

A Contribution to the Theory of Distribution and Welfare

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Abstract

This paper is based on my final lecture as a professor of economics at Shobi University. I shall take this opportunity to talk about the distribution and welfare theory and about my academic contributions to this theory¹.

First, the development of the theory in income and asset distribution is considered. One of my contributions in this field is a hypothesis on the long-term V-shaped curve behaviour of the relative income share and another is a theorem on the optimum share of wages.

Second, I suggest possible reasons why the proportion of gross national asset to national income (or GDP) ratio tends to increase. In this paper, I suggest a possibility of the long-term V-shaped as to the relative share of workers' asset in the future.

Third, alternative theories of stagflation are considered. As well known, in the 1970s Milton Friedman explained stagflation by the adapted expectation hypothesis. In the beginning of the 1970s I tried to explain an alternative cause of stagflation and the reversal of Phillips curve by the differential increase rates between wages and labour productivity.

Fourth, I explain the hypothesis on the role of social factors that influence production and productivity increase. In 1983, at the International Conference on Productivity held in Tokyo, I tried to testify the hypothesis by econometric methods. Social factors were supposed to play an important role in the Japanese style of management.

Fifth, after introducing the development of pension plans in Japan, I show a theoretical model that was used for the pension reforms.

Sixth, I introduce the development in making social indicators in Japan.

Last, I retrospect the development in the theory of welfare mix and show why the welfare mix is necessary in enhancing efficiency and justice at the same time.

キーワード

Optimum share of wages / V-curve behaviour of the share of wages
Asset-based policies / Welfare mix

1. Development of Theories on Income and Asset Distribution

The first area of concern to me in economics had to do with the distribution of income. In the 1960s, the share of wages in Japanese firms was remarkably low compared with that in the firms of highly developed countries such as the US and the UK. For example, the share of wages² of Toyota automobile company in 1964 was 16%, while the comparable figure for the big three automobile companies in the US was more than 50%. Why were there such large differentials in the share of wages? This puzzling question was one of the reasons why I chose income distribution as my first study subject. At the end of the 1950s, I presented a paper at the annual Conference of the Japanese Association of Theoretical Economics and Econometrics. I suggested as a hypothesis V-shaped curve behaviour in the long-term share of wages³, which, I learnt later, was similar to Simon Kuznets' U-shaped curve on income distribution. I thought that the share of wages deteriorates at the early stage of economic development when an economy grows rapidly. However, after a turning point, the relative income share of wages begins to increase again.

With regard to historical transformation by stage of economic growth, I was influenced by the growth stage hypothesis suggested by W. W. Rostow. From the mid-1950s to the mid-1960s, the Japanese economy experienced a structural transformation into a highly developed economic stage (Maruo, 1962). A structural change took place in the labour markets, when a demand shortage economy was transformed into a supply shortage one as a result of the high rate of economic growth. In the transitional period of this transformation, changes in wage differentials by firm size began to be seen. The wage differentials, which subsequently became larger, began to reduce in the 1960s. In addition, the share of wages, which had been declining, began to increase. The behaviour of the share of wages is assumed to behave as shown in the V-shaped curve in Chart 1 (Maruo, 1962; Kato and Maruo, 1963;

Maruo, 1965), which is similar to the Kuznets U-shaped curve for personal income distribution (Kuznets, 1955). There are several ways to explain a declining trend in the share of wages during the industrialization stage and an increasing trend after the turning point (Maruo, 1965 and 1975).

Firstly, as Arthur W. Lewis suggested, labour markets change from an unlimited labour supply to a limited supply (Lewis, 1965).

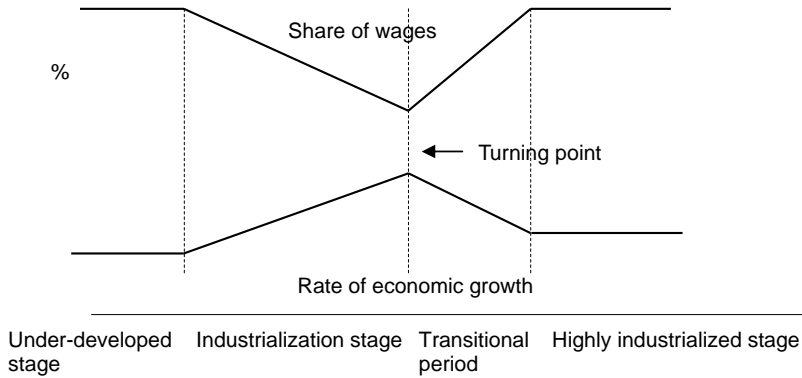
Secondly, the increase in investment ratio and the rate of economic growth as well as the capital / output ratio influence the share of wages. The well-known relationship between the share of wages and economic growth, investment ratio and marginal capital/output ratio⁴ suggests that the share of wages declines when the rate of economic growth and the investment ratio and the capital / output ratio increase.

Thirdly, a feature of the industrialization stage is the development of the heavy industry sector, which needs a higher capital / labour ratio. The increase of the relative weight of this sector will entail a decline in the share of wages. However, after the turning point it is the tertiary industry, in which the share of wages is relatively high, that develops. The changes in industrial composition will influence the behaviour of the share of wages.

It is highly probable that for these reasons the share of wages tends to decrease during the industrialization stage and increase in the transitional period. As a result, a V-shaped curve as shown in Chart 1 is observed.

In the labour market, wage differentials by age were decreasing as a trend from the beginning of the 1960s. The proportion of average wages of 20 ~ 24 year olds to the average wages of 50 ~ 54 year olds increased from 19% in 1960 to around 34% in the 1990s. A similar trend is observed in the wage differentials by firm size. In this respect, inequality in income distribution in the working population decreased markedly compared with the beginning of the 1960s. Also in the same period, as mentioned above, the relative share of labour increased. Common variables are assumed to work behind the behaviour changes in the share of wages and the wage differentials

Chart 1 Hypothesis to explain the Trend in the Share of Wages W/Y



(Maruo, 1963; Maruo, 1965; Maruo, 2004).

2. An Approach to the Optimum Share of Wages

(1) Optimum Share of Wages Theorem

Along with the positive studies on the behaviour of the relative share of wages, there have been normative studies on the share of wages. Nicklas Kaldor, who was a professor at Cambridge University when I stayed at the University from 1972 ~ 1973, suggested the concept of an equilibrium share of wages, which was assumed to adjust the aggregate demand to a level equal with the aggregate supply. I tried to develop the theory of an equilibrium share of wages into the theory of an optimum share of wages. Just as the theory of optimum consumption assumes maximization of the present value of per capita consumption over time, the optimum share of wages theory assumes a share ratio that maximizes the present value of wages in the long run.

Assuming that the investment of a company is solely financed by profits of the company, an increment of value added ΔV depends on the share of wages Ω as Eq.(1) shows;

$$\Delta V = S_p \sigma (1 - \Omega) v_1 \text{ -----(1)}$$

$$\Delta W = \Omega \Delta V \text{ -----(2)}$$

substituting (1) into ΔV in Eq.(2) the dual effects of Ω are shown as Eq (3).

$$\Delta W = \Omega S_p \sigma (1 - \Omega) v_1 \text{ -----(3)}$$

Differentiating Eq (3) with respect to Ω ,

$$\Omega = 1/2 \text{ -----(4)}$$

where an matured economy is assumed and σ is assumed not influenced by Ω . Under this most simplified assumption, the share of wages that maximizes the increment of wages is $\frac{1}{2}$. On the other hand, the share of wages that maximizes the present wages is, of course, 1.0. The actual optimum share of wages is between these two cases. The longer the period of employment that is assumed the smaller the optimum share of wages will become smaller.

Assuming a simplified two-period lifecycle model⁵, the present value of employees' total compensation including bonus, fringe benefits of employees in a company is

$$W^* = W_1 + \frac{W_2}{1+t} \text{ -----(5)}$$

where W means total wages, t implies the time discount rate. W^* is the present value of lifetime wages (including fringe benefits). The total wages of each period are $V_1 \Omega + S_p \sigma (1 - \Omega) V_1 n$

Subscript figures denote a period. For example denotes n_1 in period 1 and denotes n_2 in period 2. n is defined as n_2/n_1 .

In the case of a simplified two-period model, the optimum share of wages in the sense that maximizes the present value of employees' lifetime income is deduced (Maruo, 2004).

$$\text{Optimum share of wages } \Omega^* = \frac{1}{2} \left(1 + \frac{1+t}{\sigma S_p n} \right) \text{ -----(6)}$$

where W^* : Present value of lifetime income, W_1 : Total wages including fringe benefits in period 1, P : Profits, t : Time discount rate, V : Value added, Ω^* : Optimum share of wages as % of value added, s_p : Savings ratio of the company profits, σ : Productivity of investment.

Subscription 1 denotes period 1, and 2 denotes period. $n = n_2/n_1$.

$V = W + P$, $1 - s_p$ = pay-out ratio of profits. In this simplified model, total wages are $W_1 + W_2$

Simplified Eq.(6) suggests that the optimum share of wages decreases and approaches 1/2 as n , σ and s_p increase, while the optimum share of wages increases as time discount ratio t increases. When n , s_p and σ are sufficiently large, the optimum share of wages approaches 1/2 (50%). This relationship is what I called the theorem of the share of wages (Maruo, 1997). Once J. M. Keynes wondered why the share of wages remained constant. And Allen Rucker found that the share of wages in firms remained constant around at 40% on average. The above-mentioned mechanism may suggest a possible reason to support their findings.

In Japan, n was large because of the practice of lifetime employment. The dividend ratio $(1 - s_p)$ has been kept low. Because of the mentality of the Japanese people as expressed in the saying "senyuu kouraku (work and save at present to enjoy later)", we may assume that t was also low.

One of the reasons for the low share of wages and low pay-out ratio in the 1950 ~ 1980s in Japan that made the high rate of productivity growth possible may partly be attributed to the rational behaviour of employees. They agreed to restrain the share of wages on the conditions mentioned above, i. e. high s_p , σ and n , in order to increase the size of "the future pie".

(2) Influence of Saving and Share Ownership by Workers on the Optimum Share of Wages

So far we have assumed that investment is financed solely by the profits of the company. When a part of the investment of a company is financed by borrowed money, the relationship is somewhat complex. Still the fundamental relationship and the optimum share of wages do not change, if the interest paid on borrowed money is counted as a part of profits.

However, if we assume that a part of the sav-

ings of the company is financed by the savings of employees' compensation, an important change takes place as to the savings function and the distribution of share ownership. The investment of a company is now financed by the savings from both profits and wages as the Kaldorian savings function (7) shows.

$$s = (s_p - s_w)(1 - \Omega) + s_w \text{ ----- (7)}$$

Therefore, Eq.(3) is modified into Eq.(8).

$$\Delta W = \Omega \sigma V \{ (s_p - s_w)(1 - \Omega) + s_w \}. \text{ ----- (8)}$$

Differentiating Eq.(8) with respect to Ω , we obtain the share of wages that maximizes the increment of wages, when workers save and invest their savings⁶. If $s_w > 0$ continues, workers' assets become larger and larger and the conventional class distinction between the capital owning class and the working class will become obsolete.

$$\text{Optimum } \Omega = \frac{1}{2} \frac{s_w}{s_p - s_w} \text{ ----- (9)}$$

Eq.(9) shows that the share of wages that maximizes the increment of wages becomes higher than $\frac{1}{2}$ when s_w is positive and $\frac{s_w}{s_p - s_w} > 0$. The relation holds fundamentally with a two-period model. This implies that this condition is realized and if the savings of employees are used to finance investment, the optimum share of wages to maximize the increment of wages increases and therefore the share of wages that maximizes the present value of the lifetime income of employees will also increase. This implication is important for solving or mitigating the trade-off relationship between high productivity increase and equity for employees.

3 . Asset-Based-Depression and Asset-Based Anti-Depression Policies

(1) Asset-based Economic Policies Coping with Asset-Based-Depression

The second field in which I have been interested is asset-based economic policies.

At the beginning of the 1990s, both Sweden and Japan fell into serious depression.

Japanese experiences in the 1990 suggest that new anti-depression policies are necessary to recover from the new type of depression. In an era

where the influences of assets have become so large, neither a neo-classical policy nor a Keynesian policy that are concerned mainly with managing economic flows are sufficient. Positive asset-based policies are sometimes required to make market mechanisms work well. The Swedish case in the 1990s is of special interest when studying policies at times of financial crisis (Maruo, 1996 ; Suzuki, 1999; Maruo, 2002).

In my paper in 1999 I wanted to suggest asset-oriented economic policies as a means of coping with financial and asset-based depression (Maruo, 1999 and March 2002).

Firstly, I suggested that at the first stage of financial and asset-based depression, government support for financial institutions in crisis was the most effective device for overcoming this kind of depression. Comparing the contrasting anti-depression policies of Sweden with those of Japan is most instructive. Sweden experienced the bursting of its bubble in 1989 / 1990 and serious depression in 1990 ~ 1993 with a negative growth rate, falling asset prices, balance sheet consolidation, financial fragility, unemployment and expanding public deficits. The timing and experiences of the bubble and bursting were similar to those of Japan, but the policies adopted by both countries contrasted with each other. In 1993, the Japanese Government introduced a typical Keynesian anti-depression policy in the form of expanding public works, while the Swedish Government in 1993 ~ 94 spent 4.66% of GDP not on public works but to support financial institutions. The effects of anti-depression policies in the two countries were impressive. The Swedish economy recovered from depression in 1995, while the Japanese economy was unable to recover from stagnation. This experience seems to suggest that asset policies such as separating "bad banks" from "good banks" (Englund, 1999; Suzuki, 1999), injecting new equity into banks in crisis, and issuing guarantees to the bank owners for loans that enabled the banks to fulfil their capital requirements are more effective than a Keynesian type of demand expansion such as increasing government expenditure for public works. We may interpret this as being because asset effects on depression

are so large that without restoring asset markets and improving the balance sheets of firms especially banks, there will be no recovery from the asset-based depression.

(2) Asset Effects on Consumption and Investment

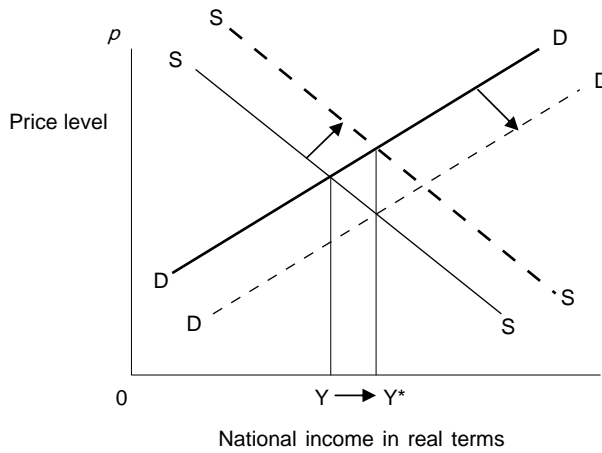
Asset effects on private consumption have been well recognized and supported by empirical tests. For example, in the case of Japan, the fluctuation of private consumption in the period 1960 ~ 1999 is well explained by income and asset value changes (Maruo, 1999 and 2000). Asset effects with regard to private investment have been observed as well, especially in recent years in Japan. Private investment and private consumption will increase as asset prices rise.

When asset prices fall, not only the off-the-book property of the balance sheet of banks but also the net worth of banks reduces⁷, which, in turn, reduces the lending ability of banks. Injecting new equity into banks will increase their credit functioning. In my paper in 1999, I explained the possible effects of injecting new equity into banks in financial difficulty by a simple mathematical model based on the balance sheet of the bank (Maruo, 1999 and 2002).

We may assume that the neo-classical model pushes down the aggregate supply curve to the southeast as Chart 2 shows by pushing down the costs of firms and the government sector. On the other hand, the Keynesian demand-pull policies pull up the aggregate demand curve in a north-east direction. If the asset-based policy of injecting public money into banks reduces the default credit and increasing credit function of the banks, the policy will pull up the aggregate demand by increased investment. The best policy mix for asset-based depression is to reduce the supply costs of firms and public sector on the one hand, while pulling up aggregate demand by injecting public money into banks on the other.

If a larger portion of these financial assets were to shift from small risk assets such as deposits and government bonds, etc. to domestic stock as happened in the US and a few European countries in

Chart 2 Aggregate Demand and Supply Curve



the 1990s, share prices would rise and if this were to happen in Japan, the Japanese economy would begin to develop again (Maruo, 1999 and 2002) However, in Japan most personal financial assets were held as safe deposits and private insurances. In 2001, Japanese families held 1420 trillion yen in personal financial assets. Most of these financial assets were owned as bank deposits, private insurance policies and bonds. In 2002 investment in company shares and mutual investment funds amounted to only 4.3% and 2.3% respectively out of the 1420 trillion yen. Moreover, most of the huge public and occupational pension funds amounting to several hundred trillion yen were held as safety assets. Asset allocation in Japan was far from the optimum allocation. Since then, the Japanese economy has begun to recover. It is too early to say that the policy mix since 2002 was effective. Still we can guess that the economic policy in depression has changed from a Neo-classical or Keynesian policy to the above-mentioned policy mix.

4. Alternative Explanation of Stagflation in the 1960s and 1970s

(1) Negative Correlation between the Rate of Economic Growth and Price Increases

Most economists have assumed and suggested,

either explicitly or implicitly, that a positive correlation exists between the rate of economic growth in real terms and the rate of price increases. This relationship is sometimes called a trade-off relationship between faster economic growth and price stability.

However, the short-run relationship between the rate of economic growth in real terms and price increase which had been positive before 1960 reversed from the beginning of the 1960s to a negative one. Such a change took place in some of the highly industrialized countries such as the United States, the United Kingdom, West Germany and Japan. An analysis of the causes of this reversal will be useful in explaining the causes of "stagflation" in these countries around 1970.

The positive correlation between them was quite clear for the period 1956 ~ 1961.

$$\dot{P} = - 2.961 + 0.5483\dot{Y} \text{-----(10).}$$

(32.9) (8.70)

$$R = 0.95$$

Figures in parentheses under the co-efficient are t statistics.

However, the relationship after 1962 was changed into a negative one (Maruo, 1969).

For the period 1962-1969

$$\dot{P} = 8.337 - 0.249\dot{Y} \text{-----(11),}$$

(8.26) (2.76)

$$R = 0.72$$

where \dot{P} stands for the annual rate of consumer price increases and \dot{Y} for the annual growth rate

of GNP in real terms. If the price increase of imported goods and services is added as another independent variable, the negative correlation is clearer.

In those years of stagflation the existence of a negative correlation between the rate of economic growth and the rate of price increase was not an exceptional phenomenon evident only in Japan. Contrary to the conventional assumption, it seemed that the negative correlation had become more prevalent in the 1960s in several highly industrialized economies.

This paradoxical fact had been noticed by some economists. For example in England, sir Roy Harrod pointed out :

"What is purely noteworthy is that during the main periods of expansion there was no increase in adjusted prices at all.

The price increases all came in the periods of relative stagnation" (Harrod, 1967). Earlier than that, Norman Macrae referred to the same phenomenon (Macrae,1963).

I explained stagflation by reference to the

sticky wage increase and flexible productivity increase. The rate of nation-wide labour productivity fluctuated in proportion to the rate of economic growth, while wages were sticky and less sensitive to it as Chart 3 A indicates. As a result, the rate of price increase, which was an increasing function of <the rate of wage increase - the rate of labour productivity increase>, was larger when the rate of economic growth was low (Maruo, 1969; 1972; Maruo, 1989) .

$$\dot{P} = F(\dot{w} - \dot{y}) \text{----- (12)}$$

where \dot{P} : Rate of price increase, \dot{w} : Rate of wage increase in nominal term, \dot{y} : Rate of increase in nation-wide productivity.

In those days, when cost-push inflation was dominant in the highly industrial countries especially in Europe, the above explanation from the cost side was convincing.

5. Social Factors that Influence Production and Productivity

Since the 1970s, I have worked at the Japan

Chart 3 A Alternative Explanation of Stagflation

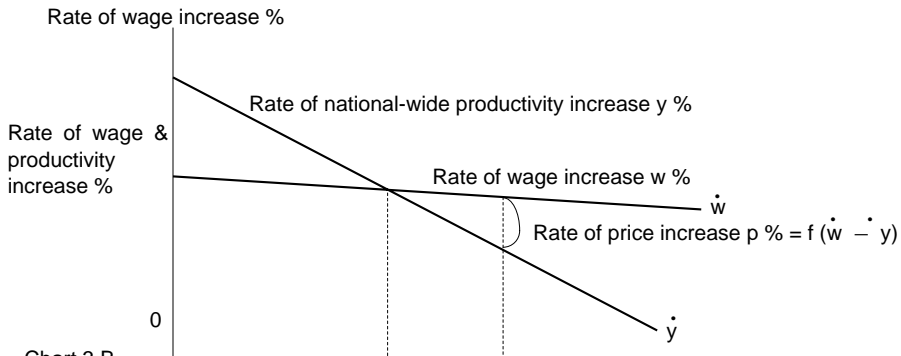
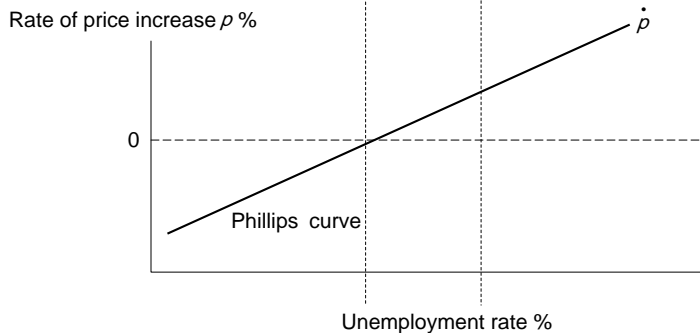


Chart 3 B



Productivity Center⁸ as one of the core research members and I have had a number of opportunities to present and read my papers at international conferences on productivity. The International Productivity Symposium with its theme "Revitalizing the World Economy through Improved Productivity" held in Tokyo in 1983 began with Professor Assar Lindbeck's key lecture. Professors Solomon Fabricant, John W. Kendrick and I presented papers⁹ on productivity at the Symposium. In my paper, I used econometric methods to analyze the factors that influenced productivity increase. I emphasized that besides the increase of capital / output ratio, value added / turnover ratio, etc., social factors such as social integration and cooperation based on communication and mutual trust in labour management relations influenced productivity functions and contributed to productivity improvement. Social factors are sometimes difficult to express in quantitative units. To overcome this difficulty I introduced two devices. First, I used social and institutional indicators to quantify the differences in quality, institutions and systems. For example, the spread of worker participation in the system is indicated by the proportion of those companies with joint consultation systems, employee suggestion systems, etc., to total companies in the industry.

Another device I used to make quantitative indicators of cooperation was the method of aggregating those indicators. As the social factor indicators are correlated to each other, multicollinearity is inevitable. To evade this technical difficulty, an aggregated social indicator was made by adding up the standardized figures of ten indicators, which represent the degree of cooperation, communication and integration between labour and management as well as among employees.

The regression formula on productivity increase for 14 industries improved significantly. Formula (13) shows the regression. The determination coefficient improved remarkably by adding an aggregated social integration indicator as an explanation variable (Fabricant et al, 1984).

$$\dot{y} = -302.1310 + 2.0618\dot{k} + 3.2089v + 4.1231s \quad (13)$$

(- 4.70) (3.37) (3.04)

$$\bar{R} = 0.8531 \quad (3.84)$$

\dot{y} : Rate of labour productivity increase, \dot{k} : Rate of increase in the capital / output ratio, v : the value added / turnover ratio, s : Aggregated indicator of social factors

R. M. Solow suggested technological progress and Harvey Libenstein suggested X-efficiency as factors that influence production and productivity functions. We may assume that social factors play a similar role in production function to the role played by technological progress, X-efficiency and recently suggested social capitals. An econometric analysis of social factors which improve production that I attempted in the early 1980s may have contributed to the development in production economics.

6. Pension Reform and Pension Models

In 1970, pension reform became one of the concerns of economist. In 1975, as the chairman of the Welfare Policy Committee set up by the Japan Productivity Center, I edited a report on pension reform. The report was published by the Center in 1977. Before that, I published a paper on a pension model. I tentatively made an actual pension plan based on the model for the period 1975 ~ 2005 using the population forecast of the Government (Maruo, 1973 and 1975).

The fundamental framework of the pension model that was used for the pension plan was as follows.

Assuming that a pay-as-you-go principle operates and that pension expenditure is financed by the social insurance fee and the Government subsidy of g % of pension benefits in each year, pension expenditure and pension revenue are as shown in equations (14) and (15).

$$B = bN_b \quad (14)$$

$$B = \alpha yN + G \quad (15)$$

The rate of social insurance fee α that is required to finance pension benefits is obtained by solving the equations (10) and (16) by α .

$$\alpha = \frac{b N_b}{y N} (1 - g) \text{-----(16)}$$

When a pension fund is managed by a funding system, Eqs. (14), (15) and (16) are modified as Eqs. (17), (18) and (19) (Maruo, 1975; Maruo, 1996年; Maruo, March, 2004).

$$B = bN_b + \Delta A \text{----- (17)}$$

$$R = \alpha y N + iA + G \text{----- (18)}$$

$$\alpha = \frac{b N_b}{y N} \left\{ 1 + \frac{A}{B} (\dot{A} - i) \right\} (1 - g) \text{-----(19),}$$

where A : Pension fund balance, B : Total expenditure for pension benefits, R : Total revenue of pension benefits, b : Pension benefits per head, y : Average income of those who burden the pension expenditure, N : Number of those who burden the pension expenditures, N_b : Number of those who receive pension benefits, ΔA : Increment of the pension fund = $R - B$ in each year, \dot{A} : Rate of increase in pension fund, i : Return rate of pension fund, G : Government subsidy, g : Proportion of government subsidy to total pension benefits.

I forecast the financial situation for 1975 ~ 2005. As far as I know this was the first pension plan in Japan based on a mathematical model (1973 and 1975).

Since then, more detailed pension models and pension plans based on the models were drawn up by the Government and by several economists including myself. But the fundamental framework of model has still not changed from the 1973 model that I made.

7. Making Social and Welfare Indicators,

At the beginning of the 1970s, thanks to fast economic growth for two decades, the per capita GNP (gross national product) of Japan approached that of the level of European countries in terms of the US dollar. It was at this point that Japanese people suddenly realized that the level of welfare

and quality of life in Japan were still far behind European countries. Their national goal then changed from faster economic growth to a higher standard of welfare and quality of life. I wrote a book "The Post GNP Era" in 1971 reflecting this kind of social mood. In the book, I suggested the concept of GNW (gross national welfare) using social indicators. In fact, I constructed a tentative GNW, which was an aggregate of social indicators in 18 areas. Each indicator was converted into a standardized score, and the scores were simply aggregated. At the beginning of the 1970s, as a member of the research committee of Domei, the National Organization of Trade Unions, and later as a member of the Government Council of National Life I also helped to make welfare indicators.

In 1973 the Japanese economy experienced an economic boom, and the social responsibility of companies became a social concern. The Japan Productivity Center set up a research committee to study the problem. As the chairman of this committee, I edited a report on social responsibility indicators. The report was published by the Japan Productivity Center in 1974. One year later, the Japanese Congress for Industry and Commerce set up a separate research committee on corporate social contribution. Again I was selected as the chairman, and I edited a report on corporate social contribution, which was published in 1975. Unfortunately, at the time when these two reports were published, the bubble economy burst, and business circle lost interest in corporate social responsibility. In the 1980s, Tokyo Metropolitan Government published every year social indicators for all of the 48 prefectures in Japan. I worked to make the social indicators for 5 years as the chairman of the Social Indicator Research Committee in Tokyo.

8. Designing 'Welfare Mix'

In the conventional welfare state, "flow-based policies" such as demand management and income redistribution played dominant roles in stabilizing the economy and achieving a fairer distribution of income. The Swedish Professor Assar

Lindbeck once deplored the fact that the welfare state was '— transformed into a "transfer state" with policy-induced redistribution'. He emphasized in particular the importance of 'attempts to redistribute the ownership of human capital, financial capital and physical assets in favour of low and low-middle income groups' (Lindbeck, 1993). In the new welfare society, assets and asset-based economic policies and egalitarian asset-based welfare policies will play important roles. It is necessary to make the market system and economic justice compatible.

(1) Why 'Welfare Mix'?

Another important difference between the conventional welfare state and the post-welfare society has to do with the composition of the economic and social system. The conventional welfare state is a mixed economy comprising an economic market system and a political planned system, while in the post-welfare society the third system will play a more important role than in the conventional welfare state (Maruo, 1984). The third system is the social and informal system. In *The Japanese Model of a Welfare Society* published in 1984, in the course of explaining the differences in the new model of a welfare society, I pointed out that not only the government, but also the market and informal systems such as family and voluntary organizations will play important roles. *It is not only the government that provides and*

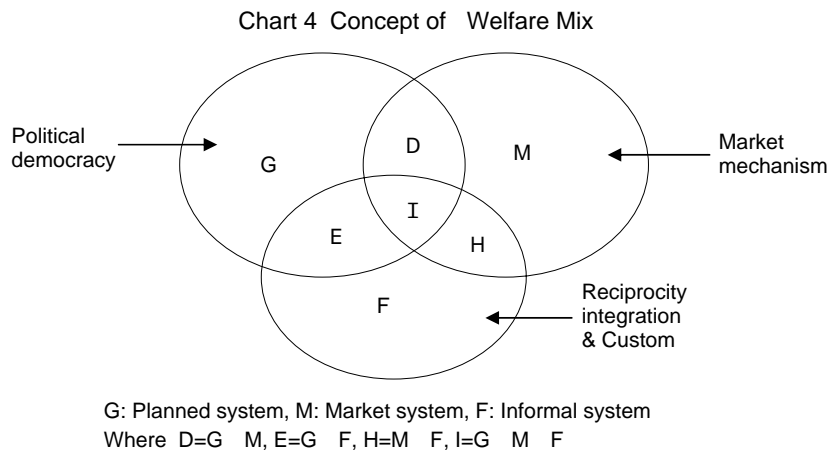
produce 'welfare'. The market sector, the informal sector and mixed sectors should be given more importance as providers and producers of 'welfare' (Maruo, 1984, p.175) ¹⁰.

In the same book, I used Chart 4 (below) to illustrate the concept of the welfare mix in visual terms ¹¹.

Each system has its own system of governance as Table 1 indicates.

A well-designed welfare mix is required to mitigate the increasing burden of social security and environmental costs. The market system guided by the invisible hand of the market mechanism aims mainly at improving efficiency, while the planned system based on political democracy aims mainly at improving equality or justice. In addition, the social and informal system is important in solving the problems that neither the market system nor the planned system can resolve. The social and informal system pursues human values such as solidarity, sympathy and mutual trust, which are inaccessible to the market system based on self-interest. The larger the market system, where people behave on the basis of self-interest, becomes, the more important is the role expected for the informal sector, where people behave on the basis of sympathy and mutual trust. To realize these plural policy objectives, plural systems are necessary (See Table 1 and Maruo, 2002).

As Jan Tinbergen's theorem suggests, to realize plural policy objectives, the same number of poli-



cy means are necessary. Therefore, to realize conflicting plural policy objectives, a policy mix strategy is required as suggested by J. E. Meade and Robert Mundel. I learned the principle of policy mix and the importance of asset ownership in a market economy from J. E. Meade when I was staying at Cambridge University. A welfare mix model is an analogical application of the concept of policy mix to an economic system.

The welfare needs of the people may be assumed to be better satisfied and they may be assumed to be better off if resources are allocated across the three systems so that the total system approaches close to the optimum mix. In their edited book, *The Welfare State: East and West, 1886*, Richard Rose and Rei Shiratori considered three types of welfare state, namely the US, Scandinavian countries and Japan. In Scandinavian countries, the share of the political and planned system G in Chart 4 is assumed to be relatively large, while in the US, that of the economic and market system M is dominant. In Japan, the role of the family in the social and informal system F is relatively large. In Japan, families have played more important roles, for example, in caring and nursing the elderly and children, than in Scandinavian countries¹².

(2) Towards an Optimal Welfare Mix and Policy Mix

In order to satisfy the increasing need for wel-

fare services and to maintain a steady economic growth at a time of financial difficulties, it is necessary to develop new economic and welfare policies.

First, as mentioned above, the Japanese model of an optimum welfare mix (Rose & Shiratori, 1986; Maruo, 1984, Kato & Maruo, 2002) is expected to lessen the excess burden of tax and social security contributions in future on the one hand and the heavy burden of families, mainly women, in caring for the elderly and children on the other. A welfare mix will be required in terms of pension provision (Wadensjö, 1997; Maruo, 2004). Health and personal social services have to be changed so that the market system and the informal system including NPOs play more important roles in providing those services in future not only directly but also contracting in public services. Organizations in the public sector must be reformed so as to make them more market-oriented and efficient (Maruo, 1996). The government, however, will continue to play an important role in providing the social services to meet basic needs of the people and providing the framework of fair competition. This is necessary to avoid serious market failures.

Second, asset-based economic policies and egalitarian asset-based welfare policies have to be developed. The more important the roles played by markets, the more important are the roles required for asset policies. A policy mix of more markets with fairer share of asset ownership is

Table 1 Social Systems, their Policy Objectives and Functions

System or Policy Means	Main policy objective	Main governance function
Political & planned system	Equality	Democracy based on majority rule
Economic & market system	Efficiency	Market exchange based on market mechanism
Social & informal system (Family, NPO, volunteer, etc.)	Humanity	Social exchange & reciprocity based on mutual trust & social integration

necessary in order to realize efficiency and equity at the same time. This was what I wanted to insist on in my book *Market-Oriented Welfare Reform* in 1996 (Maruo, 1996). Chart 6 illustrates the difference between the conventional welfare state and a new market-oriented welfare state from two points of view. Firstly, the conventional welfare state assumed that the mixed economy consists of the government sector and the market sector, while the new market-oriented welfare state assumes that the welfare mix consists of three sectors. Secondly, the conventional welfare state depends too much on income redistribution policies, which were sometimes in conflict with the market system and efficiency. The market-oriented welfare state attaches more importance to the distribution of social and financial assets. The conventional welfare state is shown as A in Chart 5. It will change from A and move in the direction of the market-oriented welfare state shown as B in the Chart .

Besides, in Japan, the government has to make the maximum use of production potential by developing "welfare industries " and by encouraging the employment of the potential labour forces of seniors and females. The life expectancy of the Japanese people is longest in the world, while the official retirement and pensionable age are the youngest among the highly developed nations. The labour participation ratio of females in Japan is 55 ~ 59 % and the female-male earnings differentials are, in a cross-national comparative context, very large. In labour markets "There is a high degree of gender segregation" (le Grand and Tshiko Tsukaguchi-le Grand, 2005). If the labour participation ratio increases and the pensionable age of the elderly is raised, the dependency ratio in Eq. (16) and (19), and the financial situation of public pension funds will be remarkably improved¹³. However, if the present low total fertility rate in Japan continues, the public pension will go bankrupt in the future. In the long-run, improvement of the total fertility rate is necessary. It can also be assumed that there is a possibility, as Chart 6 suggests, that a U-shaped curve will arise in respect of the total fertility rate. However, the total fertility rate in highly developed countries

will not improve automatically. Scandinavian countries and France succeeded in improving the total fertility rate after experiencing low fertility rate by introducing productive family policies and female-friendly working conditions. .

Improving the dependency ratio by increasing the labour participation ratio on the one hand and improving the total fertility rate by providing favourable conditions for working women on the other hand is a possible policy-mix in present-day Japan.

By developing the above-mentioned policies, it is quite possible to maintain a steady rate of economic growth and a sustainable welfare system at the same time.

Chart 5 From Conventional Welfare State to Market-Oriented Welfare State

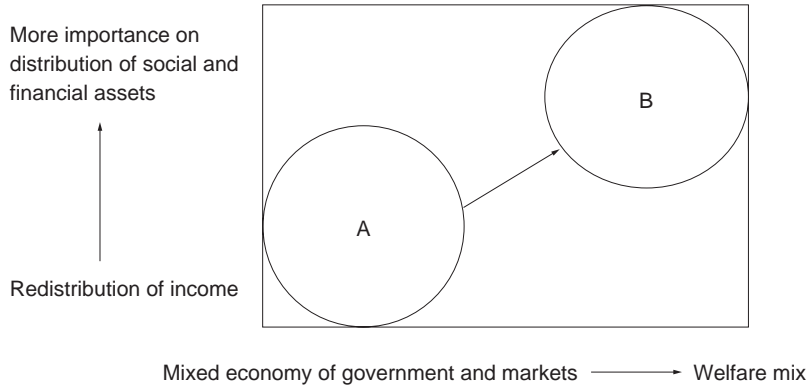
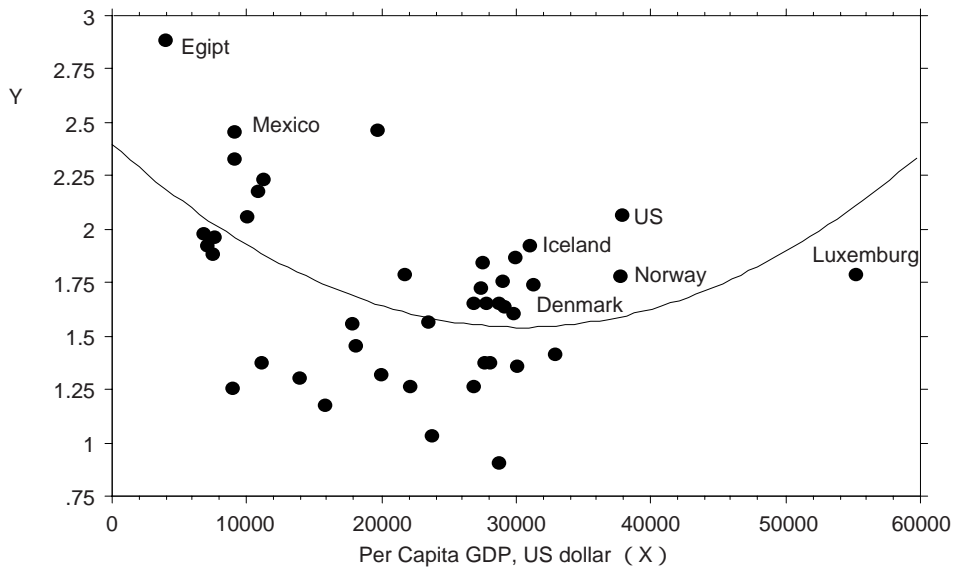


Chart 6 U-Shaped Curve in the Total Fertility Rate (Y)



$$Y = 2.399 - 5.642E-5 X + 9.276E-10 X^2; R^2 = 0.25$$

Source: ICA
Statistics, OECD.

References

In English

- Englund, Peter (1999) 'The Swedish Banking Crisis : Roots and Consequences', *Oxford Review of Economic Policy*, Vol.15, No.3 .
- Esping-Andersen (2002), *Why We Need a New Welfare State?*, Oxford University Press.
- Fabricant, Solomon, John K. Kendrick, Naomi Maruo, e al (1984), *Measuring Productivity*, UNIPUB, USA.
- Harrod, Roy (1967), *Towards a New Economic Policy*, London.
- Jongus, Lars and Joakin Stymne (1997), 'The Great Regime Shift: Asset Market and Economic Activity in Sweden', in Forrest Capie and Geoffrey E. Wood-eds *Asset Prices and the Real Economy*, Basingstock, Macmillan
- Lewis, Arthur. W. (1959), "Economic Development with Unlimited Supplies of Labor" in *Paradigms in Economic Development*, Rajani Kanth, ed., M.E. Sharpe.Armonk, New York, 1994.
- Kaldor, Nicholas (1960), *Essays on Value and Income Distribution*, London.
- Kaldor, Nichlas (1964), *Essays on Economic Policy*, London.
- Keister, Lisa A., *Wealth in America: Trends in Wealth Inequality*, Cambridge University Press, 2000.
- Kuznets, Simon (March, 1955), "Economic Growth and Income Inequality" in *The American Economic Review*.
- le Grand Karl and Toshiko Tsukaguchi-le Grand (2005) in Maruo, Naomi, Andre Björklund and Karl le Grand eds. (2004), *Welfare Policy and Labour Markets*, Almqvist International.
- Lindbeck, Assar (1993), *The Welfare State: The Selected Essays of Assar Lindbeck*, Vol. , Edward Ekgar.
- Macrae, Norman (1963), *Sunshades in October*, London.
- Maruo (1965) ' Structural Transformation of the Japanese Economy', *Journal of Economics (Keizaigakuronan)*, Chuo University, November, 1965.
- Maruo, Naomi (May 1983) " An Econometric Analysis of the Relationship between Labour-Management Relations and Productivity Increase", *The Journal of Economics*, Vol. 24, No 3.
- Maruo, Naomi (1989), *Economic Policy Management*, Chuo University Press.
- Maruo, Naomi (1997), 'Japanese Management Practices: Their Implication on Productivity, Employ-

ment and Income Distribution' *International Journal of Production Economics*, 52.

- Maruo (may 2006) "Development of the Welfare State: Redesigning Market and Dstribution Policies" in Nihon University *Kiyou*.
- Maruo, Naomi, Andre Björklund and Karl le Grand eds (2004), *Welfare Policies and Labour Markets*, Almqvist International.
- Rein, Martin and Eskil Wadensjö (1997) *Enterprise and the Welfare state*, Edward Elgar.
- Regan, Sue (2001) *Asset-Based Welfare: International Experiences*, IPPR.
- Regan, Sue (2001) *Asset-Based Progressive Welfare*, IPPR.
- Rose, Richard and Rei Shiratori, eds. (1986) *Welfare State: East and West*, Oxford University Press .
- Suzuki, Kenji (1999), *Rethinking Japanese Bad Loan Management*, European Institute of Japanese Studies, *Working Paper Series 93*, Stockholm School of Economics.
- Vissel Jelle, "Gösta Rehn, the Swedish Model and the Dutch Miracle", in Milner, Henry and Eskil Wadensjö eds.(2001), *Gösta Rehn the Swedish Model and Labour Market Policies: International Perspective*, Ashgate.
- Wadensjö, Eskil and Naomi Maruo (2001), *Changing Labour Market and Economic Policy*, Life Design Institute, Tokyo.

In Japanese

- Kato, Hiroshi & Naomi Maruo, eds. (1963, January), " Trend in the Capital / Output Ratio and Relative Income Share, *Mita Keizaigaku Zashi*, Tokyo.
- Kato, Hiroshi and Naomi Maruo (2002), *Designing Welfare Mix*, Yuhikaku.
- Maruo, Naomi (1962), "The Stage of Economic Development and Income Distribution", *Mita Jjournal of Economics*.
- Maruo, Naomi (March, 1963) 'Structural Transformation of the Japanese Economy', *Journal of Economics*, Chuo University.
- Maruo, Naomi (1969), " Relation between Economic Growth and Price Increase. " in *Journal of Economics : Against Conventional Wisdom*, Chuo University Press..
- Maruo, Naomi & Yoshitaka Fujita (1965年) *A New Theory on the Share of Wages*, Diamond Press.
- Maruo, Naomi (March, 1973) *Financial Plan for Public Pension*, *Weekly Social Security*.
- Maruo, Naomi (March, 1973) "A Model and planning

for Social Security". in Mutou, Tadayoshi, Naomi Maruo and Kaoru Sumiya, *Economics of Welfare*, Seirin Shobou.

Maruo, Naomi (1975), *Economic Policies for Welfare*, Nihonkeizai Sinbunsha

Maruo, Naomi (1984), *Japanese Model of Welfare State*, Japan Broadcast Corporation.

Maruo, Naomi (1996), *Market-Oriented Welfare Reform*, Nihon Keizai Shinbunsha.

Maruo, Naomi (1993), "Depression in the 1990s and Asset Policies" in *Journal of Economics*, Chuo University Press, March 1999.

Maruo, Naomi (2002), "Anti-Depression Policy to Cope with Asset-Based Depression: Implication as Compared with the Swedish Experience", *Annual Report of the Institute for Economic Studies No.32*, Chuo University, March 1999..

Maruo, Naomi (2003), "Economic Development and Kuznets Curves on Income Distribution and Environmental Quality, *Mita Journal of Commerce*.

Maruo, Naomi (March 2004), "Market-Oriented and Asset-Based Pension Reform : lessons from Swedish Experiences, *Shobi University Quarterly*.

Notes

- 1 . I want to thank Mr. Maurice Jenkins, a British expatriate living in Tokyo, for proofreading the draft of my paper.
- 2 . Here the share of wages = employees' compensation / gross value added.
- 3 . The share of wages in macro economy means employees compensation / (employees compensation + asset incomes).
- 4 . Assuming a simplified two sector model, the relationship is expressed as the following equation (Kaldor, 1960 and 1964). Assuming $Y = W + P$, $Y = I + C$, and $I = S$,

$$\frac{W}{Y} = 1 - \{(s_p - s_w) vG + s_w\}$$
,
 where $Y = W + P$, $Y = I + C$, $s_p > s_w$, and $\frac{I}{Y} = vG$
 Y : National income, W : Wages, P : profits, I : Investment, S : Saving, C : Consumption, s_p : Propensity to consume profits, s_w : Propensity to consume wages, v : Marginal capital / output ratio, G : Rate of economic growth.
- 5 . We assume that the value added of a firm is composed of wages and profits.
- 6 . It is of interest to note that if $s_w > 0$, employees build assets. Therefore savings from workers' assets should be included in Eq. 9. However, if s_w is larger than s_p , the fundamental mechanism changes as Paul Samuelson and R. M. Solow once suggested (Maruo, May 2006).
- 7 . According to BIS regulations, 45 % of the off-the-book property of a balance sheet is redeemed as net worth.
- 8 . Japan Productivity Center merged with Social and Economic Congress and the new organization is now called Japan Productivity Center for Social and Economic Development.
- 9 . The papers presented at the Symposium were published as a book (Fabricant et al).
- 10 . This Chart was originally published in Maruo, 1984, p.74.
- 11 . In "Japanese Model of the Welfare Society, the term "welfare mix" was not used. It was Richard Rose and Rei Shiratori who suggested the concept (Rose and Shiratori., 1986).
- 12 . The classification of these three types of welfare capitalism is well known as the name of Esping-Andersen (Esping-Andersen, 1990). Richard Rose and Rei Shiratori classified the welfare supply system into three types. They edited a book inviting scholars from three type of welfare state, i.e. government-oriented Scandinavian countries and the UK, the market-oriented US and informal sector oriented Japan (Rose & Shiratori, 1986).
- 13 . The financial difficulty in future social security funds in Japan is sometimes over exaggerated. If the proportion of the elderly 65 years old and over to the total population becomes 28 % in 2030, the proportion of social security benefits / national income ratio will be 30-32% according to my estimate (Wadensjö and Maruo eds.2001). A recent Government estimates that even if the present social security system changed, the proportion in the 2020s will be lower than that of European countries so long as the average rate of economic growth in real terms is maintained higher than 1.5%.