

Kyoto University
Economic Review

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

VOLUME XVI
1941

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

KYOTO UNIVERSITY
ECONOMIC REVIEW

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

VOLUME XVI

(January 1941)

NUMBER 1

**ECONOMIC FLUCTUATIONS AND
PUBLIC FINANCE**

By SABURO SHIOMI

1. A STUDY OF THE DYNAMIC ASPECT
OF PUBLIC FINANCE

The theoretical study of political economy has made remarkable progress because it has been carried on along objective two separate lines—by the application of the static theory which aims at the study of economic equilibrium and by the application of the dynamic theory which is concerned with the study of the factors of disequilibrium.¹⁾ In the study of the science of public finance also, theoretical development may be stimulated by a separate study of the dynamic and static factors. Needless to say, opinion is divided among economists as to the propriety or otherwise of drawing any distinction between the static and the dynamic theories. Nor is there any fixed opinion as to the lines along which the

1) Dr. Takata; *New Lectures on Political Economy*, Vol. 5.

dynamic theory should be developed ; for its complete development is an objective yet to be achieved. In the science of public finance, this division was introduced comparatively recently, so that the specific study of the dynamic aspects, to say nothing of the division itself, is a field which has still to be explored. The world-wide depression of 1929—1933 which was so disastrous in its effect, gave rise to various theories and controversies. It also caused serious attention to be directed to the bearing of economic fluctuations—cyclical fluctuations especially—on public finance, resulting in many attempts being made to re-examine the whole science of public finance from the point of view of the dynamic theory. As instances of such attempts, I may mention the works of Egbert Munzer²⁾, Harald Fich,³⁾ Herbert Timm,⁴⁾ Sigmar Menard,⁵⁾ and others, culled from my own library, limited though that is. Not that the dynamic theory was entirely lacking in the science of public finance before 1939 or even before the World War, for the law of the expansion of expenditure, the elastic principle of taxation and the principles governing the method of the defraying expenditure had already been enunciated. At the same time these contributions were, after all, a mere conglomeration of fragmentary researches lacking in systematic coordination. At present, however, we observe that earnest attempts are being made to establish a definite dynamic theory in connection with the science of public finance.

Just as public finance is affected by economic fluctuations, so too are these economic fluctuations themselves sometimes induced by public finance. This inter-relation between finance and economic fluctuations need not claim much attention, so long as it is insignificant in scope ; but when public finance comes to occupy an important position in the

2) *Dynamischer Staatshaushalt?* 1931.

3) *Finanzwirtschaft und Konjunktur.* 1932.

4) *Möglichkeiten und Probleme konjunkturorientierter Steuerpolitik.* 1936.

5) *Die Lehre von der richtigen Verwendung des Staatskredits.* 1939.

national economy, it may become necessary to take economic fluctuations into careful consideration in framing the national financial policy. It was partly from the necessity of meeting these actual needs that a concrete policy vis-à-vis economic fluctuations or cyclical fluctuations came to take a place in the science of public finance.

2. SCOPE OF PUBLIC FINANCE AND ECONOMIC FLUCTUATIONS

1. Whereas public finance has always had close and direct connection with politics, it has tended to be detached from actual market economy. That is to say, public finance has been apt to go its own way, independent of the state of market economy, while market economy too has often taken a course which seemed to disregard questions of public finance. It is due to such fortuitous circumstances that the science of public finance has hitherto had little connection with the other branches of political economy. Since the World War, however, public finance has rapidly assumed such extensive dimensions that it has now become impossible to discuss market economy without reference to it.

According to the figures given by Egbert Munzer⁶⁾, the percentage of expenditure to national income became twice as great after the World War (53% for Germany, 30% for Britain, 30% for France and 25% for Italy), as compared with the pre-war figures (30% for Germany, 15% for Britain, 12% for France and 10% for Italy).

The following table shows the relation of taxation to national income in various countries, though the basis of calculation differs from that adopted by Munzer:—

	Britain	America	France	Germany	Italy
Before the World War	11.4	6.4	13.8	10.5	9.6
After the World War	25.6	13.9	24.7	27.4	20.4

6) a. a. O. S. 3—8.

account estimates and those of special accounts) stands at some ¥16,000,000,000, the real expenditure (the aggregate of the general account estimates and the estimates of the temporary war expenditure special account) at some ¥10,000,000,000, the peace-footing net expenditure at something like ¥6,100,000,000, and tax revenues at some ¥2,700,000,000. Assuming Japan's national income to be ¥25,000,000,000, the percentage of the total expenditure to the national income is 64 per cent., that of the net expenditure 40 per cent., that of the peace-footing net expenditure 24 per cent., and that of tax revenue 11 per cent. The national debt totalled ¥25,622,000,000 at the end of September, 1940. The percentage of this national debt to the national wealth cannot be ascertained, as accurate figures for the national wealth are not available, but there is no doubt that it is fairly high.

2. The figures given above cannot be taken as affording unassailable proof, as the basis of the calculations on which they were worked out tends to vary, but there is no disputing the fact that in all countries the percentage of expenditure and taxation to the national income and that of the national debt to the national wealth has steadily risen to a very high level. As the proportion of finance to national economy grows, the need for a dynamic study of the relationship between economic fluctuation and finance increases.

As economic fluctuation implies disequilibrium, it may be analysed in various ways. To facilitate discussion, however, fluctuation will here be classified simply as seasonal fluctuations, long-term tendencies, fortuitous fluctuations and cyclical fluctuations. I shall first deal with seasonal fluctuations and the long-term tendencies, which assume in each country certain fixed types according to the peculiar local conditions, I shall then discuss the unpredictable fortuitous, and cyclical fluctuations. In all cases of economic fluctuation, it is possible to detect two types—one in which public finance influences economic fluctuations and the other in which economic fluctuations affect public finance. In the case of seasonal fluctuations and long-term tendencies, public finance largely

influences economic fluctuations, for here economic fluctuations are predictable, while, on the contrary, in fortuitous and cyclical fluctuations, the economic fluctuations themselves tend rather to affect public finance; for economic fluctuations are hard to predict under such circumstances.

3. SEASONAL FLUCTUATIONS AND LONG-TERM TENDENCIES

1. The climatic changes of the four seasons directly influence primitive and related industries in all countries and they consequently affect domestic commerce and foreign trade. They exert influences not only in the sphere of productive industries but upon day-to-day consumption as well. It is true that in consequence of scientific progress and the development of market economy, seasonal fluctuations due to physical causes are mitigated to a certain extent, but it is impossible to eliminate entirely the seasonal fluctuations which are caused by the marketing of goods or by the stringency or dullness of the money market. So long as there exist seasonal fluctuations, it is imperative that these fluctuations should be duly considered in laying down financial policy.

Taxation forms the most important source of revenue in the finance of a modern State, and as taxes are levied on incomes, they necessarily follow upon the creation of incomes. Since taxation must wait on an accumulation of income, there is, as a rule, a lag in the collection of taxes on such incomes. As apposite examples, attention may be drawn to the income tax on juridical persons which is levied on the actual incomes for the previous fiscal year, or to the sake tax, which is levied some time after the liquor is withdrawn from the warehouses for marketing. On the other hand, the imposition of most of the classified income taxes, the A-class commodity tax, the tax on banqueting and the admission tax follow closely on the creation of the objects for taxation. In Germany, where the system of collecting

taxes in advance has been adopted, seasonal fluctuations caused by a lag in the collection of taxes are obviated to a certain extent.

While there is thus a lag in the collection of taxes in many groups, the situation is different in the case of expenditure. Salaries which constitute the larger portion of personnel expenditure are paid regularly and almost in equal amounts every month. Disbursements for supplies payable every month are not necessarily always uniform, however. It may be noted in this connection that under the Law providing for exceptional treatment of accounts relative to military supplies, which was promulgated as Law No. 16 of 1938, the way is opened for the advance payment of the cost of war materials, which constitutes the major portion of the disbursement for supplies.

There is thus a lag in the collection of taxes, which form the main item of revenue, except in so far as the system for the collection of taxes in advance is in operation, while, on the other hand, there is no such lag in the disbursement of expenditure, some items being paid regularly and in equal amounts every month and some in advance. This diversity gives rise to a deficit in the national treasury, and this deficit is made good by the issue of treasury notes and other short-term bills.

The following table indicates the seasonal fluctuations in revenue and expenditure in the general account compiled from the figures for the fiscal year 1938-1939:—

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Revenue	123	206	427	246	528	115	134	486	534	210	228	156	3,397
Expenditure	138	129	307	397	173	227	254	207	339	186	162	334	2,859

Lastly, reference must be made to the adjustment of seasonal fluctuations in the money market through the medium of bond issues. Under the present dispensation, according to

which enormous bond issues are subscribed to by the Bank of Japan, in the first instance, the market operations conducted by the Bank of Japan have a close bearing on seasonal fluctuations. Nor can it be denied that the date fixed for the payment of interest on public bonds constitutes an important factor in seasonal fluctuations, seeing that interest payments nowadays amount to something like ¥1,000,000,000. The following table shows the amounts of interest on national bonds paid in each month of the year 1939-1940 (the figures given in units of ¥1,000,000):—

	Domestic loans	Foreign loans	Total
April, 1939	16	—	16
May "	—	6	6
June "	155	3	158
July "	5	10	16
August "	23	6	30
September "	150	5	156
October "	23	—	23
November "	4	6	10
December "	159	3	163
January, 1940	9	10	20
February "	23	6	30
March "	167	5	173
Total	738	66	805

Even when the same amount of revenue is collected and the same amount of expenditure is defrayed within one and the same fiscal year, it is necessary to take the seasonal fluctuations of the money market into due consideration. Care must be taken to harmonize the collection of revenue and the defrayal of expenditure with these seasonal fluctuations so as to avert friction as far as possible. This is why the study of seasonal fluctuations is necessary.

2. The law of the expansion of expenditure has long been expounded as an expression of the long-term tendency in public finance. A country whose territory expands and whose

population increases shows increasing economic activity, as a general rule, with a corresponding expansion in public finance. On the contrary, a country whose territory and population are diminishing either barely maintains its finance at the given level or definitely faces retrenchment. This we may call the long-term tendency. As a matter of fact, expenditure is expanding among the great Powers, and in all such countries great pains are being taken to find new sources of revenue in order to meet this expanding expenditure. This is directly traceable, as a rule, to the economic development of the Powers in question, but a contributory cause of this expansion of expenditure is the multiplication of functions within the state.

The following table indicates the long-term tendency in general account expenditure and local expenditure (comprising ordinary economic expenditure in the case of prefectural disbursements, the total of the ordinary and special economic expenditure in municipal, town and village disbursements, and the expenditure of water-supply and civil engineering associations) :—

Fiscal years	National expenditure		Local expenditure	
	In ¥1,000,000	Percentage	¥ 1,000,000	Percentage
1894	78	94	56	128
1899	254	304	115	264
1904	277	332	133	304
1909	532	638	272	621
1914	648	776	327	747
1919	1,172	1,403	662	1,510
1924	1,625	1,945	1,327	3,026
1929	1,736	2,078	1,737	3,896
1934	2,163	2,589	2,266	5,165
1939	4,844	5,798	2,078	4,738

The figure for the fiscal year 1891–1892 is taken as 100 in the index number given in the above table.

From the above table, it will be seen that both national

and local expenditure in every fifth year during the last 45, without a single exception, shows an increase. Compared with expenditure for the fiscal year 1891-1892, expenditure for the fiscal year 1939-1940 is 58 times as great, as regards national expenditure, and 47 times as great, in the case of local expenditure. This enormous increase is a unique example of the long-term tendency. The figures given in the table are those of the general account only in the field of national expenditure. Nor do the figures for local expenditure cover every aspect of this class of economic expenditure. If the expenditure relating to the special accounts is added in the case of national expenditure, and if the items of special prefectural economic expenditure are included in local expenditure, the totals for national and local expenditure will present a most remarkable picture of financial expansion.

4. RECURRING AND FORTUITOUS FLUCTUATIONS

1. Of all kinds of economic fluctuations, the cyclical or recurring fluctuations claim the chief attention. Undulatory changes which do not fall within the category of seasonal fluctuations or long-term tendencies are regarded as cyclical fluctuations. Some scholars regard the amplitude of undulation as covering even as great a period as 50 years; others tend to limit it to five or ten year periods, while some still others devote attention to the phenomenon of fluctuations, without attaching any importance to the factor of amplitude.

Fortuitous fluctuations are not rational fluctuation, such as the seasonal fluctuations, long-term tendencies or cyclical fluctuations, but irrational fluctuations occurring at random. They arise for the most part from causes not directly connected with economy, for example, as a result of war and natural calamities; but the effects which they produce on the economic world are very far-reaching. Especially at a time like this, when another European war has broken within twenty-five years of the conclusion of the first World

War, we are unable to consider economic fluctuations apart from fortuitous fluctuations. Furthermore, when fortuitous fluctuations assume the properties of established phases, the fortuitous elements have merely become absorbed in other kinds of economic fluctuations; resulting in the creation of new seasonal fluctuations, long-term tendencies and cyclical fluctuations.

Inasmuch as seasonal fluctuations and long-term tendencies have certain fixed traits, it is possible to devise measures to deal with them in advance, but in the case of cyclical fluctuations, it is difficult to make any accurate forecast as to the amplitude or extent of the fluctuation. Particularly in the case of fortuitous fluctuations, as it is impossible even to predict their advent, special methods of investigation, not adopted in the study of the other kinds of economic fluctuations, must be employed.

2. Economic fluctuations can be analysed in various ways, but the index number of commodity prices is one of the most useful indicators. The study of cyclical fluctuations in particular ought to be developed on the basis of the various indices for commodity prices. The following table shows the annual average of the indices of wholesale prices for the past 32 years, compiled by the Bank of Japan (in which the figure for 1900 is taken as 100):—

	Index number		Index number		Index number		Index number
1908	124.6	1916	154.6	1924	273.2	1932	161.1
1909	118.8	1917	194.5	1925	266.8	1933	179.5
1910	120.3	1918	254.8	1926	236.7	1934	177.6
1911	124.7	1919	312.0	1927	224.7	1935	185.5
1912	132.1	1920	343.2	1928	226.1	1936	197.5
1913	132.3	1921	265.1	1929	219.8	1937	238.2
1914	126.3	1922	259.1	1930	181.0	1938	251.3
1915	127.8	1923	263.5	1931	153.0	1939	277.5

The index figure was lowest in 1909 at 118.8 and highest in 1920 at 343.2. Lows occurred in 1909 (118.8), in 1914

(126.3), in 1922 (259.1), in 1927 (224.7) and in 1931 (153.0), and peaks in 1913 (132.3), in 1920 (343.2), in 1924 (273.2) and in 1928 (226.1), and now a new peak is about to be formed. During the 32 years under review, serious sporadic fluctuations were experienced during the World War, the Manchurian Affair and the China Affair, while business fluctuations with far-reaching and even world-wide effects occurred during the panic of 1917-1918. From the ups and downs of the indices of commodity prices, we can deduce the successive occurrence of all kinds of economic fluctuations—in particular of fortuitous fluctuations and cyclical fluctuations.

3. The effects which economic fluctuations produce on public finance are various. They vary according to the volume of revenue and expenditure and also in accordance with the kinds of revenue and expenditure. Some move upwards or downwards in parallel with economic fluctuations, that is, they increase when business is prosperous and decline in time of business depression; some move contrariwise, decreasing when business is good and increasing when business is bad; while others remain stationary and totally unchanged by economic fluctuations. These relations ought to be made clear over the entire range of public finance, in the study of economic fluctuations. The present study, however, will be confined to phases relative to expenditure, as effects on taxation have already been dealt with in connection with the principle of elasticity. Studies of the nature referred to will therefore be deferred to a future occasion, together with an analysis of public loans.

Expenditure is variously classified according to different standards. It is classified, for instance, as constitutional, administrative and financial expenditure, or as military, civilian and debt-servicing expenditure, or it may be classified according to the Governmental Departments concerned. Furthermore, it may be separated into ordinary and extraordinary expenditures, or into optional and essential expenditures. Here, for the purpose of discussion, I shall divide it into the

“consumption” and “transfer” expenditures. The consumption or real expenditure, which is expenditure in the narrow sense, comprises the cost of supplies and personnel expenses. The main items of the transfer expenditure are the loan-servicing fund, pensions, annuities, relief and other social grants and subsidies. The effects which economic fluctuations produce on consumption and transfer expenditure are not the same.

The personnel expenses constitute the most important item of consumption expenditure, and the salaries of Government officials, which represent the major part of the personnel expense, are slow to respond to cyclical fluctuations—except in those countries which have adopted the sliding scale whereby salaries are increased or reduced according to the rise or fall of commodity prices. If official salaries are increased in immediate response to a rise in prices, this will stimulate an increase in the wages and salaries which private firms and factories are paying, thereby increasing the general purchasing power and accentuating the upward tendency of prices. It is for this reason that official salaries cannot easily be raised even when there is a rise in prices. Nor can official salaries be easily reduced in times of business depression, though a reduction at a lower rate than the fall in prices implies an increase rather than a decrease in pay. The Hamaguchi Cabinet learned to its cost how difficult it was to reduce official salaries even in times of business depression. In short, official salaries are stationary by nature, and not subject to changes dependent upon business prosperity or depression. Among the items of personnel expense, however, payments other than official salaries usually increase or decrease in harmony with conditions of business prosperity or depression; for the services of persons other than Government officials have a strong tendency to pass into private channels under certain circumstances. Since, however, the idealistic factor operates quite strongly in all occupations, it is unlikely that even those not in the regular service of the Government will be induced to offer

or withhold their services solely in consideration of the relative levels of pay in Government and private employ. In any case, personnel expense is not so sensitive to cyclical fluctuations as the expenditure connected with supplies, though there is some difference in the degree of response to cyclical fluctuations between official salaries and the payment of individuals other than Government officials.

The expenditure connected with supplies stands second among the items of consumption expenditure. The cost of supplies increases as prices advance and decreases as prices fall, being very sensitive to cyclical fluctuations. The effects of cyclical fluctuations are instantaneous in some cases, while they are not so immediate in others, varying according to the procedure adopted by Government offices in the purchase of commodities. In regard to materials for which Government offices have a monopolistic demand, it is possible for the authorities to check the increase of expenditure by compulsory means, whenever there is a sharp rise in price. At the same time when there is a serious fall in price, they can peg their purchases at a reasonable level with a view to safeguarding future productive power. On a broad view, however, expenditure connected with supplies is very sensitive to fluctuations in price, and in this regard it stands in striking contrast to the item of personnel expense—particularly in the case of official salaries.

One noteworthy fact regarding consumption expenditure is that there are some items, both of personnel expense and supplies expense, which expand in times of business depression. For instance, the defence expenditure expands because, in times of business depression, the equipment which would otherwise lie idle, is utilized to increase armaments, or heavy defrayals are made because new enterprises are launched for the relief of the unemployed.

Most items of transfer expenditure are either unaffected by economic fluctuations or move in a contrary manner. The national debt, principal and interest, requires to be paid, irrespective of fluctuations in prices, unless a large-scale

conversion into low-interest loans is effected ; while pensions, annuities, relief and other social grants have a tendency to increase when business depression sets in after a war or other grave upheaval. So far as subsidies and grants-in-aid to local public bodies or private enterprises are concerned, they have to be paid in fixed amounts, regardless of prosperity or business depression.

Thus, the effects of price fluctuations on various items of expenditure are diverse. Supplies' expenditure expands or diminishes according to the rise and fall of prices ; the cost of social works move in inverse ratio to fluctuations in prices ; and transfer expenditures—the national debt servicing fund in particular—remain unaffected by price fluctuations. These factors which are variously affected by price movements must be properly dovetailed and adjusted, and it is necessary, moreover, to effect this adjustment not only over the entire area of expenditure but in relation to revenue as well. Adjustment on the revenue side necessarily involves the question of the organization of the tax system and the flotation of deficit-covering loans.

5. ECONOMIC FLUCTUATIONS AND FINANCIAL POLICY

1. Comparison of the situation before the first World War with the situation prior to the outbreak of the present European war serves to show that in all countries the volume of finance involved in the national economy has doubled in the sphere of expenditure and taxation, and multiplied several times over as regards public loans. It is difficult to predict how the present European war will end, but when it is remembered that wartime finance in the present struggle has already achieved a scale far greater than any reached in the World War, there is little doubt that the position which finance will occupy in the national economy will gain considerably in importance at its conclusion. There is little room for doubt that defence expenditure will not diminish,

and it may even positively increase. No matter what measures may be taken to redeem the accumulating national debt, it is certain that the loan-servicing fund after the war will be incomparably larger than before it. Nor is there any doubt that there will be an increase in the pension and annuity and in the cost of implementing social legislation. If expenditure continues to expand or fails to return to the pre-war level, some special measures will have to be elaborated on the revenue side, especially as regards taxation and bond issues. Market economy and public finance are inter-related. There may be cases where economic fluctuations in market economy will sway finance; or conversely cases where finance will exert a controlling influence upon economic fluctuations in market economy. However, for some time to come at least, the influence which public finance will exert upon economic fluctuations in market economy will be more extensive than the opposite tendency.

2. In the analysis of economic fluctuations, special importance is usually attached to cyclical fluctuations. As regards seasonal fluctuations and long-term tendencies, there is little room for special study as they possess certain fixed trends, while as to fortuitous fluctuations, they may be regarded as special phenomena which fall outside the realm of political economy. Accordingly, scientific interest centres in the study of cyclical fluctuation. It might be argued that we should treat fortuitous fluctuations as a special phenomena, which go and come as illogically as the winds of heaven, but as a matter of fact, they occur too frequently and produce effects too far-reaching to justify such an attitude. Fortuitous fluctuations which have become established operate to create a new orbit for all kinds of economic fluctuations—cyclical fluctuations, seasonal fluctuations and long-term tendencies. In order to make clear the relation between public finance and economic fluctuations, attention must be directed to fortuitous fluctuations which have thus become established. It would nevertheless be wrong, in this particular study, to ignore economic fluctuations other

than fortuitous ones, for each country possesses certain types of economic fluctuation peculiar to itself, and fortuitous fluctuation often takes definite shape through the operation of these special economic factors.

Economic fluctuations in market economy influence public finance to some extent, and this in turn, affects market economy so that new economic fluctuations are caused, and so on ad infinitum. The national economy of all countries goes on developing by recapitulating this process of action and reaction. In certain circumstances, public finance may take its own course, regardless of economic fluctuations in market economy, but this is impossible in these days when a close relationship has been forged between finance and economic fluctuations in market economy. As to the extent to which economic fluctuations in market economy should be woven into public finance, opinions differ. The negative body of opinion contends that economic fluctuations should be integrated with public finance only in so far as would serve to eliminate fluctuations in market economy; while the positive body of opinion maintains that financial policy should be based on economic fluctuations. It thus becomes necessary in public finance to study the problem of policy as regards business fluctuations.

It is to be anticipated that the static and dynamic studies which are being carried out in the field of theoretical political economy will be introduced into the science of public finance before long. The present science of public finance, which is concerned chiefly with the study of equilibrium, tends to fall within the category of the static theory. A new aspect will be given to the science of finance by the study of the dynamic state in which the system of equilibrium is disturbed by economic fluctuations.