratios of the quantities of money and all kinds of consumable goods held by the first capitalist after exchange are $l_{11}' : l_{12}' : \cdots\cdots l_{1n}'$, that of the second capitalist $l_{21}' : l_{22}' : \cdots\cdots l_{2n}' \cdots\cdots$, and that of the mth capitalist $l_{m1}' : l_{m2}' : l_{mn}'$, we can get the Π' set of equations containing $(n-1)m$ equations:

$$(\Pi') \qquad \begin{cases} \dfrac{N_{11}'}{l_{11}'} = \dfrac{N_{12}'}{l_{12}'} = \cdots\cdots\cdots = \dfrac{N_{1n}'}{l_{1n}'} \\ \dfrac{N_{21}'}{l_{21}'} = \dfrac{N_{22}'}{l_{22}'} = \cdots\cdots\cdots = \dfrac{N_{2n}'}{l_{2n}'} \\ \cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots \end{cases}$$

$$\left\{ \frac{N_{m1}'}{l_{m1}'} = \frac{N_{m2}'}{l_{m2}'} = \cdots\cdots\cdots\cdots = \frac{N_{mn}'}{l_{mn}'} \right.$$

Let us further assume that the amounts of investments made by each capitalist, K_1, K_2, ... K_m, are given.[5] This enables us to obtain m equations showing the values of K_1, K_2, ...K_m. Let these equations be called the Ⅲ′ set of equations. A study of the Ⅱ′ and the Ⅲ′ sets of equations, together with the second set of equations, reveals the fact that while they contain mn unknown quontities regarding the amount of money held by each capitalist after exchange, m unknown quantities regarding the amount of investments made by each capitalist, a total of (mn+m) unknown quantities (because the prices of all consumable goods and the rate of profit are already known by the fifth, the sixth and the Ⅰ′ sets of equations, and the amounts of money held before exchange are assumed to be known), the second set of equations contains m equations, and the Ⅱ′ set of equations $(n-l)_m$ equations, a total of (mn+m) equations. That is to say, they contain the same number of equations and unknown functions. Consequently, the unknown quantities contained in them—the quantity of each goods held by each capitalist after exchange—can be found by means of these equations without any outside help. It may appear too unreasonable to put the demand ratio of each capitalist in definite form, and, indeed, this would be hardly permissible in the study of the question of individual capitalists. But it is permissible when studying the case of the whole body of capitalists or their groups. As our present object is actually to find the way to apply the general equilibrium theory to the study of the question of capitalists as a whole or in groups, it is permissible here. Moreover, in the actual

5) To fix the total amount of investments by capitalists, as is done in the present article, is to fix the attitude of all capitalists towards investment, if viewed from the standpoint of the general equilibrium theory, and is, therefore, most natural. In actual practice, however, the matter deserves further study. Here, it has been so fixed for convenience' sake, deferring further study to a future occasion.

study of the whole body of capitalists or their groups, the number of capitalists need not be made so large as we make it here. As it can be limited to the necessary minimum, calculation will become all the easier.

Inasmuch as the quantity of each of the necessaries of life for the suppliers of labourpower of each kind, or, in other words, the quantity of each kind of goods to be consumed to maintain one unit of each kind of labour-power, viz. the quantity of each of the goods constituting real wage of each labour-power is assumed to be determined the quantity of the goods which the whole of the suppliers of the labour-power concerned demand ought to be equal to the product of the total quantity of the goods forming real wages multiplied by the sum total of social demand for such labour-power. Thus, we see that the quantity of the consumable goods of the first kind demanded by all the suppliers of labour-power of the first kind is $l_{12}E_1$, that demanded by all the suppliers of labour-power of the second kind is $l_{22}E_2$, ... and that demanded by all the suppliers of labour-power of the eth kind is $l_{e2}E_e$. The aggregate of these represents the total quantity of the consumable goods of the first kind in demand by all labourers. In the same way, $(l_{11}E_1+l_{21}E_2+\cdots\cdots+l_{e2}E_e)$ represents the amount of the money held by all labourers after exchange, $(l_{13}E_1+l_{23}E_2+\cdots\cdots+l_{e3}E_e$ represents the quantity of the consumable goods of the second kind held by all labourers after exchange,..... and $(l_{1n}E_1+l_{2n}E_2+\cdots\cdots+l_{en}E_e)$ represents the quantity of consumable goods of the $n-1$th kind held by all labourers after exchange. Accordingly, the seventh set of equations can be converted into:

$$(\mathrm{IV}')\quad\begin{cases}N_1=N_{11}'+N_{21}'+\cdots\cdots+N_{m1}'+l_{11}E_1+l_{21}E_2+\cdots\cdots+l_{e1}E_e\\ N_1=N_{12}'+N_{22}'+\cdots\cdots+N_{m2}'+l_{12}E_1+l_{22}E_2+\cdots\cdots+l_{e2}E_e\\ \cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\\ N_n=N_{1n}'+N_{2n}'+\cdots\cdots+N_{mn}'+l_{1n}E_1+l_{2n}E_2+\cdots\cdots+l_{en}E_e\end{cases}$$

We shall call these equations the Ⅳ′ set of equations.

We notice that the fourth, the eighth and the ninth and the tenth sets of equations contain (because the quantity of each of the goods held by capitalists after exchange is already known by the Ⅱ′, the Ⅲ′, and the second sets of equations, and the productiv coefficients, the quantity of all goods constituting real wages, and the amounts of money held before exchange are assumed to be known) n unknown quantities in regard to the total quantity of each of the money and the consumable goods of the $n-1$th kinds held after exchange, s unknown quantities in regard to the total quantity of each of the capital goods of the s kinds, e unknown quantities regarding the total quantity of each of the labour-power of e kinds, and 1 unknown quantity regarding the amount of money to be produced, making a total of $(e+n+s+1)$ unknown quantities, while the Ⅳ′ set of equations contains n equations, the eighth contain 1 equation, ninth set of equations contains e equations, and the tenth set of equations contains s equations, making a total of $(e+n+s+1)$ equations. This means that all of the unknown quantities contained in them—the total amount of money and of each consumable goods, held after exchange the total amount of each capital goods and money, produced, and the total amount of each labour-power, can be found.

Inasmuch, however, as attention has so far been directed exclusively to the consideration of the analysis of the organisation of capitalistic production, individual personal conditions have been left out of consideration except under unavoidsble circumstances (as, for example, the fixing of the demand ratios of individual capitalists). Consequently, the amounts of labour-power of various kinds supplied by individual labourers, which are handled in the general equilibrium theory, have been ignored. That is to say, the amount of each kind of labour-power supplied by individual labourers is left out of account. This is an inevitable outcome of the assumption that real wages are given. It is for this reason that in the system of the labour value theory, this phase of the question is not fully dealt with.

Nor is this improper because there are many other more important problems claiming attention in regard to the organisation of capitalistic production. But, seeing that the general equilibrium theory has been evolved with regard also for individual personal conditions, let me further assume, for the convenience of relating the theories above developed to the general equilibrium theory, (1) that each labourer supplies one kind of labour-power only and (2) that the total social demand for each kind of labour-power is equally distributed among the labourers who supply the same labour-power—the number of the suppliers of labour-power of the first, the second, ... and the last eth kinds being assumed to be r_1, r_2, ... and r_e respectively. The first assumption is quite proper, as it is, on a general view, justified by actuality, but the second assumption is entirely arbitrary. This assumption may, nevertheless, be allowed, as it is provided, not because it has any direct relation to the subject of the present article, but simply because it is deemed convenient for observing the relation in which the general equilibrium theory so rewritten as to facilitate the discussion of the subject in the present article stands to the one previously described. Owing to the firstmentioned assumption, we obtain the V' set of equations containing $(e-1)\theta$ equations:

$$
(\mathrm{V}')\quad \begin{cases}
E_{11}=E_{12}=\cdots\cdots=E_{1,e-1}=E_{1e}=0 \\
E_{21}=E_{22}=\cdots\cdots=E_{2,e-1}=E_{2e}=0 \\
\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots \\
E_{r1+1,1}=E_{r1+1,2}=\cdots\cdots=E_{r1+1,e-1}=E_{r1+1,e}=0 \\
E_{r1+2,1}=E_{r1+2,2}=\cdots\cdots=E_{r1+2,e-1}=E_{r1+2,e}=0 \\
\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots \\
E_{\theta-1,1}=E_{\theta-1,2}=E_{\theta-1,3}=\cdots\cdots=E_{\theta-1,e-1}=0 \\
E_{\theta 1}=E_{\theta 2}=E_{\theta 3}=\cdots\cdots=E_{\theta,e-1}=0
\end{cases}
$$

and the VI' set of equations containing $n\theta$ equations:

$$
(VI')\quad \begin{cases}
\dfrac{N_{11}}{l_{11}}=\dfrac{N_{12}}{l_{12}}=\dfrac{N_{13}}{l_{13}}=\ldots\ldots\ldots\ldots=\dfrac{N_{1n}}{l_{1n}}=E_{11} \\
\dfrac{N_{21}}{l_{11}}=\dfrac{N_{22}}{l_{12}}=\dfrac{N_{23}}{l_{13}}=\ldots\ldots\ldots\ldots=\dfrac{N_{2n}}{l_{1n}}=E_{21} \\
\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \\
\dfrac{N_{r1+1,1}}{l_{21}}=\dfrac{N_{r1+1,2}}{l_{22}}=\dfrac{N_{r1+1,3}}{l_{23}}=\ldots\ldots\ldots=\dfrac{N_{r1+1,n}}{l_{2n}}=E_{r1+1,2} \\
\dfrac{N_{r1+2,1}}{l_{21}}=\dfrac{N_{r1+2,2}}{l_{22}}=\dfrac{N_{r1+2,3}}{l_{23}}=\ldots\ldots\ldots=\dfrac{N_{r1+2,n}}{l_{2n}}=E_{r1+2,2} \\
\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \\
\dfrac{N_{\theta-1,1}}{l_{e1}}=\dfrac{N_{\theta-1,2}}{l_{e2}}=\dfrac{N_{\theta-1,3}}{l_{e3}}=\ldots\ldots\ldots=\dfrac{N_{\theta-1,n}}{l_{en}}=E_{\theta-1,e} \\
\dfrac{N_{\theta 1}}{l_{e1}}=\dfrac{N_{\theta 2}}{l_{e2}}=\dfrac{N_{\theta 3}}{l_{e3}}=\ldots\ldots\ldots\ldots=\dfrac{N_{\theta n}}{l_{en}}=E_{\theta e}
\end{cases}
$$

The second assumption enables us to have the VII′ set of equations containing θ equations:

$$
(VII')\quad E_{11}=E_{21}=\ldots\ldots=\frac{E_1}{r_1},\ E_{r1+1,2}=E_{r1+2,2}=\ldots\ldots=\frac{E_2}{r_2},\ \ldots\ldots,
$$

$$
\ldots\ldots=E_{\theta-1,e}=E_{\theta e}=\frac{E_e}{r_e}
$$

These three sets of equations contain θe unknown quantities regarding the amount of labour-power of the various kinds supplied by θ labourers, θn unknown quantities regarding the amount of money and consumable goods of $n-1$ kinds held by θ labourers after exchange, making a total of $(e+n)\theta$ unknown quantities. On the other hand, the V′ set of equations contains $(e-1)\theta$ equations, the VI′ set of equations $n\theta$ equations, and the VII′ set of equations θ equations, making a total of $(e+n)\theta$ equations. Thus we can calculate the amount of labour-power offered by each labourer and the quantities of goods demanded by him.

I have now formed the general equilibrium system by resorting to the second, fifth, sixth, eighth, ninth, tenth, and I′, II′, III′, IV′ V′ VI′ and VII′, sets of equations in such a

way as is amenable to calculation. In this system, the first, third, fourth, seventh, eleventh and the twelveth sets of equations, which appear in the general equilibrium system already described, are left out, while the Ⅰ′, Ⅱ′, Ⅲ′, Ⅳ′, Ⅴ′. Ⅵ′, and Ⅶ′ sets of equations are newly added, though there is no change in the number of unknown quantities. In order to make clear the bearings of the general equilibrium equation system I have now evolved on the one previously described, I must now proceed to explain the connection between the sets of equations left out and those newly added. Let me examine the sets of equations in general, in that order as they are cast off. The fixing of the demand ratios of capitalists (by which the Ⅱ′ set of equations was formed) and the fixing of the amount of capital invested by each capitalist (by which the Ⅲ′ set of equations was formed) mean, in effect, the putting in definite form of the demand and supply of capitalists, which are indicated formally in the first set of equations, and consequently the first set of equations becomes invalid. By this process of fixing the above-mentioned factors, $(n-1)$ m and m equations, a total of mn equations, were added by the Ⅱ′ and the Ⅲ′ sets of equations, while, on the other hand, the first set of equations containing mn equations is invalidatad. Next, the assumption of definite real wages (by which the Ⅰ′ set of equations was formed) and the assumption that each labourer can offer labour-power of some one kind only (which enabled the Ⅴ′ set of equations to be formed and which, combined with the previous assumptions, brought also the Ⅵ′ set of equations into existence) are to put in definite form the quantity of the various goods demanded and supplied by labourers as indicated in the third set of equations, and consequently the third set of equations is rendered null and void. The fixing of these factors also means the fixing in a definite direction of the equilibrium of the revenue and expenditure of the labourers, which is shown only formally in the fourth set of equations. Therefore, it invalidates not only the third set of equations

but the fourth set of equations also. This process of fixing them resulted in the addition of e, $(e-1)\theta$, and $n\theta$ equations respectively, $(e+n-1)\theta+e$ equations in all, in the I', the V', and the VI' sets of equations, while, on the other hand, the third and the fourth sets of equations which were nullified contained $(n+e-1)\theta$ and θ equations respectively, $(n+e)\theta$ equations in all. Thus, it will be seen that in this case the number of the equations newly added is $\theta-e$ less. This disparity is accounted for by the circumstance arising from the assumption that the total social demand for labour-power of any one kind is equally distributed among the suppliers of labour-power of that kind concerned (by which the VII' set of equations was formed). This assumption gives definite form to the substance of the eleventh set of equations, in which the relation between the total amount of social supply of labour-power of all kinds and the amount of supply by individual labourers is formally indicated, and for this reason the eleventh set of equations is rendered invalid. But whereas this eleventh set of equations containe e equations, the VII' set of equations which supplants it contains θ equations. This is to say, the newly added set of equations has $\theta-e$ more equations than the old one. The deletion of the seventh set of equations and the addition of the new IV' set of equations mean nothing more or less than the rewriting of the seventh set of equations into the IV' set of equations. This conversion was rendered possible by the assumption of definite real wages. I have now explained all the sets of equations newly added and all but one set of equations newly eliminated. The remaining one equation which was eliminated is the twelfth equation. This equation was, however, as I have previonsly explained, was invalid from the very beginning. I think I have now made clear the connection between the simplified general equilibrium system and the one previously described.

CONCLUSION.

In the previous chapters, I have sought the reason for the impotence of the general equilibrium theory for the grasp of the organisation of capitalistic society and the system of the laws of its development in the fact that too complex and inadaquate rules were adopted in it from the beginning so that practical calculation has been rendered impossible, and stated my views as to how it can be made calculable in practice. How, then, can the general equilibrium theory which has thus been made calculable contribute to the theoretical economic study? I propose to deal with this phase of the question in another article at some future date.

KEI SHIBATA

NOTES

The Department of Economics of Kyoto Imperial University has at present (July, 1933) ten professors, five assistant professors, and six lecturers, while the total number of students is 873.

The following is the curriculum for 1933:—

SUBJECTS	INSTRUCTORS
Public Finance, Seminar of Public Finance ...	Professor Masao Kambe (Hogakushi, Hogakuhakushi)
Statistics, Fishery Economics (Special Lecture), Seminar of Statistics	Professor Seiji Takarabe (Hogakushi, Hogakuhakushi)
Colonial Policy (Special Lecture), Seminar of Colonial Policy	Professor Miono Yamamoto (M.A. Wisconsin University, Hogakuhakushi)
Economic History, Economic History of Japan (Special Lecture), Seminar of Economic History of Japan	Professor Eijirô Honjô (Hogakushi, Keizaigakuhakushi)
Assurance, Business Management (Special Lecture), Seminar of Business Management	Professor Shôtaro Kojima (Hogakushi, Keizaigakuhakushi)
Local Public Finance (Special Lecture), Special Theory of Currency and Finance (Special Lecture), Seminar of Currency and Finance	Professor Saburô Shiomi (Hogakushi, Keizaigakuhakushi)
Principles of Economics, Seminar of Principles of Economics.....	Professor Yasuma Takata (Bungakushi, Bungakuhakushi)
Social Policy, International Economics, Seminar of Economic Policy	Professor Shôichi Sakuda (Hogakushi, Keizaigakuhakushi)
History of Economics, The Philosophical Observation of the Present Social Problems (Special Lecture), Seminar of Economic Philosophy	Professor Kôji Ishikawa (Hogakushi, Keizaigakuhakushi)

Commercial Economics, Foreign Exchange and Foreign Trade (Special Lecture), Seminar of Commercial Economics	Professor **Kichihiko Taniguchi** (Keizaigakushi, Keizaigakuhakushi)
The Problem of Agricultural Corporation (Special lecture), Seminar of Agricultural Economics, **Readings in German Books on Economics**	Assistant Professor **Yoshinosuke Yagi** (Keizaigakushi)
Statistics, Science of Accountancy (Special Lecture), **Readings in English Books on Economics**	Assistant Professor **Torazô Ninagawa** (Keizaigakushi)
(Studying abroad)	Assistant Professor **Yonosuke Nakagawa** (Keizaigakushi)
Industrial Economics (Special Lecture), **Readings in German and English Books on Economics**	Assistant Professor **Ichirô Ôtsuka** (Keizaigakushi)
A Theoretical Analysis of Capitalism (Special Lecture), **Readings in German and English Books on Economics**	Assistant Professor **Kei Shibata** (Keizaigakushi)
History of Economic Thoughts of Old China	Lecturer **Kinji Tajima** (Hogakushi, Hogakuhakushi)
Ethics, Readings in French Books on Economics	Lecturer **Shôtaro Yoneda** (Bungakuhakushi)
Readings in French and English Books on Economics	Lecturer **Kôji Matsuoka** (Keizaigakushi)
Readings in German and English Books on Economics	Lecturer **Minoru Nakatani** (Keizaigakushi)
Readings in German and English Books on Economics	Lecturer **Yasuzô Horie** (Keizaigakushi)
Civil Law	Professor (Department of Law) **Tamakichi Nakajima** (Hogakushi, Hogakuhakushi)
Commercial Law	Professor (Department of Law) **Shikayoshi Ugaya** (Hogakushi, Hogakuhakushi)
	Assistant Professor (Department of Law) **Ken-ichirô Ôsumi** (Hogakushi)

Lecturer Sei Takeda
(Hogakushi, Hogakuhakushi)

Assistant-Professor Taniguchi took the degree of *Keizaigakuhakushi* (Doctor of Economics) and was promoted to full professorship. Owing to the resignation of Professors Hideo Miyamoto (Civil Law), Hiroshi Suekawa (Civil Law), Shigeji Moriguchi (Constitutional Law) and Sôichi Sasaki (Administrative Law) of the Department of Law, the instructorships of the above-mentioned subjects are at present vacant although the successors shall be soon appointed.

The Kyoto Imperial University Economic Society publishes a monthly magazine called the *Keizai-Ronso* (經濟論叢 "*The Economic Review*"). The following are the various articles with the names of their writers, which have been published in the half-a-dozen numbers of the review during the first half of the year 1933.

JANUARY NUMBER

ARTICLES

The financial policy of inflation..... Prof. M. Kambe
A note on the theory of population ..... Prof. Y. Takata
On Bernhardi's view of the socially adapted scale of farm management..... Asst.-Prof. Y. Yagi
Influence of output-curtailing method on the costs of production in modern industrial enterprises... Asst.-Prof. I. Ôtsuka
Marx's analyses of the capitalism and the general equilibrium theory of the Lausanne school ..... Asst.-Prof. K. Shibata
Development of the rôle of the central banks..... Lect. K. Matsuoka
The monetary character of deposit currency ..... Lect. M. Nakatani
English and French statistics in the early half of the Nineteenth Century—I ..... Prof. S. Takarabe
Birth encouragement policy in the *Tosa* district ... Prof. E. Honjô
A critique on the psychological theory of foreign exchange ..... Asst.-Prof. K. Taniguchi
The wax monopoly of the *Uwajima* clan ..... Lect. Y. Horie
A study of the agrarian communities of Loochoo in relation to "the national community" as our national idea..... Prof. K. Ishikawa
The adjustment grant in local finances ..... Prof. S. Shiomi

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Management of the fishermen's coöperation..... Asst.-Prof. T. Ninagawa
Income tax in Germany and France ..... Mr. K. Kashiwai

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Velocity of deposit currency in England ..... Mr. E. Ôno

LIST OF BOOKS RECEIVED AND EXCHANGED BY "KYOTO UNIVERSITY ECONOMIC REVIEW"

We have the honour to acknowledge the receipt of the undermentioned works, which you have been good enough to send as donations or exchanges to the Department, and to convey to you the thanks of the Department for these welcome additions to our Collection.

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KYOTO UNIVERSITY

ECONOMIC REVIEW

MEMOIRS OF THE DEPARTMENT OF
ECONOMICS IN THE IMPERIAL
UNIVERSITY OF KYOTO

VOLUME VIII (*December 1933*) NUMBER 2

ON THE TEXTILES CONSUMPTION TAX

FOREWORD

One of the numerous taxes which are in need of revision in this country undoubtedly is the textiles consumption tax. It was created during the Russo-Japanese War as an emergency tax because of the necessity of raising war expenses, but has continued to exist even after that war down to the present. On the other hand, the truth is that it was once regarded as one of the three most undesirable taxes, the other two being the salt monopoly and the travelling tax; and has been an object of frequent discussions in connection with proposals for the revision of the tax system. Some even suggested its total abolition. The changes so far made in this tax are: (1) the exclusion of cotton taxtiles, some low grade hemp and woollen textiles from the list of taxable objects, (2) the reduction of the tax rate from 10 per cent to 9 per cent, the former rate having stood for a long time. The question of revising or abolishing the tax is yet to be

settled. Its abolitison has been demanded by the producers of textiles as well as by the consuming public and some critics of the existing tax system.

PART I
THE QUESTION OF ITS ABOLITION

I shall take up the fundamental question of whether or not the textiles consumption tax should be abolished.

1. In favour of its abolition. One may propose the abolition of this tax because of the following reasons:

(A) From the standpoint of justice in taxation and of social policy.

(a) From the standpoint of justice towards the consumers and of social policy.

(i) The weakness common to all consumption taxes. The textiles consumption tax has a weakness common to all taxes on consumption of goods. The consumption taxes are levied on the general theory that a man's expenditure or disbursement is an indication of his income or property. However, the truth is that different persons have different methods of expenditure and the proportions between income and expenditure greatly vary with different persons. Thus, it is inevitable that a tax based on expenditure should be unjust when viewed from the standpoint of income as the basis of taxation. In other words, there is no necessary proportion between the amount of money a person spends in purchasing goods taxed and his whole personal ability to pay (which is regarded as being indicated generally by his whole income and occasionally either by his whole property or his whole expenditure). In consequence, the poor bear on their shoulders a burden heavier than that which falls on the shoulders of the rich. Thus, the system of consumption taxation is at once unfair and unsocial. However, one may take notice of the possibility that this excess tax burden on the poor including workers may be mitigated to some extent by their endeavours to raise their labour wages. This possi-

bility largely depends on the circumstances of a particular time, and therefore, one cannot always anticipate it.

(ii) The inherent weakness of textiles on which the tax is levied. Textiles being to some extent daily necessaries, a tax thereon has an obvious weakness. The amount of money a person spends for textiles depends on many factors such as the number of his family, their health, his profession, his social standing, his personal taste, etc. Two persons may have the same amount of income but they may differ in the amount of their expenditure for textiles purchased or actually consumed. Moreover, unlike foodstuffs, textiles are capable of being preserved. In consequence, there will be no necessary relation between a man's total annual income and his total annual expenditure for textiles both in the same year, because he may buy textiles to a greater amount when his income is small than when his income is large, and *vice versa*. Thus, the possibility of proportion between revenue and expenditure in the case of textiles is much smaller than in the case of foodstuffs. This is clearly against justice in taxation. Moreover, the selection of taxable textiles under our tax system cannot be considered as just. For instance, woolen textiles (although low grade textiles are exempted) in contemporary Japan are not exclusively consumed by the people of the higher classes. On the contrary, they are also used by small-salaried men, students, and mass of the people. While silk textiles on the whole are objects of luxury, one particular silk textiles called "*meisen*" is used extensively by all the people. Rayon textiles, rayon-cotton and silk-cotton mixtures are also used by people of the lower classes. Cotton textiles are justly exempted from the tax because they are chiefly used by people of all classes, but there is a particular cotton fabric called "futako-ori" the price of which is much higher than that of silk textiles and which is exclusively used by the wealthy. This cotton textile is free from the consumption tax simply because it is a cotton textile. A similar injustice is also shown in the case of knitted goods and felt goods

which are exempted. Some knitted goods are objects of luxury and should not be exempted. Thus, there is no appropriate balance between taxed objects and objects exempted. Persons with small ability to pay are forced to shoulder the tax burden to some extent simply because they happened to use a particular set of textiles. But this injustice is not so great as that of exempting persons with great ability to pay because of the same reason, for such exemption obviously violates the principle of generality in taxation.

(iii) The weakness in the nature of the tax-base and tax rate. The textiles consumption tax is an *ad valorem* proportional tax and is thus more conformative to justice in taxation than is a specific proportional tax such as is levied on the tax on alcohol. However, the mere *ad valorem* proportional tax in this case is not sufficient to assure full justice. As has been already pointed out, there is no necessary proportion between a person's expenditure on textiles and his income. Persons with big income may spend comparatively little for textiles, while two persons with the same amount of income may spend different amounts for textiles. If, therefore, the principle of ability to pay and progressive taxation are to be respected, the *ad valorem* proportional tax on the amount of textiles purchased would not conform to justice in taxation. But what is more objectionable is the difficulty of estimation. As the estimation is made of standard goods rather than of specific goods and the standard prices are fixed from time to time, there will be the injustice of arbitrariness in the method of estimation. Injustice also results from the fact that the standard prices necessarily fail to be abreast of the market prices which undergo frequent fluctuations. Since it is impossible to fix the standard prices for the purpose of taxation for the whole country alike, there is necessarily an inequality among different regions. This also gives rise to injustice.

(b) From the standpoint of the just burden of businessmen.

(i) Compared with consumers. The textiles consumption tax is primarily intended to place a tax burden on consumers, but the burden is often shifted upon others. Although its forward shifting to consumers is easy in times of economic prosperity; in times of depression its backward shifting is made upon any one of the following: manufacturers, middle merchants, financiers, and workers. Thus, in the latter case the shifting of the tax is made upon persons other than the consumers upon whom the tax was originally intended to fall by the lawmakers.

(ii) Injustice among businessmen. Different textiles can be interchanged to some extent because of their nature, but this interchangeability is seriously affected by the textiles consumption tax inasmuch as the tax is levied only on some textiles. Because of this tax system, the demand for textiles taxed is shifted upon those which are not taxed, and thus discrimination and unfairness for producers and dealers inevitably results.

(B) From the economic standpoint. The Government secures an annual revenue of Yen 30,000,000 from the textiles consumption tax. The great part of this tax burden will undoubtedly fall on the consumers of taxtiles; but as has been already explained, part of it will also fall on industrialists and businessmen because of the uncertainty of shifting. This means that they will have a financial burden to that amount. Moreover, the tax has many other damaging effects all of which will inevitably oppress the textile industry. This effect is truly regrettable inasmuch as it is one of the cardinal principles of taxation that all taxes should fall on industry as lightly as possible.

(a) Damages on the textile industry in general.

(i) The imperfection of shifting. As has been explained, the forward shifting of the tax upon consumers in times of economic depression is imperfect, and textile producers and dealers are bound to shoulder an unduly excessive burden. This inherent weakness of the tax will prove oppressive to the textile industry.

(ii) The decrease of demand. When a tax is levied on certain textiles, their prices will inevitably rise and the demand for them will fall below the point which would be maintained in the absence of such a tax. The consumption tax will contract the sphere of the activities of industrialists and businessmen and deal a severe blow to the textile industry itself. Even supposing, for argument's sake, that the demand for the textiles taxed is not thereby decreased, it is a foregone conclusion that the tax will have the effect of reducing that demand also for goods other than the textiles taxed, unless the people make special efforts to meet the financial burden placed by the tax — and it is very difficult to make such efforts and hence cannot be expected. Thus some industry will be oppressed anyhow. In other words, if the tax does not actually hit the textile industry, it will hit some other industry.

(iii) The imperfection of estimation. As has been stated, the tax is levied on the standard prices which, as a matter of fact, fall behind the market prices. When, therefore, the market prices are on a downward trend, an excessive tax is levied inasmuch as the standard prices are left unchanged. Moreover, as the standard prices are fixed differently for different localities, there will rise discrimination between the producers and dealers of given textiles in one set of localities and those of the same textiles in other sets of localities. The textile manufactures and dealers in disadvantageous regions are bound to receive a hard blow to their business.

(iv) The complexity of assessment, tax exemption, draw-back and other forms of procedure. The assessment of the textiles consumption tax being complex, its exemption will also be highly complicated. The same thing may be said of the draw-back granted to exports. It is possible that while a merchant is trying to get such a draw-back, he may lose a good trade opportunity. Thus, the tax will prove a fetter and burden on the commercial activities of textile merchants.

(v) Disadvantage abroad. Foreign countries, especially the United States, regard our draw-back of the domestic tax on export textiles as a kind of dumping, and imposes on Japanese exports a surplus tariff. Such an additional burden on our textiles would not be imposed, had we no domestic consumption tax on textiles. Thus, our export textile business has a serious disadvantage because of the consumption tax as well as of what I have stated in the preceding paragraph (iv).

(vi) Oppression on the textile industry due to the existence of two sets of textiles, namely, those taxed and those exempted. As I have explained in (ii), (b), (A), an industry whose products are taxed is placed in a disadvantageous position as compared with others of the same nature whose products are exempted. This point somewhat duplicates that which is given in (ii), (a), (B).

(b) Damage on silk textiles. The damage of the textiles consumption tax on silk textiles is especially great. The raw material of silk textiles is entirely supplied by domestic producers and those who are engaged in the silk industry constitute an enormous portion of Japan's population. Farmers, financiers, industrialists and traders participate in this premier industry. For this reason the silk industry should be given special protection by the State. Moreover, it has been menaced in recent years by the rise of the rayon industry and has been severely hit by the prevailing world-wide economic depression. Thus, the silk industry is in need of relief measures; certainly it should not be placed under an additional burden. The Government would be contradicting its policy of promoting domestic industries, when it exempts cotton textiles the raw material of which is imported and taxing, at the same time, silk textiles made from home made raw material.

(C) From the standpoint of the administration of tax affairs. The textiles consumption tax involves much difficulty in the administration of tax affairs. The adoption of standard prices, their revision from time to time, the estimation of

definite tax objects according to the standard prices, the accompanying disputes, the control of tax evasion, the granting of draw-backs, etc. — all these are bound to make the administration of tax affairs extremely difficult. However, such administrative handicap is more or less true of all taxes.

(D) From the standpoint of population policy. Assuming the increase of population to be desirable, it follows that the taxation of textiles (which are necessary for human existence) would impede the increase of population and thus should be held as undesirable from the standpoint of national interests.

(E) From the standpoint of cultural policy. The progress of the textile industry is accompanied by the advancement of art and culture, which, in turn, is bound to exercise a benign influence on human minds and thereby bring about political stability. Thus, the advance of culture and the stability of politics are jeopardised by this tax.

2. Arguments in favour of the continuation of the textiles consumption tax may be presented as follows.

(A) From the standpoint of State revenue. This tax gives the National Treasury an annual revenue of 30,000,000 yen. Thus, it is a source of revenue which cannot be dispensed with, especially under a financial exigency like the present, and the preservation of this tax is necessary from the financial standpoint of the Government. This is the greatest reason in favour of the continuation of the textiles consumption tax as in the cases of all other consumption taxes.

(B) From the standpoint of justice in taxation and of social policy. Although it appears that the textiles consumption tax falls comparatively heavily on the poor than on the rich, the fact should be borne in mind that, if proper care is taken, the people of the lower classes could escape from its burden under the present tax system. Moreover, such a burden, if unescapable, is negligible. At least part of the tax burden fails to fall upon the consumers since it

is shifted upon others. Unlike the consumption of food, that of clothes has a great flexibility both in respect of quantity and of quality, so that the consumers can reduce the amount of burden on them. If the poor people should pay proper attention to the selection of their clothes and use, say, only cotton textiles or low grade woollen and hemp textiles or knitted goods — all of which are free from the consumption tax — these people would be able to escape from the tax burden which otherwise would fall upon them. True, the same thing can be said of the rich and the result would appear to be against the principle of the ability to pay. But the fact remains that the people having no ability to pay can escape from the tax burden, and this would amount to much in the administration of tax affairs. Nor will their burden resulting from their consumption of other textiles be very heavy. Their burden resulting from the use of silk, woollen, rayon textiles and silk-cotton mixtures will be only nine per cent of their prices. Moreover, the standard prices are fixed very leniently, so that the actual burden will be below the established rate. The burden on the consumers is comparatively light and easy to bear because it falls indirectly, without their consciousness, and at their will, at their own convenience and only in part. The consumers are willing to bear the burden because they are aware of the fact that it is taxed on luxurious consumption to some extent. The tax has some defects when considered from the standpoint of justice in taxation, but a measure of justice is maintained so long as the people of lower classes are discrete and careful in their act of consumption. One may say that their rationality and discretion would function as a sort of exemption point. The tax assures justice because it is *ad valorem* instead of being specific as in the case of the tax on alcohol. The textiles consumption tax can be just in ordinary times because it is proportional to consumption. But it assures a greater measure of justice in times of economic depression like the present, because of the great fall in prices and of the automatic reduction in

the amount of the tax burden.

(C) From the standpoint of economic and educational policies. It is often said that to encourage consumption is one way of creating an economic prosperity. On the other hand, the converse is also true. To exercise thrift, to accumulate capital asmuch as possible is also desirable for industry, not to mention its stabilising effect on human minds. From this standpoint, therefore, the taxation of goods consumed such as silk and woollen textiles is highly desirable, especially in view of the flexibility of their consumption.

PART II
THE SPHERE OF TAXABLE OBJECTS

As has been already pointed out, the textiles consumption tax has grave defects and weaknesses and some even suggest its total abolition. On the other hand, it has its *raison d'être* so that it cannot be immediately abolished. However, one may suggest a revision of the sphere of its taxable objects. At present, this tax is levied on all textiles except cotton fabrics, some low grade linen and woollen textiles. There are two suggestions: one would expand the sphere, while the other would contract it.

1. The contraction of the sphere.

(A) The proposal for the exemption of the silk textiles.

(a) Affirmative arguments. Silk weaving being the nation's most important industry, special protection should be given it by the State. Moreover, its raw material is exclusively produced at home and those engaged in it embrace a greater portion of the population of all industrial and commercial classes. Certainly, special consideration should be given to its promotion. Moreover, this premier industry is hard pressed by the rayon industry and severely affected by the existing economic depression. As has been explained, the systems of draw-back and exemption in favour of the exported silk textiles have rather invited fresh difficulties because of the consumption tax. For this reason, it

would be better to abolish such a consumption tax on silk textiles.

(b) Negative arguments. I have pointed out the reasons in favour of the continuation of the textiles consumption tax. Cotton textiles are placed out of the sphere of this tax; and if silk textiles are also exempted, the same privilege should be also extended to silk and cotton mixtures. This will leave woollen textiles and hemp textiles, particularly the former, unexempted. One may contend that no protection should be given to woollen textiles because their raw material is imported. On the other hand, it should be noted that woollen clothes are extensively used by salaried men; so that, if silk textiles used by the people of the upper classes are exempted, the woollen textiles should be also exempted. Otherwise, a serious injustice would follow. Again, if silk textiles are to be exempted, it would rather be more logical to abolish the tax altogether. At any rate, the exemption of silk textiles alone will be very unjust.

(B) The proposal for the exemption of cotton-rayon mixtures.

(a) Affirmative arguments. Japan's export business with India and other British possessions has been placed in a difficult position as the result of the action taken by them in raising the tariffs on Japanese cotton goods, and the Japanese cotton mill owners have been forced to refrain from buying Indian raw cotton as a retaliative measure. It appears that Japan has been placed in a position where she must carry out the following two plans in order to cope with the present deadlock in her cotton export business: first, she has to develop the cultivation of cotton in Manchoukuo in order to replenish the supply of raw material for her cotton mills; secondly, Japan must check the exportation of pure cotton textiles and increase that of cotton-rayon mixtures. Because of this necessity, cotton-rayon mixtures should be allowed to remain free from the consumption tax. We have also seen that exemption and drawback would only prove fetters to exports. Traders will often

miss a good business opportunity because of some delay in deciding on exportation of domestic consumption. Thus, it is urgent that these fetters on industry and foreign trade should be eliminated without delay. Moreover, the total exemption of cotton-rayon mixtures by all means is desirable from the standpoint of social policy inasmuch as they are consumed by the mass of people, in order that the financial burden of these people may be thereby alleviated.

(b) Negative arguments. When compared with pure cotton goods, cotton-rayon mixtures may be regarded as textiles of luxury, and should, therefore, be taxed so long as there exists a textiles consumption tax. At present, the amount of domestic consumption of such mixtures is very limited, chiefly because of their high cost of production. The cotton yarn used for such mixtures are of high counts which fact is responsible for the high cost of production. Their exemption, therefore, would not incur any big financial loss to the State. On the other hand, there is much possibility for their greater export business and an enhanced domestic consumption. In short, the possibility of future increase of tex revenue from cotton-rayon mixtures should be preserved.

2. The expansion of the sphere.

(A) In favour of the taxation of knitted and felt goods. Although knitted and felt goods are not primarily textiles, they may be regarded as the latter's substitutes and should be taxed as such; just as *sake* being taxed, a tax on other alcoholic beverages is also imposed. Their taxation is desirable from the standpoint of both justice in taxation and the revenue of the State. No consumption tax is actually levied on knitted and felt goods because it is feared that such a tax may deal an economic blow to the enterprisers and impede their export business.

(B) In favour of the taxation of cotton textiles. Cotton textiles were subject to the textiles consumption tax when it was originally enacted, but later were exempted. It is now proposed that they be again made subject to the same

tax.

(a) In favour of the *status quo* (or exemption).

(i) From the standpoint of justice in taxation and of social policy. To continue their exemption is necessary to protect the consuming public as these things are used as raw material for low grade clothes, or clothes for the masses.

(ii) From the economic standpoint. Cotton spinning and weaving being one of Japan's staple industries, the exemption of cotton textiles is consistent with the national interests.

(iii) From the administrative standpoint. The imposition of the consumption tax on cotton goods will accompany various administrative difficulties wnich, however, could be avoided if they were exempted.

(b) Reasons for the taxation.

(i) From the standpoint of State revenue. The advisability of taxing cotton goods from the standpoint is obvious.

(ii) From the standpoint of justice in taxation and of social policy. While objection may be made to their taxation because it tends to place a heavier burden on the poor, we have already made it clear that the burden could be made easily bearable in our arguments in favour of the continuation of the textiles consumption tax. Cotton goods have a greater flexibility in both the quality and quantity of their consumption than food. If people should pay proper attention, they can reduce the burden of taxation to a considerable degree. Thus, this tax is more bearable than the tariff on rice and wheat, especially if its rates are made lower than those of the tax on other textiles.

(iii) From the economic standpoint. The tax would prove a blow to cotton textiles spinners and weavers but will prove beneficial to others who are more or less in competition with them. Such people include the following: silk weavers, cocoon raisers, raw silk merchants, dealers in woollen and hemp textiles and mixtures. Their position will be thereby improved.

(c) Various methods of taxation.

(i) Methods of taxing finished goods. There are various methods of taxing finished goods. One way will be to levy the tax at the time of delivery from factories, customs house compounds, etc. This method on the whole appears to be most practical and likely to be adopted. However, a sales tax may be suggested. In case this method is adopted for cotton textiles, it would be also extended to other textiles. There are the following three ways of taxing sales: (1) that which is based on sales announcements by distributors, especially retailers, (2) that which uses stamps on retail sales, (3) that which is based on sales announcements by producers.

(ii) Method of imposing a tariff on raw material imported. Another possible method is to levy a tariff on imported raw cotton which is now free from all duties. This method has the following advantages: (a) the collection is very easy, (b) a considerable amount of revenue can be secured. If a ten per cent tariff is imposed the annual revenue from this source would be Yen 40,000,000; even a five per cent tariff would give to the National Treasury an annual income of Yen 20,000,000. Even after a draw-back has been given, a considerable amount of revenue could be secured. On the other hand, such a tariff would have some defects: first, it would prove an economic blow to cotton spinners and weavers; secondly, it would have an untoward effect on our relations with other countries. In case an economic boycott is declared against our country by others, say, by Great Britain and the United States, we may most naturally and conveniently resort to such a measure.

CONCLUSION

To summarise: after being revised many times, the textiles consumption tax has become a rational system to some extent. On the other hand, objections persist against it and some would go to the length of abolishing it. Some

favour limiting tax objects, while others would rather expand the sphere of the tax. Thus opinions differ regarding this tax. Each opinion seems to possess merits as well as demerits of its own so that no single view is entitled to a unanimous sanction. The progress of time and actual circumstances alone will finally solve the problem to the satisfaction of all concerned.

MASAO KAMBE

SAVING AS THE COSTLESS PROCESS (A CRITICISM OF THE WAITING THEORY)

I

My theory of interest regards, on the one hand, the operation of social powers as the most fundamental cause of the continuance of surplus and accordingly of the demand for capital. That is to say, it takes the line that where social powers operate to stabilise wages so that, the imputation of the value of products to productive goods, being necessarily imperfect, the prices of productive goods do not entirely absorb the prices of the products, surplus continues and interest is brought into being. In other words, it seeks to explain the difference between these two prices, creases, so to speak, on the ground of social powers. On the other hand, it also seeks to explain the formation of capital and accordingly its supply on the ground of the operation of social powers. If this explanation is permissible, I think all the fundamentals of interest phenomena can be elucidated by the operation of social powers despite whether viewed from the side of the demand of capital or from the side of its supply. The present article proposes to deal with the latter point.

My thesis according to which the social powers constitute the central basis on which capital is formed, implies many things, as the more important of which the following may be mentioned. According to the abstinence theory, the formation of capital is invariably accompanied by pain or sacrifice of some form or other. It contends that, be it regarded as abstinence or waiting, postponement of the present enjoyment means pain or at least something un-

welcome, and that interest is the reward paid for this unwelcome thing. According to the theory which I propose to set forth here, however, the formation of capital is effected spontaneously, so to speak, and with no pain involved; it is the outcome of the pursuit of maximum satisfaction. The formation of capital embodies nothing more or less than one phase of the operation of the principle of maximum satisfaction. In the consumption of present goods, the marginal utilities of these are equalised between them in so fas as the principle of maximum satisfaction operates. To put certain goods from one use to another in order to bring about such a result does not involve any pain, though it may disappoint the desire which is satisfied in the former use. Similarly, the formation of capital implies neither pain nor "anything unwelcome," it being the process of transferring some parts of income into the future use from the present use, in which they would bring less utilities than in the former.

II

The starting point of my argument is the principle of maximum satisfaction which rules on the side of the subjects of the formation of capital, that is to say, those who save their incomes. This principle, on the one hand, operates, as already stated, as the laws of equi-marginal utilities in the choice of the uses to which incomes consumed at the present time are to be put. Again, it must, on the other hand, inevitably operate in regard to the distribution, in terms of time, of the uses to which incomes are put. Then, the uses of incomes will be regulated for adequate proper distribution, in terms of time, so that the satisfaction of the maximum of desire can be derived from the total income each part of which is used at different period. So long as all other circumstances are the same, this will serve to equalise the marginal utility of the incomes which are employed at different periods. Of course, this point contains many premises. Let me explain these premises, to start with.

1. The principle of maximum satisfaction itself presupposes the subject which operates fully rationally. Only when the subject operates rationally can the equalisation of the marginal utility be looked for in the distribution, in terms of time, of the uses to which incomes are put.

2. That future goods are free from either under-valuation or over-valuation forms another premise. As to cases where this circumstance — the circumstance of the *depreciation of future goods especially — is taked into account*, I shall consider later on.*

3. The rate of interest, that is to say, the percentage of the automatic future increase of the incomes to be saved, is assumed to be nil. The study of the subject with interest thrown in is a matter which does not claim immediate attention.

4. In order to simplify the circumstances for study, let me confine attention to the present (the current period of revenue, say, this year) and the next period (next period of revenue, say, next year). It is assumed that the capitalistic system as at present rules and that a free choice can be made of the uses to which incomes in the family budget are put.

What will happen, if, in such circumstances, the marginal utility of present income and that of future income are not equal? In regard to the income to be consumed at the present time, it will be so contrived as to make the utilities of the marginal units of income equal in each of the uses to which they are put. That is, the income can be transferred from one object of use to another. There is no

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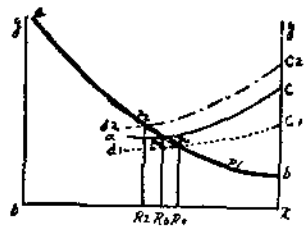
* This premise of the absence of under- and over-valuation about future utilities is of simple methodological nature. I do not deny that there are at least three types of attitude in the valuation of future utilities: that is, the attitude to value future utilities higher or lower than, or equal with, present utilities. Which of these three is most predominant in actual life will be the problem that is important in the theory of interest. Cf. Hayek, Zur Problemstellung der Zinstheorie, Zeitschrift für Sozialwissenschaft u. Sozialpolitik, 1927, Bd. 58, S. 531.

reason why the same thing should not also take place when the marginal utility of income is different in the two periods. If the marginal utility of income for the present period *is smaller than that for the future period, part of present* income will be saved (so long as the income is represented by the amount of currency, one is free to reserve it for future uses) for future uses. So long as future goods are valued neither higher nor lower, that is, if they are given the same value as present goods, the marginal utility of the present income exclusive of the portion to be saved can be made equal to the future marginal utility of the future income plus this saved portion. In other words, the income is put from one use to another so that the maximum satisfaction of desire can be secured through both periods.

When this much is made clear, it is possible to proceed to consider the matter under the two circumstances, that of the under-valuation of future goods and that of the definite rate of interest. In the case of the under-valuation of future goods, which means, in the present instance, that the satisfaction of desire to be derived from the goods to be purchased in future with the income is under-estimated, the future utility will be discounted to the extent of the rate of this under-valuation. In regard to the utility estimated at discount, the marginal utility of the present and future uses of income will be made equal. I shall here assume that the rate of under-valuation, that is, the discount rate, is uniform in respect of the utility of all units of income.

Even if the factor of interest rate may be let into the subject, there is no occasion for altering the above-mentioned view, though when the rate of interest is given, the money price of the future income at the present time becomes different from that which rules when it is not given. Whereas in the one case, it is represented by 1, in the other case, it will be 1 as divided by the denominator of capital and interest combined (which refer to rates), that is $\frac{1}{1 \text{ (expressing capital)} + \text{rate of interest}}$. The utility of the

money which is used for the purchase of certain goods can be computed easily according to the utility of the latter. In the same way, the utility of the present money can be worked out on the basis of the utility of the income for future uses, and on the basis of this utility, the equality of utility in the present and future uses of the present income can be obtained.*



Now, let ox in this diagram be the total amount of the present income, ab the utility curve (value curve) which forms where all is put to present uses; and cd the curve of future utility for the future uses of the present income. This, however, shows the everted form, and it indicates the utility posterior to the marginal utility of the future income ($x\,x_0$). The future income does not appear in this diagram, but it is $x\,x_0$, that is, from the point x_0 lying to the right of x up to x. Assuming that there is neither interest nor the depreciation of future goods, the portion to be put to present uses will be up to R_0 where the perpendicular from P_0 — the point of intersection between these utility curves — crosses ox, while R_0x, or r, only will be saved for future uses. But, if future goods are under-valued and if the rate of under-valuation is the same in any part of the income, the utility curve, when expressed at the present valuation, will be c_1d_1. That is to say, c_1d_1 embodies the utility curve at the present valuation of the utility devoted to future uses. Next, supposing that interest is non-existent and the fact of the depreciation of future goods only exists, the portion oR_1 will be put to present uses and R_1x will be saved. But if the interest rate operate here, it becomes possible to gain one unit of the future income plus interest rate with one unit of the present income. Such being the

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* Ricci, Die Kurve des Geldnutzens und die Theorie des Sparens, Zeitschrift für Nationalökonomie, Band III, Heft 3, S. 327 ff.

case, if the curve at the present valuation of the future uses of the present income is to be sought, on the basis of the curve indicating the present valuation of the utility of future uses, and also on the assumption that from the present income accrues the interest on it, it will be c_2d_2. In this case, R_2x will be saved and oR_2 be put to present uses.

Let me explain this in other words. Let the present income be x and let it be assumed that of this r is saved. The utility curve of income for present uses shall be indicated by $\varphi(x)$ and that for future uses by $\varphi_0(r)$. The size of r is shown by the following equation:

$$\varphi(x-r) = \varphi_0(r) \quad \cdots\cdots\cdots (1)$$

Let the rate of under- or over-valuation of the utility in future be n, and if the future utility is to be under-valued, *then n is positive value which is smaller than 1. If it* be assumed that the interest rate is non-existent, the value of r will be shown by the following formula:

$$\varphi(x-r) = n \,.\, \varphi_0(r) \quad \cdots\cdots\cdots (2)$$

Again, let it be assumed that the interest rate is taken into consideration and let this interest rate be indicated by i. The future income, 1, can be bought with the present income, $\frac{1}{1+i}=p$. That is, the price of the future income is p. The utility function of any good, f(y), can be rewritten *into the utility function of money by taking its price into* consideration. If z be taken to indicate the marginal utility of money, and y to indicate the amount bought of that goods, it can be shown by the following formula:

$$z = \frac{1}{p} f\left(\frac{y}{p}\right)^*$$

If this way of thinking is applied to the present case, φ_1, namely, the marginal utility of the present income (money) intended for the purchase of the income for future uses, can be shown as follows. Let it be assumed, first of all, that

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* Ricci, a. a. O., S. 308.

future goods are free from under-valuation, then,

$$\varphi_1 = \frac{1}{p}\,\varphi_0\left(\frac{r}{p}\right)$$

Next, let it be assumed that future goods are under-valued, and then,

$$\varphi_1 = \frac{1}{p}\,n\varphi_0\left(\frac{r}{p}\right)$$

If $1+i$ be substituted for $\frac{1}{p}$, the size of

$$\varphi_1 = (1+i)\,n\varphi_0\,(\overline{1+i}\,r)$$

can be determined by the following equation:

$$\varphi_1(x\sim r) = \frac{1}{p}\,n\varphi_0\left(\frac{r}{p}\right) \quad \cdots\cdots (3)$$

III

From what I have stated, it will be seen that it is merely in pursuit of maximum satisfaction that a part of present income is saved. It means one automatic process; it hardly implies any painful effort. The view has been predominant for a long time that this saving means sacrifice or pain. But to put present income to future uses entails no more sacrifice than that which is involved when, for example, one gives up the idea of buying sweets and purchases apples instead, in the choice of present uses. To give up the purchase of sweets, if considered by itself, may appear to involve sacrifice, but as it is for the sake of a larger utility derivable from apples, no sacrifice is involved as a whole.

In the same way, although the abandonment of the employment of income for present purposes may appear to imply sacrifice in that it means the postponement of enjoyment, yet in point of the sum total of the satisfaction of desire at present and in the future, there is no sacrifice. Saving, that is, the formation of capital, is effected simply because a larger measure of satisfaction is sought. From this point of view, it seems that the abstinence theory or

the waiting theory stands on doubtful premises. According to the abstinence theory, the supply of capital, in itself, means sacrifice or pain, and the interest is the reward given for this pain. This reward, it contends, serves to stimulate saving, or the supply of capital, at the cost of pain, and there must be saving up to the point where this reward and pain balance. But since saving is, by its own nature, made for the satisfaction of desire, the part assigned to interest cannot be to make up for the pain attending saving. It is true that interest serves to influence the amount of saving, but this is merely because it determines the price at which future utility can be bought with present income. It is not because it is the reward for pain, but because it affects the estimate of the utility of present income for future uses.

Saving being one phase of the distribution, in terms of time, of the uses of income, it is possible to consider what social circumstances are necessary for it to take place.

Let me assume, to begin with, that the relations of social powers are non-existent and that wealth (saving, viz. the income saved) does not mean any power. In such circumstances, there will be no saving of income in quest of powers. Then, income will be spent solely to meet the needs of living sooner or later (at present or in the future). The existence of the maniac and the miser may suggest itself to some minds, but the latter may be put out of the question as his existence is due to the fact that wealth constitutes a social power. As regards the former, his existence may well be considered, independently of the present problem, as a sort of abnormality.

I shall proceed with my study on such assumptions. Let it be assumed that the same amount of income as at present can be obtained in the future. Indeed, such is really the case with most people, though approximately. In such a case, and provided that future goods are not undervalued, the marginal utility of the present income when it is all put to present uses is equal to the marginal utility of future income as it is all put to future uses. Therefore,

there cannot be any saving of present income. The condition, $\varphi(x-r) = P_0(r)$, is fulfilled only when r is zero. It is, however, believed that future utility is generally underestimated more or less. If so, the discounted marginal utility of future income will be smaller than the marginal utility of present income, and the demand for a part of future income being put, if possible, to present uses, that is, the demand for capital, that is for the saving of others will arise. Not that the operation of interest is ignored here. But my present purpose is to make clear what makes the saving of income possible. As interest is the result of accumulation due to this saving, the consideration of interest may well be detached from the present study, for the present study is concerned with saving itself, which brings interest into being.

Even in this case, however, saving with the following objects or in the following sense is possible. Even if an income of the same amount as at present is assured for the future, there are emergencies to be provided against, such as sickness, misfortunes and unemployment. Due provision will be made against such needs or exigencies that may arise in the future. The necessity of such provident or insurance-like saving causes part of the present income to be put by, with the consequent alteration of the utility curve of income for future use. This provident saving is, however, possible only for the class of people who can afford it, and so long as the amount of income, and accordingly the amount of the cost of living, is given, such saving cannot exceed a certain limit. And this necessary limit is even of an estimable size (a few thousand yen in Japan to-day). Saving of this kind cannot, however, be regarded as the main form of saving in the present capitalistic economy either in its size or in its nature. First, as to its nature. An observation of each subject which figures as the supplier of capital to-day shows that his inclination or effort to save does not slacken when his savings are big. It is rather intensified at such a time. From this fact it may be inferred

that the fundamental motive actuating them to save money is something other than the provision against emergency needs. For, saving for such purposes ought to be rendered unnecessary when the savings attain a certain size. Next, as to its size. The large proportion of the capital in present-day society is supplied by a very wealthy class. This fact is clearly revealed since an inquiry made by help of statistical materials shows that a very large proportion of the nation's capital is held by a limited number of people. If so, the major part of the capital cannot be made up of the provident saving such as has already been explained. It, therefore, follows that such a process of saving can be left out of consideration for the moment in the present study, as it plays only a minor and subservient part in the supply of capital.

If this much can be allowed, I can pass on to the other points without fear of contradiction. I have stated that if present and future incomes are equal (that there is no change in the state of desire is assumed), saving cannot take place. But, as a matter of fact, the income of each subject changes more or less. It increases as he grows older. Nor does his desire remain unchanged. As the size of his family increases, his desire becomes stronger. Then, as regards the utility of income (that is, in regard to the ratio of income and desire), it will show little change, or it may safely be said that its marginal utility is rather smaller in the future (when he has grown older) because of his comparatively high income. This may not be the case with all individual subjects, but it may still be accepted as a general rule. If so, even if the assumption that present and future incomes are equal may be discarded and the conditions such as actually rule be substituted for it, it would seem impossible for present income to be saved. Accordingly, it is difficult to explain the supply of capital on the basis of the given conditions. Then, how can the saving of income or the formation of capital be accounted for? The clue to the solution of this point is furnished by the results

of the study hitherto made of the marginal utility of money.

IV

In my opinion, the utility curve of the present uses of income and that of its future uses (let them be called the present utility curve and the future utility curve respectively for brevity's sake) are entirely different from each other in form and in nature. If otherwise, that is, if both were of the same nature and form, it would be impossible to explain why, as already stated, saving invariably takes place and capital is necessarily formed in consequence. Then, in what respects do they differ in nature and in form?

The form which the utility curve of income and accordingly money takes may be viewed in many ways. It is held that *the utility curve of money is elastic or unelastic* according as the product of the marginal degree of the utility of money and the amount of money (the amount of money to be employed) progressively increases or decreases with the increase of the latter. Let the amount of money be x, the marginal degree of marginal utility be $y(x)$, and the product of these two be $R(x)$. And let the first differential quotient of $R(x)$ be $R'(x)$. According as $R'(x)>0$, $R'(x)=0$, $R'(x)<0$ (according as $R'(x)\geq 0$, $R'(x)=0$, $R'(x)\leq 0$), the utility curve of money is elastic, anelastic and unelastic.* The intensity or degree of elasticity may vary at every point on the utility curve. If so, various forms of the utility curve are conceivable, from the point of view of elasticity. Ricci gives five different forms in this connection, but here I shall take up only two of them. The first type represents a utility curve which is elastic at the beginning and unelastic later. It is, of course, conceivable that it has an anelastic portion at the point of conversion. The second type is one which is unelastic at the beginning and elastic later. In this case also, there exists an anelastic part at the

* Ricci, a. a. O., S. 313.

point of conversion. These types correspond to Ricci's third and fourth types respectively. When I say "at the beginning," I mean on the part of the curve where the amount of money is small, and by "later" I mean on the part of the curve when it has grown considerably. What is important here is the state after there has occurred the conversion in the degree of elasticity that is the form of the curve after the point at which the elasticity becomes one. On one type of the curve this portion is unelastic and on the other type it is elastic. To which side, then, does the utility curve of money in reality belong? On this point, opinion is divided. According to Ricci, it is unelastic, while Frisch holds that it is elastic.

On this point I can not tell anything definite; I must continue to observe the matter itself to attain any convincible insistence. But it seems to me now that the curve shall be unelastic so far as it refers to the utility of money for present uses only, at least when the income is above a certain quantity. Let us suppose a case. If an income to be consumed within a certain fixed period is suddenly increased five times or even ten times without affecting the given social position of the person concerned, it will not make much difference to him. For instance, if a person who has a monthly income of ¥ 50 and who is living according to his income, has got his monthly income, which must be consumed within that month, increased to ¥ 500 or ¥ 5,000, it will be all the same to him, for in whichever case his desire will be satisfied. In this sense, the present utility progressively decreases as the amount of money increases until it reaches zero. Such a thing would be impossible, if the present utility curve were not unelastic beyond a certain point. Even for a class of people, whose social position and whose standard of living are both high, as, for example, Tokyo business men, would find it no easy task to spend over ¥ 250,000 a year as their cost of living, and to do so would involve much difficulty and ingenious devices. This is another proof that, in so far as present utility is con-

cerned, the marginal utility of money becomes zero at a certain amount of money, and that accordingly its utility curve is unelastic. This conclusion may be reached in the following way also. The present utility of money means its utility in that certain goods can be bought with it. It is also obvious that it consists of the aggregation of the curves of utility which are formed when money is employed for the purchase of various kinds of goods. Now, the uses to which one individual subject can put his income, or, in other words, the kinds of goods which are bought, are limited in number. Because they have their limits and because their number is comparatively small, according to the social position and culture of each individual, the uses can be easily determined. And it is shown that the utility for each of these goods is invariably finite and consequently reaches zero as the quantity increases. So, that of money, which comprises the aggregation of the utility curves of all these goods, reaches zero also. So long as this fact remains, the present utility curve of money is bound to become unelastic when the amount of money exceeds a certain point. Ricci's contention that the utility curve of money belongs to the first type, may, I think, be accepted in so far as it is applied to present utility.

But can his point of view be accepted in regard to the utility of money itself? A regular income can be put to future uses as well as to present uses, and so part of it will be put to present uses and the remainder to future uses, in accordance with the principle of maximum satisfaction. And the utility curve of this income or the amount of money rests on the aggregation of the utilities accruing from all these uses. Now, if future utility is of the same nature as present utility, in other words, if the future utility curve is of the same form as the present utility curve so that the former is, so to speak, a replica of the latter, the utility curve of money itself may well be regarded as belonging to the first type. But is this true?

Let me now consider the nature of the utility curve of

the future uses of money. What does this utility curve represent? It does not differ from the present utility curve in nature in that it embodies the utility of the goods to be consumed in future uses. But in four respects it is different from the present utility curve. First, its form is changed by the interest rate, as has already been explained. Secondly, it embodies the utility arising from the need of providing against various exigencies as well. Thirdly, its form is changed by the over-valuation or under-valuation of future goods. Fourthly, it additionally embodies the utility based on the desire to gain social powers through accumulation. Generally speaking, although the utility of the goods to be consumed in future forms the nucleus of the curve of future utility, the utility curve formed on this basis suffers transformation twice and is qualified by two supplementary utilities newly added. Of these factors, those which can be detached must be set aside for the convenience of theorising. First, interest may be detached on the ground that it can be explained as one item which is rendered possible by saving or accumulation, as already stated. The provident utility, or the utility of provision against future exigencies, may be similarly divorced. Future utility is more liable to be under-valued than to be over-valued. If this general under-valuation is to be assumed, it lowers the curve of future utility to a certain extent. So long as future income is not very different from present income, the impossibility of saving, though it may serve to account for the demand for capital, cannot explain the characteristics of the curve of future utility which make saving inevitable. Attention must, therefore, be concentrated on the utility based on the demand of social powers.

Present income can be saved so that it may be put to future uses. By merely holding possession of it also, instead of consuming it, desire for social powers can be satisfied. Let me call utility accuring from the satisfaction of this desire power utility. The portion of income saved has power utility. The most striking feature of this utility is its

positive elasticity. The desire for certain consumable goods is very limited, and the degree of the progressive decrease of this utility due to the increase of the quantity is remarkable. Because there is a wide choice of the kinds of goods, however, the degree of the progressive decrease of the utility of the present uses of the money with which any of these goods can be purchased is small. It nevertheless becomes zero after all, as already stated. As to the desire for social powers, it cannot be satisfied even by the possession of property of several thousand million yen, which is the highest property of individuals in the history of humanity. This desire is, so to speak, insatiable, and there is an endless pursuit of accumulation. As the saved portion of income is used towards the satisfaction of this desire, its elasticity is extremely large. In so far as it contains the element of this power utility, the curve of future utility is entirely different in form from the curve of present utility. The former is of an extremely elastic nature because of this power utility. Thus, the marginal utility of present income for present uses is far smaller than its marginal utility (inclusive of power utility) for future uses, provided it is assumed that there is no substantial difference between present and future incomes and that there is no change in the state of desire. This necessarily leads to saving. In short, the curve of future utility has a far stronger elasticity than the curve of present utility. The former is, in other words, very elastic. It is this difference in elasticity that makes saving certain. And it is the desire for social powers that brings about this difference in elasticity. This desire is the outcome of the relations of social powers, upon which it rests. Thus, it is solely because of these relations of social powers that saving is effected and capital is formed.

I have already explained that the curve of future utility is different in nature from the curve of present utility. The utility curve of present income is, however, a combination of these two things. In other words, it consists of the curve of present utility of that portion of present income which is

put to present uses and the curve of future utility of that portion of it which is saved for future uses. Let me consider how Ricci's contention, already referred to, stands in this respect. His contention that the utility curve of money belongs to the first type may be accepted, in so far as it concerns the curve of present utility of present income, but it cannot be accepted in regard to the utility curve of present income itself. Because the progressive decrease of power utility is very slow, it seems fair to regard the latter as belonging to the second type rather than to the first type in so far as the utility curve of the present income must be the synthesis of the curve of its present utility and that of its future utility. At least, the utility curve of money has to become unelastic when its quantity exceeds a certain point.

V

No one has yet tried to investigate the form of utility curve of money including the income which is to be saved. The knowledge of the utility curve of income only for present consumption can not give, after all, any conclusive answer to our problem, because the utility of money to be saved is now very important to know. Only by way of the investigation I shall look into the hitherto attained result about the present utility curve.

Of course I shall not here dwell on the methods, recently invented and tried by Frisch, of measuring the utility of money. Owing to the limited materials available, his study is not sufficiently extensive in scope, but it is the sole attempt that has been made to find the marginal utility of money from actual facts. It is, therefore, necessary to refer to the results of his study.

In his research of 1926, Frisch made his calculation by the materials furnished by a certain cooperative union in Paris, materials which cover the period of 1920—1922, while in his study of 1932, his calculation is based on the statis-

tical figures compiled by the Labour Statistical Bureau the United States of America regarding the cost of living in 92 cities in the period of from 1918 to 1919. Since the materials used and the methods of calculation adopted in both cases are different, it is obviously necessary, strictly speaking, to allow for many things in making a comparative study of them, and yet I do not think it is absolutely irrelevant to compare them as they are. What Frisch has worked out is the reciprocal of the elasticity of the utility of money, which he calls the flexibility of the marginal utility of money or money flexibility. Let the prices of commodities be P, and the total amount of income ρ, then $\frac{\rho}{P}$ shows the size of the real income, which is signified by r. The marginal utility of money, w, is the function of real income, r, and it is denoted by $w(r)$.

The relative change in the marginal utility $w(r)$, corresponding to a small relative change in the real income, r, is called the flexibility of the marginal utility of money. This is indicated by $\breve{w}$. If it be assumed that there is no fluctuation in the prices of commodities, what can be said of the utility of real income is also true of the utility of money, so this designation has a definite reason. Now, as money flexibility, as Frisch calls it, represents the relative change in $w(r)$ corresponding to the relative change in r, its reciprocal is the relative change in income corresponding to the relative change in the utility of money, that is, the elasticity of the utility of money. Let the former be $\breve{w}$, and the latter e. Then $\breve{w}$ is shown by the following formula:—*

$$\breve{w} = \breve{w}(r) = \frac{dw(r)}{w(r)} \Big/ \frac{dr}{r} = \frac{d \log w(r)}{d \log r}$$

In Frisch's study in 1926, the flexibility of the marginal utility of money in the sense already described is sought within the limits of comparatively low incomes. Its value ranges from 3.55 to 1.28. The larger the income, the smaller

* Ragner Frisch, New-Methods of Measuring Marginal Utility, Tübingen, 1932.

the flexibility. And in this case, its value is larger than 1. His study in 1932 was made in regard to annual incomes of over $ 1,800, and in this case, the money flexibility, as is shown in the following table, does not exceed 0.617, the lowest being 0.261. It is also observable that it decreases as the income increases.

Real income (r)	Marginal utility of money (w)	Value of money flexibility ($\frac{r}{w}$)
2.40	10.00	.617
2.62	9.50	.559
2.90	9.03	.510
3.17	8.63	.467
3.48	8.30	.428
3.80	7.98	.396
4.16	7.72	.362
4.55	7.48	.333
5.00	7.26	.312
5.40	7.07	.294
5.91	6.89	.278
6.50	6.72	.261

In this case, the money flexibility is far smaller than 1. In this regard, Schultz says that if the study of 1932 had extended to annual incomes of under $ 1,800, there might have been found cases where money flexibility was larger than 1, or it might have been found to be 1 in the case of an income of certain size. When two instances are considered in conjunction, it seems possible to conclude that the utility curve of money has a very little elasticity while income, or the quantity of money, is small (that flexibility is larger than 1 shows that elasticity is smaller than 1 and that the curve of utility is unelastic), that elasticity becomes 1 when the quantity of money increases to a certain point, that a still further increase enhances elasticity considerably, that the utility curve of money belongs to the second type, and that elasticity is small at the beginning and grows considerably later. When we judge from the above result

at which Frisch attained, it seems to us that the utility curve of money for present uses is also elastic, contrary to the insistence which I have already made. But I think it is not improbable that the utility curve abovementioned may be unelastic beyond the certain quantity of income which is greater than that treated by Frisch and that the form of the curve may be unelastic-elastic-unelastic instead of being unelastic-elastic. However it is needless to say, the scope of investigation must be extended so as to cover much larger incomes before we can tell something definite about this point.

In any case, it does not matter for the prersent purpose, whichever form the utility curve of money may take. Important for me is only that the utility curve of income for present uses are different in form from that for future uses.

VI

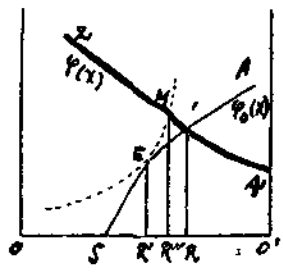
In explaining how saving is possible, I have so far abstracted interest. The reason is that the formation of interest presupposes the supply of capital, and the supply of capital presupposes saving. Such being the case, in explaining how saving is possible, interest ought to be abstracted. Let me now take this abstracted circumstance into consideration and study how the interest rate or its fluctuation affects the degree of saving.

As has so far been done, I shall leave the capital already accumulated out of consideration. To take it into consideration is a matter to be attended to later. If interest is to be paid, the under-valuation of future goods, if it take place, will tend to neutralise its effects, so that the result will be somewhat similar to what may be brought about where there is neither interest nor the under-valuation of future goods. I will, however, refrain from a detailed exposition of this point now, and will proceed on the assumption that there is no under-valuation either in future goods or in future utility.

In such circumstances, if the utility curve of money

(and accordingly, chiefly the curve of future utility) belongs to the first type, to which reference has already been made (let it be called Ricci's type — elastic at the beginning and unelastic later), the portion to be saved will increase until the rate of interest attains a certain height. If, however, the interest rate exceeds this height, it will decrease. Not so with the second type (which I may call Frisch's type — unelastic at the beginning and elastic later). In the case of this type, the higher the interest rate, the larger the portion to be saved. But this applies to incomes, the size of which exceeds a certain point. Where the elasticity of the utility of money does not exceed 1, the portion to be saved will rather become smaller because of the interest rate.

The influence of the interest-rate on saving with the Ricci's type is explained by Ricci himself as follows:—



Let AS be the curve of future utility (everted), and A'Z the curve of present utility.* The former shows $\varphi_0(x)$ and the latter $\varphi(x)$. Let E be the point on AS where the elasticity is 1. Let the curve of xy, that is a rectangular hyperbola, be drawn through E, and the point where it crosses A'Z be M. A perpendicular is then let down to the abscissa from EM and from 1, where the two utility curves cross each other, and let the points where each perpendicular crosses the abscissa be R', R'' and R respectively. If there is no interest, OR is saved, while if there is interest, the maximum saving is OR', and interest R'R''. No matter what form the curve of present utility, A'Z, may take, the maximum saving remains OR'. When the two utility curves cross at a point lower than E, that is to say, when the point of their intersection lies left of E, the size of interest when there is the maximum saving is negative. Such is Ricci's contention in this respect. It is easy to prove all

* Ricci, a. a. O., S. 330.

this, but I will abstain from doing so to save trouble.

The same observation must be made about the second type of the money utility curve. I shall consider this point a little further.

It is conceivable that the curve of future utility takes different forms as the incomes of individuals are different. Of course, it may be that with all individuals, the future utility curve is unelastic at the beginning and elastic later, but what it matters here is only its form elastic or unelastic near the point where it crosses the curve of present utility.

In the case of the class of people whose annual incomes are comparatively small, the elasticity of the future utility curve of money is, in the above sense, also small. In such cases the following observation may be valid. The curve of future utility transformed by the rate of interest $\varphi_1(r)$ referred to already is in the inner side of the original curve of future utility, $\varphi_0(r)$, so long as the arc elasticity of the original curve of future utility is smaller than 1 and the interest rate is positive. This means that saving decreases when the interest rate is positive as compared with when it is zero. Saving will increase when the interest rate is negative. Now, as to the arc in arc elasticity. Let the quantity of money corresponding to a point p optionally chosen on the curve of future utility be x, and the principal in x, which embodies the total of principal and interest, be x': $x=x'(1+i)$. Let the point on the curve of future utility corresponding to this x' be p'. The elasticity of the utility curve in this arc of pp' is what is under discussion. When we talk of low arc elasticity, it means that the elasticity in the arc pp' is low. So, it does not necessarily run parallel with low point elasticity of the utility curve. This must be quite obvious.

This may be explained factually as follows: When the interest rate is high, future goods and accordingly future utility can be bought cheaply with present money, and so the marginal portion for saving, which would be saved when there was no interest, will be employed for the purchase of

what has low marginal utility. And then, it would be found profitable to put it to present uses with comparatively high marginal utility. Thus, what may have been saved in case there was no interest is put to present uses, beginning with the marginal portion for saving, until both uses become balanced. It is conceivable that for the large majority of people, the utility elasticity of their money is smaller than 1. If this is the case, the high interest rate tends to reduce saving, instead of increasing it.

The situation is entirely different in regard to the class of people who have big incomes. The higher the rate of interest, the larger the proportion to be saved. If the elasticity of the curve of the future utility of money (with which the nature of the curve of present utility has nothing to do) is high, the E point referred to cannot exist, and consequently the point is absent which marks the limit, the rise of the interest rate beyond which has the effect of reducing the portion to be saved. The higher arc elasticity and the higher the rate of interest, the higher becomes the transformed curve of future utility, $\varphi_1(x)$, than the original curve of future utility, $\varphi_0(x)$, and their point of intersection must move so as to indicate the increase of the portion to be saved.

Thus, even if property, or accumulation in the past, may be left out of consideration, it is impossible to say that a high rate of interest increases saving. And if property is taken into consideration, the problem becomes more complex. A high rate of interest increases future income, and changes the form of the curve of future utility in the diagram given above. I shall reserve a detailed exposition of this point of view for some future occasion.

YASUMA TAKATA

THE COMMONER CLASS OF THE TOKUGAWA PERIOD

1. THE SOCIAL STATUS OF THE COMMONERS

Of the four social classes that constituted the social fabric of the feudal period of Tokugawa, namely, the samurai, farmers, artisans, and traders, the last two made up what was generally termed "chonin" or commoners, in contra-distinction to the higher social class of samurai. In the eye of the authorities of the Feudal Government, the social status of commoners was much inferior to that of both the samurai whose ancestors had rendered very meritorious services to the State and the farmers who were engaged in the ceaseless toil of producing the main foodstuff of the nation. The commoners were viewed as a class of people who indulged in the despicable enjoyment of life; who were shamelessly devoted to a life of profit-making through exchange of goods; and who would resort to any dubious method in order to coax others to buy high-priced goods, thereby stimulating a habit of luxury, the demoralizing effects of which were greatly feared by the authorities. The commoners, in short, were considered a good-for-nothing and unproductive class of people. In the opinion of the samurai, the commoners should be grateful for their being allowed to engage in their vocation, and were expected to make monetary contributions as *myoga* (冥加) and *unjo* (運上) to the ruling class. Thus, the feudal authorities never seriously thought of imposing any formal tax on the commoners.

The feudal authorities exercised much interference in the daily life of the commoners as in the case of farmers. The use of articles of daily necessity such as head and foot gear and even such things as umbrellas was strictly circums-

cribed by law. Both commoners and farmers were prohibited from using silk clothes. Strict control was also exercised regarding the consumption of various commodities: sale of articles of novelty was prohibited; sale of vegetables produced before their proper season of harvest was also prohibited; raise of labour wages as well as of commodity prices following some great natural calamity was barred. The manufacturers of *tôfu* (豆腐) would be scolded by the authorities for their failure to lower the prices of their product, when the price of beans, raw material used in the manufacturing of *tôfu*, dropped. Various intricate methods were also adopted by the feudal authorities in order to regulate the prices of commodities, especially rice.

Although commoners were subjected to various interferences by the feudal authorities in their daily life, their treatment was vastly better than that which was accorded to farmers, when the nature and degree of the interferences are taken into consideration. This may become clear when the following two sets of official notices issued in the 2nd year of Keian (1649), one for farmers and the other for commoners, are compared. The notice issued for commoners were directed to prevent them from indulging in extravagance and luxury and all insulting remarks were carefully avoided in its wording. Commoners were simply told "not to wear silk dress," "not to make gold lacquered furnitures," "not to use either gold or silver in house decorations," and "not to build any three-storied house for themselves." The notice for farmers, on the other hand, told them in no uncertain terms that "they had no discretion in their daily conduct nor any purpose in life." Moreover, their daily life was subjected to a stricter regulation than in the case of commoners. For instance, they were urged to cultivate a habit of early rising and were prohibited from drinking *sake* and tea as well as from smoking. They were ordered not to eat rice and to eat other cereals and urged to divorce lazy wives. Thus, the notice implied a recognition of farmers' mental and educational inferiority. However, in social rank

commoners were regarded as being inferior to farmers chiefly because the former were engaged in the despicable practice of profit-making for private ends (in the opinion of the feudal authorities); and, as has been already pointed out, the commoners often made monetary contributions to the authorities in token of their gratitude for their being allowed to engage in business. The fact is to be noted, however, that the superiority of their standard of living and of their economic power was unquestioned. Commoners were allowed to form industrial guilds among themselves for the purposes of their common solidarity and monopoly, and enjoyed self-government to a certain extent.

2. THE FINANCIAL POWER OF THE COMMONERS

I have dwelt on the social status of the merchants of the Tokugawa Period in its formal aspect. This period was marked by the wide prevalence of rice economy and the gradual development of money economy which finally came to replace the former in the course of time. Those who had financial and economic knowledge were in a position to amass wealth and to attain an economic power of great magnitude. The long reign of tranquillity in the land had brought changes in the life of the samurai who constituted the ruling class of the time. They had put away weapons of fighting, and wars and battles only remained in their memories. People had gradually acquired the habit of luxurious living and the samurai had no occasion to use the military power, which had been replaced by the power of money. Now, it was the commoners who had command over this new power. At first both the Feudal Government and local daimyos often exacted forced contributions called *goyôkin* (御用金) from wealthy commoners of Edo, Kyoto and Osaka, but later they had to bend their knees in order to borrow from them. It was with the financial help thus rendered by the wealthy merchants that the samurai could barely succeed in making both ends meet. Says *Keizai Roku* (経済録): "Present-day

daimyos, both big and small, bow before wealthy commoners in order to borrow money from them and depend on the merchants of Edo, Kyoto and Osaka, etc. for their continued living." The foregoing quotation is sufficient to indicate the great extent to which the samurai class depended on the financial assistance of wealthy commoners whose economic power over the entire realm had so greatly expanded. Another record of the time called "*Chônin Kôken Roku*" written by Takafusa Mitsui, an ancestor of the Mitsui Family, throws a flood of light on the financial relations between some 50 wealthy commoners of the time and the daimyos during a period of about 60 years in and around the Genroku Era (1688—1703). The book gives an account of the bunkruptcy of these 50 families whose financial downfall was caused either by forced contributions or their own extravagant living. This record unmistakably proves the fact that the daimyos borrowed a vast amount of money from the wealthy commoners of Kyoto. The list of daimyo-debtors includes the Lords of the following provinces: Kaga, Satsuma, Sendai, Higo, Hiroshima, Tottori, Nanbu, Bishu, Kishu, Tsuyama, Choshu, Tosa, Saga, Yonezawa, Fukuoka, etc. These powerful daimyos managed to patch up their finances with the financial aid of wealthy merchants.

The majority of daimyos had their *kurayashiki* (蔵屋敷) or warehousing quarters at Osaka or Edo, in order to facilitate the sale of their rice and other products raised in their respective territories. The daimyos of Northern Japan had their *kurayashiki* mostly at Edo, while those of Central and Western Japan including the Kwanto had their warehouses at Osaka, where the products brought there were either sold or mortgaged.

The warehousing official called *kurayakunin* (蔵役人) was in charge of each *kurayashiki*. He was sent by the daimyo who was the owner of the warehouse and he represented his lord. At first he also acted as *kuramoto* (蔵元) or the keeper of the warehouse, but in the later period the *kuramoto* was assumed by a merchant of great wealth. He was in charge

of the receiving and delivery of warehouse goods. There was another official in the *kurayashiki* who was in charge of the accounting of the transactions of warehouse goods and who was known by the name of *kakeya* (掛屋). This position was also often assumed by the *kuramoto*. The *kakeya*, like the *fudasashi* (札差) at Edo, was a financial agent for daimyos and samurai in general. He was usually given an annual grant of rice and treatment similar to that which was given to the chief retainer of a daimyo. The foremost *kuramoto* at Osaka was called Zen-emon Konoike, who was in the service of the daimyos of many clans including the following: Kaga, Hiroshima, Awa, Okayama, Yanagawa. He was also in the special service for the Lords of Bishu and Kishu, and his total fief amounted to 10,000 koku. Some of the branches of his family received an annual grant of rice sufficient to support some 70 men. Thus, such wealthy merchants as Zen-emon Konoike, Gohei Hiranoya and Gohei Tennoji lived as extravagantly as the daimyos.

Naturally enough, the *kuramoto* possessed a powerful influence over the finance of the clan he served. For instance, Heiemon Masuya, an Osaka merchant, exercised an almost absolute power over the finance of the Sendai clan in the capacity of its *kuramoto*. He was described by Seiryo Kaiho, a noted writer of the period, as "having taken over unto himself the management of the household finance of the Lord of Sendai." The Sendai clan engaged several merchants acting as its *kuramoto* over a long period of time, but none of them was as powerful as Heiemon Masuya.

The settlement of loans advanced to daimyos by merchants would often drag for many years. With the passing of years, the former would find themselves in deeper waters, and they would frequently demand settlement by instalments or exemption of interest. Such a demand was usually accepted in case the merchants were in the capacity of *kuramoto*, because they were in a position to secure interest, receive annual grant of rice, and often received various gifts from the daimyos whom they served; so that the principal

could be returned in a period of ten years or so. On the other hand, the merchants harassed by the repressive measures of irresponsible daimyos knew how to deal with them. The merchants pledged among themselves not to make further advances to such daimyos in the future, and this refusal often had electric effect. For a defaulting daimyo would invariably make an apology to the creditor, to whom gifts would be presented and the promise made that the repayment of the debts would be made so that future advances would be made by the merchant. "Samurai were fired with anger (at the indignity of being hard pressed by merchants), but they forebore the insolence of merchants, and were even ready to give up *bushido* in their attempt to court the goodwill of the commoners, for the sake of their Lord (who had to borrow from the commoners)." A writer of the period called Ryotei Shingu wrote: "Shameless and regrettable is the flattery shown by the high retainers of daimyos to the commoner-creditors. They would proceed at the head of a suite of scores of attendants to offer respects to their commoner-creditors, as if the latter were their own princes, and would flatter the shop clerks in a most despicable manner."

Retaliatory measures against samurai who failed to settle debts were adopted by commoner-creditors as early as during the Kyôho Era (1716—1735). One of the common practices adopted by them was to place a paper flag or to paste a paper in front of the samurai's house in case the latter failed to repay his debts or make payment for some goods. In December, the 14th year of the Kyoho Era, a decree was issued by the Edo Government, providing that any commoner who commited such an act of misdemeanour against a samurai would be severely dealt with.

The commoners also extended their financial arm over to the farm districts where there was an unmistakable tendency of concentration in land. We may naturally conceive, therefore, that transactions in land and borrowing of money for other agricultural purposes were no longer limited

to farmers themselves, for merchants gradually came to participate in them to a great extent. Many merchants possessed concentrated lands and newly developed lands. Many commoners took an active part in the enterprise of developing new lands for agricultural purposes.

The samurai class, in short, was under the financial sway of the commoners. Says *Chônin Fukuro* (町人袋): "No one knows when the practice of using gold and silver originated, but it made its development steadily. As the commoners had sway over gold and silver, they would be allowed to be in the presence of nobles. Thus, they came to be superior to the farmers in point of personal appearance." Nay, they are superior not only to the farmers but also to the samurai class in respect of economic power. They hold in a firm grip the economic power of the realm and constitute a powerful force in feudal society.

3. THE PRIVATE LIFE OF THE COMMONERS

The commoner class attained full development during the Tokugawa Period. There lived many commoners who were as rich as Crœsus and who would spend money like water. Some of them led lives which were more luxurious and extravagant than those of daimyos. At Edo, Bunzaemon Kinokuniya and Mozaemon Naraya amassed fabulous fortunes, and their life of unparalleled dissipation and extravagance in the gay quarters of the metropolis has become proverbial. Kuranosuke Nakamuraya and Juemon Naniwaya both at Kyoto and Tatsugoro Yodoya at Osaka astounded the people of their time by the grandeur of their residences, the splendours of their dress and their princely dinners. Their extraordinary life, indeed, represented the luxury and extravagance of the commoners of the period.

The following story of a foolish competition in extravagant display of women's dress presented by the wives of two wealthy merchants, one at Edo and the other at Kyoto, during the Empô Era (1673—1680) is truly illustrative of

the spirit of extravagance among the wealthy commoners of the Tokugawa Period. This curious competition developed on the occasion of a visit paid by one Rokubei Ishikawaya, a noted millionaire at Edo, to Kyoto. His wife who accompanied him was attired in such an expensive costume that the people of the ancient capital were greatly amazed. This provoked the competitive spirit of the wife of a Kyoto millionaire called Juemon Nambaya. In order to show that her husband was richer than Ishikawaya, she walked through the streets of Kyoto, wearing a *kimono* made of silk satin and on which were embroidered the scenic views of the ancient city. Not to be outdone by her dress, Ishikawaya's wife also walked through the streets of the capital, wearing a rich *kimono* made of black *habutae* (羽二重) silk with a design of the nandin. At first people thought that the Kyoto woman had a more expensive costume than the Edo woman, but they later found, to their great astonishment, that every red fruit of the nandin was made of expensive coral. Accustomed to expensive costumes as the populace of Kyoto had been, they could not but express their great surprise at the extravagant dress of the woman from Edo.

The following account of the extravagant life of Yodoya is contained in *Gensho Kanki* (元正間記): "Yodoya built a bridge in front of his shop and gave it the name of his family, Yodoya. His forty-eight warehouses were full of treasures collected at an enormous cost. He received the title of '*chôja*' because of his great wealth. Yodoya is the name of his establishment and his family name is Okamoto. The Yodoya reached the zenith of its glory during the life time of Saburoemon Okamoto, who, after his retirement from an active business career, assumed the name of *Koan*. He built stages around his house which was magnificent beyond description. The parlours, large and small, are gilded with gold and the gold gilded screens bear the paintings of the flowers of all seasons drawn by two famous artists, Kitan Katsurada and Kino Katsurada. His garden has a splendid pond, bridges spanning it, as well as trees of all descriptions

gathered from all places in Japan and China. The so-called Summer Chamber has *shôji* (障子) made of glass. There were glass cases lining the upper part of the walls just below the ceiling which are filled with water in which gold fish can be seen swimming. No chamber even in the Imperial Palace can compare with Yodoya's magnificent dwelling. His tea room is decorated with gold and silver, while the *ramma* (欄間) of his reception chamber are engraved with the flowers of all seasons. The rails of the spacious hallway are lacquered red. All these are so magnificent and grand that no residence of any daimyo or other noble can be compared with the Yodoya residence. All the rooms and chambers — the vestibule, the clerks' room, and the kitchen — are very large and each of them is watched over by a superintendent. So many persons are found within the house that it rather resembles a market place, rather than a private house. It is the master of this very house that is in financial service for the daimyos of thirty-three provinces in Western Japan. No daimyo in the western part of the mainland of Japan and Kyushu is free from the financial assistance of Yodoya. His great money power forces the daimyos to make presents to him and their chief retainers bow before him. Nobles of high rank and daimyos with extensive feudalities must show the utmost respects to Yodoya."

Education had much advanced during the Tokugawa Period and learning was no longer a monopoly of the nobility and the clergy. Primary education was given through the medium of the so-called *terakoya* (寺小屋). The commoners were no longer satisfied with the sordid task of money-making: they also pursued learning to a great extent. The progressive and active commoners demanded a fresh and practical philosophy of life, and it was to meet this new requirement by a rising class that *shingaku* (心學) came to be popular among the merchants. It outlined the way of the merchant and was a philosophy for the commoner class in general. It was originally propounded by a scholar

at Kyoto named Baigan Ishida, and was later expounded by his pupils such as Toan Tejima, Gido Wakisaku, and Kyuo Shibata. Their head-quarters at Kyoto was called *Meirinsha* (明倫舎). There were established at Edo two lecture-halls called *Gorakusha* (五樂舎) and *Jishûsha* (時習舎) where *shingaku* was taught, but it never flourished at that city as it did at Kyoto and Osaka. Great was the influence which this particular line of learning exercised on the minds of the common people. Besides the scholars who taught *shingaku*, there were in the Kyoto-Osaka district many others who taught similar studies. For instance, Nobunaga Motoori, a great scholar of national classics, was born of a commoner at the town of Matsusaka, Ise Province. Jinsai Ito, a great exponent of the Confucian classics, was also born of a merchant at Kyoto. Baigan Ishida, the propounder of *shingaku*, also was a son of a merchant. Two noted Osaka scholars, Banto Yamakata and Naokata Kusama, were also commoners. Banto was the head-clerk of an exchange shop, namely, Heiemon Masuya. He is the author of a great work called *Yumeno-shiro* (夢の代). Naokata Kusama was first in the service of the Konoike Family and later opened an exchange shop of his own. He also wrote a book called *Sankwa-zui* (三貨圖彙). There was a lecture hall at Osaka which was called *Kwaitokudo* (懐徳堂). It was founded by two scholars, namely, Sekian Miyake and Shuan Nakai. Here, lectures were given to commoners and artisans. Two Nakai brothers, namely, Chikuzan and Riken, outlined economic theories of considerable importance. Banto was also a pupil of these two brothers. The foregoing account shows some of the notable examples of the learning which was popularised among the commoners of the Kyoto-Osaka district.

To summarise: during the Tokugawa Period, especially in its later half, the commoner class not only had already come to control the financial power of the nation, but also had participated in the nation's culture and learning. The

commoners really shouldered the destiny of the land in its practical phases.

EIJIRO HONJO

THE MEANING OF THE THEORY OF VALUE IN THEORETICAL ECONOMICS

1. INTRODUCTION.

It is superfluous to say that in theoretical political economy the term "value" has been used to denote many different things and that consequently all theories of value do not necessarily have one and the same object for study. The present article is not intended for the elucidation of the meaning of all these theories of value in theoretical political economy. It is concerned with the study of the meaning which the theory in regard to the value in the sense in which Marx employed the term—as it is conceived to lie behind exchange value—possesses in the system of theoretical economics.

In the state of equilibrium, the exchange ratios of all commodities ought to be at a fixed level. In other words, the certain fixed amounts of all commodities with different use values ought to be considered as exchangeable for one another, a fact which is recognised by all students of theoretical economics. Their mutual exchangeability means that they are socially equivalent. So, it is by no means unreasonable to deduce from this that value exists behind exchange value. The object of the present article can not be, therefore, to discuss the propriety o rotherwise of expecting value behind exchange value. Its aim is to make clear whether the determination of the exchange ratios of all commodities cannot be explained theoratically, unless values are known—in other words, whether the cognition of value is the *sine qua non* for the cognition of the determination of the exchange ratios of all commodities—or whether it is possible to explain, even without the knowledge of the amounts of values, why the exchange ratios of all commodities must settle at a certain definite level.

To know value first and then to explain normal price, or, in other words, productive price, on the basis of this knowledge, is to explain normal price or productive price on the basis of the knowledge of price corresponding to value.

According to Marx capitalistic production is essentially carried on with the extraction of a maximum of surplus value from labour power purchased with variable capital for its objective. In other words, it aims at the acquisition of the highest possible rate of surplus value. If this essential character manifests itself as it is, that is to say, if individual capitalists carry on production with the acquisition of the highest possible rate of surplus value for their direct objective, the prices of all commodities must be determined according to their respective values. As a matter of fact, however, the above-mentioned essential character does not manifest itself as it is. What appears phenomenally is that individual capitalists carry on production with the direct object of securing the highest possible rate of profit. Such being the case, although the prices of all commodities are, in the ultimate, conditioned by their values, they are affected by the action of the average of the rates of profit, with the result that productive price (which is hereunder referred to simply as price, while the price corresponding to value is referred to as value) actually deviate from value.[1]

Marx maintains that as the prices of commodities are, in the ultimate, conditioned by their values, neither the average rate of profit nor prices can be known unless we know values first. He says: "If the limits of value and surplus values are given, it is easy to know why.....

1) It is not as commodities only that their exchange power is affected by the average of the rates of profit. So is money affected also. If the exchange power which each commodity possesses in the sequel of the average of the rates of profit is to be called productive value, the Marxian productive price of any goods is equal to the quotient obtained by dividing the productive value of that goods by the productive value of money.

competition between various capitalists transforms surplus value into the average rate of profit (and accordingly why prices are at definite levels)." "But if these limits are not given, it is absolutely impossible to know why competition reduces the general rate of profit (and accordingly prices) to a certain definite level, and not to any other level.[2)] The aim of the present article is to make clear whether or no it is impossible to explain productive prices and the average rate of profit, unless we first know values, or in other words, the prices of commodities (not productive prices) which individual capitalists will attain, if they carry on production with the attainment of the highest possible rate of surplus value for their direct object.

It was few years ago that "political economy devoid of the theory of value" was a subject of heated controversy. The reason why I now propose to take up this problem, is that I am persuaded that it tends to contribute to the development of theoretical political economy which embraces and gives due positions to Marxian economy and the theory of general equilibrium.

In the present article, I shall analyse this problem in reference to two very simple cases.

2. CASES WHERE THE VALUE COMPOSITION OF CAPITAL IS EQUAL

Now, let it be assumed that for the production of one unit of money, $\frac{1}{3}$ of an unit of means of production and $\frac{1}{30}$ of an unit of labour power are needed, that for the production of one unit of means of consumption, $\frac{1}{3}$ of an unit of means of production and $\frac{1}{30}$ of an unit of labour power are required, and that for the production of one unit of means of production, $\frac{2}{3}$ of an unit of means of production and $\frac{1}{15}$ of an unit of labour power are necessary. Let it

2) Marx: Das Kapital III, 1 Teil.

be further assumed that the amounts of means of production and labour power required for the production of each unit of these products are unchanged by the quantity of the products produced. Next, let us assume that the necessaries of livelihood for the labourer are constituted from five units of means of consumption and that consequently the wages are 5P (P means the value of means of consumption). That is to say, be it assumed that the capitalist who produces money needs $\frac{1}{3}$ k (k indicates the value of means of production) amount of constant capital and $\frac{1}{30} \times 5P$ amount of variable capital, for the production of one unit of money, that the capitalist who produces means of consumption requires $\frac{1}{3}$ k amount of constant capital and $\frac{1}{30} \times 5P$ amount of variable capital for the production of one unit of means of consumption, and that the capitalist who produces means of production needs $\frac{2}{3}$ k amount of constant capital and $\frac{1}{15} \times 5P$ amount of variable capital for the production of one unit of means of production.

A. If, in such a case, production is to be carried on with the object of extracting the largest possible surplus value from labour power purchased with variable capital, or, in other words, if production is carried on with the attainment of the highest possible rate of surplus value (which is denoted by in) for its objective; the rate of surplus value being of necessity uniform socially, provided perfect free competition prevails, the value composition of the means of consumption will be

$$P = \frac{1}{3}k + \frac{1}{30} \times 5P\,(1+m')$$

and the value composition of the means of production will be

$$k = \frac{2}{3}k + \frac{1}{30} \times 5P\,(1+m').$$

From these two equations, we can see that $k=2P$, $m'=100\%$, and that the value composition of each of the products is $\frac{1}{3}k : \frac{1}{30}\times 5P : \frac{1}{30}\times 5P\ m'=\frac{2}{3}k : \frac{1}{15}\times 5P : \frac{1}{15}\times 5P_2\ m'=4 : 1 : 1$.

Now, as money is produced by the same amounts of means of production and labour power as are required for the production of means of consumption, the value of the means of consumption, P, ought to be 1, and consequently the value of the means of production, k, ought to be 2. The organic composition of capital in the sections of production is, in this case, all the same. Consequently, value accords with price. It therefore follows that the price of the means of consumption is 1, while that of the means of production is 2.

In a society in which money circulates, and accordingly in a society in which capitalistic ways of production rule, it is necessary to produce money yearly in order both to make up the shortage resulting from the hoarding of money and wear and tear of currency and to increase the amount of money in circulation—as, for example, in the case of expansive reproduction—but as the present article is not concerned with the question of money, it is assumed here that there is no actual production of money. This assumption does not imply that money is left entirely out of consideration. It simply means that money circulates, gauging the values of all commodities by the quantity of labour, which will be required if money were produred. At any rate, if, as is laid down here, money is not actually produced, social capital will be devoted to the production of the means of production and consumption exclusively. Since $\frac{2}{3}k$ amount of constant capital and $\frac{1}{15}\times 5P$ amount of variable capital are required, according to the assumption, for the production of one unit of means of production, if the total amount of the means of production to be produced be denoted by S, the total amount of capital required for

producing the means of production will be $\left(\frac{2}{3}k+\frac{1}{15}\times 5P\right)S$. Again, if the total amount of the means of consumption to be produced be denoted by N, the total amount of capital required for producing the means of consumption will be $\left(\frac{1}{3}k+\frac{1}{30}\times 5P\right)N$, as it is assumed that $\frac{1}{3}k$ amount of constant capital and $\frac{1}{30}\times 5P$ amount of variable capital are needed for the production of one unit of means of consumption. Accordingly, as social capital is devoted to the production of these two things, provided there is no production of money, if the total amount of social capital be assumed to be 7500,

$$7500=\left(\frac{2}{3}k+\frac{1}{15}\times 5P\right)S+\left(\frac{1}{3}k+\frac{1}{30}\times 5P\right)N.$$

Of the unknown numbers contained in this equation, the values of k and P are already known by the previous calculation, so the real unknown numbers contained in it are N and S only.

As it is assumed that $\frac{2}{3}$ of an unit of means of production is required for the production of one unit of means of production, the total amount of means of production necessary for the production of means of production is $\frac{2}{3}S$. Again, as it is assumed that $\frac{1}{3}$ of an unit of *means of production is required for the production of one* unit of means of consumption, the total amount of means of production necessary for the production of means of consumption is $\frac{1}{3}N$. Consequently, if it be supposed that there is no production of money and that there takes place simple reproduction, the total amount of means of production required socially is:

$$S=\frac{1}{3}N+\frac{2}{3}S.$$

From the above-mentioned two equations, we can see that N=3000, and S=3000. And as the value composition

of each of the products is, as is already known, 4 : 1 : 1, that of the total output will be

$$\text{I} \quad 4000\,C_1 + 1000\,v_1 + 1000\,m_1 = 6000$$

$$\text{II} \quad 2000\,C_2 + 500\,v_2 + 500\,m_2 = 3000$$

The total amount of surplus value is $m = 1000\,m_1 + 500\,m_2 = 1500$. As the total amount of social capital is assumed to be 7500, the rate of profit is $P' = \frac{1500}{7500} = 20\%$.

It has so far been assumed that production is carried on in pursuit of the highest possible rate of surplus value, so that value and the rate of susplus value are first determined, and then the rate of profit is worked out concomitantly. The case will, however, be different, if it be assumed from the begenning that production aims at the highest possible rate of profit.

B. Let it be supposed, now, that production is carried on with the attainment of the highest possible rate of profit, not the highest possible rate of surplus value as in the case of A, for its direct object, where all other conditions are the same as in A, then, as the rate of profit ought to be uniform socially, so long as perfect capitalistic free competition prevails, the price composition of the means of consumption must be:

$$P = \left(\frac{1}{3}k + \frac{1}{30} \times 5P\right)(1 + P'),$$

and the price composition of the means of production:

$$k = \left(\frac{2}{3}k + \frac{1}{15} \times 5P\right)(1 + P'),$$

(where, P denotes the price of the means of consumption, and k, that of the means of production).

From these two equations, we can see that $k = 2P$, and $P' = 20\%$. That is to say, where production is carried on in pursuit of the highest possible rate of profit, price can be determined without any knowledge of the amount of value, and the average rate of profit is directly determined without the previous knowledge of the total amount of

surplus value or the rate of surplus value. What will happen when the value composition of capital is different, then?

3. WHERE THE VALUE COMPOSITION OF CAPITAL IS DIFFERENT

Let it now be assumed that $\frac{1}{2.87499999935}$ of an unit of means of production and $\frac{1}{32.3437499541}$ of an unit of labour power are needed for the production of one unit of money, and $\frac{1}{3}$ of an unit of the means of production and $\frac{1}{30}$ of an unit of labour power for the production of one unit of means of consumption and $\frac{2}{3}$ of an unit of means of production and $\frac{1}{18}$ of an unit of labour power for the production of one unit of means of production, and also that the amounts of means of production and labour power required for the production of one unit of each of these products are unchanged by the quantity of goods to be produced. Let it further be assumed that the necessaries of livelihood for the labourer comprise five units of the means of consumption and that accordingly the wages are 5P. That is, be it assumed that the capitalist who produces money requires $\frac{1}{2.87499999935}$ k amount of constant capital and $\frac{1}{32.3437499541} \times 5P$ amount of variable capital for the production of one unit of money, that the capitalist who produces the means of consumption needs $\frac{1}{3}$ k amount of constant capital and $\frac{1}{30} \times 5P$ amount of variable capital for the production of one unit of the means of consumption and that the capitalist who produces the means of production requires $\frac{2}{3}$ k amount of constent capital and $\frac{1}{18} \times 5P$ amount of variable capital for the production of one unit of means of production.

A'. If it, in such a case, be supposed that production

is carried on with the extraction of the highest possible surplus value from the labour power to be purchased with variable capital for its direct objective, the rate of surplus value being of necessity uniform socially, so long as perfect free competition prevails, the value composition of the means of consumption is:

$$P=\frac{1}{3}k+\frac{1}{30}\times 5P(1+m').$$

The value composition of the means of production is:

$$k=\frac{2}{3}k+\frac{1}{18}\times 5P(1+m').$$

And the value composition of money is:

$$1=\frac{1}{2.87499999935}k+\frac{1}{32.3437499541}\times 5P(1+m').$$

From these three equations[3] we can see that $p=1$, $k=1.875$, $m'=125\%$, and that the value composition of the means of consumption is $\frac{1}{3}k:\frac{1}{30}\times 5P:\frac{1}{30}\times 5P\,m'=0.625:0.166666667:0.20833333$, and that of the means of production $\frac{2}{3}k:\frac{1}{18}\times 5P:\frac{1}{18}\times 5P_2m'=0.666666667:0.148148148:0.185185185$.

If it be supposed that money is not actually produced, social capital will be devoted to the production of the means of production and consumption. As it is assumed that the $\frac{2}{3}k$ amount of constant capital and the $\frac{1}{18}\times 5P$ amount of variable capital are required for the production of one unit

3) It is because the technical formation of capital is different in respect of each section of production that, in this case, even the section of production of money plays a part in the calculation of m'. But, so long as money does not enter into the cost of production either directly (as a factor of production, because of its wear and tear, and so forth) or indirectly (as a necessity of life for the labourer), the participation of the section of production of money in the calculation of m' is merely a matter of technique of calculation, and it does not affect the size of m'. This is so in the case of B' also, though in that case it is P'.

of the means of production, the total amount of capital needed for the production of the means of production is $\left(\frac{2}{3}k+\frac{1}{18}\times 5P\right)S$. Again, as it is assumed that the $\frac{1}{3}k$ amount of constant capital and the $\frac{1}{30}\times 5P$ amount of variable capital are required for the production of one unit of the means of consumption, the total amount of capital necessary for the production of the means of consumption is $\left(\frac{1}{3}k+\frac{1}{30}\times 5P\right)N$. As social capital will be devoted to the production of these two things in case there is no production of money, if the total amount of social capital is assumed to be 7500,

$$7500=\left(\frac{2}{3}k+\frac{1}{18}\times 5P\right)S+\left(\frac{1}{3}k+\frac{1}{30}\times 5P\right)N.$$

Of the unknown numbers contained in this equation, the values of k and P are already known by the previous calculation, so the real unknown numbers contained therein are N and S only.

As it is assumed that $\frac{2}{3}$ of an unit of the means of production is needed for the production of one unit of the means of production, the total amount of means of production required for the production of the means of production is $\frac{2}{3}S$. Again, as $\frac{1}{3}$ of an unit of the means of production is assumed to be necessary for the production of one unit of the means of consumption, the total amount of the means of production necessary for the production of the means of consumption is $\frac{1}{3}N$. Consequently, if there is no production of money and if simple reproduction takes place, the total amount of the means of production required socially is:

$$S=\frac{1}{3}N+\frac{2}{3}S.$$

From these two equations we can see that N=3233.53293,

and S=3233.53293. And the value composition of each of the means of production is, as is already known, $0.666666667C_1 : 0.148148148v_1 : 0.185185185m_1$, and that of the means of consumption, $0.625C_2 : 0.166666667v_2 : 0.20833333m_2$, that of the total output will be

$$\text{I}\quad 4041.91617\,C_1+898.20359\,v_1+1122.75449\,m_1=6062.87425$$

$$\text{II}\quad 2020.95808\,C_2+538.92216\,v_2+673.65269\,m_2=3233.53293$$

The rate of profit in the section of production goods is, therefore, $\dfrac{1122.75449\,m_1}{4041.91617\,C_1+898.20359\,v_1}=22.7272773\,\%$, and that in the section of consumption goods is $\dfrac{673.65269\,m_2}{2020.95808\,C_2+538.92216\,v_2}=26.315789\%$.

How, then, does this enable price and the average rate of profit to be explained? Marx says that the average rate of profit means the average of the various different rates of profit in the different phases of production.[1] Consequently, he also says that the general rate of profit presupposes that the rates of profit in all peculiar sections of production, as viewed individually, exist to the number of the sections of production.[2] Again, he contends that the general rate of profit can be obtained by dividing the total amount of surplus value by the total social capital[3] and that consequently, surplus value or profit (which accrues to individual capitalists) represents the amount to be apportioned to each capitalist, when the total surplus value or the total profit, which is produced in a certain fixed period with the total social capital in all sections of production, is equally distributed among all capitalists. If the former method of calculation is adopted, and if it is applied to our case, the average rate of profit is $\left(\dfrac{22.727273\%+26.315789\%}{2}\right)$ $=24.521531\%$, but if calculated on the basis of this average rate of profit—that is, if the average profit in this sense is

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1), 2) Marx: Das Kapital III, I, Teils. 128.

3) Marx: Das Mehrwert II, s. 160.

added to the total amount of capital—the total value of social products is 9339, while the actual total value of social products is only 9297. That is to say, if this method of calculation be adopted, value will be shown to be created outside of production. This not only defeats the theory of labour value, but is inconsistent with the facts. Such an irrational result arises because, as the simple arithmetical method of averaging has been adopted in working out the average rate of profit, "weight" in all sections of production has been ignored. In order to remove this irrationality, the latter method, that is, the method of dividing the total amount of surplus value by the total amount of capital value, must be resorted to. If this method be adopted and if it be applied to our case, the average rate of profit is $\frac{1122.75449\,m_1+673.65269\,m_2}{7500}=23.95208\%$. This average rate of profit obviates the irrationality which attends the former method of average-taking. In this sense, it is quite proper that in the study of the Marxian thoery, the method of dividing the total surplus value by the total value of social capital has so far been adopted in working out the average rate of profit. But can the adoption of this method settle everything?

Supposing that this method of averaging the rates of profit be adopted, the result of average-taking of the first degree is as follows:

	Constant capital.	Variable capital.	Surplus value.	Commodity value.
I	4041.91617	898.20359	1122.75449	6062.87425
II	2020.95808	538.92216	673.65269	3233.53293
Total or average	6062.87425	1437.12575	1796.40718	9296.40718

	Rate of profit.	Productive price.	Rate of deviation.
I	22.727273	6123.38197	1.00998004
II	26.315789	3173.02520	0.98128743
Total or average	23.952095	9296.40717	1.00000000

The fact that the prices of products deviate from values means that the cost of production can no longer be considered in terms of value and that it must be considered in terms of productive price. Variations in the cost of production resulting from the first average-taking of the rates of profit are:

	Constant capital.	Variable capital.	Surplus value.	First productive price.	Rate of profit %.
I	4082.25465	881.39589	1159.73143	6123.38197	23.364486
II	2041.12732	528.83754	603.06034	3173.02520	23.465704
Total or average	6123.38197	1410.23343	1762.79177	9296.40717	23.399015

It will be seen from the above that the rate of profit in the section of production of the means of production *does not yet agree with that in the section of production of* the means of consumption. This necessitates the process of averaging the rates of profit a second and a third time. By going through these processes successively, the following figures are obtained (see Page 61–2).

Thus, it will be seen that the disparity in the rate of profit between the two sections of production is gradually reduced, and the rate of deviation of the productive price of any degree from that of the forgoing degree diminishes by degrees. If this process is continued, it is conceivable that it will settle at a certain point in the end.

What is noteworthy is: (1) When the first amendment was effected in the cost of production by the first average-taking of the rates of profit, surplus value (price) already departed from surplus value (value) and $\frac{\text{Surplus value (price)}}{\text{variable capital (price)}+\text{constant capital (price)}}$ from $\frac{\text{Surplus value (value)}}{\text{variable capital (value)}+\text{constant capital (value)}}$. The reason why surplus value (price) is here lower than surplus value (value) or $\frac{\text{Surplus value (price)}}{\text{variable capital (price)}+\text{constant capital (price)}}$ is

		Constant Capital according to the price of the 1st. degree	Variable Capital according to the price of the 1st. degree	Surplus Value according to the price of the 1st. degree
2nd. Degree	I	4082.25465	881.39589	1159.73143
	II	2041.12732	528.83754	603.06034
	Total or average	6123.38197	1410.23343	1762.79177
		according to the price of the 2nd. degree	according to the price of the 2nd. degree	according to the price of the 2nd. degree
3rd. Degree	I	4983.39724	880.91981	1160.77881
	II	2041.69862	528.55189	601.06080
	Total or average	6125.09586	1409.47170	1761.83961
		according to the price of the 3rd. degree	according to the price of the 3rd. degree	according to the price of the 3rd. degree
4th. Degree	I	4083.42945	880.90639	1160.80834
	II	2041.71472	528.54384	601.00443
	Total or average	6125.14417	1409.45023	1761.81277
		according to the price of the 4th. degree	according to the price of the 4th. degree	according to the price of the 4th. degree
5th. Degree	I	4083.43036	880.90601	1160.80917
	II	2041.71517	528.54361	601.00285
	Total or average	6125.14553	1409.44962	1761.81202

lower than $\frac{\text{Surplus value (value)}}{\text{variable capital (value)} + \text{constant capital (value)}}$ is that the value composition of capital in the section of production of the products to be purchased with surplus value is of an order lower than the average value compostion of capital in the sections of production of other products. In the opposite case, the result will be opposite. Supposing, for instance, that expansive reproduction takes place in this case and that a part of surplus value is to be employed for the purchase of the means of production, which is the produce of capital with value composition of

Rate of Profit (%) according to the price of the 1st. degree	Price of the 2nd degree	Rate of the Deviation of the price of the 2nd. degree from that of the 1st. degree	Rate of the Deviation of the price of the 2nd. degree from value
23.364486	6125.09586	1.00027989	1.01026272
23.465704	3171.31131	0.99945986	0.98075739
23.399015	9296.40717	1.00000000	1.00000000
according to the price of the 2nd. degree	of the 3rd. degree	of the price of the 3rd. degree from that of the 2nd. degree	of the price of the 3rd. degree from value
23.382447	6125.14418	1.00000789	1.01027069
23.385300	3171.26299	0.99998476	0.98074244
23.383420	9295.40717	1.00000000	1.00009000
according to the price of the 3rd. degree	of the 4th. degree	of the price of the 4th. degree from that of the 3rd. degree	of the price of the 4th. degree from value
23.382953	6125.14554	1.00000022	1.01027092
23.383034	3171.26163	0.99999958	0.98074202
23.382981	9296.40717	1.00000000	1.00000000
according to the price of the 4th. degree	of the 5th. degree	of the price of the 5th. degree from that of the 4th. degree	of the price of the 5th. degree from value
23.382968	6125.14560	1.00000001	1.01027093
23.382970	3171.26158	0.99999959	0.98074201
23.382969	9296.40718	1.00000000	1.00000000

a higher order than that of the means of consumption hitherto purchased with it, the disparity between the average value composition of capital which produces the goods to be purchased with surplus value and the average value composition of capital which produces other goods will be reduced, and consequently the difference both between surplus value (price) and surplus value (value), and between $\frac{\text{Surplus value (price)}}{\text{variable capital (price)}+\text{constant capital (price)}}$ and $\frac{\text{Surplus value (value)}}{\text{variable capital (value)}+\text{constant capital (value)}}$ will also

diminish. (2) In this case, $\frac{\text{Surplus value (price)}}{\text{variable capital (price)}}$ is equal to $\frac{\text{Surplus value (value)}}{\text{variable capital (value)}}$. This is because, in this study, the case is assumed where the average value composition of capital which produces goods to be purchased with surplus value is equal to the average value composition of capital which produces the necessaries of life for the requisite labourers. If, on the contrary, the average value composition of capital which produces goods to be purchased with surplus value is of a higher order than that of capital which produces the necessaries of life for the requisite labourers—for instance, if it be assumed that, in the above-mentioned case, expansive reproduction takes place $\frac{\text{Surplus value (price)}}{\text{variable capital (price)}}$ will be higher than $\frac{\text{Surplus value (value)}}{\text{variable capital (value)}}$, while, in the contrary case, the result will be the opposite. (3) The circumstances which bring about the difference between

$$\frac{\text{Surplus value (price)}}{\text{variable capital (price)}+\text{constant cepital (price)}} \quad \text{and}$$

$$\frac{\text{Surplus value (valve)}}{\text{variable capital (value)}+\text{constant capital (value)}}$$ are different from those which are responsible for the disparity between $\frac{\text{Surplus value (price)}}{\text{variable capital (price)}}$ and $\frac{\text{Surplus ualue (value)}}{\text{variable capital (value)}}$. The former embodies the relations of the average value composition of capital which produces goods to be purchased with surplus value with that of capital which produces other goods (requisite means of production and the necessaries of life for the labourer), while the latter represents the relations of the average value composition of capital which produces goods to be purchased with surplus value with that of that capital only which produces the necessaries of life for the requisite labourers.

The failure of Marx to make clear these circumstances was due solely to the fact that he did not consider thoro-

ughly the result of the average of the rates of profit (the fact that cost value itself is caused to deviate from value by the average of the rates of profit). Marx says: the productive price of the commodity is the cost price for the purchaser of the commodity and that it can enter into the value formation of other commodities as cost price. Since it is possible that the productive price of the commodity does not agree with its value, the cost price of one commodity which includes such productive price of another commodity can also be either bigger or smaller than that portion of the total price of this commodity which is represented by the value of the organ of production which entered into this commodity.[4] "It is important to keep in mind," he says, "that the meaning of cost price has undergone such changes and that an error is always possible when it is assumed that the cost price of the commodity in one special section of production is equal to the value of productive organs (and labour power)."[5] consumed in the production of this commodity. While taking note of this fact, he, in his study of the relations of the theory evolved to apply to cases where production is carried on in pursuit of the highest possible rate of surplus value with capitalistic production which aims at the highest possible rate of profit, keeps clear of the central issue by saying that "in the present study there is no need to expatiate further on this point." Marx presumably thought that even if the values of individual commodities might depart from their productive prices, these deviations were neutralised in regard to the social products as a whole, so that value agreed with price (of course, as money can also deviate from value, the whole value will then be expressed in different price, but this point may be left out of consideration, as it does not affect the problem of what portion of the whole value represents surplus value).

It is true that in regard to social products as a whole,

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4), 5) Marx: Das Kapital III, 1. Teil s. 135.

value and price are in accord, provided the value composition of money is equal to that of the other social products as a whole, but this is not the point at issue. Even if value and price accord with each other in reference to social products as a whole, productive price deviates from value, when social products are considered in sections. And, the means of production and the necessaries of life for the labourer being only a part of the social products, the total price of the means of production and the necessaries of life for labour may deviate from their total value. If so, the sum of the prices of the means of production and the necessaries of life for labour necessary for the production of the social product as a whole the price of which is regarded as equal to its value, ought to depart from the sum of their values. Accordingly, the surplus value and therefore the rate of profit in this case must be different from the surplus value and therefore the rate of profit which emerge where the effects of the average of the rates of profit are not thoroughly examined.

The defects of the Marxian theory in this regard have hitherto been pointed out by many economists, as, for example, Tugan Baranowsky, Bortkiewicz, Moskowska, and Prof. Takata, and the right path of development have been indicated by Bortkiewicz. I have, as described, reached the same conclusions as those of Bortkiewicz by methods of my own, independently of the lines which Bortkiewicz pursued in his research. As already explained, if the action of the average of the rates of profit is thought out, it is possible to explain price from value without hindrance, but, if price cannot be explained by any other means, cognition of value will remain an indispensable premise for cognition of price. Is it, however, impossible to explain price except from the premise of value?

B′. Now, supposing that, all other conditions being the same as in the case of A′, production is carried on with the highest possible rate of profit for its direct object, instead of the highest possible rate of surplus value as in

the case of A′. Then, as the rates of profit ought to be uniform socially, provided perfect capitalistic competition prevails, the price composition of the means of consumption is:

$$P=\left(\frac{1}{3}k+\frac{1}{30}5P\right)(1+P'),$$

and the price composition of the means of production is:

$$k=\left(\frac{2}{3}k+\frac{1}{18}\times 5P\right)(1+P'),$$

and the price composition of money is:

$$1=\left(\frac{1}{2.87499999935}k+\frac{1}{32.3437499541}\times 5P\right)(1+P').$$

From these three equations, we can see $P=0.98074201$, $k=1.894257988$, $P'=23.38296816\%$, and that the price composition of the means of production is $\frac{2}{3}k : \frac{4}{18}\times 5P : \left(\frac{2}{3}k+\frac{1}{18}\times 5P\right)P'=0.666666667 : 0.14381797 : 0.18951536$, and that of the means of consumption is $\frac{1}{3}k_1 : \frac{1}{30}\times 5P : \left(\frac{1}{3}k_1+\frac{1}{30}\times 5P\right)P'=0.64381795 : 0.16666667 : 0.18951538$. It will thus be seen that the factors decisive of both price and the average rate of profit can be explained, independently of value.

It is worthy of note in this connection that the results thus obtained are just equal to those which were obtained when we took value as the starting point of our study.

Let it be assumed that in this case also, as in the case of A′, (1) money is not produced and (2) the amount of product of the means of productions is 3233.53293.

Further, assuming that simple reproduction takes place, as in the case of A′, we can obtain the following equation in regard to the formation of social demand for the means of production, for the reasons stated in the case of A′:

$$S=\frac{1}{3}N+\frac{2}{3}S.$$

From these two equations, it is seen that $N=3233.53293$.

And as the price composition of each of the means of production, as is already known, is $0.66666667C_1 : 0.14381797v_1 : 0.18951536m_1$, and that of each of the means of consumption is $0.64381795C_2 : 0.16666667v_2 : 0.18951538m_2$, that of the total output will be:

I $4083.43049C_1 + 880.90601v_1 \times 1160.80917m_1$.

II $2041.71517C_2 + 528.54361v_2 + 601.00285m_2$.

Thus we see, that the results obtained without reference to value are equal to those obtained by starting from value, in these respects, also.

It will thus be seen that, if the given conditions are equal, we reach exactly the same results by two different methods—one to find value first and then proceed to explain price on that basis, and the other to proceed to analyse price from the outset without reference to value at all.

CONCLUSION

In the present article, I have demonstrated that the conclusion to be reached by the theory of general equilibrium so rewritten as to facilitate the analysis of the organisation of capitalistic production—the conclusion arrived at without reference to value—is the same as that reached by thinking out the action of the average of the rates of profit, while at the same time taking value into consideration. Thus, we shall be able to conclude that the determination of the ratios of exchange of various commodities and the various phenomena based on it can be adequately explained theoretically without the knowledge of value and also that the cognition of value is a matter of colouring them from a specific point of view of the world.

KEI SHIBATA

NOTES

Assistant-Professor Yonosuke Nakagawa, who had been studying abroad, returned home on October 5th and will resume his lectures in the Department from the next term. Professor Sotaro Watanabe and Assistant-Professor Eikichi Kondo of the Department of Law, and Professor Tsunesaburo Saito of the Kobe University of Commerce were nominated to hold the undermentioned chairs respectively.

Constitutional Law: Professor Sotaro Watanabe.
Administrative Law: Professor Sotaro Watanabe.
Civil Law: Assistant-Professor Eikichi Kondo.
Professor Tsunesaburo Saito.

The Kyoto Imperial University Economic Society publishes a monthly magazine called the *Keizai-Ronso* (経済論叢—"*The Economic Review*"). The following are the various articles with the names of their writers, which have been published in the half-a-dozen numbers of the review during the second half of the year 1933.

JULY NUMBER

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Fundamental idea of economic policy..... Prof. M. Kambe
On the mechanism of saving — a criticism of the abstinence theory ..... Prof. Y. Takata
Nature of economy (I)..... Prof. K. Ishikawa

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The present inflation in Japan ..... Prof. S. Kojima
Possibility of agricultural emigration from the standpoint of the comparative rentability of Japan and Manchuria..... Asst.-Prof. Y. Yagi

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A consideration on the theory of accounts ..... Asst.-Prof. T. Ninagawa
The accumulation of capital (I)..... Asst.-Prof. K. Shibata

ESSAYS

Adaptability of middle and small enterprises to the depression..... Asst.-Prof. I. Otsuka
Loria's view of the world crisis..... Lect. K. Matsuoka

AUGUST NUMBER

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Statistics of infant mortality (I)..... Prof. S. Takarabe

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The accumulation of capital (II) ..... Asst.-Prof. K. Shibata
On credit control ..... Lect. K. Matsuoka

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Sales tax ..... Mr. G. Saeki
The department store and the special store..... Mr. S. Hori

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Struggle of the local retail shops against the provincial despatched sales of department stores ... Mr. S. Hori

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Determination of price of cooperative marketing societies ..... Mr. M. Yoshiki

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On international cartels ..... Mr. K. Isobe
Social unit of the Anglo-Saxon period (I) ..... Mr. S. Takenaka

ESSAYS

Competition and division in retail stores ..... Prof. K. Taniguchi
Types of capitalism ..... Lect. Y. Horie

DECEMBER NUMBER

ARTICLES

A reconstruction plan of the income tax ..... Prof. M. Kambe

LIST OF BOOKS RECEIVED AND EXCHANGED BY "KYOTO UNIVERSITY ECONOMIC REVIEW"

We have the honour to acknowledge the receipt of the undermentioned works, which you have been good enough to send as donations or exchanges to the Department, and to convey to you the thanks of the Department for these welcome additions to our Collection.

I. BOOKS AND PAMPHLETS

1) Bachi, Riccardo: Che cosa è la Banca? (Prof. Riccardo Bachi)
2) Bachi, Riccardo: Le regioni nell'economia nazionale. Roma, 1933-XI. (Prof. Riccardo Bachi)
3) Numeri indici delle variazioni di quantità e dipprezzo negli scambi commerciali con l'estro. (Prof. Riccardo Bachi)
4) Brady, Robert A.: The rationalization movement in German industry. A study in the evolution of economic planning. Berkeley, 1933. $ 5. (University of California Press)
5) Crowther, Samuel: America self-contained. N.Y., 1933. (The Chemical Foundation, Inc.)
6) Fisher, Irving: The debt-deflation theory of great depressions. (Prof. Irving Fisher)
7) Goldschmidt, R. W.: The changing structure of American banking. London, Nov. 1933. 12*s* 6*d*. (George Routledge & Sons, Ltd.)

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9) Hoyt, Homer: One hundred years of land values in Chicago. The relationship of the growth of Chicago to the rise in its land values, 1830-1933. Chicago, 1933. $ 5. (The University of Chicago Press)
10) Laughlin, J. Laurence: The Federal Reserve Act. Its origin and problems. N.Y., 1933. (The Macmillan Company, N.Y.)
11) Ohlin, Bertil: Interregional and international trade (Harvard Economic Studies 39). Cambridge, 1933. $ 5. (Harvard University Press)
12) Remer, C. F.: A study of Chinese boycotts with special reference to their economic effectiveness. Baltimore, 1933. $ 2.75. (The Johns Hopkins Press)

II. PERIODICALS

1) American Federationist: Vol. 40, No. 8, Aug. 1933 —
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3) Journal of the Osaka University of Commerce: No. 1, Sept. 1933.
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5) Memoria de la Superintendencia de Bancos y Estadistica Bancaria: Correspondientes al Año 1932.
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10) Revista de Economia y Estadistica: Vol. I, Num. 3, Julio 1933 —
11) Situacion de las Empresas Bancarias der Peru: No. 10, Mayo 1933 —
12) Weltwirtschaftliches Archiv: Fünftes Erganzungsheft, 1933.

京都帝國大學經濟學部紀要　第八卷　第二號

（定價金壹圓）

昭和九年一月二十五日印刷
昭和九年一月三十日發行

編輯兼發行者　京都帝國大學經濟學部

印刷者　京都市柳馬場通三條下ル松屋町　福井松之助

印刷所　京都市柳馬場通三條下ル松屋町　株式會社似玉堂

發賣所　東京市日本橋區通二丁目六番地　丸善株式會社

KYOTO UNIVERSITY ECONOMIC REVIEW Vol. VIII, No. 2.

Price Yen 1.00

PUBLISHED BY
THE KYOTO IMPERIAL UNIVERSITY,
DEPARTMENT OF ECONOMICS.

SOLD BY
MARUZEN CO., LTD. Tokyo & Kyoto