An Dynamic Analysis for Marginal Productivity Theory and Planning of Investment

Ryōichi Suzuki

We start with marginal productivity of labor. The industrial marginal productivity is not simple average of marginal productivity of each firm. When a large firm succeeds in innovation and increases its production and employment, the distribution of labor and product in that industry will be changed. Other firms will follow the productive method which first firm succeeded, and will evaluate its marginal productivity. The ratio of increase for marginal productivity of each firm is not simultaneous, but will be different. Then the discrepancy of productivity between many firms will change. We analysed this change mathematically and got the reasoning that the discrepancy tended to decrease. Then we analysed the discrepancy of value marginal productivity of labor between many industries, and got similar reasoning.

By such analysis, the evaluation rate of marginal productivity shows different value for the evaluation rate of average productivity, theoritically, we should use the index-number of marginal productivity, not average productivity When we talk about marginal productivity, we ought to analyse the planning of investment. The investment to fixed capital will be planned in view of long-period, chiefly about the rate of growth for the product of that industry. On the other hand, the investment to liquid capital will be planned in view of business cycle. In spite of these two sorts of investment are planned in different point of view, the distribution of investment should be decided to maximize total profit, because the capital fund is not infinite. The number of planning period to fixed capital will be larger than the number of that to liquied capital. We analysed the maximization of total profit, and got the modified marginal productivity principle. That is, marginal rate of substitution between these two sorts of investment is to coincide the reciprocal of relative price of each capital multiplied by the relative rate of growth of each investment—the latter will be affected by the technical progress and decreasing marginal productivity principle.

To test this reasoning, we analysed the distribution of investment of each industry by Japanese statistical data in 1957 year. By modifiing professor Farell's method, we showed the indifference curve to liquidity preference. From firm data, we got technical (psychological) efficiency and price (interest) efficiency between many firms. Then we analysed the distribution of fixed and liquid capital between many firms. But if we analyse statically, the trading industry is superior to other industries—in view of technical efficiency. This result is to be modified by introducing of planning period for two sorts of investment. Thus we shall get the exact result that the aggregate money efficiency of heavy and chemical industry is relatively large.

The Funds Flow Statement

Kichinosuke Takahashi

It is generally considered that two balance sheets, one at the beginning and one at the end of the period, and an income statements, together with its related retained earnings reconciliation statement, are raw materials for preparing the funds flow statement. The author has developed a new practice of preparing the statement directly from the accounts record, without balance sheets and other financial statements, for the purpose of presenting a method of reporting the flow of funds over any shorter period than a fiscal year.

A trial balance is prepared over a period on which the fund flow statement is intended to be made that consists of only entries of increase and decrease in every account based upon transactions taken place over the period. This trial balance may be called a "Funds Flow Trial Balance," which is defferent from the trial balance prepared under the usual accounting practice in that the former does not involve the figure of the beginning balance in each account. The funds flow trial balance is the basic data with which the funds flow statement is provided, because this trial balance involves the same figures as the comparative balance sheet figures with which the funds flow statement is prepared under the traditional method. The funds flow trial balance can be prepared at any time, even in the middle of the fiscal year wherever the accounts record is available, without making financial statements, while it is only after the financial statements have been made that the comparative balance sheet figures can be provided.

This method can be applied to the preparation of the fiscal fund flow statement, and it opens the way of determining the net income for the year from the fiscal funds flow statement. The author illustrates this process on a work sheet through which the reader may understand in more real feature the relationship between the flow of funds and of the income in a certain business entity.

If the flow of funds could be presented with the revenue and expense on the financial statements, the latter would more clearly disclose the process of coming out the net income than they do at present and the more real extent of distributable amount of income would be measured. The author illustrates a form of combining the funds statement with the income statement and the retained earnings reconciliation statement, and combining the "Changes of Working Capital" with the balance sheet.

The Rise of the Timber-Producing Districts and the Evolvement of the Forestal Policies

Junichirō Uji

It is very difficult for us to decide the time when the beginning of the modern forestry in Japan dated from. But considering the correlations of forestry with other industries and the conditions of marketing of forest products, I think it may be sought in the time between the end of the Meiji and the early Taishō period, when the main timber-producing districts arose one after another.

Just before that time, the amendment of the forest law was realized in 1907 and subsequently a series of the forestal policies was begun. They were the bounty policies and had originally formed a part of the program of the industrial exploitation after the Russo-Japanese War.

But in course of time, the substantial character of these policies changed in quality and after all they became to aim at rather the problems of the public forests, above all, the consolidation of ownership of the hamlet forest lands, than the exploitation of the private forests. In addition to it, by the appearance of the Shinrin-Chisui-Jigyō (the flood control afforestation project) the encouragement of afforestation was proceeded, but this project was inclined to give priority to afforestation for rather flood control than exploitation of forest production.

Such evolvement of these forestal policies was reflected on the tendency at that time that in spite of the advancement of tree planting, above all on the public forests, the output of forest production, the fall for timber and fuel, stagnated or declined.

The Reform of Security for Old Age in Britain, Its Course and Character

Masuo Fujisawa

Sir (later Lord) W. Beveridge argued in his famous Report of 1942 that any social security benefits paied as of right without test of means should be adequate for minimum subsistence without other means. 'The subsistence principle' was generally regarded as the central idea of the Beveridge Plan, and so this means providing, as an essential part of the plan, a pension on retirement from work which is enough for subsistence, even though the pensioner has no other resources whatever.

But in practice the rates of benefit and pension since the operation of the National Insurance Scheme have not yet reached subsistence level as Beveridge defined it. Year after year rising prices have eaten away the real value of the pension, then nearly a million and more retirement pensioners and their wives are forced to rely on supplementation from the National Assistance Board. Why is it? One reason is the increase in prices; another-even more important-is the structure of National Insurance itself.

The national contributory pension has always been a flat-rate payment in return for a flat-rate contribution. But the limitations of this system set an important social problem. The contributions must necessarily be fixed at a level which the lower-paid can afford and therefore are not even sufficient to pay for the present level of pensions. Even apart from this the pension scale possible under a flat-rate scheme is necessarily restricted. This restriction dose not matter much to the higher-paid worker if he is also getting further pension rights in an occupational scheme. But despite their encouraging growth, occupational schemes do not yet cover much more than one-third of the total working population including half the men and seem unlikely to cover nearly everybody, at any rate for some time to come.

The alternative is some graduation of contributions and pensions according to earnings.

It has long been known that the Labour Party was preparing a proposal for a new National Superannuation Plan for persons reaching retiring age. This plan of the Labour Party has been maked public in May 1957. The Labour proposes that there shall be a national pension consisting of two parts—a flat-rate part and a part graded as a percentage of earnings. According to the plan, the basic pension payable at 65 to all insured workers would be increased immediately from £ 2 to £ 3. It would be supplemented by a superannuation system related to earnings, which would be compulsory for everyone not participating in an approved private scheme or possessing adequate provision for old age.

The aim of the plan is to ensure that, in return for extra contributions, a pension equivalent to 'half-pay' at 65 for the average wage-earner is reached. The employee would contribute 3 per cent of his earnings, the employer 5 per cent and the Exchequer 2 per cent of the total earnings of the community. Self-employed persons would contribute 8 per cent. The maximum benefit would be £ 750 a year. Payment of pensions might not be, as at present, conditional on retirement.

The Labour's national superannuation benefit would be based on life earnings, taking account of their real value from the beginning of the worker's career and of the increase in the national income which had occurred since that time. Contributions in each year of working life would be related to the level of average of national earnings in the year when the pension was assessed.

Opposing the Labour's plan, programm Government's programme to put the National Insurance Scheme on a sound financial footing and at the same time to introduce into it a measure of graduated contributions and retirement pensions related to earnings is announced in a White Paper on 14 Oct. 1958.

The main features of Government's proposals are: (1) The basic flat-rate pensions would stay as they are now for all contributors, although those earning £ 9 a week or less would pay a smaller contribution. (2) On earnings between £ 9 and £ 15 a week workers (and employers) would pay graduated contributions of 8.5 per cent of earnings, as P.A.Y.E. deductions, in return for a wage-related supplementary pension. (3) The Exchequer would support the new scheme by a yearly payment of £ 170 m. (4) To meet the rapidly rising cost of retirement pensions, contributions would have to be increased at five-yearly intervals during the first twenty years and would not add to graduated pensions.

Thus, both the Government's scheme and the Labour's plan take bold step away from the universal flat-rate system, departing from the Beveridge principle of treating all men equally in social insurance irrespective of their rates of wages or other earnings. Both of them envisage adding a new graded superannuation pension to the existing National Insurance pension, while permitting approved private schemes to contract out' on certain conditions. But, on careful comparison, the grading in the Government scheme is a financial device for getting more money to support the scheme. It looks as if one aspect of it is the purpose of keeping the Exchequer contribution down to a steady £ 170 m. In other words, it is a financial scheme even more than a pension scheme.

On the contrary, the Labour proposed scheme, though it may be much more costly than envisaged and may be inflationary, leads to a very substantial redistribution of income from the higher-paied skilled worker to the unskilled worker and from the young to the old