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An Introduction and a Synopsis

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An Introduction and a Synopsis

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It is widely appraised that the post-war Japanese society not only achieved a miraculous economic growth but also a commendable degree of equality in income distribution. Not everyone sees the same thing in making such a statement. Some people arrive at the conclusion out of an impression that the living standard disparity among the residents of major cities in Japan is far smaller than that in other countries. Some people might say that the equality in income distribution can be inferred from the fact that the Japanese cities are one of the safest cities to live in the world with respect to crime. Such impressionistic judgements are perhaps more commonplace than is usually supposed.

There are, of course, judgements based on statistics. According to a handy table of the World Bank (World Development Report 1992, Table 30) the lowest 20% of households in Japan receive 8.7% of total household income while the top 10% of households receive 22.4% (in 1979). The corresponding income shares in other countries come to; 4.7% and 25.0% in the U.S.(in 1985), 5.8% and 23.3% in the U.K. (in 1979), 6.8% and 23.4% in West Germany (in 1984), 6.3% and 25.5% in France (in 1979), and 8.0% and 20.8% in Sweden (in 1981). These figures show that Japan is roughly comparable with Sweden in being a country with relatively small income disparity. It is perhaps Sawyer's study¹⁾ that promulgated most the evaluation that Japan was an equal society in terms of income distribution. It collected and compared the income distribution statistics of ten advanced countries and concluded that

Japan was the foremost country in terms of income equality. The statistics collected for this study were those of the late 1960's and the early 1970's. Such dates happened to coincide with the last phase of the rapid growth era in Japan in which various measures of income differentials diminished sharply.

There are insurmountable barriers to international comparisons of income distribution statistics such as coverage of surveyed units and definition of income components among each country, which make researchers most cautious and hesitant of actually conducting such a comparison. As a matter of fact, series of criticisms doubting the reliability of Sawyer's conclusion appeared since its publication, and until the recent emergence of a unified cross-country database on income distribution (i.e., Luxembourg Income Study, unfortunately Japan does not participate in it) little attempt has been made to re-rank income inequality across countries²⁾.

Even if cross-country numerical comparisons are difficult, over-time changes in income inequality indices in each country are quite meaningful. In particular, if there is an acute change, it suggests that there have been some significant changes in economic structure, market environment or social institutions. Recently, there indeed occurred major changes in the level of inequality indices in a number of countries.

Until the beginning of 1980's, there existed a wide understanding that income distribution among households or individuals was quite stable or showing a long-run trend of gradually decreasing inequality. As an illustration, in the U.S. for a period of over a quarter century from the 1950's throughout the 1970's, the top 1% tax unit and the top 5% tax unit each kept an almost constant (before-tax) income share of around 8% and 18-9%, respectively³⁾. Since the beginning of 1980's, however, a dramatic rise in income

inequality occurred in both the U.S. and the U.K., shattering the previous understanding. In terms of the foregoing illustration, the income share of the top 1% tax unit became 14.7% while that of the top 5% became 26.6%, certainly an acute rise from the previous levels. What is significant also is that inequality indices of both before-tax and after-tax incomes have risen. The latter has much to do with a decrease in the degree of progressivity in taxation whereas the former has much to do with an increase in the inequality of labour earnings. Throughout 1980's the real earnings of the low-educated unskilled workers have even declined in absolute terms, which has become much of a social concern. In the U.K., too, the real earnings of unskilled workers have risen almost nil during the same period.

What appears on surface as a similar disorder has emerged in the Japanese scene. According to the Income Redistribution Survey (Ministry of Welfare), the Gini index of income inequality among all households in Japan, including single person-households, has exhibited a rise from .35 to .43 in terms of primary income (i.e., before taxation and social security adjustment) and a rise from .33 to .42 in terms of after-tax income, roughly ten points increase for both during the period of 1980 to 1989. Such numerical changes are roughly comparable with the magnitude of income inequality increase in the U.S. and the U.K. over the same time interval. Nevertheless, in view of the fact that an increase in the Gini coefficient of household income (non-single and non-agricultural households only) during the same period according to the Family Income and Expenditure Survey (Bureau of Statistics) was no more than .02 - .03, and similarly that an increase in the Gini coefficient of individual wage earnings (among the regularly, non-part time employed in private firms with 10 or more employees) turned out to be small -- around .01 to .02, the main actor of the disorder is suspected to be

an increase in the non-labor force population or in works with low earnings both of which are associated with the aging of the population as well as an increase in the unattached elderly persons. In fact, in terms of post-redistribution income, i.e., adjusted not only for taxes but also for social security payments and benefits, the Gini coefficient showed an increase of 5% from .31 in 1980 to .36 in 1989, indicating that the impact of the increase in the degree of inequality in primary income is roughly halved by income redistribution. It is particularly noteworthy that the disparity in wage earnings has not expanded as in the U.S. or in the U.K.

The inequality indices of income distribution remain, however, to be only summary indicators of the state of income distribution or economic inequality, in general, in a country. It may be likened to the temperature of a human body. When something goes wrong in a human body, it will usually lead to a rise in the body temperature. Therefore, when the temperature rises to an abnormal level, one goes to a physician for a diagnosis. Needless to say, the wholesomeness of specific organs and the homeostasis of the human body, which ultimately governs the temperature, cannot be seen unless one examines the body carefully from many different angles. In particular, it is not known from the body temperature alone.

Similarly, distribution of income is a very complex phenomenon. Carrying the human analogy further, the healthiness of income distribution can be diagnosed from two respects; equality, on the one hand, and compatibility with a reasonable rate of economic growth, on the other. Equality is a multi-faceted concept. Of course, what one regards as economically equal might differ among different individuals, yet in the modern democratic society there seems to exist at minimum the following general consensus; first, equality of opportunity towards social and economic positions and offices of

responsibility; second, fairness of rewards paid on individual effort and contribution; third, rectification of large income disparity resulting from differences in initial conditions among individuals and social assurance of the satisfaction of minimal needs of individuals. The first and the second refer to criteria concerning the process of generating income itself (or procedural inequality), while the third is a criterion with respect to final income, or that concerning redistribution of income.

The first criterion --equality of opportunity-- requires that the basic human rights including freedom of occupation and moving are assured and that the opportunities to enhance individuals' social and economic positions through education, vocational training, other types of learning, saving and risky investment are equally given, independent of individuals' birth and of parental wealth and status. The second criterion --fairness of rewards-- requires that the individuals are paid equally for the same effort and contribution; in particular, it specifically asks that discriminatory treatments of women and racial minorities are eradicated. The third criterion --redress of undeserved inequality-- requires that the differentials of effort and contribution among individuals that are not due to individual faults, such as gifted talents, presence of illness and physical handicaps, and income differentials attributed to inherited wealth are to some extent shared by all individuals in the society, reducing the revenue of high income individuals and securing the life of the needy individuals.

The judgement of equality in income distribution must generally rest along the foregoing three criteria. It is also desirable at the same time to examine the alternative perspective, namely the compatibility with economic growth. It is only after such a multi-faceted evaluation of each country is completed that any meaningful cross-country comparison of social and economic

equality can be initiated.

What about the equality of distribution of wealth among individuals or households? A large portion of wealth that individuals or households accumulate will eventually be consumed within the life-cycle process. Such a portion may be called the life-cycle wealth. The rest is transferred to the next generation in the form of inheritance, which may be called the inherited wealth. For instance, owner-occupied housing constitutes a major part of life-cycle wealth as housing services generated by it are consumed every year. The portion that is transferred to the next generation is nonetheless also large. What requires somewhat special treatment is the educational expenditure of parents toward children, especially those related with a higher education. Although educational expenditure is regarded as consumption in the ordinary income accounting framework, it can more aptly be viewed as parents' gift inter-vivos to children (hence a part of inherited wealth) as it enhances the latter's earnings capacity. Another issue of importance is the a public pension system operating in most developed nations today as a system that complements individual life-cycle wealth, in particular, the savings for old age. In the case of Japan, as in many other countries, the system largely operates as a pay-as-you-go system, and for that reason, there is no real substance of wealth ear-marked for each individual. Yet the young generation can be viewed as obtaining an imaginary wealth termed future pension rights by annually paying pension fees.

Even with regard to the distribution of wealth, the foregoing criteria for income equality apply as wealth generates income periodically in the form of interests, dividends and capital gains. Additional consideration is required concerning the magnitude of inherited wealth. As described earlier, such a portion runs counter to the first criterion, namely the equality of

opportunity. Furthermore, if this portion becomes giant, it may harm the democratic social system itself through the power such wealth confers upon the owner.

The main theme of this book lies in the examination of the present state and the recent movement of the Japanese society in light of the foregoing viewpoints. Among the three criteria of equality stated previously, this book focuses on the first and the second. Discussion from the viewpoint of the third criterion is left for another book (the last chapter being the exception), as it requires an extensive examination of the system of income and wealth taxes, the social security system and the system of various public institutions including education and medical care.

This book is divided into four parts. The first part examines in detail the state of income and wealth distribution among Japanese households and the movement of factor shares between wages and profits at the macro as well as industrial levels. It considers the main actors of the movement in the distribution of income, taking into consideration the relationship with economic growth. (Chapters 1-4.)

The second part analyzes more closely the factors that generate earnings disparity among individuals, and evaluates the degree to which the criterion of fair rewards is fulfilled. (Chapters 5-6.)

The third part analyzes the nature of household saving and bequest behaviour in Japan, discussing the relative importance of life-cycle wealth vis-a-vis inherited wealth, the relationship between the opportunity of higher education for children and the parental economic status, and the role of the public pension system. It evaluates the degree to which the Japanese society satisfies the criterion of equal opportunity. (Chapters 7-10.)

The fourth part makes an overview of the current state of the distribu-

tion of world income and discusses the ways by which Japan as one of the highest income countries contributes to the amelioration of ever increasing world-wide inequality of income. (Chapter 11.)

I shall give a synopsis of each chapter in what follows.

Part One.

Chapter 1 "Income Distribution and Its Recent Change: The Effect of Imputed Rent and Capital Gains in Stocks" by Toshiaki Tachibanaki and Tadashi Yagi makes an overview of the recent movement in the distribution of income in Japan. The issues treated are two-fold.

The first is a reading of the trend of inequality indices based on available government household surveys. The second is the authors' original estimation of the distribution of some important income categories among households that are, by design, not included in government statistics. More specifically, imputed rents on land and owner-occupied housing as well as realized capital gains on corporate stocks are estimated out of their concern that the soaring of asset prices in the latter 1980's might have altered the state of income distribution in Japan in a major way.

About the first theme: It is easily verifiable from the government household surveys that individual wage earnings and household income became equalized during the rapid growth period of 1960's but that the trend has turned on its head in the early 1970's and since then the inequality of household income has been gradually increasing for both worker households and all non-agricultural households with two or more members. Among the worker households, for whom data on detailed breakdowns of income are available, there has been a slight increase throughout the 1980's in the disparity of household head's wage income, and furthermore, the degree of concentration of spouse's wage income among high income households has also risen. These seem

to be the main reasons for the expanding inequality among worker households.

While the large-scale accumulation of financial assets in the household sector since the mid-1970's is expected to have led to an expanding role of financial asset income in the distribution of income as a whole, it turned out that its net contribution in explaining the rise in income inequality is very small. True, no matter whether calculated in terms of the reported financial asset income or in terms of the estimated financial asset income based on reported asset and debt holdings, the degree of concentration of net financial asset income towards high income households is very high. Yet the share of the (net) financial asset income in the total household income is too low to make the former's impact felt. I suspect, however, that this result depends very much on the underreporting of financial assets in household survey data.

About the second theme: Even if the annual income is the same the households living in rented houses and those living in owner-occupied houses differ substantially in terms of the real living standard. In particular, the major cities have ample employment opportunities, and have the lure of their own right so that the benefit of having land there tends to be quite large.

The analysis of imputed rents is based on the Nikkei survey data for 1990 which concentrates on households in the Tokyo metropolitan area and which includes responses on land values. It shows that (i) the Gini coefficient of after-tax total income among households rises 5 percentage points from .32 to .37 as annual imputed rent of housing services estimated on the basis of the arbitrage condition among financial assets are added to the total (after-tax) income; (ii) because the ratio of households with owner-occupied housing increases with the age of household head the degree of

concentration of imputed rents to high income households within the same age group decreases as age increases. Yet the relative explanatory power of imputed rents in the within-age total income inequality (which in itself increases with age, becoming .44 in terms of Gini index for age over 60) increases, just as in the case of financial asset income; and (iv) as compared with the case of earnings only, the income redistributing role of income taxes is halved in magnitude when both financial asset income and imputed rents are added to income.

The chapter further estimates the impact of the acute rise in stock prices during the latter 1980's on the distribution of income. Huge capital gains were realized through market transactions of stocks, yet the greater part of these gains were absorbed by the corporate sector, especially the banking sector. Nonetheless, about 20% of the entire realized capital gains were appropriated by individuals. Moreover, in the peak year of 1987 the capital gains realized on publicly traded stocks listed in the Stock Exchanges that were held by twenty million persons (in gross) amounted to a huge sum of 1.5 million yen per person.

The foregoing considerations suggest that the inequalization of household income has proceeded much further than the ordinary household survey data would indicate.

Chapter 2 "Distribution of Household Wealth and Its Change" by Noriyuki Takayama and Fumiko Arita uses the National Survey of Family Income and Expenditure 1989 (Bureau of Statistics) micro data in updating a previous Economic Planning Agency study headed by Takayama⁴⁾ which, based on the same survey of 1984, estimated the value of net real asset holdings of individual households and then evaluated the distribution of household net wealth in Japan (for the first time in Japan based on official household surveys). It

also compares by each age group the factors that produced the changes in wealth holding over the five years period (1984-1989) with those of the previous five years period (1979-1984).

The National Survey of Family Income and Expenditure is a large sample survey conducted every five years investigating in detail the composition of income, consumption expenditure and asset holdings of household units. Since the 1984 survey, the sample base has been enlarged to cover all types of households including agrarian households, and has thus become the most comprehensive survey in Japan to acquire information on the distribution of income and wealth. The end of November, 1989, at which the holdings of assets were surveyed, corresponds roughly to the peak of what is now called the "bubble economy" in Japan. It is therefore expected that the soaring land prices that occurred from 1986 in the Tokyo area and subsequently in other major cities and the acute rise in stock prices are both reflected vividly in the data. Just as in their previous study the analysis of this chapter is limited to the data on households with two or more persons. The major findings of this chapter are summarized as follows.

(i) Using the Gini coefficient, the inequality in household net worth (i.e., the sum of net financial assets and real assets) rose dramatically from 0.52 in 1984 to 0.64 in 1989. The increase of negative skewedness is also clearly seen by the fact that while the median of the distribution increased only mildly from 20 million yen to 22 million yen, the mean of the distribution increased from 25 million yen to 46 million yen. This last figure, the mean of household net worth in 1989, amounts to 7.9 times the mean of household gross annual income.

(ii) The major actors of the increased skewedness are financial assets and land, among which the impact of the latter is enormous. The land holding

constitutes 74% of household net worth in 1989. Great disparity in net worth emerged between households with owner-occupied houses (76% in weight) and those with rented houses (24% in weight); whereas the median and the mean of the former are 19 million yen and 43 million yen, respectively, those of the latter are merely 3.4 million yen and 5.1 million yen, respectively.

Furthermore, even confining to land owners the geographical disparity of net worth widened; while the mean net worth per (land-owning) household is 66 million yen for the Keihin metropolitan area (which includes the Tokyo metropolis), the corresponding figures for the Chukyo and Keihanshin metropolitan areas (including the cities of Nagoya, Kyoto, Osaka and Kobe) and the rest of the country are 39 million yen and 15 million yen, respectively.

(iii) At the micro level, the factors that bring about changes in the household wealth holding are commonly broken down into three components; annual saving flows, transfers over generations through gift inter-vivos or inheritance, and capital gains. In the light of the data for ten years interval (1979-89), the factor of greatest importance turned out to be inter-generational transfers for households with the household head's age below 40 and capital gains for households with the head's age above 40. The impact of annual saving flows is seen to have been the smallest among three for all age groups. Finally, the quantitative impact of capital gains turned out to be particularly large during the period 1984-89.

Thus the contemporary Japan is confronted with three-fold aberrations concerning land; first, the inequality between people owning land and people not owning land, second, the imbalance between annual earnings flow from work and land asset values, and third, the negative correlation between the area of land lot owned and land values among different regions. No wonder these features have aroused the sense of abnormality and reprehension in many

people's mind. The facts leading to such an assessment are rigorously told in the statistics arranged in this chapter. It is curious to see how much of this abnormality is eliminated in the data to be collected immediately after the publication of this book.

Chapter 3 "The Labour Share in the Japanese Manufacturing Industry during the Post Rapid Growth Era: The 'Dualistic Structure' and Imperfect Competition" by Kiyohiko Nishimura and Atsushi Inoue analyzes the movement of labour shares in the manufacturing sector. How annual income flows generated by labour and capital as two major factors of production get distributed to each factor regulates the state of income distribution between the greater part of worker households who rely mostly on wage earnings and the group of capitalists and retired elderly households combined who rely mostly on profits and/or interests. Furthermore, it is also associated with the size of the growth funds as the rate of saving out of profits tends to be relatively high.

While the concept of labour and capital shares is theoretically obvious, it requires various categorical adjustments when the matter comes to actual statistical measurement. This chapter investigates the movement of labour shares and the factors behind it first by examining the character of the data of three surveys used, namely, Incorporated Enterprise Statistics (Ministry of Finance), Census of Manufactures (Ministry of International Trade and Industry), and The Unincorporated Enterprise Survey (Bureau of Statistics), and then by taking careful consideration of both the differences among firms of different size and the distinction between payments on workers employed directly in the production process and those on indirect workers dealing with management of head offices, research and development, and sales. The summary of findings is as follows.

(i) In the manufacturing industry, a long-run trend of rising labour shares is observed from 1960, the starting year of the rapid growth era, until 1990. This trend reflects closely the same tendency in the large firm sector (with 1,000 or more employees and with the equity capital greater than 1 billion yen) which occupies about 40% share of the total value-added in the manufacturing industry. In the small firm sector (with less than 100 employees and less than 5 million yen in equity capital) and the individual proprietorship sector the labor shares remain quite stable over the long-run.

(ii) The increase of labour shares in the large firm sector owes much to the rise in the labour costs of management, sales and R&D departments of head offices and to the rise in fringe benefits.

(iii) By observing the movement of the labour shares of five major 2-digit industries, i.e., iron and steel, chemical products, transportation machinery and equipment, electric machinery and food processing, it is verified that the long-run rising trend in the labour share does not derive from the changes in the industrial structure that alter the weights of value-added within the manufacturing sector as a whole.

(iv) The amplitude of short-run fluctuations in the labour share is much greater for large firms than for small firms. As has been commonly noted its short-run fluctuations are markedly counter-cyclical. Furthermore, the mark-up ratios defined and estimated as the ratio of sales price over the average production cost (i.e., the sum of wage payments in the direct production process, the imputed rents on capital and the material costs) for the large firm sector of each 2-digit industry turn out to be pro-cyclical for all major sectors except food processing. These facts naturally lead to a negative association over time between the mark-up ratios and the labour share ratios.

The appearance of pro-cyclical mark-up rates in oligopolistic product markets are explainable in cases where tacit collusion among firms collapses in the face of a decline in demand during recessions or where long-run risk sharing contracts exist between producers and customers and the size of the profit pie diminishes (increases) during recessions (booms). By altering the premise of strategic behaviour on the part of firms, however, one can generate a counter-cyclical movement of the mark-up rate in a model economy. Hence theoretically there is no unequivocal relationship between the mark-up ratio and cyclical indicators. (In fact, counter-cyclical movements tend to be more prevalent in the U.S. product markets.) More empirical investigations are certainly due to a Kaleckian perspective that the behaviour of firms under imperfect competition lies as one of the key factors governing the movement of factor shares.

Generally speaking, the state of factor shares between labour and capital has some important implications on the distribution of income among households or individuals. First, between the wage income and the capital income the degree of concentration is far smaller for the former as compared with the latter. Therefore, when the share of wages in national income rises this tends to contribute to the lowering of inequality in the personal or household distribution of income. Second, a substantial portion of the profit income is retained by the corporate sector and hence it is not distributed among stock owners. While the story might be quite different if the retained profits generate capital gains dollar for dollar on stocks held by households, in reality the amount of accrued capital gains does not necessarily correspond with that of retained profits. Moreover, capital gains do not appear in the flow account of national income nor do they appear in the income account of household surveys. Hence the capital income as a component

of household income is substantially underestimated in the household survey data. On the other hand, calculation of the labour share on the basis of national income accounts or corporate financial reports does not involve underestimation of capital income due to corporate retained profits. (There does remain the problem of how to attribute self-employed income to labor and capital.) Third, because profit income facilitates investment in fixed capital, the size of factor shares influences future economic growth and the distribution of income among different generations.

Chapter 4 "Growth and Fluctuations of the Japanese Economy and the Movement of Labour Shares" by Hiroshi Yoshikawa overviews the long-run movement of factor shares in the Japanese economy as a whole and discusses its relationship with economic growth and business fluctuations together with theoretical considerations. To sum up the points:

(i) Concerning the long-run movement, the Japanese labour share has exhibited far greater amplitude than the counterpart in the U.S. or the U.K. Also its negative correlation with the business cycle is particularly strong among the three countries. The prewar period is characterized by a declining trend in the labour share primarily reflecting the same change in the self-employed sector. Such a movement can appropriately be interpreted as a decline in the size of the Lewisian disguised unemployment. The labour share shot up immediately after the war, showed a considerable decline in the latter 1950's followed by steadiness during the 1960's. It then turned itself up sharply in the beginning of 1970's and maintained a relatively stable level thereafter until the present. The decline of the labour share in the medium- or long-run corresponds well to a period of great spurts in equipment and construction investment in the corporate sector. The explanation of this association, however, is not so much the former causing the

latter as the exogenous increases in effective demand promoting investment and economic growth and expanding profits simultaneously.

(ii) The negative correlation in the short-run between the labour share and the business condition is largely explained by the fact that the adjustment in the capacity utilization rate of capital can proceed much more swiftly than that in either employment or real wages. The alternative neo-classical explanation that hinges squarely on the technical substitutability of labour and capital cannot cope with the fact that the labour productivity declines at times of reduced employment.

(iii) The acute rise in the labour share that occurred in the beginning of 1970's resulted from the combination of households' active motions to maintain real wage growth in the face of a lowered labour productivity under recession and a surprise termination of rapid economic growth. It did not follow from the changes in industrial structure or production technology.

We have now two separate explanations concerning the counter-cyclicality of the labour share in Japan; one, the macroscopic explanation (ii) above, and the other, a more microscopic explanation of the pro-cyclicality of the mark-up ratio in a predominantly oligopolistic market setting as found in Chapter 3. There is no prima facie conflict between the two. Whether they are mere complementary explanations or they have much deeper structural interconnections remains as an intriguing subject of a theoretical as well as empirical scrutiny.

Part II.

Inquiries on labour earnings in Japan have customarily drawn heavily on the study of average wage differentials between different schooling levels, sexes, and age groups which purportedly represent qualitative differences of workers. In addition wage differentials due firm size and due to the length

of continued service to a firm (i.e., job tenure) have been recognized as important and the cross-classified tabulations of wage statistics have been prepared accordingly. Such a practice stems from the feature that there exists a huge small and medium enterprise sector in this country which is associated with disparate and generally poor working conditions as compared with large firms, e.g., less steep age-earnings profile and less "life time employment" practice ex post.

Somewhat deeper analysis of wage distribution based on such a methodology is facilitated by examining the state of demand for and supply of each worker attribute and its change both in the short-run and in the long-run. There is no question that the overall balance of demand and supply plays a dominant role in determining the level of wages. The direct effect of short-run changes in demand or supply on the level of wages may, however, be small in the case of internal labor markets characterized by long-term contracts (such as those implied by the word "life-time employment").

Dispersion of wages due to sex, age, education and firm size all decreased during the rapid growth era. Since the mid-1970's, however, the wage differential between men and women has for long been at a stand-still (and turned to decrease again since 1985) while that among different firm sizes is gradually expanding. Between education groups, the wage differential continued to decline until 1980, reflecting the permeation of highly educated workers, and then it turned upwards gradually and mildly to increase again. Among age groups the wage differential continued to expand until the latter 1980's despite the rise in the average age of workers. The movement of wages since the mid-1970's is thus quite complex.

Chapter 5 "Becoming Well Educated, Aging and the Wage Structure" by Yuji Genda offers a detailed analysis of the movement of wages among Japanese male

workers during the period of mid-1970's throughout the end of 1980's by decomposing them into education, age and firm size groups and evaluating the role played by demand and supply factors as well as non-market forces. The findings are summarized as follows:

(i) When the entire period is taken as a whole the forces on the demand side have been generally stable and that it is the compositional change of the labour force as mentioned earlier (and appearing in the title of the chapter), namely the supply side forces, that contributed to the relatively stable movement in the distribution of wages.

(ii) By decomposing the wages into two parts, (a) the reward on job tenure (or the duration of continued service) which is associated with the acquisition of organization specific training and/or the incentive mechanism to foster continued work and raise work effort, and (b) other rewards that are supposed to be sensitive to market forces, and measuring the impact of demand and supply forces on each component ((a) and (b)), it is found that the compositional changes of workers with respect to age and education have had their major impact in the form of lowering the rate of return on job tenure (however, since the mean duration of job tenure is rising in parallel with the aging of workers the absolute level of rewards on job tenure is rising mildly in net), and that the industrial demand for employment has shifted towards more highly educated and younger workers, thus raising the non-job tenure rewards (component (b)) of those workers. This last factor explains the re-expansion of the wage differential among different education groups, which is particularly large for young workers.

(iii) The expansion of firm size differentials is explained not so much by factors on the demand side (given the relatively more vigorous demand on the part of small firms as compared with large firms) as by the rise in non-

competitive rents in such industries as transportation & communication and finance & insurance wherein the weight of large firms is substantial.

Several explanations are possible for the reduction in the rate of return on job tenure. But certainly this fact is closely related with the over-sizing tendency of the managerial and indirect departments of manufacturing firms (as noted in Chapter 3) and the reduction in the probability of internal promotion within large firms⁵⁾. The fact that such tendencies are already present over a long period suggests that the labor force may become increasingly more mobile in the years to come.

It has been long since Japanese labour market is said to have a dualistic structure. By dualistic structure it is usually meant that there exist large differences in terms of employment stability and wages between workers of large and small firms and between men and women.

The algebraic relationship expressing how an individual worker's wage depends on such attributes as the level of education, years of job experience (internal and external), and geographical location of the work place is called a wage equation. The usual practice is to apply this equation to the data on individuals' wage and their attributes and estimate the average mode of dependence of the former on the latter, simultaneously examining if there might exist an independent increment on the wage due to firm size or individuals' sex ascription. And if there is a dualistic structure, it will be expressed (so it is commonly understood), first, by the differences in the distribution of education and job experience levels among workers of different firm size or different sex, and, second, by the presence of some indigenous factors (non-competitive rents) associated with firm size or sex.

Such an approach should not succeed in detecting the duality of the structure itself. Concerning structural duality it seems pertinent to adopt

the formulation of the dual labour market hypothesis à la Ujihara-Piore which is derived from the successive field researches in Japan, the U.S. and Europe. This hypothesis distinguishes the presence of a primary labour market defined as a collection of internal labour markets of firms that are characterized by the system of internal training and promotion ladders, and a secondary (peripheral) labor market with little training involved.

Is it possible to detect such structural differences in the actual statistical data, and if it is, how large is the share of each sector in the Japanese economy? Chapter 6 "The Dual Structure of the Labour Market" by Tsuneo Ishikawa and Takahisa Dejima answers these questions by employing the switching regression method on wage equations. The summary of findings is as follows.

(i) The Japanese labour market had better be construed as a world summarized by two different wage equations than a world summarized by only one wage equation. With one exception the estimated dual wage equations conform to the dual labour market hypothesis. The exception is that in what is identified as the secondary labour market the rewards on internal experience (i.e., job tenure) tend to be somewhat high (albeit about half of that in what is identified as the primary labour market).

(ii) The primary and secondary labour markets do not stand in the relationship of equalizing difference. Namely, the wage differential between the two sectors cannot be explained away by the mere difference in the shape of the life time income path or by the existence of compensating non-pecuniary utility flow possibly arising from short working hours. There exists a non-competitive rationing on the primary labor market jobs.

(iii) Among the total Japanese working population it is estimated that about 35-40% belongs to the primary labour market while the remaining 60-65%, a

majority by wide margin, belongs to the secondary labour market.

(iv) Throughout 1980's there has been about 40% wage differential (including bonus and measured per hour) between large and small firms. Such a large disparity can be explained by the fact that large firms contain a much larger primary sector within themselves than small firms, and also by the existence (within each sector) of average qualitative difference of workers and different union representation rates among firms of different size and the existence of monopolistic rents obtained by large firms.

(v) Even controlling for education and job experience, there remains more than 40% wage differential (again per hour including bonus) between men and women. It is explained by the fact that a much greater proportion of women than men belong to the secondary sector, that within the secondary sector women are paid one-quarter less than men, and that even within the primary sector the wage increment accompanying the accumulation of job experience is far smaller than that of men (although there is no wage differential at the entry level).

Part III.

The tasks to disentangle the factors determining the distribution of wealth among Japanese Households are the subject of the ensuing four chapters.

Through their savings behaviour households reallocate consumption within their life-cycle and leave some portion of their assets to the next generation as bequests. Between the rate of saving and the level of household income there exists a widely known relationship such that the former is higher, the higher the latter. On the other hand, probably the most significant cause of a large change in income within the life-cycle of each household is retirement from work. Hence if attainment of high income is a common

phenomenon to every household in a particular phase of the life-cycle and if the propensity to leave bequest is low, then the fact that the saving rate is positively associated with high income only means that the working population saves a lot with a view to old age, uncertainty, and future acquisition of durable goods such as owner-occupied houses, and that it has no effect on the distribution of income within the same age cohort of households nor on the distribution of wealth transferred to the next generation. On the other hand, if high income is not a pure life-cycle phenomenon but rather predominantly a cross-section phenomenon of there being a permanently high income group within the same age cohort, and moreover, if this group has a high propensity to leave bequests, then it is possible that income disparity expands from generation to generation through the transfer of large bequests. In sum, whether or not the households' saving behaviour affects the distribution of life time income for the current generation or the distribution of income for the next generation depends on the state of income distribution (at a certain point of time) within the current generation as well as the strength of the bequest motive.

There is another issue regarding bequests. It concerns with whether they are out of altruistic concern of parents towards children, implying a one-way transfer of wealth, or out of an implicit insurance contract with children, de facto implying an exchange of bequest with children's support and care for parents when the latter become old.

Chapter 7 "The Saving Motive" by Charles Horioka and Fumio Ohtake takes the above issues and conducts various statistical tests using the data of the Family Income and Expenditure Survey (Bureau of Statistics), Public Opinion Survey on Saving (Central Council for Savings Information), and The Comprehensive Survey of Living Conditions of the People on Health and Welfare

(Ministry of Health and Welfare). It shows:

(i) Throughout the post-war rapid expansionary phase of the economy the life-cycle saving of the households with a view to old age, owner-occupied housing and children's education has generated a large positive sum of saving at the macro level, and has played an important role in determining the distribution of wealth among households.

(ii) At the same time, there widely exists saving for bequest purposes. The evidence provided shows that bequests out of implicit contract are more prevalent than those out of pure altruism.

During the rapid growth era there was significant equalization of financial assets among households, and this can be attributed (from (i) above) to the presence of vigorous life-cycle savings of the expanding young households and to the equalization of wage earnings. It is also argued from the finding (ii) that the saving behaviour of Japanese households is not of a type that would greatly expand wealth disparity among the succeeding generations of the household.

It is perhaps pertinent to note that the behaviour of the very rich households may very well depart from the ordinary behavioural pattern of households discussed above, and is governed by a totally different principle such as accumulation of wealth for its own sake. Such a portion of households is excluded data-wise from the analysis of the present chapter. Examining the behavioural characteristics of the very rich households is therefore left for a future study.

Another important route by which household wealth is transmitted to the next generation is children's education, in particular, college education which has a high private economic return component to individuals. In Japan, most of the cost of education including college is borne by parents. For an

individual the probability of belonging to a primary labour market that centers on large firms and that on average brings about high life-time income depends greatly on whether or not the individual receives a college diploma. Moreover, even if one successfully enters the primary labour market having a college diploma entitles one to receive on average 30% more hourly wage than a colleague with only a high school diploma (Chapter 6).

Such an estimate of the rate of return on education is based on the presumption that all colleges are homogeneous in quality. This presumption, however, seems quite at odds with the existence of fierce competition on the part of students to enter a limited number of eminent colleges. These colleges are believed to provide their graduates a specially advantageous position regarding employment opportunity.

The college enrollment rate went up sharply during the rapid growth era from 12-3% to 40%, and then from the end of 1970's until recently it exhibited a slightly declining trend. What is the cause of this decline? From the viewpoint of the equality of opportunity the college enrollment rate and the rate of entrance to the eminent colleges must be independent of the parents' income and wealth. How does Japan fare in this respect?

Chapter 8 "College Education and Income Distribution" by Yoshio Higuchi answers these questions by using numerous data collected by the author.

(i) The decline in the college enrollment rate during 1980's is primarily due to an extremely low rate of growth in household real income and a distinctive rise in the relative price of college education--the demand side factors, on the one hand, and the presence of a government regulation limiting the number of college entrants that persisted until the latter 1980's--the supply side factor, on the other.

(ii) There exists a tendency for children of high income households to con-

concentrate among the entrants of the top ranking colleges in terms of entrance examination. The proportion of entrants to these colleges who come from private preparatory schools (where six years of middle school and high school education are consolidated) has risen, and the influence of parents' economic position is increasing due to lowering of the age at which preparation for entrance examinations begins.

(iii) Good job opportunities such as those in large firms, the public sector and some particular industries, and furthermore, the opportunities of promotion to managerial positions within these organizations tend to be occupied not only by college graduates but by graduates of the top ranking colleges.

The preceding findings suggest that the equality of educational opportunity is not necessarily realized in the Japanese society, or if it ever was in the past, it is on the verge of a decline.

Chapter 9 "A Fake Inequality or Genuine Inequality-- A Simulation Analysis in an Overlapping Generation Model" by Hiroshi Teruyama and Takatoshi Ito investigates the effect of intergenerational wealth transmission on the long-run distribution of household wealth by constructing a formal model of overlapping generations. As explained earlier, the state of wealth distribution at a single point of time consists of a mixture of two elements; one, a "fake inequality" represented by wealth disparity between different age cohorts that are located in different stages of the life-cycle, and the other, a "genuine inequality" represented by wealth disparity within the same age cohorts (or, to be precise, the sum of all such disparities across the age cohorts existing contemporaneously). The latter reflects the amount of wealth inherited from parents or arisen from different earnings capacity (or both).

The main task of this chapter is to measure the share of the "genuine

inequality" in the total wealth inequality among households and also to measure the contribution of parental bequests in the former under a variety of household, institutional and economy-wide settings. The factors considered here include the strength of bequest motive, the degree to which the earning capacity of parents is passed on to children, the magnitude of the (exogenous) rate of economic growth, the public pension fees and the rate of inheritance tax, and finally, the occurrence of capital gains on land. The model embodies some of the well-known features of the Japanese economy, e.g., the seniority wages and the customary behaviour on acquiring owner-occupied houses. The wealth transfer from parents to children in the form of education is expressed simply by the degree of correlation between the earning capacities of parents and children.

The major conclusions of the analysis are summarized as follows.

(i) The proportion of bequests or inherited wealth (including the accumulated interest) in the entire household wealth is estimated to be a little over 50% in Japan. Bequests occupy on average about 10% of the total life-time resources of an individual household. The contribution of the "genuine inequality" to the total inequality of life-time resources is a little over 60% when relative variance is adopted as a measure of inequality (hereafter the same index is used to measure the degree of inequality). The contribution of the inequality of bequests to the "genuine inequality" is 5%, which is not so large. This is because bequests occupy only a relatively minor place in the total life-time resources and also the variance of bequests is smaller than that of total life-time resources.

(ii) When the degree of correlation between the earning capacities of parents and children is reduced from the benchmark value (which is instrumental in deriving the conclusion of (i)) of 0.4 to 0 (i.e., complete inde-

pendence), the inequality of total life-time resources is reduced by about 20%. On the other hand, when the correlation is strengthened to become 0.8 instead of 0.4 the same inequality becomes to over twice as much. Such changes fall entirely in the category of "genuine inequality." Thus so long as the correlation of parents' and children's earning capacities is small its effect on wealth inequality remains a mild one. Yet when it rises its effect on wealth inequality increases sharply.

(iii) Over 70% of the recent inequality in household real wealth is explained by the disparity of house values that reflects the actual land price inflation of the latter 1980's in Tokyo and other metropolitan areas. When there occurs an unexpected land price rise of the magnitude similar to the latter 1980's, the inequality of bequests among a cohort of households which just received the bequest from parents will increase by about three times. Since bequests occupy only a small place in the total life-time resources, however, its effect on the inequality of total life-time resources of the cohort in question falls short of 10%. This, in turn, implies that the extent to which inequality of life-time resources is transmitted (by the prospective bequest of this generation) to the succeeding generation is very small. Nevertheless, so long as the rise in land prices is permanent, there arises a large inequality in the area of residential lot (which is the direct source of utility) among households in different regions. Yet the preceding conclusion is obtained because of the assumption that the parents' bequest motive depends on the monetary value of bequests to be left to children. Under an alternative assumption that the parental utility depends on the children's life-time utility, the inequality of the monetary values of bequests and life-time resources transmitted to children would show quite a sizeable increase.

As a qualification to the analysis as a whole I should point out that what is compared is the steady-state distribution of wealth generated under the assumption that the elasticity of marginal utility of life-time consumption is equal to that of bequest (so that the utility function is homothetic) for all households. If, on the other hand, every household has a preference such that bequest is a luxury good relative to the life-time consumption, then households with a sufficiently large initial wealth will forever leave larger and larger bequest to children as generations pass by, and no steady state wealth distribution would ever emerge. Moreover, in reality there is likely to be differences in the strength of bequest motives among households. If the nature of preferences is also transmitted over generations of the household, then the wealthy group is likely to contain a relatively higher proportion of those households who would take bequests as a luxury good. In this case, too, there will be no steady state distribution of wealth. The analysis under such alternative assumptions will certainly become very complex. Yet, as pointed out in Chapter 7, it is important to leave a room for different behaviour on the part of the most wealthy households.

As has been discussed earlier one of the main motives of the household saving behaviour lies in guaranteeing one's own living in the old age. Uncertainty is something peculiar to old age, and one needs an extra saving to cope with it. While the most efficient instrument of saving for guaranteeing the means of living in old age is the annuity insurance, there are well-known barriers for it to be actually supplied in the market. Hence the utilization of annuity insurance remains very limited.

As an alternative to private insurance plans, there traditionally developed in Japan a family care system whereby children take care of parents when the latter become very old.

The post-war reconstruction and the subsequent rapid economic growth drew young people to cities, which resulted in a relative decline of extended families. It is in such a context that a major institutional change was initiated to relegate the care of the elderly from the realm of family responsibility towards the task of a social security system.

The current Japanese public pension system is shaped as a two floors system, the ground floor being the Kokumin Nenkin (or the Basic Old Age Pension) system which pays out a fixed amount of benefits to every elderly person, the idea being to guarantee a minimum livelihood, and the first floor being the Kosei Nenkin system (or the parallel Komuin Kyosai Nenkin system for public employees) paying out supplementary benefits that are proportionate to the earnings received during the period employed. Both systems virtually operate under the pay-as-you-go system whereby the current workers transfer a portion of their income to provide benefits to the elderly. It was in 1961 that the Kokumin Nenkin system was founded, and this year marks the opening of the period in which every adult in the country is covered by the pension system. As to the Kosei Nenkin system the level of benefit was dramatically raised and the indexation to cost-of-living inflation was introduced in 1973, and by the present moment the benefit (together with the basic fixed sum benefit) has reached the stage of financing about 60-70% of the average elderly household's living expenses. In 1990 the total public pension benefits paid out amounted to 7% of the national income.

Because payment of benefits to the elderly proceeded far in advance of fee collection, the future viability of pension finance soon came to be in doubt and, at the same time, income redistribution between various groups resulted, namely from the working generation to the elderly generation, between the working and non-working populations within the same age cohort,

between holders of different types of work, and between different income strata. Although the major reform of the system in 1986 resolved or improved some of the important problems still much distortionary practices remain.

Chapter 10 "The Redistributive Effects of the Japanese Public Pension System" by Nobuyoshi Oguchi, Yoko Kimura and Tatsuo Hatta evaluates the pension reform of 1986 from the viewpoint that the public pension system should operate as a system of pure institutional savings whereby benefits at the market rate of return are paid in the future on fees contributed by the working population, and that it should not be rendered a system of income redistribution either inter-generationally or intra-generationally. The major conclusions are as follows.

- (i) The Kokumin Nenkin system has for long been plagued by the presence of significant intergenerational income transfers. Such transfers are justifiable only during the very initial phase of the system following its foundation when the support of the elderly by family members was turning to become increasingly precarious and an emergent measure to ease the poverty of the elderly was urged. The circumstance, however, is different today. By the 1986 reform the system has approached the state where redistribution of income, both inter- and intragenerationally, no longer occurs in the future.
- (ii) Many problems remain for the Kosei Nenkin system even after the reform. First, the net benefit (in the present value sense) is low for the young and high for the aged, and it is even higher for the high income strata. Second, the non-working spouses of the employees (the so-called "full-time housewives") so that a great disparity exists between such households and households where both husband and wife work. A proposal is advanced by the authors to restore the balance of any future fees and benefits, on the one hand, and to pay the cost of past debts that primarily arose from too fast a

rise in the level of benefits out of general income taxation, on the other.

Part Four.

The distribution of income in the world as a whole is becoming more unequal. This reality has much to do with growing polarization of the developing countries into a group of rapid growth cum middle income countries and a group of negative growth cum low income countries. The latter countries, faced with a sharp increase in population, are also unable to maintain the level of per capita social infrastructure such as education and medical care.

Chapter 11 "On the Japanese Contribution to the Equalization of World Income" by Makoto Chigira and Kyoji Fukao provides an overview of the current state of Japanese contributions to the economic development of poverty stricken countries. To summarize the discussion:

- (i) What is potentially the most supportive of economic development in the developing countries is the private sector with an overwhelming size of funds. With regard to the possible contribution of the Japanese private sector through international trade and capital movement, however, the achievement cannot be judged as great despite the fact that most of the government regulations restricting international trade and capital mobility have been lifted up. For instance, Japanese financial investment mainly goes to the U. S. and even most of the direct investment (which has an accompanying effect of technological transfer) goes to the middle- or the high income countries. The portion that goes to low income countries is extremely small. Unfortunately there is little room for government intervention in this arena.
- (ii) The low income countries in South Asia and Sub-Saharan Africa are hardly able to attract private investments and hence depend very much on the availability of public funds from the developed countries. Nevertheless, the

official development aid (ODA) programs of the developed countries tend to go to countries with income a step above those countries in question. Such a tendency is all the more stronger for Japan.

(iii) The Japanese ODA came to surpass the U. S. in absolute amount in the 1990's, and has become the most leading country in the world in terms of official aid-giving. In comparison with other developed countries, however, the amount of aid to the low income countries is small, and much goes to the middle and the high income countries in Asia. Furthermore, there is an inclination for the contents of the aid to be concentrated in the construction of fixtures such as roads and sea ports and the support of basic industries such as power and steel plants, both requiring huge purchase of investment goods. Thus Japanese official aids have had a strong character of supplanting foreign exchanges to cover for such expenses. The proportion of aids going to the local expenditure on medical, health and educational services that would contribute to the formation of social and human infrastructure is also low as compared with that of other developed countries.

(iv) Using cross country time series data on official bilateral development aids it is shown that these aids arise more from a national self-interest motive than from an altruistic motive of the giving countries. In other words, aids are given more as a private good than as a pure public good. The only exception to the above finding is the U. S., which may be explained by her self-recognition of being the world leader during the post-World War II era. There will be an increasingly heated negotiation between a country with such a motive and other developed countries including Japan as to how the cost of development aids are to be mutually shared. Given such a prospect Japan certainly needs to express a much clear attitude and strategy towards giving development aids.

The foregoing is the synopsis of each chapter of this book. Since the evaluative tones of respective authors are different it is difficult to summarize the entire analysis by a single statement. There are also some important issues remaining to be treated⁶⁾. Concerning how to judge the equality of income distribution in Japan, one must ultimately ask the reader to give weights to individual arguments and arrive at his or her personal overall judgement.

I would like to conclude this introduction by briefly stating my own impression. The contemporary Japan may on the whole be said as a relatively equal and moderate society. This is due, on the one hand, to the existence of employer-employee practices characterized by adoption of de facto work sharing schemes in maintaining high employment, by active education and training of workers within firms, and by restraint on the wage differentials among individual workers. The first two features are more prevalent among large firms yet are to a smaller extent emulated by small firms. As to the third feature the contrast with the U. S. seems evident from a simple comparison of the Gini coefficient on individual earnings.⁷⁾ It is also due to the fact that a series of major social reforms (e.g., the agrarian land reform, the dissolution of zaibatsu and the levy on large wealth) and a hyper-inflation immediately after the war reshuffled wealth among households so significantly that the distribution of wealth in the post-war period started to evolve from an initial state of a near 'scratch'. It may also be argued that such an environment has been quite conducive to economic growth by raising worker motivation, expanding effective demand and supplying ample opportunities for 'try it out' on the part of individuals and small firms.

Taking a closer look at the Japanese economy have taught us, however, that we should not be complacent with such an overall assessment. Many

important problems still remain with regard to the criteria of equal opportunity and fair rewards. First, there is a problem of duality in the labour market. A majority (probably over 60%) of Japanese workers belongs to a segment of the labour market in which little reward is paid on educational attainment or job experience and that employment itself is unstable. The characterization of the labour market given above applies more to the other, more fortunate segment of the labour market. Therefore, in terms of lifetime income there exists a large disparity between the workers of the two segments. Second, there continues to exist a large wage disparity between men and women. Women's employment is also unstable. Third, the opportunity of higher education is increasingly becoming unequal recently. Fourth, the acute land price rise in the major metropolitan areas has introduced abnormal wealth disparity among households.

As the simulation model in this book (Chapter 9) has suggested these factors may interact multiplicatively to produce a change (worsening) of a major scale in the distribution of income. The contemporary Japanese society is confronted with a major challenge to seek solutions on these problems. In order for Japan to continue to become more active in her contribution to the equality of world income distribution there is no question that even development of household economic positions in the domestic economy would become a prerequisite.

Notes.

- 1) Malcolm Sawyer, "Income Distribution in OECD Countries," OECD Economic Outlook Occasional Studies, July, 1976, pp. 3-36.
- 2) For the ranking of income inequality indices among twelve advanced countries in Europe and America based on Luxembourg Income Study, see Karen Gardiner, "A Survey of Income Inequality over the Last Twenty Years --- How Does the UK Compare?" Discussion Paper, London School of Economics Welfare State Program WS/100, November, 1993, p. 14, Table 3. A survey of the recent literature on income distribution in Japan and an attempt at international comparison is given by Yasuhiro Terasaki, "Nihon ni Okeru Shotoku-Bunpu no Keisoku (Estimation of Income Distribution in Japan)", Nihon Tokei Gakkai-Shi (Bulletin of the Japan Statistical Society) Vol. 22, no. 3, (1993), pp. 599-612 (in Japanese).
- 3) These figures are from Joseph A. Pechman, Tax Reform, the Rich and the Poor (Second Edition), New York: Harvester Wheatsheaf, 1987, p. 20, Table 1.2. For recent movement in the distribution of income in the U. S. see Frank Levy and Richard J. Murnane, "U. S. Earnings Levels and Earnings Inequality: A Review of Recent Trends and Proposed Explanations," Journal of Economic Literature Vol. 30, 1992, pp. 1331-1381 and Sheldon Danziger and Peter Gottshalk (eds.) Uneven Tides, Rising Inequality in America, New York: Russel Sage Foundation, 1993. For studies in the U. K. see Gardiner, op. cit., and Anthony B. Atkinson, "What is Happening to the Distribution of Income in the UK?" Discussion Paper, London School of Economics Welfare State Program WS/87, March, 1993.
- 4) Noriyuki Takayama et. al. "Nihon no Kakei Shisan to Chochiku Ritsu (Household Wealth and Savings Rate in Japan)," Keizai Bunseki (Economic Analysis), no. 116, Economic Planning Agency, September, 1989, pp. 1-93 (in Japanese).
- 5) Ken Ariga et. al., "Corporate Hierarchy, Promotion, and Firm Growth: Japanese Internal Labor Market in Transition," Journal of the Japanese and International Economies, Vol. 6, 1992, pp. 440-471.
- 6) One of the major remaining issues is the distribution of income and wealth between the household and the corporate sectors. See Tsuneo Ishikawa, "Kakei no Tomi to Kigyo no Tomi -- On the Concentration of Wealth in Japan," in Kiyohiko Nishimura and Yoshiro Miwa (eds.) Nihon no Kabuka Chika -- Kakaku

Keisei no Mekanizumu (Stock and Land Prices in Japan -- The Mechanism of Price Formation), Tokyo: University of Tokyo Press, 1990, pp. 231-262.

7) The monthly total earnings (including bonus) of Japanese male workers who are regularly employed in private firms with 10 and more employees in 1990 exhibit the Gini coefficient of .254 (see Chapter 6, Table 3, column 2) while Karoly's estimate of the Gini coefficient for the U. S. annual wage and salary income of men, 16 years and over, with positive wage and salary income in 1987 as quoted in Levy and Murnane, op. cit. (Table 2, part 2) is .423. While the above Japanese figure admittedly contains some underestimation bias (due to truncation of firm size) the two figures are still widely apart.