The Descent of Modern Welfare Economics, Structure of Its Theory, and Modern Concerns

Mutsuji Hayashida

1. Introduction

1.1 The Original System of Modern Welfare Economics —— The Feature and the Structure of A. C. Pigou's Economics——

Since A. C. Pigou[1] succeeded to and made a comprehensive survey of the Cambridgian (neo-classical) school of economic theory the foundation of which was laid by A. Marshall,[2] he can be regarded as a very faithful heir to A. Marshall's economics or an economist who inherited much of Marshall's theory. This doesn't mean, however, that he ended up being a mere successor. Rather he as a matter of fact developed his own economic theory, a kind whose detailed examination shows that it includes a thinking-over one step ahead of A. Marshall's economics.

Then, what are the specific features of such bodies of economic thinking as A. C. Pigou's? In the opening lecture at one of his classes, he characterized the science of economics, saying: "The science is one giving "fruit" rather than "light,"[3] —— noteworthy remarks in that they shed light on some aspects of the basic nature of A. C. Pigou's economics. Here we may make the following interpretation: By the word "light" is meant that the science is of value for its knowledge only but of no or little value as a means for social improvement, while by the word "fruit" is meant that the science is of value for not only the knowledge but also social improvements it can make. What we can first say about his way of thinking, based on this interpretation, is that he thought that much could not be expected of economics as a "light" giving tool, unlike metaphysics and pure mathematics.

1) Arthur Cecil Pigou (1877−1959)
2) Alfred Marshall (1842−1924)
3) A. C. Pigou, "Economic Science in Relation to Practice," 1908.

Actual examination of economics as systematized by A. C. Pigou tells us that his economics is very practical and dynamic by nature, because he basically emphasized use of economics as a tool and was sure about linkage between economic theory and policy and this in turn made him try to think about economic problems in light of their practical causes in many formulations of problems. Most simply said, practicality and dynamism are the greatest of the features or modern qualities of his economics.

As A. C. Pigou formed his version of economics with such features, he brought out very many publications including collections of his papers. Besides, he even contributed over 100 papers to *The Economic Journal, etc.* What's more, most of his writings met with very high scholastic appreciation. The range covered by his writings was very extensive ; a detailed examination of it shows that the subjects extended from the field of pure economics to that of economic history, in sharp contrast to the publications by J. M. Keynes.[4] Despite this prolific output, the name A. C. Pigou reminds one of *The Economics of Welfare*[5] immediately, so much so that this book constitutes the centerpiece of the body of his economic theory. In other words, his writings preceding that book can be considered as material for it and those following it as developments or re-organizations of the masterpiece. Therefore, when we examine his major writings from the standpoint where A. C. Pigou's body of economic theory is identified with welfare economics, we can understand his body of economic theory as follows :

He made *Wealth and Welfare*[6] public only four years after being installed as a professor of Cambridge University, and this book can be regarded as the first one to show the framework of his welfare economics. Then, after careful consideration over a period after World War I, he established the main part of his welfare economics tentatively, i. e. he published *The Economics of welfare.*[7] Considering the development

---

4) John Maynard Keynes (1883−1946)

5) A. C. Pigou, *The Economics of Welfare*, London : Macmillan, 1st ed., 1920, 4th ed., 1932.

6) A. C. Pigou, *Welth and Welfare*, London : Macmillan, 1912.

7) A. C. Pigou, *The Economics of Welfare*, 1st ed.

leading to its issue, this new book can be considered a revised and enlarged edition of *Wealth and Welfare.* After one subsequent revision after another,[8] the masterpiece saw its last major revisions in 1932. In the intervening years, he published other books such as *Industrial Fluctuations*[9] and *A Study in Public Finance,*[10] but they were all excerpts of the first edition of the masterpiece and evidently part of the system. In 1937, another well-known book of his was put out.[11] In it, he attempted to compare the merits and demerits in terms of economic efficiency of the capitalistic and socialistic systems by wielding analytical tools as shown in *The Economics of Welfare, etc.* Such economic comparison of both systems, which is needless to say part of his system of welfare economics, is basically the very element that makes his welfare economics the system most suitable for consideration as the original body of modern welfare economics from a modern standpoint.

Assuming that A. C. Pigou's economics is the origin of such modern welfare economics, the theoretical outline of the origin will be roughly understood by considering the theory postulated in his *The Economics of Welfare.* To this end, the rest of this paper first considers the original theory of modern welfare economics with *The Economics of Welfare* as the object.

1.2 A. C. Pigou's *The Economics of Welfare* and the Theoretical Structure

The Economics of Welfare was published for the first time in 1920. After a couple of editions over the following 12 year period, the fourth edition was brought out in 1932. Comparison of these different editions reveal marked differences in the organization of sections and chapters. Worthy of special mention from the second edition on is that the sections on national finance and changes in national dividend were left out,

8) A. C. Pigou, *The Economics of Welfare*, 2nd ed., 1924, 3rd ed., 1929.
9) A. C. Pigou, *Industrial Fluctuations*, London : Macmillan, 1st ed., 1927, 2nd ed., 1929.
10) A. C. Pigou, *A Study in Public Finance*, London : Macmillan, 1st ed., 1928.
11) A. C. Pigou, *Socialism versus Capitalism*, London : Macmillan, 1937.

and that a detailed analysis of supply price was added to Part II.[12]

What *The Economics of Welfare* is about follows with the focus on its fourth edition. The book consists of four parts : Part I Welfare and The National Dividend,[13] Part II The Size of The National Dividend and The Distribution of Resources Among Different Uses,[14] Part III The National Dividend and Labour,[15] and Part IV The Distribution of The National Dividend.[16] First, A. C. Pigou defined economic welfare ; "the part of general welfare that can be represented directly or indirectly by the measure of money, general welfare being people's awareness of satisfaction or dissatisfaction and at the same time capable of ordering."[17] (He owed a great deal to A. Marshall for the idea of defining economic welfare in terms of the measure of money.) Second, he assumed that factors in increased and decreased economic welfare also increase and decrease general welfare, respectively,[18] and that the objective element determining the magnitude of economic welfare is national dividend ;[19] assumptions that there exist a parallelism between general and economic welfare and a correspondence between economic welfare and national dividend. Third, he listed the basic conditions influencing the promotion of economic welfare, although with many qualifications, as follows ; (1) Other things being equal, an increase in the magnitude of national dividend tends to increase economic welfare.[20] (Therefore, it follows from the standpoint of statement (1) that to increase economic and thus general welfare, national income must be increased as much as possible. For this purpose, resources in society must be distributed with the help of economic policy among industrial sectors so that the marginal productivity of each resource can be equal to one another, for when the marginal productivity of all productive elements is equal, the

---

12) A. C. Pigou, *The Economics of Welfare*, 1st ed., 2nd ed., 4th ed.
13) *Ibid.*, 4th ed., Part I (Chapter I－XI), pp. 1－124.
14) *Ibid.*, Part II (Chapter I－XXII), pp. 125－408.
15) *Ibid.*, Part III (Chapter I－XX), pp. 409－641.
16) *Ibid.*, Part IV (Chapter I－XIII), pp. 643－767.
17) *Ibid.*, Part I Chapter I, p. 11.
18) *Ibid.*, Part I Chapter I, p. 20.
19) *Ibid.*, Part I Chapter III, p. 31.
20) *Ibid.*, Part I Chapter VII, Part II.

total productivity of society as a whole is greatest.) (2) Other things being equal, an increase in the poor's share of national dividend tends to increase their economic welfare as well.[21] (Therefore, it follows from the standpoint of statement (2) that to increase economic and hence general welfare, national income must be distributed among each class of people as equally as possible. To this end, national income must be distributed in proportion to various types of marginal productivity with the help of economic policy.) (3) Other things being equal, reduced fluctuations in national dividend tend to increase economic welfare. (Therefore, to increase economic and hence general welfare, it follows from the standpoint of statement (3) that national income must be increased as steadily as possible. For this purpose, business fluctuation must be alleviated as much as possible with the help of economic policy. Put another way, economic policy must be formulated and implemented so that the amplitude of cyclical fluctuation in business activity can be as small as possible and its longitudinal fluctuation, (i. e. the wave-length) as large as possible.) The three statements may be put briefly as follows: increased production, equalized distribution of national dividend, removal of business fluctuation and unemployment, etc. tend to increase economic welfare. However, as mentioned previously, problems of fluctuations in statement (3) were deleted from the second edition on, and were transferred to *Industrial Fluctuations* for independent discussion there. For this reason, in its present form, *The Economics of Welfare* can be regarded as based on the first two statements, excluding statement (3). However, problems regarding that statement are still part of the body of his economic theory.

This concludes an outline of A. C. Pigou's theory as postulated in *The Economics of Welfare* (4th edition mainly). Through this overview, we have gotten a rough understanding of the pivotal theory of original welfare economics. A. C. Pigou's *The Economics of Welfare* is an economic theory that was systematized by a precise, careful analysis, and therefore deserves high praise. However, a close examination of it can clearly raise various questions about its contents. This has led

21) *Ibid.*, Part I Chapter VIII, Part III, IV.

economists of the neo-welfare economics school and the neo-neo welfare economics school to make his theory yet more precise through controversy over welfare economics.

Considering this development, in the following discussion, we deal with theoretical problems with *The Economics of Welfare* and take a view of various theories of modern welfare economics formulated by modern economists since A. C. Pigou, thereby clearly understanding the descent of modern welfare economics and elucidating the main points of the theoretical structure of modern welfare economics. Then, by way of the conclusion of this paper, we have some discussion about modern tasks still to be studied by modern welfare economics today.

2. Criticism against the Theory of A. C. Pigou's Welfare Economics by L. C. Robbins and the Theoretical Structure of Neo-Welfare Economics

It was L. C. Robbins[22] of the London school that ignited the evolutionary study into the theory of modern welfare economics by criticizing the theoretical foundations of A. C. Pigou's welfare economics. He believed that if economics is to be a science in the word's true sense, it must analyze the economy from an objective point of view and that economics must therefore eliminate value judgment in the phrase's full meaning. In this belief, he required thinking-over with some schools of economics and levelled criticism against the theory of A. C. Pigou's welfare economics from an indirect viewpoint. Particularly of the premise of the second theorem of A. C. Pigou's body of economic theory, namely the law of diminishing marginal utility, he was very critical, as seen in his *An Essay on the Nature and Significance of Economic Science*, Chapter 6.[23] The main points of his argument may be summarized as follows : (1) Whether the utility or magnitude of satisfaction an individual can get from a given income is larger, smaller than or equal to that of another individual from the same amount of income is essential-

22) Lionel Charles Robbins (1898－)

23) L. C. Robbins, *An Essay on the Nature and Significance of Economic Science*, London : Macmillan, 1935, Chapter VI.

ly an ethical judgment, and therefore there is no alternative but to conclude that any theory is not scientific if it empirically considers it possible to meaningfully compare interpersonal utility. (2) As long as statement (1) is acknowledged, there is no choice but to say that welfare economics is not a proper study conducted by economists as such as it assumes the possibility of comparing interpersonal utility to be an empirical fact. As shown by these two statements, from L. C. Robbins's point of view, the assumption implied by A. C. Pigou in the second theorem of his welfare economics is very much in error, and as far as any theory is based on such an assumption, the objectivity of an economic science was lost in its entirety. This criticism of A. C. Pigou's welfare economics, which corresponds to V. F. D. Pareto's[24] of the marginal utility theory, is based on L. C. Robbins's belief that it is impossible to make empirical measurement of subjective utility and that economics as a empirical science should start only from interdependence between economic quantities capable of objective measurements. The problems pointed out by L. C. Robbins were the greatest of the theoretical problems arising in A. C. Pigou's welfare economics.

While very persuasive, L. C. Robbins's criticism of A. C. Pigou's welfare economics left something to be desired when it was examined in its entirety. And it was thought inevitable that some problems or faults remain in any original theory. For these reasons, even after the criticism, most economists accepted welfare economics as a proper study of economics and continued with their study into it. In other words, they did not wholeheartedly acknowledge L. C. Robbins's criticism of the second theorem in A. C. Pigou's body of economic theory. At any rate, L. C. Robbins's fundamental criticism encouraged many economists to make anew a theoretical study into modern welfare economics, and as a result, modern welfare economics underwent evolutionary re-organization and re-development, and thereby saw gradual reinforcement of its theoretical foundations providing a more advanced version.

Of post-A. C. Pigou theories of modern welfare economics, we should first describe that postulated by a group of economists led by H. Hotell-

24) Vilfredo Federico Damaso Pareto (1848—1923)

ing,[25] N. Kaldor,[26] J. R. Hicks,[27] T. de. Scitovsky,[28] M. W. Reder,[29] etc. Their basic position was conscious elimination of any value judgment by totally accepting L. C. Robbins's belief that comparing interpersonal utility is value judgment and that such utility defies objective review, i. e. the position of dealing with the tasks of welfare economics while avoiding the assumption of possible comparison of interpersonal utility, and hence of turning welfare economics into as much of a positive science as possible. From these standpoints, if an individual in society is to improve his own economic condition, one of the following three must generally take place : (1) the gross product in that society will increase just enough or more than enough to improve his economic condition, and no economic loss will occur to anybody else, (2) the gross product in the society will remain unchanged and hence by as much as he improves his economic condition, someone else's economic condition will deteriorate, or (3) situations (1) and (2) will be combined. Of the three situations, situation (1) is one where increased economic welfare in that society is most evident. Since the change occurring in situation (3) is the combination of those caused in situations (1) and (2), situations (1) and (2) alone go through basic changes. The reason why an increase in economic welfare is most evident in situation (1) will lie in the following : the change in situation (2) is apparently that in distribution, where an improvement in an individual's economic condition is inevitably accompanied by a deterioration of someone else's, and therefore such a change cannot improve the economic condition in society as a whole and it is impossible to determine whether such a change is desirable or not from the point of view of economic policy unless interpersonal utility is compared ; on the other hand, the economic change in situation (1) involves no such theoretical difficulty at all. From this, it should follow that when the economic condition of society consisting of a large number of individuals undergoes change for some reason, maximum

25) Harold Hotelling (1895－)
26) Nicolas Kaldor (1908－)
27) John Richard Hicks (1904－1989)
28) Tibor de Scitovsky (1910－)
29) Melvin Warren Reder (1919－)

economic welfare will be attained if every constituent individual is given the most favorable economic condition without experiencing any deterioration of his welfare level. Briefly, the optimum economic condition of society is one under which a limit is reached beyond which it is no longer possible to improve an individual's economic position without lowering somebody else's in that society. In practice, however, it is next to impossible to improve the economic condition of society accompanied with no deterioration in the condition of any individuals in the society. Because of this, the group of economists mentioned previously who tried to conduct a theoretical study into increasing benefits of society, i. e. welfare economics's greatest basic task of promoting social welfare, without disturbing individuals' interests, developed its theory by introducing a criterion principle, i. e. a compensation principle, or more precisely a hypothetical compensation theory. This principle states that a particular economic condition will be selected from among several because that condition allows profits more than enough to compensate for economic losses under that condition, that is, because the resulting total welfare is greater even after the compensation. The body of economic theory developed and systematized by them from such a point of view is today known as neo-welfare economics as opposed to A C. Pigou's welfare economics.

3. Social Value Judgment and the Theoretical Structure of Neo-Neo Welfare Economics

What we have to secondly refer to about post-A. C. Pigou's bodies of economic theory is that systematized mainly by a group of economists such as A. Bergson,[30] P. A. Samuelson,[31] O. R. Lange[32] and G. Tintner.[33] Their thought and theory follow. They more or less accepted the thought of the group of economists who evolved neo-welfare economics while criticizing A. C. Pigou's economic theory, thus ejecting judgment

30) Abram Bergson (1914－)
31) Paul Anthony Samuelson (1915－)
32) Oscar Richard Lange (1904－1965)
33) Gerhard Tintner (1907－)

of personal utility from economics. They went on to criticize neo-welfare economics : As long as neo-welfare economics accepts the status quo of distribution of productive means, it cannot be denied that the theory is not free from a kind of value judgment like others, indeed, economics should not avoid value judgment at all. Through such a criticism, the economists expressed their belief that welfare economics consists essentially in examining the results of various value judgments and that whether a value judgment involves comparing interpersonal utility or not has nothing to do with the essence of analysis intended by the discipline. Based on that belief, they replaced criteria of value judgment with social ones and using them they systematized their own version of theory in modern welfare economics. That started from the foundation of a concept known as social welfare function introduced first by A. Bergson, then subjected to systematic refinement by P. A. Samuelson, and thereafter further developed by K. J. Arrow, etc. The social welfare function recognises the existence of a value appraisal function between social welfare and the factors influencing it more or less, and expresses the value of society's economic condition in the equation below.

$$W = W(Z_1, Z_2, Z_3, \cdots\cdots Z_n) \quad \cdots\cdots (1)$$

where Z_1, Z_2, Z_3, $\cdots\cdots$ Z_n on the righthand side are all variables characterizing the state of an economic entity, and W is any index capable of definitively ordering various conditions in the order of goodness or of showing no difference among them. For instance, if the principle of consumer sovereignty is accepted since individuals's preferences should be given importance, the social welfare function may be given as follows :

$$W = W(U^1, U^2, U^3, \cdots\cdots U^s) \quad \cdots\cdots (2)$$

where U^1, U^2, U^3, $\cdots\cdots$ U^s on the right = the utility index of S individuals. Thus, as the utility indexes remain unchanged, increase or decrease, so will W, respectively. Making the most of the social welfare function, P. A. Samuelson *et al.* attempted to assimilate the theories of welfare economics as advocated by A. C. Pigou and neo-welfare economics. The body of economic theory formulated by them is today called neo-neo welfare economics as compared with A. C. Pigou's and neo-welfare economics.

4. I. M. D. Little's Theory of Welfare Economics and the Later Theories of Modern Welfare Economics

Another new body of theory in modern welfare economics that should be mentioned in addition to the two above is one whose leader is I. M. D. Little.[34),35)] These three constitute the main body of modern welfare economics that started with the criticism by L. C. Robbins of the theory of A. C. Pigou's welfare economics and then grew by degrees. The three are different from each other but have one thing in common ; each is a body of theory in welfare economics. A description of I. M. D. Little's theory follows. He totally dismissed the criticism by L. C. Robbins of A. C. Pigou's welfare economics, unlike the economists who systematized neo and neo-neo welfare economics.[36)] He completely rejected statement (1) in L. C. Robbins's criticism and took the comparison of interpersonal satisfaction utility as judgment upon facts, thereby attempting to virtually reinstate A. C. Pigou's welfare economics. According to I. M. D. Little, why welfare economics is a normative, ethical study is that it is systematized using persuasive or recommendatory terms but not that it is systematized assuming that it is possible to compare interpersonal utility or satisfaction. From this standpoint of his, therefore, it goes without saying that welfare economics is a proper study undertaken by economists in their very capacity as economists.

As mentioned above, many economists have devoted themselves to the study of the theories of modern welfare economics since A. C. Pigou, and in the face of problems in the real world, the discipline is now making further rapid progress. The manifestation is the formation of the theory of dynamic welfare economics through the re-examination of

34) Ian Malcolm David Little (1918–)
35) I. M. D. Little, *A Critique of Welfare Economics*, Oxford, 2nd ed., 1957.
36) *Ibid.*

economic growth theory, i. e. the systematization of optimum economic growth theory.[37] That theory can also be characterized as a re-examination of statement (3) in A. C. Pigou's theory from the standpoint of modern economics.

5. Representative Achievements in the Study of Modern Welfare Economics and Their General Reconsideration

The foregoing covers practically every theory of modern welfare economics as advocated since A. C. Pigou. More specifically, it can be said that the theory bore fruit thanks to the accomplishments by the following economists. Papers : O. R. Lange, "On the Economic Theory of Socialism," *The Review of Economic Studies* Vol. IV, October, 1936, and February, 1937, and in *"On the Economic Theory of Socialism,"* ed. by Benjamin E. Lippincott, Minnesota 1938 ; H. Hotelling, "The General Welfare in Relation to Problem of Taxation and Railway and Utility Rates," *Econometrica,* Vol. VI, No. 3, July 1938 ; A. Bergson, "Reformulation of Certain Aspects of Welfare Economics," *The Quarterly Journal of Economics,* Vol. LII, February, 1938 ; N. Kaldor, "Welfare Propositions of Economics and Interpersonal Comparisons of Utility," *The Economic Journal,* Vol. XLIX, No. 195, September, 1939 ; J. R. Hicks, "The Foundations of Welfare Economics," *The Economic Journal,* Vol. XLIX, No. 196, December, 1939 ; T. de. Scitovsky, "A Note on Welfare Propositions in Economics," *The Review of Economic Studies,* Vol. IX,

37) F. P. Ramsey, "A Mathematical Theory of Saving," *The Economic Journal*, Vol. XXXVIII, No. 152, December, 1928 ; T. C. Koopmans, "On the Concept of Optimal Growth," in *The Econometric Approach to Development Planning* Pontificiae Academiae Scientiarum Scripta Varia, Rome, 1965 ; ——, "Intertemporal Distribution and "Optimal" Economic Growth," in W. Fellner *et al. Ten Economic Studies in the Tradition of Irving Fisher*, Wiley, New York, 1967 ; ——, "Objectives, Constraints and Outcomes in Optimal Growth Models," *Econometrica*, Vol. 35, No. 1, January 1967 ; P. A. Samuelson, "Catenary Turnpike Theorem Involving Consumption and the Golden Rule," *The American Economic Review*, Vol. LV, No. 3, June, 1965 ; R. Dorfman, P. A. Samuelson and R. M. Solow, *Linear Programming and Economic Analysis*, New York : McGraw-Hill, 1958.

No. 1, November, 1941 ; O. R. Lange, "The Foundations of Welfare Economics," *Econometrica,* Vol. X, No. 3—4, July—October, 1942 ; G. Tintner, "A Note on Welfare Economics," *Econometrica,* Vol. XIV, January, 1946 ; J. H. Blau,[38] "The Existence of Social Welfare Functions," *Econometrica,* Vol. XXV, No. 2, April, 1957 ; and so forth. Books : A. P. Lerner,[39] *The Economics of Control, Principles of Welfare Economics,* The Macmillan Company, New York, 1944 ; M. W. Reder, *Studies in the Theory of Welfare Economics,* Oxford U. P., 1947 ; I. M. D. Little, *A Critique of Welfare Economics,* Oxford, 1950 ; P. A. Samuelson, *Foundations of Economic Analysis,* Chapter VIII, Cambridge : Harvard, 1955 ; J. P. Quirk[40] and R. Saposnik,[41] *Introduction to General Equilibrium Theory and Welfare Economics,* McGraw Hill Book Company, New York, 1968 ; K. J. Arrow,[42] *Social Choice and Individual Values,* John Wiley and Sons, 1st ed., New York, 1951, 2nd ed., London, 1963 ; etc.

As we are nearing the end of this overview, the following summary can be added. All the theoretical studies on modern welfare economics that followed such a sharp criticism by L. C. Robbins that rocked A. C. Pigou's welfare economics, the original theory of modern economics, to its foundations, did not destroy A. C. Pigou's body of theory (welfare economics) but rather produced results that made up for theoretical faults contained in that theory whether it was directly or indirectly, thereby gradually making the body of theory of modern welfare economics more and more modern and bringing it into its present form.

Now, what relationship is there between normative and positive economics ? Below this is discussed with the knowledge in mind that has been acquired by examining modern welfare economics from an internal point of view, and then the structure of the theory of modern welfare economics as viewed from its essential side by discussing modern welfare economics from an external point of view. J. R. Hicks divided

---

38) Julian H. Blau
39) Abba Ptachya Lerner (1903—)
40) James Patrick Quirk (1926—)
41) Rubin Saposnik
42) Kenneth Joseph Arrow (1921—)

economic theory into that of positive economics and that of welfare economics as economic policy theory, noting that like one half of a twin, the latter constitutes an integral part of economic theory.[43] This remark suggests the relationship between the theory of positive economics and that of normative economics. On these grounds, in order to clarify the relationship between both theories, we need to know the more specific meaning of the remark. The remark can be interpreted as follows : Economic theory in general is used to explain theoretically what economic policies will have what positive and negative effects on social welfare, in addition to dealing with economic phenomena themselves in the real world by the cause-effect analytical method, and in this sense, although the theories of positive economics and welfare economics (normative economics) are different from each other when they are seen independently, they are closely related to each other from a general standpoint. J. R. Hicks's remark above can also be expanded to mean that economic theory must not end up with being merely an economic analysis making no positive proposition about real economy but that it must not be nothing but practical theory of little scientific precision ; after all, it must be practical theory built on pure economic theory of enough scientific precision. If we can say that J. R. Hicks's thought about economic theory as expressed in his remark above can be said to be almost in complete agreement with our thought about the theory of economics, then we can continue to say that the economic theory reflecting J. R. Hicks' and our thought about economic theory most precisely is that of the welfare economic thought formed by welfare economists to date and from now on. That won't probably be an overstatement. In R. F. Harrod's[44] words, economists would be of no use at all without welfare economics and lose their social functions completely.[45] The words imply that any economic theory bearing no relation to welfare economics can be no more than a simple analytical

---

43) J. R. Hicks, "The Foundations of Welfare Economics," *The Economic Journal*, Vol. XLIX, No. 196, December, 1939.

44) Roy Forbes Harrod (1900−1978)

45) R. F. Harrod, "Scope and Method of Economics," *The Economic Journal*, Vol. XLVIII, No. 191, September, 1938.

technique and therefore that economists not oriented toward welfare economics are nothing but mere technicians of economic analysis. From R. F. Harrod's remarks, we can know the full significance of welfare economics.

We have roughly clarified the descent of modern welfare economics, the structure of its theory, etc. through the discussion thus far. Needless to say, the reason for the terms "welfare economics" is that the ultimate objective of policies set forth by this particular branch of economics is to realize social welfare. Because of this final purpose, welfare economics has evolved with the central task of how the concept of welfare should be coped with. In other words, welfare economics has so far been developed centered around the criterion of welfare. The general definition of this criterion from the point of principle states that it is one by which when a particular economic policy (due to some reason, in a society of many individuals) entails a change in the distribution of income advantageous to some people of society and disadvantageous to others, then the change is judged to be one increasing or decreasing social welfare (or socially desirable one or not).

6 . Conclusion : Modern Welfare Economics in the Present-Day —— The Feature and the Greatest Task ——

Such welfare economics seems to be called upon for fundamental reexamination today when people's values are undergoing marked change. In the past, social welfare was thought to be essentially realized by simply expelling material poverty from society. In present-day society, however, where physical welfare is largely available, mental poverty is looming correspondingly larger, namely, the magnitude of a feeling of dissatisfaction in mental life is getting very large. Considering this, evidently, it is wrong to tackle poverty from its material side alone and rather advisable to deal with it from its mental side as well. Put another way, true social welfare will be achieved if both material and mental poverty are forced out of society. Therefore, the greatest modern task of modern welfare economics in present-day society is to examine by way of welfare economics many problems relating to satisfying people's mental desires in modern society, such as social security, the aged, traffic accidents, pollution (environmental contamination mainly), and education.

BIBLIOGRAPHY

〔1〕 A. C. Pigou, *Welth and Welfare*, London : Macmillan, 1912.

〔2〕 A. C. Pigou, *The Economics of Welfare*, London : Macmillan, 1st ed., 1920.

〔3〕 A. C. Pigou, *The Economics of Welfare*, London : Macmillan, 4th ed., 1932.

〔4〕 A. C. Pigou, *Socialism versus Capitalism*, London : Macmillan, 1937.

〔5〕 L. C. Robbins, *An Essay on the Nature and Significance of Economic Science*, London : Macmillan, 1935.

〔6〕 N. Kaldor, "Welfare Proposition of Economics and Interpersonal Comparisons of Utility," *The Economic Journal*, Vol. XLIX, No. 195, September, 1939.

〔7〕 J. R. Hicks, "The Foundations of Welfare Economics," *The Economic Journal*, Vol. XLIX, No. 196, December, 1939.

〔8〕 J. R. Hicks, "The Valuation of the Social Income," *Economica*, Vol. VII, No. 26, May, 1940.

〔9〕 T. de. Scitovsky, "A Note on Welfare Propositions in Economics," *The Review of Economic Studies*, Vol. IX, No. 1, November, 1941.

〔10〕 T. de. Scitovsky, "A Reconsideration of the Theory of Tariffs," *The Review of Economic Studies*, Vol. IX, No. 2, February, 1942.

〔11〕 P. A. Samuelson, *Foundations of Economic Analysis*, Harvard University Press, 1947.

〔12〕 P. A. Samuelson, "Social Indifference Curve," *Quarterly Journal of Economics*, Vol. 70, February, 1956.

〔13〕 K. J. Arrow, *Social Choice and Individual Values*, London, 2nd ed., 1963.

〔14〕 I. M. D. Little, *A Critique of Welfare Economics*, London : Oxford University, 2nd ed., 1957.

〔15〕 C. Kennedy, "The Economic Welfare Function and Dr. Little's

Criterion," *The Review of Economic Studies*, Vol. XIX, No. 50, 1952−53.

〔16〕 J. de. V. Graff, *Theoretical Welfare Economics*, London : Cambridge University Press, 1957.

〔17〕 T. C. Koopmans, "Intertemporal Distribution and "Optimal" Economic Growth," in W. Fellner *et al. Ten Economic Studies in the Tradition of Irving Fisher*, Wiley, New York, 1967.

〔18〕 P. A. Samuelson, "Catenary Turnpike Theorem Involving Consumption and the Golden Rule," *The American Economic Review*, Vol. LV, No. 3, June, 1965.

〔19〕 R. Dorfman, P. A. Samuelson and R. M. Solow, *Linear Programming and Economic Analysis*, New York : McGraw-Hill, 1958.

〔20〕 R. F. Harrod, "Scope and Method of Economics," *The Economic Journal*, Vol. XLVIII, No. 191, September, 1938.

〔21〕 M. Blaug, *Economic Theory in Retrospect*, 3rd ed., London : Cambridge University Press, 1978.