

The Difference between Equality of Opportunity, and Equality of Outcome

Toshiaki Tachibanaki, Kyoto University

Abstract

The paper investigates the difference between equality of opportunity and equality of outcome both theoretically and empirically. Also, it examines the situation in Japan regarding equality of opportunity and equality of outcome. The paper adopts various academic subjects such as education, economics, and sociology in order to investigate the issues. The paper finds that Japan has been moving towards inequality in both opportunity and outcome, and presented several reasons why such an inequality trend has occurred in Japan. The paper pays a special attention to the relationship between efficiency and equity. The issues associated with inequality cannot escape from individual value judgments. The paper, thus, presents several policy suggestions which do not have any serious relations with value judgments.

1. Introduction

Economists investigated the issue of income and wealth distributions extensively. The issue is concerned largely with equity (or inequality) of outcome (or consequence). The state of income and wealth distributions is determined by the outcome of individual person's economic activity. Equality (or inequality) of opportunity is concerned with the subject such that whether or not each individual person can commit to his or her social and economic activity fairly and freely, and without any barriers. Equality of opportunity is measured by many criteria and variables such as education, occupation, position, employment, and even earning. If some barriers or discriminations are observed for any persons who wish to attain certain levels of education, occupation, position, employment, and earning, equal opportunity is not given to these persons. The great majority of people would not support inequality of opportunity. The difficult issues, however, such as ability, effort, luck, etc. arise when we argue equal opportunity. Ethnics, pedagogy (or education), philosophy, sociology as well as economics can argue these subjects. Although my limitation of knowledges on these different subjects is large, I will below argue them as far as I can.

2. Class, Education and Occupation

2.1 Class (Stratum)

Sociologists are concerned with one's occupations such as manual laborers, white-collars, sales workers, etc. Occupation can tell the level of one's attainment in the society to a great extent. The prime minister or the president of one country, or the supreme-court justice is one example of the highest occupation, or class in the society. Its power, authority, responsibility, difficulty in both job achievement and performance etc. are high. Thus, people call it an extremely prestigious job. There are a countless number of occupations in any society, from prestigious jobs to lower jobs.

Why are sociologists and other specialists interested in occupation? There are several answers to this question. First, each occupation can form a class structure, judged by its educational requirement, power, prestige, earnings power, influence on the

society, difficulty in job performance, etc. Taking the Japanese case, there are eight occupational classes which are supposed to hold the common nature and prestige judged by the above criteria; (1) professional jobs, (2) managerial jobs, (3) ordinary clerks, (4) sales jobs, (5) skilled manual (blue-collar) workers, (6) semi-skilled manual workers, (7) non-skilled manual workers, and (8) farmers. The order here is roughly equivalent to the prestige order in Japan.

Second, certain job classes require considerably high educational attainment. A typical example can be shown by a medical doctor which requires at least university level education, and passing national qualification. Since educational attainment is determined by various factors such as one's ability, aspiration, effort, and parents' backgrounds like economic conditions, and their educational and occupational attainments, it is interesting to investigate these effects on occupational attainments.

Third, difficulty in job performance, requirement of education, scarcity of job positions, etc. differentiate earnings capacity of each occupation to a great extent. Therefore, it is an interesting subject to investigate the effect of occupation and class on earnings differentials.

These are the answers to the reason why occupation is interesting to investigate. It is necessary to explain some delicate difference between occupation and class in the sociological literature at least in Japan. I defined a class as a bundle of occupations which have the similar and common qualifications, as was presented previously for the eight examples in Japan. The similar definition can be made most popularly by the following examples; upper class, middle class, and lower class in many societies. In the U.K. there is a popular class name, "working class", and in France several names such as "cadre", "class travailleur", etc.

One interesting feature not only in Japan but also in several countries is that "class" is interpreted in the Marxian tradition. There are two class classifications; (1) capitalists versus workers, (2) land owners versus tenants. The class distinction determined by the condition of land holding was important in Japan. The former class controls the latter class, or even "exploitation" is a proper word to express the relationship between the two classes, respectively. Marxian economics and sociology were so popular in the past in Japan. Therefore, a word, "class" reflected such an interpretation of the crude distinction between capitalists and workers, and between land

owners and tenants. Even in the west there are several Marxian literatures in economics and sociology such as Bowles and Gintis (1976), Wright (1978, 97).

The Marxian tradition lost its root and ground since the 1970s in Japan. It is no longer appropriate to believe that a word “class” reflects or includes the implication of “exploitation” or the crude distinction such as capitalists versus laborers. Class from now on signifies a bundle of occupations, or occupation itself. There is a word “stratum”, which forms a word “stratification”. This word has no direct relationship with the Marxian thought normally. Stratification is used frequently in the western sociological literature. I use class and stratum interchangeably.

2.2 Intergenerational Social Mobility

Sociologists were concerned with (intergenerational) social mobility which investigated the relationship between father’s occupation (or class) and son’s occupation (or class). If the influence of father’s occupation were negligible for the determination of son’s one, social mobility would high. Mobility here may be interpreted as equal opportunity because a son can choose his occupation freely without any constraints or helps of his father’s occupation. Of course, son’s education must give some influence on the determination of son’s occupation. We ignore, at this stage, the effect of son’s education, and thus concentrate on the relationship between father’s occupation and son’s occupation. One word about mothers and daughters is necessary. Since part of mothers have not worked, it is not easy to investigate the relationship between mother’s occupation and daughter’s occupation. In view of the fact that the rate of female labor force participations shows an increasing trend in many countries, this subject will be an interesting one in future.

There are several representative hypotheses regarding social mobility, and a large number of empirical studies were presented by sociologists internationally in order to confirm or refute these hypotheses. Several of them are described. Lipset and Zetterberg hypothesis (1959), which proposed that the effect of industrialization and economic growth determined the degree of social mobility in one country. In other words, they showed that social mobility would be roughly the same when the degree of industrialization reached a certain level. Treiman hypothesis (1970) described many interesting observations. Among many the followings are worth-while to mention; the

influence of educational attainment on the determination of occupation would increase, and the “exchange” mobility, i.e., the degree of pure social mobility would increase, if the society were strongly industrialized. At the same time, the effect of occupation and of education on earnings would increase and decrease, respectively. Featherman, Jones and Hauser hypothesis (1975) proposed that the pattern of “circulation” mobility was almost the same among industrialized countries.

“Exchange” mobility, “Circulation” mobility and “Pure” mobility represent the common concept of intergenerational social mobility, after the contribution of the distribution of occupational positions both for fathers and for sons was eliminated. When time goes on i.e., industrialization goes on, the number of occupations changes in any societies. One example may be understood by a decrease in farming positions, but an increase in professional white-collar jobs. It is necessary to eliminate such changes in the number of available occupational positions from time to time (called enforced mobility frequently), in order to derive the pure degree of social mobility. Absolute mobility or observed mobility without any adjustments, is defined by social mobility before enforced mobility is deducted. Thus, pure mobility (or relative mobility) is equal to absolute mobility minus enforced mobility.

Which one is better between pure (or relative) mobility between observed (or absolute) mobility, or should we pay more attention to? It is certainly true that pure mobility is better in the scientific sense because other disturbing factors and effects are eliminated, and comparability is high both internationally, and between different time periods in one country. Observed (or absolute) mobility, nevertheless, has some value because it can appeal to ordinary peoples’ and citizens’ daily eyes associated with social mobility or changes in occupational structures. It is, of course, noted that sociologists pay more attention to pure mobility than observed (absolute) mobility.

What kind of empirical findings have been obtained regarding social mobility in Japan? Although there are a large number of studies by sociologists, I write here only several but important ones. First, the degree of pure mobility during the post-war period is higher than that during the pre-war period as shown by Seiyama and Naoi (1991). This is natural in view of the fact that the post-war social and economic reforms were influential to lead Japan to a more open society.

Second, if we pay attention to changes in the post-war period, we can say that

the degree of openness (both absolute and relative mobilities) had increased from 1955 to 75, and started to decrease from 1975 to 95. Sons could choose different occupations from their fathers' in the first half of the post-war period with high probabilities, but their probabilities started to decline from 1975 to 95, as shown by Hara and Seiyama (1999). Hara and Seiyama obtained decreasing trends, in particular by the degree of openness and absolute mobility from 1985 to 95. In other words, they showed a sign of closedness in social mobility in recent years. Sato (2000) obtained the similar finding for upper-class white-collar workers. The probability that sons of upper-class white-collar fathers attain the similar job status was much higher than other occupations. In other words, social mobility is closed for upper-class white-collar employees recently. Sato's finding was accepted sensationally, because it implied, "Japan is now a closed society in social mobility, and thus under the condition of inequality of opportunity".

Third, although there are some of signs of more closedness in social mobility, i.e., towards inequality in occupational attainment, as described just above, there are many studies which proposed that there were no significant changes in social mobility over time during the post-war period. Representatively, Kanomata (2001) and Ishida (2002) can be raised.

Ishida's results are briefly described. Table 1 shows changes in pure (relative) mobility from 1955 to 95. There are three patterns, as shown by Figure 1, explained by log-odds ratio, which signifies the degree of easiness to move from one status (i.e., father's occupation) to another status (i.e., son's occupation). The first pattern shows a convergence of log-odds ratio to zero, implying that the probability of moving has declined. Thus, the society has moved towards closedness, and the difficulty in changing occupational status from father's to son's has increased. The second pattern shows a completely different consequence from the first pattern. The difficulty has decreased. The third pattern includes the above two cases, and thus has a mixed effect of increasing and decreasing.

Table 1 suggests the following observations. The first pattern dominated the other two from 1955 to 65, and thus the society moved towards openness. Sons found easiness in changing their occupational status from their fathers'. The first pattern and the second one, however, were nearly equal from 1965 to 75. Thus, this period can be

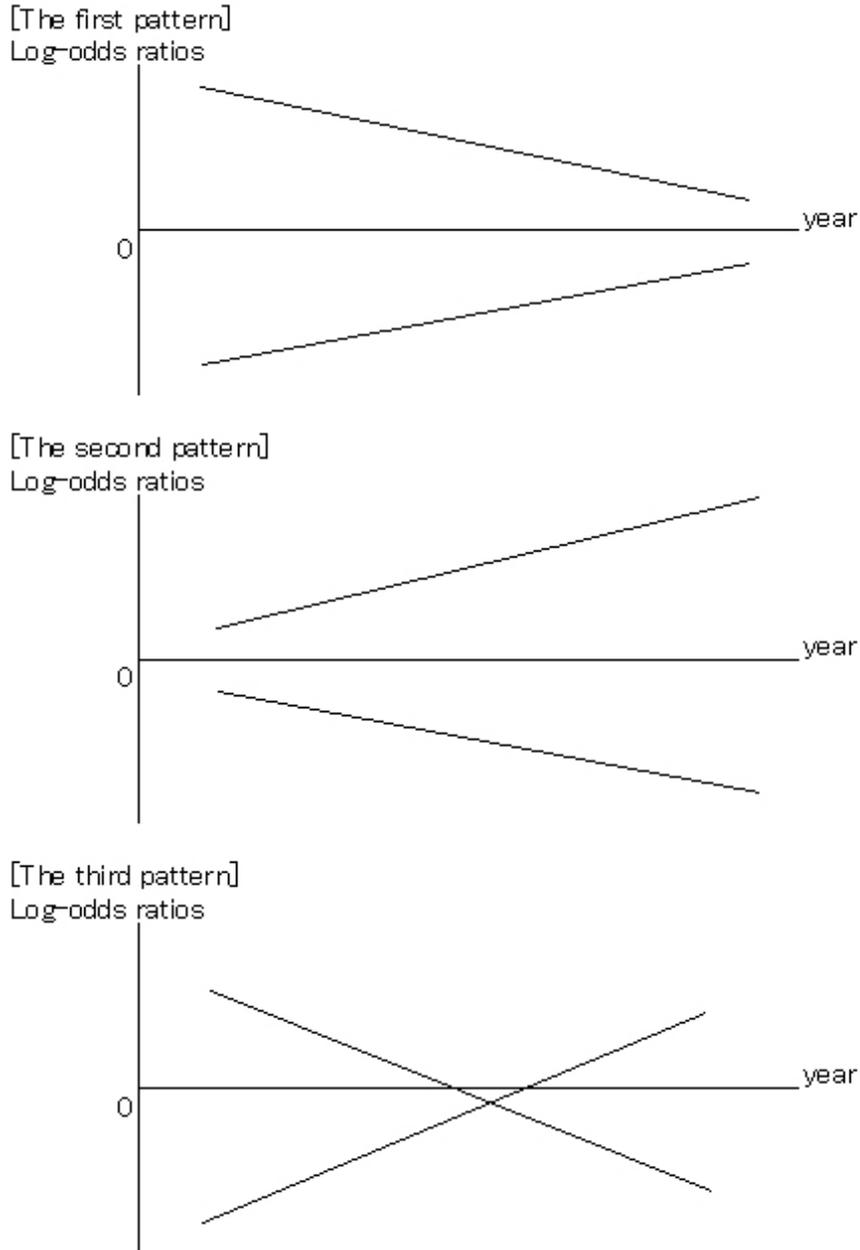
characterized by no change in social mobility. The period 1975-85 showed moving towards closedness because the largest share, i.e., 45 percent, was observed by the second pattern. This share, however, was lower than 50 percent, and thus the effect was not so large. Finally, the most recent period, i.e., 1985-98 shows again a minor move towards openness, although its power is not so large, i.e., 49 percent. The overall result based on Figure 1 and Table 1 suggests that the degree of social mobility, or the degree of openness (or closedness) has fluctuated considerably. It is, moreover, impossible to find any clear and strong trend either towards higher social mobility or towards lower mobility.

Table1, Time-series Changes in Log-odds Values

	1955-65	1965-75	1975-85	1985-95
The first pattern	54%	44%	34%	49%
The second pattern	31%	41%	45%	35%
The third pattern	15%	15%	21%	16%
Overall assessment for trend				
Parameter	-0.016	-0.004	0.114	-0.137
Standard error	(0.065)	(0.069)	(0.072)	(0.080)

Source: Ishida (2002)

Figure1, Three Patterns for Changes in Log-odds Ratios



Ishida (2002) presented another interesting result for the trend in the degree of keeping the same occupation between fathers and sons. These numbers are shown again by log-odds ratio. Table 2 can show how the keeping rate has changed over time for various occupational groups, and how it has been different by occupations. The most interesting result is that both farmers and upper-class white-collar jobs showed

relatively high keeping rates. Simply, sons of both farmers and upper-class white-collars are likely to engage in the same occupations with their fathers'. There are not clear and simple trends (i.e., always increasing or decreasing) for all occupational classes, although upper-class white-collars, farmers and upper-class blue-collars showed weak simple decreasing trends. Consequently, the degree of openness in these occupations has increased marginally.

Table2, The Rate of Occupying the Same Occupations between Fathers and Sons
Which is Expressed by Log-odds Ratio

	Upper-class white collar	Lower-class white collar	Self employed	Farmer	Upper-class blue collar	Lower-class blue collar
1955	2.085	1.267	1.270	2.697	1.760	1.791
65	1.580	0.937	1.294	2.340	1.093	1.003
75	1.390	0.130	1.055	2.536	1.089	0.602
85	1.343	0.834	1.193	2.931	0.781	1.360
95	1.295	0.622	0.965	3.236	0.699	0.613

Source: Ishida (2002)

The case of upper-class white-collar jobs is note-worthy because it shows a considerably high rate of keeping the same status between fathers and sons even now. This result is consistent with the Sato's (2002). These two results may suggest symbolically that the Japanese society is closed regarding intergenerational social mobility.

Let us summarize the state of social mobility. The following statement is my personal judgment based on several empirical studies examined above. The degree of social mobility in terms of pure (or relative) mobility, which can be calculated by subtracting enforced mobility from observed (absolute) mobility, showed a marginal increase, broadly speaking. Simply, Japan moved towards more open society. This was, in particular, obvious and large in 1955-65. The recent story, however, shows a small V-turn, or gives a sign of increasing closedness. The degree of equality of opportunity associated with occupational attainment from fathers to sons showed a sign of declining recently.

I point out several reasons for proposing the last point, and they are more or

less consistent with Ishida (2002). Ordinary people and citizens cannot recognize the numerical values of pure (relative) mobility, which was calculated by sociologists. People see and judge the real world of intergenerational occupational transmissions, which are equivalent to observed mobility, through their daily eyes. They see that many jobs such as farmers, and in particular upper-class white-collar jobs are occupied by sons of farmers and upper-class white-collar workers, respectively. They also know the following phenomena; most sons of medical doctors become medical doctors, between one-third and half of parliament members are occupied by families and relatives of parliament members, and there are many popular artists and TV talents whose parents were also artists and TV talents. The three prime ministers among the recent four ones are the sons of the parliament members in Japan. The case of the prime ministers is a symbolic representation of low social mobility. They see in everyday life that a large number of parents and children engage in the same occupations. These everyday observations and facts lead people to believe that social mobility has started to move towards closedness.

I would like to add another reason. That is the limited role of pure (relative) mobility. Sociologists measure such pure mobilities every ten years, and argue whether pure mobility increased, decreased, or fluctuated. The age difference between fathers and sons are 25-45 years, which is significantly longer than ten years, the difference in observation years. If social mobility were examined for longer periods such as 40 or 50 years, the empirical result would be accurate and meaningful. Fluctuations or changes within ten years may be too short to argue the implication of social mobility. In other words, it is not so meaningful to argue changes in social mobility within ten years in view of the fact that the age difference between fathers and sons is much larger than ten years. If there were some changes in social mobility within ten years period, some statistical measurement errors or methodological issues associated with complex estimation methods might be the principal causes for such changes. My last concern, however, is somewhat impressionistic, and thus does not necessarily denounce the scientific value of pure (relative) mobility measured by sociologists.

In sum, I propose that equality of opportunity, which can be indicated by intergenerational social mobility, shows a small erosion currently. In other words, it

moves towards more inequality of opportunity.

3. Sociological Analysis

3.1 Sociology of Education

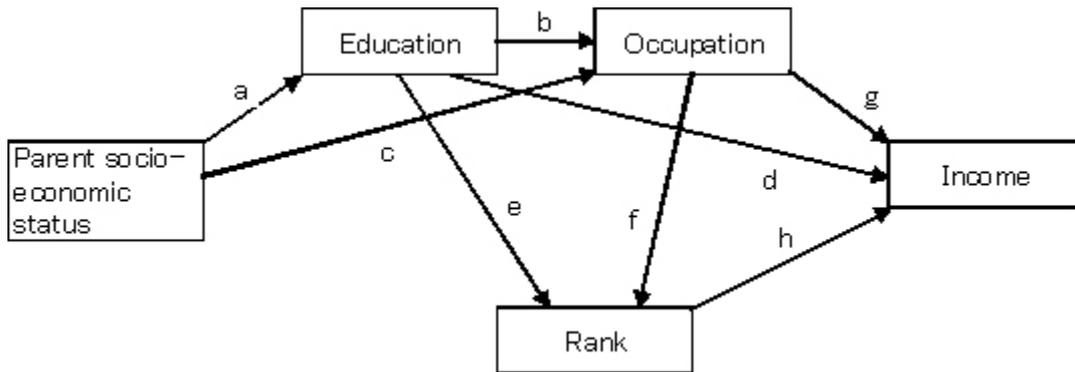
Blau and Duncan (1967) was a path-breaking study on social mobility in the following senses. They examined the role of parents' socio-economic status, the effect of children's educational attainment, and the effect of children's first job, and the outcome of children's current job along the line of one's life-cycle or life-course. In other words, personal history was chased from parents to children's current job successively. The β -coefficients approach, or the path analysis, which became a standard estimation method in the literature, was applied. Blau and Duncan found for the U.S. that the effect of parents' socio-economic status on children's educational attainment was positive, while it had no significant effect on children's occupational attainment, and at the same time the effect of children's education was strong. Their study proposed the so-called meritocracy regarding the role of education, which will be argued later.

I enlarged the path analysis approach, by taking into account children's income as a final variable, and job rank or hierarchy as an additional intermediary variable for Japan, Tachibanaki (1988a,b). The similar model, which is not necessarily equivalent to the Japanese one, was applied for several countries like France, Tachibanaki (1980), and the U.K., Tachibanaki (1998). Interested readers can refer to these studies for international comparisons.

Figure 2 shows the essence of the model, which may be called a "recursive type". The principal chain of causality goes in the following way; parent socio-economic status \implies children's education \implies occupation \implies rank \implies income. Rank signifies a hierarchical position of managerial role in organizations, which can be applied only to employees. The case of self-employed workers does not consider this variable. The empirical studies, Tachibanaki (1988a, b), considered five hierarchical positions, depending upon the difference in responsibility and the number of sub-ordinates. Economists were normally interested in a and d, while sociologists

were normally interested in a, b and c. I was interested in e, f, g and h, as well as a, b, c and d. The novel feature of Figure 2, therefore, is the introduction of rank in the model.

Figure2, A Recursive Model Applied by Tachibanaki



I raise several representative hypotheses which can explain the cause-outcome relationships indicated by a, b, c,....., h in Figure 2.

(1) Meritocracy hypothesis; this signifies that educational attainment determines one's occupational attainment, represented by the nearly zero value of c, and the large positive value of b.

(2) Intermediation role of education; this emphasizes the intermediation role of education in the transmission from parents' socio-economic status to children's occupation. It is represented by the positive values of both a and b. The difference between (1) and (2) appears in the following way; (1) requires the zero value of c and the large positive value of b, while (2) needs only the modest values of both a and b.

(3) Social mobility zero hypothesis; parents' socio-economic status, in particular parents' occupational attainment, determines children's occupational attainment, represented by the strong positive effect of c. It implicitly assumes that a and/or b are zero.

(4) Performance hypothesis; this assumes that the effect of parents' socio-economic status on children's educational attainment is weak, and at the same time the effect of parents' socio-economic status, in particular occupation, on occupation is weak. In other words, children's own performance is crucial. The

value of both a and c are nearly zero.

(5) Screening hypothesis; the role of education works as a selecting criterion to choose persons and to determine who should be promoted to higher ranks (or positions). In this case, the effect of e is positive and large.

(6) Human capital theory; since education raises one's productivity and thus earnings power, the effect of education on income is positive and strong, represented by the positive value of d . Economics has huge literatures on human capital theory.

(6) Responsibility and leadership hypothesis; higher ranks or positions in any organization demand high responsibility and leadership to manage their subordinates and to raise productivity of its organization. It is natural to presume that high rewards are paid to successful individuals who occupy higher ranks. The value of h is positive and large.

Several empirical observations regarding the above hypotheses are provided mainly for Japan. It is reported by several sociological literatures, for example, Hara and Seiyama (1999), that the role of education in the determination of occupation has declined in the long-run after industrialization proceeded. In adopting the terminologies of the six hypotheses above, there is a shift such that meritocracy hypothesis moves to intermediation role of education initially, and finally to social mobility zero hypothesis. Japan is somewhere between the above processes, implying that the role of educational attainment has been in a decreasing trend in the determination of occupational attainment. The similar finding was proposed by Grusky (1983) for the U.S.

There are several reasons for the declining role of education. First, since industrialized countries achieved a considerably high living standard, a large number of people are able to attain higher education. In Japan and the U.S., the rate of schooling attendance in higher education, say at least junior college levels, and largely four years college levels, is now about 50 percent. In European countries, for example, the U.K., France and Germany these rates are 15-30 percents. The high rate in Japan and the U.S. does not imply that the higher education at college levels is "elites" in these countries. Therefore, it is possible to anticipate that educational attainment, at least schooling years or graduation levels, does not matter so much.

Second, there is a different view about the role of education in some countries.

The famous one is Willis (1977) for the U.K., and Bourdieu (1979) for France. Willis proposed that several successive generations, who transmitted their working class status, did not show any strong desire to attain higher education in order to achieve higher occupational attainment. There was even a cultural tradition which looked down intellectual people who are educated. There was a deep distinction between working class and non-working class socially. The latter group only wanted to attain more education. The similar story was proposed by Bourdieu. We know well that there are several elite schools in France. It was likely that students, who were able to attend these elite schools, came from non-working class and rich families. Bourdieu and Passeron (1970) called such a system “Reproduction”. Education works as an instrument to support intergenerational reproductive transmission.

The first view and the second view are different to interpret the role of education in the transmission of occupational attainment over generations. The first view emphasizes working class or lower-class consciousness, whereas the second one emphasizes upper-class hope and behavior. My judgment about these for Japan is as follows; the second view can be applicable to the pre-war period when the society was so closed. Higher education was achieved only by upper-class and rich households, while only compulsory education was attained for lower-class people. Thus, the first view is plausible and persuasive in this period.

I speculate that the second view is useful to understand the current period when we pay attention to prestigious universities as well be shown later. At the same time, however, the first view is no longer applicable because a large number of students are able to attain higher education such as junior colleges, and four years colleges regardless of parents’ socio-economic status currently. We have to, nevertheless, add the following notes.

If the first view could not be applied, would it be possible to supplement other factors related to education? The first candidate is the contribution of native ability. If we pay attention to the common educational attainment, say college levels, the difference in native ability is likely to work as a factor which differentiates productivity of individual college graduates. The second candidate is the quality of schools. We know that school qualities are considerably different in both college levels and high school levels. Graduates of good schools may be more capable. The third candidate

is graduate schools after four years college educations. MA, or Ph. D. degrees may be beneficial when there are so many college graduates in the society, because graduates of such graduate schools or professional schools attain higher knowledges and skills than those of colleges. We know that in the U.S. professional schools such as business, medical, law schools play a major role in producing highly skilled workers. Japan is moving towards the U.S. style of higher education in which the role of graduate school is important.

Let us examine the second candidate, i.e., schooling quality. This subject has a particular meaning because academic credentialism, which implies advantageous superior opportunity for several prestigious university graduates, has been believed to be dominant. It invites both emotional and practical disputes because entrance examinations to these universities have been very keen, and because it has been believed that those graduates were successful in achieving top-class social status such as executive members in large enterprises, higher bureaucratic positions in the government, etc. The similar story is true in France and South Korea. We can call it academic credentialism for particular prestigious universities.

There are several examples which support the above. First, hiring tests of both academic examinations and interviews are given to all candidates who want to be hired as the first-track career civil servants. Their future career is bright in the central bureaucratic organizations such as treasury department, foreign services, etc., once he or she passes such tests. The majority of successful candidates are the graduates of these prestigious universities. Among many universities University of Tokyo occupies the largest share. Each year about 400 University of Tokyo graduates pass the examination, and the next one is University of Kyoto, about 200. Several other reputed universities occupy less than 100. The importance of University of Tokyo, which sent the majority of top civil servants in the past, is quite impressive. Among many faculties at University of Tokyo law faculty is the principal source of top civil servants. This example is a symbol of academic credentialism.

The second example is the number of executive members at listed firms. It is believed that even at private firms reputed universities' graduates are advantageous in being promoted to executive members in large enterprises. They are very successful in attaining such positions under the condition such that competition is so severe in large

enterprises. Table 3 shows the number of graduates, who occupy executive positions, for each collage and university. University of Tokyo is 184, and University of Kyoto is 179. They are national universities, and occupy the first class position. Two top-level private universities, Waseda; 164 and Keio; 138, occupy the second position.

Table3, The Number of Executive Members at Listed Firms
Classified by University Names

National and Public Universities		Private Universities	
Top 10		Top 2	
Hokkaido	30	Waseda	164
Tohoku	54	Keio	138
Tokyo	184	sub-total	302
Nagoya	40	Meiji	53
Kyoto	179	Chuo	42
Osaka	50	Rikkyo	16
Kyushu	57	Hosei	28
Hitotsubashi	67	Nihon	66
Tokyo Institute of Technology	26	Doshisha	66
Kobe	67	Ritsumeikan	27
sub-total	754	Kansai	28
		Kansei-gakuin	32
		sub-total	392
Other	318	Other	480
	Total		2246

Source: Tachibanaki (1997)

Table 3 shows that about half of executive members at listed firms are occupied by graduates of the so-called top twelve national and private universities. This may represent academic credentialism at the private sector, in particular large enterprises. I have a slightly different view about this interpretation; it is true that the probability of being promoted to executive members at large enterprises should be higher for prestigious university graduates than for other universities, if other qualifications such as performances at enterprises, etc. are the same. I find, nevertheless, that non-prestigious universities' achievements of executive positions are not so inferior, and may be even impressive under the condition that many people believe that academic credentialism plays a major role in many social and economic activities. In fact these non-prestigious university graduates occupy nearly half share of executive positions.

My personal future prediction about academic credentialism is as follows; the role of academic credentialism will decline in both public sectors and private sectors. For the central governmental departments there is a sign of the declining applicants from prestigious universities. There are several reasons for this declining demands. Although the power and the role of top civil servants were important in the past because Japan was supposed to be a bureaucracy oriented country like France, its power and influence has declined constantly, as deregulation policies have been applied continuously. Salaries of civil servants are now relatively low in comparison with those of large enterprises. There are many job opportunities which are opened for university graduates in other sectors rather than the central government. For private sectors in any industries many employers recognize that academic credentialism is only a tiny qualification, and that job performances or achievements are much more crucial when workers have the common graduation levels, for example, the college level. Therefore, the name of college and university is no longer crucial in being promoted to executive positions in large enterprises. It should be emphasized, however, that (5) screening hypothesis at least at the entrance level for employment is still operative when we argue the effect of education, as will be mentioned later.

3.2 Class, Education and Marriage

Going back to the story of the declining role of education in determining one's occupational attainment, or of the increasing role of social mobility, another factor is added; marriages among the common educational attainments between husbands and wives conceal the effect of one's educational attainment on one's occupational attainment because we tend to observe an impression that the common occupational attainments between parents and sons are occupied. The possibility such that educated men and women get married, (and equivalently less educated men and women get married) is high in many societies. Japan is not an exception to this social observation. It is likely that sons and daughters of educated couples are educated, and these of less educated couples are less educated. This is one of the causes of social closedness, and implies that fathers and sons engage in the common occupations. Of course, the decision of human marriage is influenced by many other factors, and the previous statement is somewhat an exaggeration. It symbolizes, nevertheless, one aspect of

social immobility associated with education, which is explained by marriages.

Shimizu (1990) presented an interesting result, given by Table 4, about the relationship among social mobility, education and marriage. The combinations of both social class, represented by father's occupational attainment and educational attainment for both husbands and wives are shown for various cohorts. There are five occupational classes of fathers (i.e., professional and managerial, white-collars, blue-collars, self-employed and farmers), three educational attainments of husbands and wives (i.e., elementary level, middle, and higher), and three cohorts (generation I; births in 1916-30, generation II; births in 1931-45, generation III; births in 1946-65).

Table4, Parents' Social Classes and Children's Educational Attainments
at Children's Marriages

Husband's social class and wife's social class						
	Total	Professional and managerial	white-collar	blue-collar	self-employed	farming
Generation I	0.718	0.631	0.991	0.834	0.787	0.614
Generation II	0.819	0.819	0.987	0.861	0.912	0.664
Generation III	0.840	0.867	0.929	0.822	0.902	0.739
Total	0.794	0.798	0.951	0.844	0.878	0.646

Husband's education and wife's education				
	Total	Elementary education	Middle education	Higher education
Generation I	0.496	0.266	0.633	0.436
Generation II	0.488	0.218	0.611	0.452
Generation III	0.586	0.497	0.664	0.573
Total	0.477	0.367	0.598	0.412

Notes: Generation I; birth years 1916-30.
 Generation II; birth years 1931-45.
 Generation III; birth years 1946-65.
 Source: Shimizu(1990)

Figures in Table 4 show the rate of marriages which occur among husbands and wives who have the common features such as the common occupations of their fathers, and the common educational attainments of husbands and wives. The figure closed to zero implies that husbands and wives have the common features, while the figure closed to unity implies that they have the opposite features. There are several interesting findings based on this table. First, the rate of openness judged by fathers' occupations

for all generations is 0.794, which signifies that father's occupations of a husband and a wife are quite different. This rate shows occupations of a husband and a wife are quite different. This rate shows an increasing trend, and thus the degree of marriages between different social classes is increasing. It may be concluded that social class (i.e., father's occupation) does not matter in the determination of marriage matching. If we pay attention to occupational difference, the degree of white-collars is high, while that of farmers is low.

If we are concerned with educational attainment of husbands and wives, the table shows that the degree of openness is lower than 0.5, say 0.477. The degree of marriage matching between a husband and a wife who have the common educational attainments is considerably higher than the degree of marriage matching between a husband and a wife who have the different social classes. This is true, in particular among couples who have either elementary school graduates or college graduates.

This observation is interesting because education matters more seriously than social class in the determination of marriage matching. It is possible to conceive of several comments on the above. First, since choosing a spouse (i.e., marriage) is a completely liberal human activity, it is ridiculous and even dangerous to criticize any behavior of marriage activity. We need to accept status quo about marriage. Thus, the rate of high inter-marriages categorized by educational attainments of husbands and wives cannot be criticized. Second, it would be feasible to anticipate that marriage matching among the common educational attainments may provide happier and more stable marriage life than that between different educational attainments. This, however, never excludes marriage matching between educated men (women) and less-educated women (men). Third, it is possible to propose that since couples who have the common educational attainments are likely to have a situation such that their children's educational attainments are the same as the parents', the closedness of the society is reinforced because it is likely that occupational attainments of both parents and sons (or children) are the same, or nearly equivalent. Education works as an instrument for social immobility in this case, which can be contrasted to the previous Blau and Duncan (1967) evaluation on education and social mobility. I proposed my evaluation only for Japan, and do not have any intention that it is universal for all industrialized countries.

4. Economic Analysis

4.1 Economics of Education

The previous hypotheses, namely (4), (5), (6), (7) are normally evaluated by sociology. Economics also paid attention to those subjects, and some are more popular in economics than sociology. The most popular hypothesis is (6) human capital theory. This hypothesis proposes that both formal education and job-training raise one's productivity, and thus wages are proportional to the level of both formal schooling and job-training, as given by Becker (1964) representatively.

Hypothesis (5), screening hypothesis is more important than human capital theory if we consider the effect of rank in organizations, which is given in Figure 2. This hypothesis is one of the theories of economics of information as given by Arrow (1973) and Spence (1973), and proposes that education is used as a device which selects individuals among many candidates. The original target of screening hypothesis was applied to select new employees among many job applicants from an employer point of view because only job applicants' educational attainments were available information. This is, in particular, true when job applicants are new graduates of schools. Also, an employer does not know anything about job applicants' potential capability in job performances. Of course, job interviews may give some signs of such capability. It is, however, highly uncertain. Therefore, an employer tends to rely on both schooling level (high school, college, or graduate school) and the name of graduating school of job candidates when selection of new hiring is made.

Screening hypothesis in terms of my interpretation is applied also to selection of promotions to higher hierarchies in enterprises. There are several job ranks in hierarchical ladders, and competition or selection of employees for higher hierarchies is keen. Employers in Japan use information of employees' educational attainment as a criterion, in particular at the first stage of selections. Tachibanaki (1988a, b) found that the majority of college and junior college graduates were selected at the first selection of promotion (i.e., from ordinary employee to section head), and the majority of high school graduates were not selected. Whether or not employees have college diploma is the important criterion in the determination of promotions. This is the Japanese version of screening hypotheses which could be applied to the effect of

education on rank. This effect is given by e in Figure 2.

There is a complicated and difficult issue of the intermediary role of occupation in evaluating the effect of education on rank, say b and f in Figure 2. Tachibanaki (1988a, b) examined both the direct effect of e, and the intermediary effect of b and f. Interested readers can refer to them. Only the conclusion is described here. The direct effect of e is stronger than the combined effect of b and f. Consequently, screening hypothesis in terms of the role of education in the determination of promotion possibility prevails.

Hypothesis (6), responsibility and leadership hypothesis, is, described finally. Since employees who occupy higher positions such as section heads, department heads, or directorate heads have to bear higher responsibility to manage their subordinates, and show strong leaderships to raise productivity of their section, department or directorate. Top executives have to bear the highest responsibility, and show the strongest leadership in order to manage their enterprise efficiently. Tachibanaki (1988a, b and 1998) found empirically that the effect of ranks and top-executive positions was very strong. In other words, earnings differentials were very large between ordinary workers and promoted workers. The effect was the largest among several other variables such as education and/or occupation. The effect of h in Figure 2 is very large.

It is believed in Japan that the effect of education and occupation on wage differentials was relatively minor. Thus, the empirical finding here associated with job ranks, namely earnings differentials explained by the difference in job ranks are very large, is consistent with the general empirical understanding of the effect education and occupation. In Japan, high responsibility and strong leadership are appreciated very strongly, and very high monetary rewards are paid to those who were promoted in hierarchical ladders, including top-executives. We should not forget, however, that the screening role of education in determining who are promoted to higher positions was prevailing. Therefore, the effect of education works indirectly in the determination of wage earnings. In other words, the effect of education which is interpreted by the framework of human capital theory is considerably minor.

4.2 Changes in Working Attitudes and Industrial Relations

Changes in working attitudes and industrial relations, and equality of

opportunity are discussed. These subjects are important to argue the issue of inequality.

The Japanese type of industrial relation system was characterized by the following three features; (1) life-time employment (more precisely, longer duration of employment in one enterprise, (2) seniority system in the determination of wages and promotions, (3) enterprise unionism. I would like add the following two; (4) strong work motivation and hard-working ethic of employees, (5) cooperative industrial relations between employers and employees. This section argues recent changes in the above features.

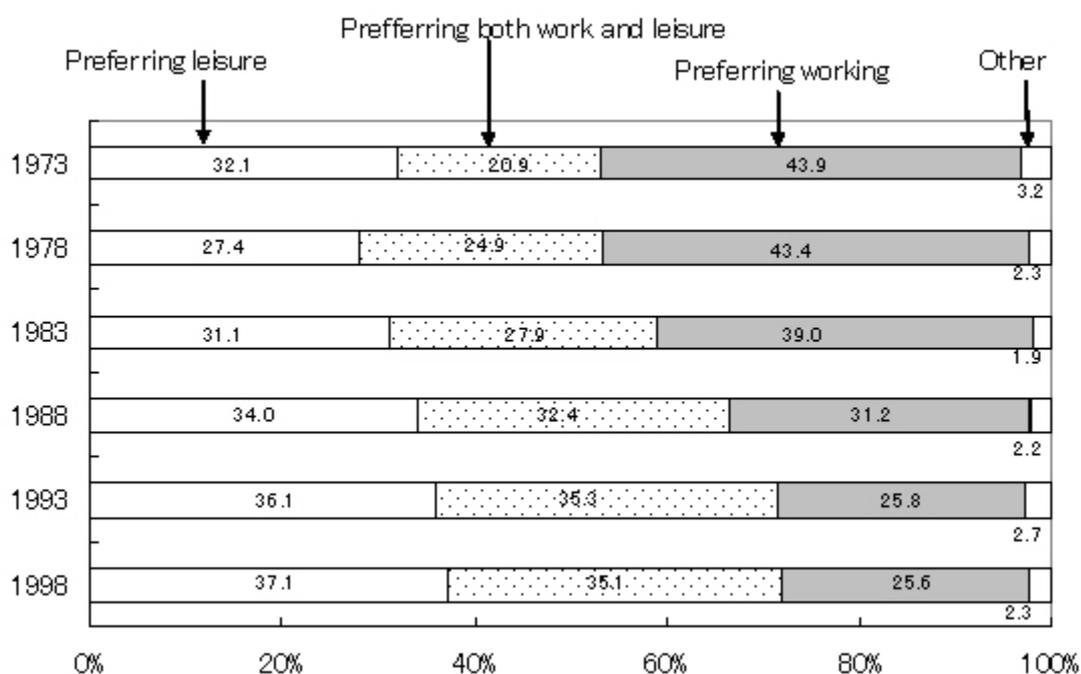
First, there is a change in wage determination system. Shunto (Spring offence) has been a symbol of wage determination, which has been negotiated in every spring between the representatives of employers and trade unions, both at industry level and enterprise level. Shunto had a feature of equal wage payments among union members. This kind of centrally-oriented, or semi-centralized wage determination system has eroded. There is a trend towards more decentralized wage settings which encourage that wages are determined at the negotiation between each employee and each employer. It is, however, too early to declare that central wage determination has disappeared. At the same time, seniority wage and promotion system has not disappeared entirely. In sum, wage determination system is under the transition process, and its change encourages a wider wage distribution.

Second, related to the above point it is possible to point out that employers prefer the system which emphasizes a heavier weight on performance-based wage determination rather than seniority-based one. Employers find that the former system can promote higher work incentive of skilled employees, and believe that it raises labor productivity at the enterprise. It is true that seniority-based pay system, which provided compressed wage dispersion among employees who have common ages and durations of employment, was useful to keep high work incentive of all employees, including both skilled employees and less skilled ones. Recently, the more important role of skilled workers is placed by employers, and thus performance-based pay system is adopted by many firms.

Third, employees also do not denounce the above trend recently, namely a shift to performance-based pay system, because there are now various attitudes towards

“working-life” among employees. Some find working-activity attractive, whereas the other some find working-activity less attractive and prefer more leisure time. Figure 3 is presented to show that the share of Japanese people who prefer leisure time, or leisure and working simultaneously rather than working only, is in an increasing trend. A large number of people now tend to give a lighter weight on leisure, or at least leisure and working activity simultaneously. These people do not want to receive higher earnings by working hard. A considerably high economic prosperity enabled these people to feel in this way. It was impossible for them to feel it when the Japanese economy was developing during the post-war period. In sum, wider earnings differentials between people who want to receive higher wages but have to work hard, and people who do not mind in receiving lower wages but want to enjoy non-working activity (i.e., leisure) are accepted by the majority people.

Figure3, Preferences of Whether Working or Leisure



Source: NHK Broadcasting and Culture Institute, Consciousness of Japanese People

There is one survey, which can support the above proposition, called “Survey on Working Attitudes in Future”, reported by the cabinet office of the Japanese

government in 1995. The result is somewhat old, but can be relevant even now, and in fact would be more appropriate than in 1995. The survey asked, “Is it desirable to change the principle of wage determination from seniority-based pay to performance-based pay, or capability-based pay?” The positive answer to this question was 63.0 percent, while 19.6 percent responded negatively. About three-times higher people prefer performance-based pay, or capability-based pay to seniority-based pay. The change in the opinion reflects that wider wage differentials would be accepted.

Finally, the role of trade unions should be mentioned. Trade unions normally preferred compressed wage distribution (i.e., equal distribution of wages) among members, and also centrally-determined wage setting. Their preferences are confirmed by the case of Sweden and Germany where wage distribution is fairly equal, and centralized wage determination is common. See the Swedish case, for example, by Freeman, Swedenborg and Topel (1998). At the same time, the union participation rate is considerably high in these countries. Therefore, it would be likely that high union participation rate is one of the conditions of equal wage distribution.

The union participation rate in Japan had been considerably high after the Second World War. This was one of the signs of democratization. It started, however, to decline constantly, and reached now about 20 percent. Only one-fifth of workers join unions currently, and thus its power has declined. The decreasing effect on wage negotiations is not an exception to this declining power.

Why has the union density declined constantly and continuously? Tachibanaki and Noda (2000) examined the reasons for this decrease, and the effect of trade unions on various economic conditions including wages. Here is the summary. First, there is an increasing number of part-time employees and contracted workers with limited duration of employment. The number of union members declines because unions normally do not admit these employees’ memberships. Second, even regular employees who are qualified for union members do not want to join, or are not eager to be engaged in union activities. The reason is as follows; whether workers are just busy for their jobs and are not interested in union activities, or they know that union activities do not provide them with any significant benefits.

Third, a change in employment structures is observed by an increase in white-collar jobs and an increase in college graduates. The majority of union members

have been blue-collar workers with high school educations. Such a trend obviously reduces union members. Fourth, the empirical result by, for example, Tachibanaki and Noda (2000) suggests that the majority of various working conditions including wages are not so different between unionized firms and non-unionized firms, although there are several areas where union members receive higher benefits than non-union members. This empirical result can be regarded as evidence which supports the second and third reasons mentioned above. Fifth, employees in small enterprises do not have strong leaders who are socially active and thus attempt to organize unions in these enterprises, and at the same time some owners and executives in these firms are occasionally hostile against employees' attempt of organizing unions. Sixth, employees in general are not so eager about unions partly because they are too busy, and partly because they are reluctant to contribute union fees because they feel no strong benefits as described above.

In summarizing the changes in industrial relations system, it is concluded that wider wage differentials will be observed because both employers and employees accept such wider differentials for various reasons and phenomena described above. One additional cause is that the production system and sales system in enterprises are changing from a principle such that the average productivity of all employees is crucial to a principle such that the productivity of selected skillful workers is crucial in order that an enterprise performs well. The former principle is useful for enterprises which engage in mass-production and mass-sales activities for a smaller number of standardized products, while the latter one is useful for enterprises which engage in producing and selling a large number of different kinds of high-quality and expensive products with smaller quantities. Japan is moving from the former to the latter recently. In such a trend, wider wage differentials are unavoidable.

5. Equality of Opportunity and Equality of Outcome

5.1 A Change in Mind of Equality

The previous section concluded that the degree of wage inequality would increase, or wage differentials would widen because performance-based wage pay

rather than seniority-based pay dominates in the determination of wages with the consent of both employers and employees. This implies that peoples' evaluation on equality-inequality changes. Seniority-based pay assumed that equality of wage distribution was attained at least for employees who had the common ages and duration of employment in one company, and thus that equality of outcome (or consequence) in wage payments was assured. Performance-based wage system does not necessarily pursue equality of outcome, but it presumes that people understand that it is fair when the amount of wages is equal to each worker's contribution to the enterprise. Seniority-based wage system does not pay each worker's wage which is corresponding to his or her performance or contribution to the enterprise, but it is determined largely by his or her personal qualification such as age or seniority.

People now believe that performance-based pay is more fair than seniority-based pay because it takes into account peoples' performance and contribution, which should reflect their degree of effort. The concept of equity, fairness or justice is appreciated, when people find that the following principle is accepted, "Effort should be evaluated appropriately, and thus reward should be given to his or her effort". Even if wider wage differentials occur between employees who expend effort and thus contribute much to the enterprise, and those who do not expend effort and thus contribute not much, all concerned employees understand that they are treated fairly. The degree of wider wage differentials can be determined by the majority decision rule of all concerned people, including both employers and employees.

Since wages are the major part of incomes, the above story on wages can be enlarged to all concerned citizens, and thus the degree of income differentials (i.e., primary income differentials) is normally determined by the majority rule of all citizens in the democratic society. This determines the degree of income inequality, i.e., inequality of outcome (i.e., consequence). Since both tax system and social society system commit to re-distribution policies, inequality of outcome is determined by the will of all citizens concerned with both primary incomes and re-distributed policies. We need some stringent value judgments of all citizens in this case. The similar story can be conceived for wealth distribution. The above is the discussion of inequality (or equality) of outcome.

5.2 Equality (or Inequality) of Opportunity

Equality of opportunity forms striking contrast to equality (or inequality) of outcome (or consequence). Equality of opportunity is concerned with the initial condition before people begin their economic and social actions. After such economic and social actions ended, we observe the condition of equality (or inequality) of outcome, which is expressed by before re-distributed income distribution. Both tax and social security systems change the condition of income distribution, which is called re-distributed income distribution. The effect of tax policies and social security programs on income re-distribution will be examined later.

There is a strong consensus in any democratic societies at least conceptually such that equality of opportunity should be prevailing. In other words, nobody objects to the importance of equality of opportunity. In the real world, however, there are various kinds of inequality of opportunity. Immediate examples in Japan are discrimination against women, and less educated individuals in terms of screening hypothesis described above, and not enough educational opportunity for all children and students, etc. Racial discrimination is observed in racially heterogeneous societies, and different treatments by religion and cultural background are common in any societies. At the absence of such examples of equality of opportunities some advantageous people get better economic outcomes than handicapped people in opportunity.

Equality of opportunity is defined by the following two concepts. The first is level the playing field, which guarantees that society should commit to it. All persons can compete for employments or positions if they desire, or all persons can be candidates for competition. No institutional barriers should be observed, if equality of opportunity is regarded as a basic human principle. The second is a nondiscriminatory principle which states that all persons are able to opt for any positions, if they have the relevant attributes and qualifications to perform jobs of such positions well. Only the relevant attributes and qualifications should be used to select individuals who occupy such positions, and the other information such as age, sex, cultural background, religion, and race (in some countries) should not be used. Age is a difficult issue in Japan currently because there is a debate about the application of age for selections.

The constitution and various laws declare that equality of opportunity should

be assured as a basic human principle. The real world, however, does not guarantee such equality of opportunity, as several immediate examples have been presented. One difficult example is provided; suppose that there are two high school students. Student A is intelligent and hard-working, while student B is less intelligent and lazy. Parents of student A are poor, and hope that their son or daughter will work despite the child's hope is to go to college, while parents of student B are rich, and hope that their son or daughter goes to college. If the society admits that equality of opportunity is highly desirable, fellowship system for financial aids for student A should be provided. Japan does not prepare a full scale level of financial aids to those students. Therefore, equality of opportunity is not perfect in Japan.

A delicate issue appears if we consider student C who is much less intelligent than students A and B. He or she may not finish college education in view of very low intellectual capability, but wants to go to college, and his or her parents are poor. Is it necessary to prepare financial aids for student C if we commit to equality of opportunity? One answer may say that it is not necessary because such aids for student C are likely to be inefficient. They may be idle money. Another answer may say that it is necessary because we need to accept student C's hope despite very high probability of uselessness.

Roemer (1996, 98) gave strong justifications to support the latter. According to him, capability or intelligence of a child is the circumstance beyond his or her control, and thus some compensations must be provided in order to sustain equalizing opportunity for educational attainment. He, probably, proposes to spend public money to give an opportunity for student C in order to educate him or her with special effort. Such special education may enable such a child to attain enough academic achievement in order to be admitted to college, and eventually to graduate from college. The Roemer's idea is that equality of opportunity requires compensating financial resources for the differences in their circumstances as long as those differences affect educational attainment. Roemer includes family background, cultural background, more generally social milieu, in addition to native capability. This idea associated with native capability may sound special because some other people may find such compensating money be inefficient. In other words, public funds for educating incapable students are useless and thus less efficient. The issue of the trade-off between efficiency and

equality will be argued later.

5.3 Relationship with Efficiency

One sensitive controversy associated with inefficiency was held in the U.S., where there is racial heterogeneity. There was one minority opinion which argued that black children had more limited capability, and proposed to limit educational resource provisions in order to spend public fund more efficiently, as Jensen (1969), and Herrnstein and Murray (1994) argued. If we do not like the word “black” or “racial heterogeneity”, we can use the word “less capable” children, as explained just now. The common view of equality of opportunity assumes at least equal public educational expenditure to all children. The view above, however, proposes less amount of public educational expenditure to less capable students, or non-white children because such payment may be useless and inefficient. Roemer (1998) verified that above minority idea was unjustified, and proposed that more expenditure was desirable for the education of less capable children.

The above description for equality of opportunity is for the U.S. I would like to point out one example for Japan; that is interview possibility for college graduates in employment search activity. Japanese large enterprises preferred graduates of several prestigious universities, as was explained as “academic credentialism”, and gave interview possibilities only to those students. It is called “designated interviews originated by the name of university”. Is this system against the principle of equality of opportunity?

It is quite likely that students who are excluded from any interviews for jobs find the system unfair and unequal. There are several reasons why such large enterprises adopt the system. First, they can save hiring costs considerably when they limit the number of candidates. Second, limiting the number of interview candidates enables enterprises to select new employees more carefully and accurately. Third, these enterprises know well based on the past hiring history that those employees selected from designated interviews do well during their careers, relatively speaking. In sum, the designated interview system is more efficient than opening doors to all applicants.

In addition to this efficiency argument, it is possible to describe that equality of

opportunity is also assured even in this designated interview system. The reason is that all high school students had equality of opportunity in applying for these prestigious colleges and universities. If these high school students wanted to be hired by such large enterprises, they should have admitted by those prestigious universities by expending extra academic effort. College entrance examinations in Japan are tough because of academic credentialism. Every high school student can apply for any universities, although all are not admitted, or many fail tough entrance examinations for several prestigious universities. It is certain, nevertheless, that equality of opportunity is given to all high school students, who may desire to be hired by large enterprises which adopt the designated interview system after university graduation, because they could have applied those prestigious universities. It is, in reality, too demanding to expect that high school students recognize such designated interview systems. This example in Japan suggests that equality of opportunity is not an easy concept, and in particular it is difficult to determine unanimously at what place, at what period, and to whom equality of opportunity should be assured.

Equality of opportunity, in principle, is a respectable principle in our society, although it is not easy to assure it for all citizens. In other words, before the competition starts, equal opportunity should be given. After equality of opportunity is exercised, effort of an individual determines one's life to a greater extent. Educational opportunity, job opportunity, employment opportunity, promotion opportunity, and many other opportunities are the examples. It is unavoidable to see that both winners and losers will appear later after the competition started. The difference between winners and losers is measured by income and wealth inequalities as inequality of outcome (or consequence). "What degree of inequality of outcome or consequence can be accepted" will be argued later.

5.4 Three Criteria which Determine Equality and Justice

The next important concept after equality of opportunity is, "Contribution", "Need", and "Effort". Although some of them have been already discussed to a certain extent, it is useful to examine them based on the common ground. In particular, each concept conflicts with the other concept, and some value judgments are required.

"Contribution" is the amount of each concerned person's output in any

enterprises or organizations. Take an example of manufacturing industries which produce various outputs and employ various workers. Although it is difficult to measure how much one individual contributed to the output, it is possible to measure it at least conceptually. One simple but not good idea to measure it is to take a simple average. It is relatively easy to measure it, when individuals commit to sales activity in the enterprise. For example, it is measured by the number of sold cars in the case of car dealers. When such a concrete method is inapplicable, a method which is based on managers' subjective assessment, is frequently applied. Employers expend serious effort to measure each individual contribution to production activities because there are strong demands from employees that payments or rewards should be determined on the basis of each employee's contribution.

The second concept is "Need". All individuals except for children have to receive income to support their economic lives. Nearly all adults work to earn wages. This is true even for retired people. One method for retired people is pension benefits. "How much does each individual, or how much does each household require to receive income in order to support their economic lives", depends on the need and necessity to a certain extent. The most easily understandable example, which determines the degree of need, or necessity, is the number of household members. If one household has five children with no working activity of his or her spouse, the degree of need is certainly high, while the degree is low in the case of one household with no children and working activity of his or her spouse. It is desirable to take into account the difference in living standards caused by the difference in need, and to adjust household incomes in order that extremely different living conditions among households are avoided. There are several arrangements in many countries such as spouse allowances, child allowances and benefits, subsidies to child-care systems, etc. in tax and social security systems. These arrangements certainly contribute to lowering large differences in living standards caused by the difference in need.

Some delicate issues, however, remain in this field. For example, a certain amount of spouse allowances are admitted for married women who do not work at the calculation of taxable incomes in Japan. Married working women find that the arrangement is unfair because they are unable to use any allowances but rather have to pay income taxes. Another example comes from couples with no children, or single

persons who may find that child allowances and benefits are unfair because they have to pay extra taxes. Couples with children may say that children contribute to the society in future as labor forces and financial contributors to social insurances. There are no universal and justifiable theories which can convince all concerned individuals regarding these issues. One solution is to rely on the majority principle in any democratic societies. We have to keep in mind, nevertheless, that the majority principle does not always produce the best policy. Economists can present useful material based on their economic studies, which can be used as information on voting behavior of all concerned individuals.

One additional reason why “Need” is important is that everybody should survive. In other words, the society is expected to guarantee that a minimum subsistence level must be supported for all citizens. If some persons cannot receive income higher than the minimum subsistence level, economic aids should be given to those people in order to avoid starvation. This support system is prepared in almost all industrialized countries. One unfortunate thing is that all developing countries cannot prepare such systems. There are a large number of hungry people and children whose living conditions do not satisfy the condition of need, i.e., minimum subsistence level. This is true even in developed countries including Japan to a lesser extent.

The third concept is “Effort”, which has already been discussed. Workers, who contributed a lot to the enterprise, expended significant effort normally. If the amount of wage payment is proportional to his or her contribution, which was just mentioned as the first concept, it is also proportional to the degree of effort in the normal case. Therefore, the correlation among effort, contribution and wage is normally high, and many individuals do not complain about this correlation nowadays.

One difficult and sensitive problem arises when we observe the case in which an individual has not contributed a lot, or he or she has even failed to achieve one project, in spite of an enormous effort. The latter case happens occasionally, and the contribution is zero. Does employers have to pay higher wages to those who expended great effort, but achieved nothing despite their great effort? The decision, of course, depends on the degree of difficulty in job assignments, of frequency in failures, and of preparation, etc. It is again difficult to present universal theories to convince all concerned individuals about these problems. It is, nevertheless, an appealing subject

to investigate the above problems both theoretically and empirically.

One important issue associated with effort is bequests from parents to children. Children, or off-springs did not make any effort in the similar sense to production or sales activity, in order to receive bequests from the past generation, except for possibly the case of exchange (or strategic) motive. Children, who received bequests without any effort, are really advantageous because they are at the better start-line. If we believe the third concept, namely effort, is an important criterion to determine payments, or the state of income and wealth distribution, the one hundred percentage of bequest tax rate can be proposed, because no effort has been made. This rate, however, may be judged as too high by many people. In such a case, a lower bequest tax rate is proposed. I personally prefer a very high bequest tax rate because it can keep the principle of equality of opportunity. Of course, there must be several people who are against any positive bequest tax rates. Different opinions are possible on the effect of effort in relation to the justification of the relationship between bequests and bequest taxes.

I hope that readers understood the importance of the three criteria, or concepts which determine rewards and thus incomes. The state of income distribution should be determined based on the balanced view among various ideas and thoughts of all concerned people on these criteria and concepts. A difficult issue is to select one policy option among various opinions and thoughts. Another difficulty associated with the three criteria or concepts is that it is not easy to measure them quantitatively. Economics and public policy theory expend great effort in order to raise the ability of measurements in these criteria. Once measurement is feasible, it is possible to present more convincing policy suggestions. Finally, it is repeated that some value judgments of all concerned people are necessary to solve internal conflicts among “Contribution”, “Need” and “Effort”, and the democratic society solves such conflicts by the majority rule.

5.5 Inequality (or Equality) of Outcome (or Consequence)

Provided that equality of opportunity is assured, all individuals commit to economic activity, and then earn incomes. The way how an each person's income is determined was explained fairly in detail. Ability, education, training, effort,

contribution, need, and many other factors determine each person's income level. One factor, which has not been raised, is luck, or uncertainty. If we conceive of several gambles such as horse racing, football toto, lottery, etc., it is easy to recognize that some persons can earn a lot, while some others earn a little and even nothing. The real story in the usual life tells more than these gambling. To become the president or the prime minister of one country is a phenomenon with luck. Any occupational attainments cannot be achieved without some luck. Usual economic activities such as the amount of sales by one individual sales person, or encountering a new invention and bringing it to a new product at research institutes and factories, are also uncertain, and thus are influenced by luck.

The concept luck can be applied to the determination of individual incomes. Jencks (1972), in fact, attributed the most part of income inequality to luck in order to explain the state of income distribution in the U.S. In other words, only a small portion of income differentials is explained by visual factors.

Different outcomes (or consequences), which can be understood by income inequality, appear anyway after all individuals committed to economic activities. This is the first stage. Some people may find that the outcome is unequally distributed, while some other people may understand that it is equally distributed, depending upon people's taste, value judgment, understanding of fairness, etc. Then, the second stage arrives; that is tax system and social security system which are able to re-distribute incomes from the rich to the poor. If all concerned individuals found that the outcomes (i.e., incomes) were equally distributed, no re-distribution policies by tax and social security are invited. Only a proportional income tax rate is sufficient, and no intentional social security programs with re-distribution purposes are necessary to finance public goods expenditures and social security benefits.

The majority of people, however, in many countries understand that the first-stage income distribution is unequal, and thus re-distribution policies are adopted. People in a few countries and several economists, instead, understood that it was not necessary to adopt any re-distribution programs by tax and social security, and proposed a flat (i.e., proportional) income tax rate. There were two reasons for this proposal. One is that the first-stage income distribution was already equal. The second is that it is against the right of human economic freedom, if the society levies heavy tax burdens

to some individuals (the rich in many cases) and light burdens to some others (the poor).

We have to add one crucial element, which invites the necessity of re-distribution policy; the existence of inequality of opportunity in the real world. I have described previously, “Provided that equality of opportunity is assured,.....”. If such a condition were not satisfied, it would be natural to observe income inequality, or even a wider income distribution. Since the violation of equality of opportunity is accepted as unfair by many people, they feel that it is preferable to adopt income re-distribution policy for the purpose of compensations. The government responds to this demand positively.

In what areas is inequality of opportunity observed in Japan? I have already mentioned a discriminatory treatment against women. Lower wage payments for them can be compensated. A certain group of less educated people may propose that they should be compensated because they could not attend higher education due to their parents’ unfavorable economic conditions. This is a violation of equality of opportunity according to their judgment. A large number of people would agree that physically and mentally handicapped persons should be compensated.

One important area is governmental regulations on selected industries such as financing industries, public utilities like electricity, gas and water industries, medical and pharmaceutical industries, etc. Employees who were working in these industries could receive higher wages than the market wages because the regulated industries could enjoy the so-called regulation rents. Since deregulation policies have been adopted, the degree of regulation has been decreasing. It, however, still remains, and thus several industries are still advantageous. Finally, several groups of employees such as workers in smaller sized firms and part-time employees are excessively under-paid. In such a case some compensation programs can be recommended.

The final but somewhat controversial inequality of opportunity is the existence of bequests which give an advantageous initial condition at the starting stage of one’s life, as was explained previously. It depends largely on individual value judgments. Nevertheless, it would be useful to describe several reasons why bequests are regarded as inequality of opportunity. First, if one has extra financial and real assets, he or she can have extra capability of receiving financial resources for human capital investment (i.e., educational opportunity) in view of the fact that the capital market is imperfect.

“Imperfect” means that there are some liquidity constraints for younger individuals, and thus they are unable to borrow funds from financial sectors. Young individuals who received bequests, or who anticipate to receive them in future do not face such liquidity constraints. Consequently, those individuals are able to invest human capital. See useful theoretical developments for Galor and Zeira (1993), and Banerjee and Newman (1993).

Second, bequests accompany occupational transfers from parents to off-springs in many cases. We can conceive of several examples such as farmers, retail-traders, industrialists, politicians, artists, etc. Some people may find that these arrangements are unfair because it is not necessary for them to take any risk for occupational choices. Also, it is possible that other people cannot have an open access to these occupations. Needless to say, some other people do not accept these statements, proposing that restricting intergenerational occupational transfers is against human freedom and altruistic behavior. The second reason is a source of controversies regarding the effect of bequests.

If the majority of citizens found that there existed inequality of opportunity in the real world, there would be no objection against the idea that public policies should attempt to re-distribute income differentials caused by inequality of opportunity. There is another reason for proposing re-distribution policies; if income inequality or distribution of income was found to be “excessively” unequal, there would be a social agreement based on ethical ground that income re-distribution policies by tax and social security should be adopted. Of course, it is not easy to determine unanimously, “What is the “excessively” unequal income distribution?” One possible detrimental effect associated with income re-distribution policy is that efficiency (i.e., one example is economic growth) might be sacrificed if re-distribution policy went too far. This is a possible trade-off between equality and efficiency.

6. Concluding Remarks

The paper examined the difference between equality of opportunity and equality of outcome very carefully. Various dimensions and variables associated with

the concept of equality were argued. The subject was discussed based on education, sociology and economics. If we understood the difference well, the society would be able to implement income re-distribution policies with fair criteria with the consent of the majority of people. The paper presented several fundamental principles to make policy formulations regarding the programs of income re-distribution and of reducing inequality.

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