MODERN WELFARE ECONOMICS: A PIGOVIAN SYNTHESIS OF THE CLASSICAL AND NEOCLASSICAL WELFARE DOCTRINES-- A SUGGESTED INTERPRETATION

THESIS

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The problem with which this investigation is concerned is that of ascertaining whether or not A. C. Pigou led to the development of a modern school of Welfare Economics. This study has a threefold purpose. The first is to examine the welfare criterion of the classical tradition. The second is to examine the welfare criterion of the neoclassical tradition. The third is to develop a synthesis of classical and neoclassical into a modern welfare criterion.

This study concludes that A. C. Pigou has founded a modern school of Welfare Economics. Pigou accomplished this by synthesizing the welfare doctrines of the classical tradition with that of the neoclassical tradition.
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CHAPTER I

WELFARE ECONOMICS

From its beginning, economics has been oriented toward questions of public policy. Therefore, economic tracts have been couched in terms of the "public good" and thereby contained welfare analysis. Welfare Economics is that part of the general body of economic theory which is concerned primarily with policy. The aim of Welfare Economics is to test the efficiency of economic institutions in making use of the productive resources of a community. For without Welfare Economics, economic theory would be, at best, a collection of techniques and the economist little more than a technician. Or, as Scitovsky states, "... a politician's handyman, who has to wait for the [politician] to state his aims and can merely advise him on how to go about achieving those aims."¹

The need for a special Welfare Economics, which relates the findings of positive economics to problems of public policy, is of a relatively recent date. As Reder states,

to create a positive science divorced (at least conceptually) from the consideration of public policy... in the last decade and a half... much of the best work of leading contemporary theorists has been directed toward systematizing and extending welfare economics.²

Through the revival of the economist's interest in formulating a positive approach to problems of public policy, Welfare Economics has supplied the economist as well as the politician with standards by which to appraise and on the basis of which to formulate policy.³

But what is the state of Welfare Economics today? At best, Welfare Economics is in a very nebulous state of affairs. For the most part, the study of Welfare Economics suffers from a malady of unevenness. As E. J. Mishan says,

While it continues to fascinate many, welfare economics does not appear at any time to have wholly engaged the labors of any one economist. It is a subject which, apparently, one dabbles in for a while, leaves and, perhaps, returns to later in response to a troubled conscience—which goes some way to explain why, more than other branches of economics, it suffers from an unevenness in its development, a lack of homogeneity in its treatment and, until very recently, a distressing disconnectedness between its parts.⁴

Because of this "distressing disconnectedness" let us develop a working definition of Welfare Economics. Melvin Reder has stated that, "welfare economics is the branch of

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economic science that attempts to establish and apply criteria of propriety to economic policies."\(^5\) This is a workable statement, but it lacks fullness. A more elaborate meaning is given by L. G. Melville as he states,

Welfare Economics (is divided) into two parts: the first relating to production, and the second to distribution. The first should include all the propositions for increase in aggregate production; all questions concerning the stimulation of employment, the equalization of prices with marginal cost provided a basic economic postulate that each individual prefers more to less, a greater satisfaction to a lesser one. Concerning distribution the economist should concern himself with the relative advantages of different ways of carrying out certain political ends. For it is quite impossible to decide on economic grounds what particular pattern of income-distribution maximises social welfare.\(^6\)

While this is a more precise statement, something is missing. No mention has been made about the role of value judgements within Welfare Economics. To strengthen our definition let us turn to Arrow and Scitovsky, the editors of Readings in Welfare Economics, for a more complete statement. Their definition is,

\[\ldots\text{ we regard welfare economics as concerned with making policy recommendations applicable in the world of economic affairs and believe that, while it must make clear the value judgements utilized and, indeed, use as few as possible, it must also draw heavily on positive and empirical analysis.} \ldots\] \(^7\)


Drawing from the above definitions, we believe Welfare Economics is an approach to economic problems that is specifically oriented to the evaluation of the impact of various economic activities and measures on the well-being of society. It is a frankly normative and prescriptive approach, in that it attempts to evaluate actions and prescribe changes, as distinguished from descriptive economics which correlates causes and effects disregarding any explicit value judgements.

Hopefully, this definition will suffice for the entirety of this paper and serve to justify its purpose. For in the words of Pigou,

Welfare Economics is concerned to investigate the dominant influences through which the economic welfare of the world, or of a particular country, pursue it is to suggest lines of action--or non-action--on the part of the State or of private persons that might foster such influences. Nobody supposes that economic welfare is coincident with the whole of welfare or that the State ought to pursue it relentlessly without regard for other goods--liberty, for instance, the amenities of the family, spiritual needs and so on. But here we are not concerned with these things; only with economic welfare, that is to say, the part of welfare that is associated with the economic aspects of life. First and foremost we have to satisfy ourselves as to what that is and, more particularly, to decide whether or not it is the sort of thing to which the notions of greater or less and increase or decrease can properly be applied. For, if they cannot, Welfare Economics, every part and aspect of it, vanishes and leaves not a wrack behind.

Purpose of This Study

This study is an attempt to establish order from the diverse beliefs and ideas of a select group of welfare economists. We hope to describe a systematic logical sequence tracing the development of a modern welfare tradition. This begins with the welfare doctrines of the classical and neoclassical schools and leads to the conjunction of the old and new welfare schools. One man, in particular, is the catalytic agent providing the fusion necessary to achieve a modern welfare theory from the "old" and the "new." He is Arthur C. Pigou. He provides the necessary link with the "modern" welfare school.

Furthermore, it is our opinion that Welfare Economics is composed of three distinct traditions. These being (1) the old welfare economics, (2) the new welfare economics, and (3) modern welfare economics. We hope to establish that the old welfare economics is represented by the great classical tradition. We believe such economists as Adam Smith, Thomas Malthus, and David Ricardo constitute the old welfare economics. The new welfare economics is Paretian welfare economics, for the new welfare tradition is founded upon the works of Vilfredo Pareto. Modern welfare economics has as its founder A. C. Pigou. We believe that A. C. Pigou has founded a modern welfare economics that has two distinct branches: \textit{ad hoc} of the Kaldor-Hicks type and \textit{a priori}
welfare economics represented by Samuelson-Bergson formulations. A review of the literature suggests that old welfare economics is represented by the Cambridge tradition while new welfare economics stems from Pareto. Our interpretation of the literature suggests quite another meaning.

An important concept to be developed is the classical treatment of the national dividend. The concept of the national dividend or a community's net worth through its goods and services is important to the Pigovian synthesis. For as Ayres has stated, "... for the Mercantilists no less than Adam Smith, for Professor Pigou, no less than Thornstein Veblen, the basic economic problem is that of increasing the national dividend."11

The concepts of equity and efficiency will play a major role in this paper. It will be seen that the "old" school of welfare was concerned principally with the concept of efficiency, or how was the national dividend of a society to be enhanced given certain natural laws. With the "new"

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or Paretian thought, the emphasis shifted from that of efficiency to one of an equitable distribution of the nation's goods and services.

Scope of This Study

This study is divided into three distinct sections, each utilizing a separate group of sources. The first section, Chapter II, will examine the writings and beliefs of the classical thinkers, including Adam Smith, Robert Malthus, and David Ricardo. It will be shown that the central principle which unifies each of these writers involves the following propositions as stated by Myint:

\[ \text{... the economic welfare of society can be more effectively promoted (1) by increasing the physical productivity of labor, and (2) by increasing the total volume of economic activity, rather than just mildly accepting the given quantity of productive resources and through adjustments in allocating them among different industries.} \]

Thus, it will be seen that the classical writers viewed capital formation deriving from social saving as the main engine of growth. From this view, it is evident that these writers were looking at welfare from an efficiency approach, although, some questions are dealt with regarding the equity aspect.

The second section, Chapter III, deals with the "new" welfare economics and Vilfredo Pareto has been chosen as its pillar of thought. Pareto is most representative of this

\[ ^{12} \text{Hla Myint, Theories of Welfare Economics (Cambridge, 1948), p. 12.} \]
economy is riddled with direct nonmarket interactions, which can be eliminated, however, if we are willing to make certain reasonable interpersonal comparisons of utilities.14

CHAPTER II

THE "OLD" WELFARE ECONOMICS--CHARACTERISTICS
OF THE CLASSICAL SCHOOL

The purpose of this chapter is twofold: first, to examine the welfare criteria of three great classical economists, and second, to establish this school of thought as a necessary link with the "modern" welfare school. The three writers which constitute most of this chapter are Adam Smith, Thomas Malthus, and David Ricardo. The emphasis in this chapter will deal with increasing the economic well-being or welfare of society through increases in the national dividend. With Adam Smith and Thomas Malthus, we will examine how increases in the national dividend may be achieved, but a more normative aspect will be examined in the writings of David Ricardo. This aspect being Ricardo's concern with income distribution and how it influenced the well-being of society.

It is important to remember that the classical writers thought in terms of the three factors of production--land, labor, and capital--cooperating to produce a national output. Consequently, growth was seen as determined by what happens to the factors over time and, as such, capital formation deriving from social saving was viewed as the main engine of growth. With that in mind, what follows is a
discussion of the social product or national dividend and its maximization through the writings of Adam Smith. The source work to be used for this discussion is Smith's famous, An Inquiry into the Nature and Causes of The Wealth of Nations. In this epic work, Smith established himself not only as a great economist, but as a welfare economist.

Adam Smith's Methods of Increasing the Size of the National Dividend

Within the "Introduction and Plan" to the Wealth of Nations, Smith sets forth two primary determinants of the size of the national dividend. Smith states,

The annual labour of every nation is the fund which originally supplies it with all the necessaries and conveniences of life which it annually consumes, and which consist always either in the immediate produce of that labour, or in what is purchased with that produce from other nations.

Accordingly, therefore, as this produce, or what is purchased with it, bears a greater or smaller proportion to the number of those who are to consume it, the nation will be better or worse supplied with all the necessaries and conveniences for which it has occasion.

But this proportion must, in every nation, be regulated by two different circumstances: first, by the skill, dexterity, and judgement with which its labour is generally applied; and, secondly, by the proportion between the number of those who are employed in useful labour, and that of those who are not so employed. Whatever be the soil, climate, or extent of territory of any particular nation, the abundance or scantiness of its annual supply must, in that particular situation, depend upon these two circumstances.¹

Thus the two major determinants of the size of the national dividend are: (1) "the skill, dexterity and judgement with which its labour is generally applied," and (2) "The proportion between the number of those who are employed in useful (productive) labour and those who are not so employed." Having set forth two major determinants of the size of the national dividend, Smith next asserted two lesser means towards determining the size of the national dividend. Smith saw these two methods of increasing the size of the national dividend as: (1) horizontally by widening the area of the market and the division of labor, and (2) vertically by increasing the supply of labor. By extending the area of its market and division of labor either within its own boundary or beyond it, a primitive economy may achieve growth. Smith was not at all hesitant in his impression of the possibilities of increasing productivity by the division of labor. As a matter of fact, the division of labor was the most powerful method to increase the size of the national dividend. Or in his own words,

In every other art and manufacture, the effects of the division of labour are similar to what they are in this very trifling one; though, in many of them, the labour can neither be so much subdivided, nor reduced to so great a simplicity of operation. The division of labour, however, so far as it can be introduced, occasions, in every art, a proportionable increase of the productive powers of labour. The

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separation of different trades and employments from one another, seems to have taken place in consequence of this advantage. This separation too is generally carried furthest in those countries which enjoy the highest degree of industry and improvement; what is the mark of one man in a rude state of society, being generally that of several in an improved one. 3

But, as stated before, the main engine to economic growth was through capital formation deriving from social saving. This economic growth amounts to increases in the national dividend. Now, within Book II, Chapter III, Smith analyzes increasing the national dividend through the accumulation of capital, or of productive and unproductive labor. The essence of his argument is: the increase or diminution of the capital of a country consequently increases or diminishes its national dividend, capital is increased by parsimony, and to increase the produce (national dividend) of a nation an increase of capital is necessary. Smith writes,

The annual produce of the land and labour of any nation [the national dividend] can be increased in its value by no other means, but by increasing either the number of its productive labourers, or the productive powers of those labourers who had before been employed. The number of its productive labourers, it is evident, can never be much increased but in consequence of an increase of capital, or of the funds destined for maintaining them. . . . It is by means of an additional capital only, that the undertaker of any work can either provide his workmen with better machinery, or make a more proper distribution of employment among them. . . . When we compare, therefore, the state of a nation at two different periods, and find, that the annual produce of its land and labour [national dividend] is evidently greater at the latter than at

3Smith, The Wealth of Nations, p. 5.
the former, that its lands are better cultivated, its manufactures more numerous and more flourishing, and its trade more extensive, we may be assured that its capital must have increased during the interval between those two periods. . . .

Thus we have an analysis of the national dividend approach to increasing economic welfare as seen through the work of Adam Smith. Having discussed the welfare implications of Adam Smith it is now time to turn to a discussion of Thomas Malthus. This next section will deal with a Malthusian approach to the concept of the national dividend towards increasing total economic well-being or welfare.

A Malthusian Approach to The National Dividend

The method to increase the well-being or economic welfare of society was viewed by Malthus in the same light as that of Adam Smith. In other words, the accumulation of capital deriving from social saving was considered as a stimulus to the increase of wealth of a society, or what amounts to the same thing, an increase in the national dividend. But Malthus added one important criterion, in order to increase the national dividend of any society there must be an "effective demand." Malthus' analysis is found in Book II, Chapter I, section II of his, Principles of Political Economy.

4 Ibid., p. 326.

Now, in this Book II, section III, Malthus agrees with Smith concerning capital accumulation by stating, "It is certainly true that no permanent and continued increase of wealth can take place without a continued increase of capital. . . ."6 Also, Malthus agrees that through parsimony the maintenance of productive laborers may be enhanced thereby leading to an increase in the social output. But in the very next sentence, Malthus argues that "... the consumption and demand occasioned by the workmen employed in productive labour can never alone furnish a motive to the accumulation and employment of capital. . . ."7 Malthus is arguing that mankind will not "produce and consume all that they have the power to produce and consume. . . ."8 The essence of his argument is that an increase in the national dividend may well take place through capital accumulation but, the accumulation of capital may result in a permanent diminution of consumption thereby decreasing the national dividend. In his own words, Malthus writes,

All that is contended for is, that no nation can possibly grow rich by an accumulation of capital, arising from a permanent diminution of consumption; because such accumulation being beyond what is wanted in order to supply the effectual demand for produce, a part of it would very soon lose both its use and its value, and cease to possess the character of wealth.9

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6Ibid.  
7Ibid., p. 315.  
8Ibid., p. 321.  
9Ibid., p. 327.
Thus we have the Malthusian argument that an increase in the national dividend or the economic welfare of society may be gained through capital accumulation provided there is an "effectual demand" for the social produce. The next section of this chapter will deal with an analysis of David Ricardo's approach to increasing the economic well-being of society, or increasing the national dividend. A more lengthy discussion is needed pertaining to Ricardo, for he introduces a more normative aspect of economic welfare: the distribution of the national dividend.

Ricardo and Distribution

Up to this point, the main emphasis has been upon a production aspect regarding economic wealth and welfare as witnessed in the writings of Smith and Malthus. Now, however, Ricardo appears with his emphasis of economic analysis from production to distribution. In his epic work, *The Principles of Political Economy and Taxation*, Ricardo established his claim towards reformulating what constitutes the economic problem of the day. As John Ferguson remarks,

There is no discussion of production as such. . . . His particular attention was naturally devoted to the redistribution of wealth and income inasmuch as he believed this to be the gravest economic problem confronting the people of Great Britain.

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Writing in 1817, Ricardo viewed physical output as a joint product of land, labor, and capital, but the problem was not a particular level of production, but rather the distribution of the total product (national dividend) among the owners of the productive resources. In his preface Ricardo writes,

The produce of the earth—all that is derived from its surface by the united application of labour, machinery, and capital, is divided among three classes of the community... But in different stages of society, the proportions of the whole produce of the earth which will be allotted to each of these classes, under the names of rent, profit, and wages, will be essentially different... To determine the laws which regulate this distribution is the principle problem in Political Economy...

Having established that the distribution of the national dividend is the main problem facing the society of his day, Ricardo sought to incorporate into his theory of distribution his concept of labor as a cause of value. For if things are to be distributed, a notion of value must be affixed to those things being distributed.

Ricardo and Labor-Embodied

Ricardo believed the value of any commodity to be exchanged depended upon the amount of labor-embodied within it. In his own words, Ricardo writes,

The value of a commodity, or the quantity of any other commodity for which it will exchange, depends on the relative quantity of labour which is necessary for

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its production, and not on the greater or less compensation which is paid for that labour.\textsuperscript{13}

From this opening quote in his \textit{Principles} and throughout the next four chapters, Ricardo sought to demonstrate that labor is the foundation, the cause, and the measure of value.\textsuperscript{14}

To Ricardo, economics was essentially an analysis of the laws of value and distribution, which operated in the laws of production set forth in Smith's market system, and Ricardo fully accepted Smith's explanation of the pricing system, but he did not like Smith's treatment of a value theory.\textsuperscript{15} The importance that Ricardo placed upon a labor theory of value is witnessed as he writes,

\begin{quote}
That this [a labor theory of value] is really the foundation of the exchangeable value of all things, excepting those which cannot be increased by human industry, is a doctrine of the utmost importance in political economy; for from no source do so many errors, and so much difference of opinion in that science proceed, as from the vague ideas which are attached to the word value.\textsuperscript{16}
\end{quote}

Once labor had been made the sole denominator of value, there remained for Ricardo to fashion a yard-stick to measure heterogenous amounts of labor embodied in a commodity and accord it with a "natural" price.\textsuperscript{17} Whereas Smith

\begin{itemize}
\item \textsuperscript{13} Ibid., p. 5.
\item \textsuperscript{14} Frank Amandus Neff, \textit{Economic Doctrines} (New York, 1950), p. 166.
\item \textsuperscript{15} Joseph Finkelstein and Alfred L. Thimn, \textit{Economists and Society} (New York, 1973), p. 69.
\item \textsuperscript{16} Ricardo, \textit{Principles}, p. 7.
\item \textsuperscript{17} Findelstein and Thimn, \textit{Economists and Society}, p. 72.
\end{itemize}
simply equated the amount of labor in a commodity with the amount of commodities commanded by labor for its "toil and trouble," Ricardo emphasized the difference between the value of a commodity determined by labor and the value of labor.18 Ricardo separates the two by saying,

Is not the value of labour equally variable; being not only affected, as all other things are, by the proportion between the supply and demand, which uniformly varies with every change in the condition of the community, but also by the varying price of food and other necessaries, on which the wages of labour are expended?19

What Ricardo sought to develop was a pure labor cost theory of value, and according to Srivastava it performed the following functions:

(a) It is the foundation, source and substance of value, (b) it is the cause of changes in the absolute and relative values, (c) it is the closest approximation to a measure of value, (d) it serves as an ethical and socio-economic justification of prices, and (e) it interrelates economic value and technology.20

Ricardo's Theory of Distribution

Ricardo considered distribution in terms of three aggregate income shares; a matter of dividing a given real national product among landlords, capitalists, and laborers.21

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18 Ibid., p. 73
distribution proceeded by way of a double dichotomy—between land and labor-and-capital, and between labor and capital. Now, that part of the national product comprising the return to landowners is explained by his theory of differential rent, and that part of the real national product constituting the return to labor is explained by the subsistence theory of wages, while the residual constitutes profits for the capitalists.22

Ricardo's theory of rent attempts to explain rent as a pure surplus, resulting from differences in soil fertility. Concerning distribution, Blaug states, "Rent, being an intramarginal surplus, does not enter into the determination of prices. The value of a commodity, therefore, is determined by the variable inputs applied to no-rent land, and distribution is . . . a problem of dividing a product-less-rent between capital and labor."23

Wages tended to remain at the subsistence level due to the operation of the Malthusian law of population. Profits were viewed as a residuum, or total product minus the sum of rent and wages. The profit accruing to the capitalists tended to fall in the long run due to diminishing returns in agriculture yielded proportionately higher costs and lower returns. The essence of Ricardo's theory was that

23Blaug, Economic Theory in Retrospect, p. 100.
economic progress affected rent, profits, and wages in a conflicting manner, resulting in the presence of opposing interests between landlords on the one hand and capitalists and laborers on the other.24

Labor Embodied and The National Dividend

With the Ricardian theory of distribution and his labor-embodied approach to value, the emphasis was shifted from an absolute scale of social production (i.e., Smith's analysis) to a social net product or revenue which increases at a diminishing rate with expanded production. Arguing that it was not enough to infer the wealth of society from the gross revenue as Smith does, Ricardo states,

\[ \ldots \text{we must further examine the balance sheet of the giant firm [society] to find out how much net product in terms of "corn" has been left, after the wages of labour have been paid off.} \ldots \]

Provided its net real income, its rent and profits be the same, it is of no importance whether the nation consists of ten or of twelve millions of inhabitants.25

With the above statement Ricardo seems to imply that the goal of any economic policy should be to increase the net social per capita output, rather than the gross and thus increase economic welfare. Or, according to Ricardo, the

24 For a thorough analysis of Ricardo's distribution theory see Blaug, Economic Theory in Retrospect, pp. 95-103; Dobb, Theories of Value and Distribution Since Adam Smith, pp. 84-88; and Blaug, Ricardian Economics (New Haven, 1958), pp. 12-14.

true economic welfare of society depends on the abundance of commodities and on the physical magnitude of the net social per capita output.\textsuperscript{26}

Having established that any measure of the value of the social output as a whole had to be by the aggregate quantity of labor embodied in its production, Ricardo argued that the size of the net revenue (dividend) on which the economic welfare of society depended, could not be calculated except on the basis of the quantity of labor embodied or used in the social production. In other words, Ricardo is defining the net revenue as the gross social output minus the subsistence fund for labor, or the difference between social output and social(labor) cost.\textsuperscript{27}

Assuming that the economic welfare of society lies in its net revenue or national dividend, Ricardo sought two ways of increasing the size of the net revenue:

\[ \ldots \text{it will be seen that the wealth of a country may be increased in two ways: it may be increased by employing a greater portion of revenue in the maintenance of productive labour, which will not only add to the quantity, but to the value of the mass of commodities; or it may be increased, without employing any additional quantity of labour, by making the same quantity more productive, which will add to the abundance, but not to the value of the commodities.}\textsuperscript{28}

\textsuperscript{26}Myint, \textit{Theories of Welfare Economics}, p. 27.

\textsuperscript{27}Ibid., pp. 27-29.

\textsuperscript{28}Ricardo, \textit{The Principles of Political Economy and Taxation}, p. 186.
Expressing his preference, Ricardo writes,

Of these two modes of increasing wealth [the national dividend], the last must be preferred, since it produces the same effect without the privation and diminution of enjoyments which can never fail to accompany the first mode.  

But in practice Ricardo fell back or relied upon the first method of increasing net revenue, i.e., increased savings, for Ricardo was skeptical of labor-saving machinery as he writes,

All I wish to prove is that the discovery and use of machinery may be attended with a diminution of gross produce; and whatever that is the case, it will be injurious to the labouring class, as some of their number will be thrown out of employment, and population will become redundant compared with the funds which are to employ it.

Thus, in a Ricardian analysis the stationary equilibrium at which there is no incentive for additional saving denotes a point of maximum welfare since it marks the maximum possible extent to which the absolute size of the national dividend or net revenue of a society can be increased.

In summation the Ricardian analysis is based on the assumption that a given quantity of labor embodied would reproduce a net product in excess of its subsistence fund at any point before the stationary state where it would still reproduce its upkeep and the economic welfare of society would increase directly with an increase in the physical size of its net revenue or national dividend.

29 Ibid.  
30 Ibid., p. 266.  
31 Myint, Theories of Welfare Economics, p. 30.  
32 Ibid., p. 33.
This chapter has dealt with the "old" welfare economics, or more precisely the writings of the classical school of thought; as expressed by Smith, Malthus, and Ricardo. The thrust of the chapter has been the concern of those writers for increasing the economic well-being or welfare of society through increases in the national dividend. Having developed the "old" welfare economics, it is now time to discuss the "new" welfare economics prior to the Pigouvian synthesis of each into a "modern" theory.
CHAPTER III

THE "NEW" WELFARE ECONOMICS

This paper has thus far dealt with "old" or classical welfare economic theories. We have studied the welfare criteria of the classical writers Smith, Malthus, and Ricardo. The main emphasis has been upon a national dividend approach towards increasing the economic well-being of society. It was seen that for Smith and Malthus the main cause of an increase in welfare was due to greater productivity, while Ricardo was mostly concerned with the efficient distribution of the national dividend. It should be remembered that these writers were objective while being constrained by certain normative principles. With the marginal revolution taking place, some of the tenets of the classical welfare doctrines were to be cast aside. Three of these fundamental tenets being: the economic well-being of society could be more effectively promoted by (1) increasing the physical productivity of labor, and (2) by increasing the total volume of economic activity within a Laissez Faire framework, and (3) the allocative efficiency of the "invisible hand."

While the classical writers were concerned with productivity and efficient allocation, they were not so much
concerned with questions of ethics or equitable solutions due to their equilibrating processes. But, with the new found sophistication of the marginal revolution, an emphasis was given to the distinction of studying welfare criteria from a positive viewpoint opposed to a normative one. The "new" welfare economics attempts to separate efficiency from equity and advocates a study of what is, rather than what ought to be. For prior to the founding of this "new" welfare economics the classical notions of welfare criteria were based upon the utilitarian concept of society, or normative principles.¹

Vilfredo Pareto represents the essence of the "new" welfare economics. Therefore, an analysis of his writing will be discussed as representative of the "new" welfare economics. While it is not the scope of this paper to account for all the changes in the field of welfare economics up to Pareto's time, it is important to notice the evolution of the field from the classical writers to Pareto. Without going into great detail, a quote from Mark Blaug should bridge the gap. Blaug states,

> The work of Pareto represents a decisive watershed in the history of subjective welfare economics. Earlier writers . . . had always treated welfare as the sum of the cardinally measurable utilities of the individual households of the community. . . . By the time of Marshall, it was recognized . . . that all individuals have identical income-utility functions. In which case it followed, of course, that an optimum allocation of resources is achieved only when the distribution of income is perfectly equal. . . .

Virtually all writers before Pareto . . . ignored the question of comparing different optima associated with different income distributions. . . .

Pareto broke away decisively from traditional practice, not so much by rejecting cardinal utility and additive utility functions as by restricting himself ruthlessly to welfare conclusions that do not depend on any interpersonal comparisons whatever.2

While the classical writers were concerned with the well being of society through an analysis of the production and distribution aspects of the national dividend, Pareto was also concerned about the well being of society, but in a different method. Again, the Paretian emphasis lies with the efficient method of distribution. The standard for evaluating welfare that Pareto introduced in his Manual of Political Economy, accorded with a new-found sophistication, was that given certain rules of distribution, the problem of obtaining the maximum well-being for a society may be studied by investigating certain criteria. Or, more precisely, by investigating,

... what positions, following these rules, will give the greatest possible well-being to the individuals of the [society]. Let us consider any particular position and suppose that a very small move is made compatible with the relations involved. If, in doing this, the well-being of all the individuals is increased, it is evident that the new position is more advantageous for each one of them; vice versa it is less so if the well-being of all the individuals is diminished. The well-being of some may remain the same without these conclusions being affected. But if, on the other hand, this small move increases the well-being of certain individuals,

and diminishes that of others, it can no longer be said that it is advantageous to the community as a whole to make such a move.\textsuperscript{3}

This statement is indeed the essence of Paretian welfare theory. It was mentioned now to provide an understanding to why Pareto should be studied in conjunction with the "new" welfare economics. But let us turn back to the emphasis of this section; the importance of the "new" welfare economics.

According to Schumpeter, the new welfare economics amounts to three basic points. These being:

\begin{itemize}
  \item all changes imposed upon any given economic pattern may be said to increase welfare or collective satisfaction in a perfectly objective sense if those who gain in terms of numeraire could compensate those who lose in terms of numeraire and still have some gain left, . . . that welfare judgements that cannot be salvaged in this manner must be explicitly based on extra-economic, e.g., "ethical," considerations, and . . . the criterion may be used in order to establish that l'etat collectiviste may improve upon the level of welfare that is practically attainable under perfect competition.\textsuperscript{4}
\end{itemize}

This new welfare economics, in the words of I. M. D. Little, in breaking with the utilitarian tradition, "claims to have established the optimum conditions of production and exchange without adding the utilities of different persons." The new welfare economics, stemming from Pareto,


\textsuperscript{4}Joseph A. Schumpeter, "Vilfredo Pareto (1848-1923)," The Quarterly Journal of Economics, LXIII (May, 1929), 164.

has had three main objectives, according to Srivastava,

(1) To clarify and quantify the vague concept of riches, (2) to clarify what it is that the economists have to say on matters of public policy, which are economically desirable even though politically, nationally or ethically they might be undesirable, and (3) to develop those propositions which are scientifically free of ethical considerations; and can serve the purpose of a basis for conclusions in regard to policy matters.6

In regard to point (3) Pareto realized that a study of positive economics devoid of ethical content was not possible, and as Tarascio has pointed out, "that all one could hope for was the subjective minimization of value judgements."7 What Pareto had in mind was the dismissal of normative judgements from economic science, while realizing that methodological judgements were a necessary part of positive science.8

An important point to be remembered is that while Pareto is credited as the founder of the "new" welfare school, he founded it deeply entrenched in classical ideals; for Pareto stands in the foreground as an advocate of the classical doctrines on the continent.9 One of the classical doctrines to which Pareto was most strongly tied was that of laissez faire. As Joseph Finkelstein and Alfred Thimm

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7 Tarascio, Pareto's Methodological Approach to Economics, p. 127.
8 Ibid., p. 128.  
9 Ibid., p. 40.
content, "... Pareto adopted an extremely individualistic laissez faire position; he viewed any government action with deep distrust." 10

Pareto as the Founder

To speak of Pareto as the founder of the new welfare economics, one must wonder the state of welfare economics prior to its founder. Regardless of where one looks in the annals of welfare literature, or the utilitarian writings of Marshall, Edgeworth, or Walras, one is confronted, as mentioned previously, with a reaccuring obstacle: since the satisfactions of individuals are heterogeneous things, they cannot be summed up into a social welfare function, or, put another way, one is met with the problems of interpersonal comparisons of utility. 11 Given this older conception of utility as the measurable function of the quantity of a given commodity, it seemed natural to look upon an individual's satisfaction as a definite magnitude equal to the sum of total utilities derived from the commodities he consumed. Similarly, the satisfactions of society as a whole was regarded as the sum notion of individual satisfactions, which implied that the satisfaction of different individuals could be compared and summed. 12

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11 Tarascio, Pareto's Methodological Approach to Economics, p. 79.
branch of Welfare Economics, for I. M. D. Little has decreed that Pareto is to be distinguished as the founder of the new welfare school. From an analysis of Pareto it will be seen that the emphasis in welfare economics shifted from efficiency to the problem of allocating this efficiency among individuals as equitably as possible. Having discarded marginal utility in favor of the notion of ordered preference fields for individuals, Pareto defined a social optimum as a position from which no change could be made that would make anybody better off.

The third section, Chapter IV, will deal with an analysis of a "modern" welfare school. It will be viewed through the writings of A. C. Pigou. It is the contention of this writer that Pigou developed a modern welfare school from a synthesis of the "old" and "new" welfare doctrines. Pigou, expanding upon the classical concept of the national dividend as an indicator of welfare, attempted to show that the dividend was maximized only if for every resource the marginal social product equals the marginal social cost in all alternative uses. From the "new" or Paretian school, Pigou attempted to show that welfare was not subject to a strict ordinal greater or less analysis; indeed, Pigou was to show that a real-world imperfectly competitive dynamic

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Pareto, more than anyone else, thought that the idea of homogeneous utilities or "ophelimities" in economics was erroneous and set out to devise or construct a value theory that negated such given concepts.\(^{13}\) In rejecting the utilitarian approach, he writes,

Ophelimity, or its index, for one individual, and ophelimity, or its index, for another individual, are heterogeneous quantities. They cannot be added together or compared; no bridge, as the English say. A sum of ophelimity enjoyed by different individuals does not exist: it is an expression which has no meaning.\(^{14}\)

However, Pareto said that there was in "pure" economics a restricted criterion by which to make welfare judgements, a criterion which did not involve interpersonal comparisons of utility.\(^{15}\) Thus, Pareto profoundly changed the approach to the subjective optimum by introducing the concept of the "index of ophelimitate" or the individual's position of preference as determined by the alternative combinations of different commodities at the individuals choice.\(^{16}\) In so doing, it may be stated that Pareto is the founder of the new welfare economics. Schumpeter has said that even more.

\(^{13}\)Tarascio, *Pareto's Methodological Approach to Economics*, p. 79.


\(^{15}\)Tarascio, *Pareto's Methodological Approach to Economics*, p. 79.

definitely than being the patron saint of the modern theory of value, Pareto is the patron saint of the "New Welfare Economics." 17

I. M. D. Little supports this notion by stating,

The founder of the New Welfare Economics was Pareto, who not only used the concept of ordinal preference, but also defined, for a society, an "optimum" position which was independent of any necessity for adding satisfactions or comparing the satisfactions of different individuals. An "optimum" position was one in which it was impossible to put any individual "on a higher indifference curve" (or, as we shall now phrase it, "on a higher behavior line") without causing someone to drop to a lower one. It must be emphasized at once that there are an infinite number of such "optima," and that only "the optimum" (the best of these "optima") is necessarily better than any other position. In other words, and roughly speaking, an "optimum" situation (as so defined) which corresponds to a bad distribution of income, may well be worse than a "suboptimum" position corresponding to a good distribution of income. It therefore follows that it cannot be said that an increase in welfare would follow from putting the "optimum" condition into practice, even assuming that there was a community to which the analysis could be applied. . . . Pareto did not, indeed, clearly say when one situation could be said to be better than another. He only laid down some of the necessary conditions which must be fulfilled if it is to be impossible to make some individual "better off" without making any other "worse off." 18

Some further evidence giving Pareto his place as founder is witnessed in the writings of Srivastava as he states, "... welfare economics . . . has been studied on two lines--one adopted by Pigou and the other by Pareto--the latter

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17 Schumpeter, "Vilfredo Pareto (1848-1923)," p. 166.
(known) as New Welfare Economics." In discussing the controversy between the new and the old welfare economics, J. de V. Graaff writes,

It was, I think, in this controversy that the terms "new" and "old" welfare economics came into being—the difference between the two allegedly being that the former does not involve interpersonal comparisons (once the group is demarcated), whereas the latter does. It seems to me that the distinction is somewhat overdrawn... If we know no more than that it is Paretian, we have to speak "New Welfare Economics;" if we do know more than that, we can speak "Old Welfare Economics" whenever we want to.

With regard to the above quote some clarification is in order. When the reference is made to the "old" welfare economics, Graaff is implying the Pigouvian tradition. It is the contention of this paper that Pigou formed a "modern" welfare school. But, suffice it to say, the paragraph was to illustrate Pareto as founding the "new" welfare school and not here to debate the other issue.

Economic and Ethical Presumptions of Pareto's "Optimal" Analysis

Having established Pareto as the founder of the new welfare economics, it is now essential to examine the economic and ethical presumptions involved within Pareto's "optimal" analysis. Given the concept of a Pareto Optimum as a situation where no single individual can move to a

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19 Srivastava, History of Economic Thought, p. 489.
more preferred position without pushing others to less preferred position, one now need to look at the conditions of exchange in a Paretian system and the conditions necessary for Pareto optimality. This may be achieved through a very cursory manner such as a brief listing of each condition. The exchange conditions in a Paretian System may be said to be the ethical presumptions. According to Nath, these are: (1) the current circumstances must be something less than optimal, (2) something must be gained by a transaction, (3) the idea that the transactors are free men, and therefore they ought to know what to buy given consumer sovereignty (equal rights), and (4) the concept of maximization as opposed to optimality as being ethically sound.

Given the above ethical presumptions, one may now turn to the economic conditions for Pareto optimality. These may be listed as follows: (1) perfect countervailing power, i.e., neither party will have a special coercive ability or power enforceable against the other, (2) ex post equals ex ante welfare, and (3) the complete absence of externalities within the system.

At this point some elaboration is needed to clarify point (2) above, the idea of ex post equaling ex ante. This

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22 Ibid.
23 Ibid., p. 8-11.
is the idea that to obtain a true maximum there can be no inaccurate judgements made, by either party, concerning costs; therefore, each party will have perfect knowledge about given needs, the alternatives available to fulfill his needs, and the utility potential of all alternatives.\(^{24}\)

The Paretian "Optimal" Analysis

Having established the ethical and economic value criterion one must now turn to the static Paretian welfare conditions. The first static condition to be considered is that of technological efficiency in a system, thereby leading to a Paretian exchange optima. Within a system of perfect competition, there should be established a condition of production optimum between any two factors and goods to necessarily lead to the exchange optima. This production optimum may be seen in figure 1. For illustrative purposes assume two goods \((x_1, x_2)\), and two factors of production \(v_1\) and \(v_2\) (land and labor). Also, both factors are given with perfectly inelastic supply curves. In figure 1, it can be seen that the iso-product curves for community \(x_1\) are plotted with 0 as the origin, and those for \(x_2\) with \(0^*\) as the origin. At each point of tangency between any two iso-product curves of \(x_1\) and \(x_2\) the marginal rates of substitution between \(v_1\) and \(v_2\) in the production process of the two goods are equalized, that is, each point is a production optimum. All such locus of the

\(^{24}\)Ibid., p. 12.
Fig. 1--A Production Optimum

points of tangency is known as the production contract curve. It should be noted that the necessary condition for this production optimum is that the marginal rate of substitution between any two factors in the production of any good must be equalized with the marginal rate of substitution between the same two factors in the production of every other good. This Paretian production optimum is devoid of any ethical or value assumptions. But, to reach a Paretian exchange optima, this concept depends upon all the value judgements expressed earlier. Before examining Pareto's ordinal welfare theory, as presented by his concept of the subjective optimum, the static condition of exchange optima needs to be stated. This may be stated, in algebraic form, where I and II are two consumers and x and y are two goods chosen at random as

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\frac{\text{MU}_{xI}}{P_x} = \frac{\text{MU}_{yI}}{P_y} \quad \text{and} \quad \frac{\text{MU}_{xII}}{P_x} = \frac{\text{MU}_{yII}}{P_y} \quad \text{or} \quad \frac{\text{MU}_{xI}}{\text{MU}_{yI}} = \frac{\text{MU}_{xII}}{\text{MU}_{yII}} \]

This exchange optima is best represented in an Edgeworth-Bowley box diagram as seen in figure 2. Individual I comes to the market with OQ of good y and no x. The rate of exchange, dictated by the competitive market, is OQ of y and OB of x. Being on indifference curve I0 he can increase

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25 Ibid., p. 15.

26 Statement made by R. K. Armey, Professor, North Texas State University, Denton, Texas, April 20, 1974.

27 Statement made by R. K. Armey, Professor, North Texas State University, Denton, Texas, April 26, 1974.
Fig. 2--Exchange Optimum

his satisfaction by exchanging y for x, thus gaining point P. At this point the ratio of his marginal utilities or the marginal rate of substitution between x and y is equal to their prices. A second individual comes to the market with oE of x and no y. The same price line QB is given by the market. This individual will achieve a maximum when he has exchanged ED of x for DP of y and when his indifference curve II is tangent to QB at P. Thus, at point P, the marginal rate of substitution between x and y for the first individual is equal to the ratio of prices of x and y which is equal to the marginal rate of substitution between x and y for the second individual.

A further analysis is seen in figure 3 which shows a family of indifference curves for each individual along the given contract curve CC. Three important propositions are to be reached from figure 3. First, through mutual exchange in a competitive market both individuals will always end up at some point on the contract curve, and being a Paretian optimum, neither can move to a more preferred position without pushing the other to a less preferred position. Second, if the individuals are at any point off the contract curve, say at point a, it can be seen that the first person may advance up from a to L, obtaining a higher indifference curve, while maintaining that of the second

\[28\] Myint, *Theories of Welfare Economics*, p. 100.
Fig. 3--Pareto's Subjective Optimum

individual. Thirdly, given a price line defined by the competition, the optimum is a relative optimum defined on the basis of given prices and a given distribution of income however unequal that distribution may be. It should be noted that point M redistributes income in favor of the individual who exchanges $y$ for $x$.\textsuperscript{29}

Thus in figures 2 and 3 one may view the Paretian "optimal" analysis or as Dobb states, "In the language of indifference-curves it is where the price-line, or exchange-line, is tangential to indifference-curves of the two parties (which are accordingly tangential to one another). Such a point is customarily referred to as a Pareto-optimum . . ."\textsuperscript{30} Accordingly, in figure 2, point P is a Paretian "optimal" along with points L to M in figure 3.

In summation, it is sufficient to say that we owe to Pareto the simple assertion that welfare is an ordinal entity not amenable to cardinal-number measurement, but, moreso, to an ordinal greater or less analysis. And, in so doing, Pareto established economic welfare apart from other types of welfare through his optimal exchange conditions in which commodities were what constituted economic welfare.

With the Paretian analysis in hand it is time to view the synthesis of this new welfare with that of the old or "classical" theories in the next chapter.

\textsuperscript{29}Ibid., pp. 102-102.

CHAPTER IV

THE PIGOVIAN SYNTHESIS: A SUGGESTED INTERPRETATION

The purpose of this chapter is to show how A. C. Pigou formalized a modern school of welfare criteria. In so doing, Pigou synthesized the "old" or classical welfare doctrines with the "new" welfare doctrines. This synthesis was dependent upon (1) classical production theories and (2) Paretian distribution. The "old" or classical welfare doctrines consisted mainly of production welfare criteria, i.e., increasing the national dividend. The Paretian or "new" welfare economics focus mainly upon distributive ethics. It will be shown that Pigou uses both concepts in building his welfare criterion.

Pigou's most famous work, The Economics of Welfare, is divided into two main ideas (1) the welfare criteria of production and (2) the distribution of economic welfare. Pigou uses the national dividend as a primary determinant of welfare. His approach was unique in that using the classical notion of perfect competition, Pigou set out to show how economic welfare could achieve a maximum only if in fact the world complies with classical assumptions. He wanted to show, using the national dividend, that the classical doctrines of production had to be taken a step further to encompass any
imperfection in the market. Using the Paretian methodology, i.e., a positive approach toward the general equilibrium of welfare, Pigou attempted a positive analysis of practical welfare applications involving the distribution of the national dividend. Pigou hoped to show how a general equilibrium of economic welfare could be obtained even under conditions other than perfect competition.

In developing any type of theory, many obstacles have to be overcome. In conquering any pitfalls, these conquests form a foundation from which to build. It is a secondary purpose of this chapter to establish Pigou as the progenitor of all "practical" welfare implications. That is, all writings dealing with compensation variations and policy judgements originated in the writings of A. C. Pigou. The major headings of this chapter will be (1) positive versus normative, (2) the importance of value judgements and interpersonal utility comparisons, (3) the use of the national dividend, and (4) market externalities which places vital distinctions between social and private valuations of economic activities.

A. C. Pigou as Founder

Because much emphasis is given (in this paper) to Pigou as developing a modern welfare school, we must devote some explanation why Pigou was chosen to represent this new school. Pigou is at once recognized as a neoclassical economist by his oft famous saying, "its all in Marshall." But this in no way limits his scope or vision toward the nature of
economic problems. Upon succeeding Marshall in the Cambridge chair in 1908, Pigou explained the importance of studying economics,

I shall be glad if a man comes to Economics because he has been interested by Professor Edgeworth's Mathematical Psychics or Dr. Fisher's Appreciation and Interest; just as I shall be glad if he comes to it because he is looking forward to business and wishes to learn something of the broader aspects of his future career; but I shall be far more glad if he comes because he has walked through the slums of Gordon and is stirred to make some effort to help his fellow men. Wonder, Carlyle said, is the beginning of philosophy: social enthusiasm, one might add, is the beginning of economic science.¹

In a presidential address to the Royal Economic Society in 1939 Pigou further emphasizes the place of economics by stating,

The ambition, I have claimed elsewhere, of most economists is to help in some degree, directly or indirectly, towards social betterment. Our study, we should like to think, of the principles of interaction among economic events provides for statesmen data, upon which, along with data of other kinds, they, philosopher kings, build up policies directed to the common good.²

It is clear that Pigou was deeply interested in using the foundations of economic analysis to further the advancement of mankind. Let us consider a definition of welfare economics advanced by Rothenberg. He states that welfare economics is, "... that part of economics where such words


as 'good' and 'bad,' 'ought' and 'ought not,'... reappear to serve as guides for public policy."\(^3\) Now, with such a definition all one need do is to examine a part of the preface of Pigou's famous work, *The Economics of Welfare*, to see why, in this writer's opinion, Pigou serves as the logical choice to found this modern welfare school. Pigou writes,

> The complicated analyses which economists endeavour to carry through are not mere gymnastic. They are instruments for the bettering of human life. The misery and squalor that surround us, the injurious luxury of some wealthy families, the terrible uncertainty overshadowing many families of the poor--these are evils too plain to be ignored. By the knowledge that our science seeks it is possible that they may be restrained. Out of the darkness light! To search for it is the task, to find it perhaps the prize...\(^4\)

In so stating, Pigou sought the need for a reevaluation of the existing system. One of Pigou's early reviewers, Frank Knight, noted that Pigou had shifted the debate from the choice between alternative systems of economic order, to the methods of changing and improving the already functioning system. Harry Johnson, in his obituary note to Pigou said of his work on improving an existing system,


That was at once its originality, in the period when Pigou first developed it, and its obvious limitation during the troubled inter-war period which followed its publications. Now that the Keynesian Revolution has been digested, and the political divisions of the thirties and forties have been reconciled in a system of welfare capitalism, economists are becoming increasingly occupied with policy problems of the kind with which Pigou was concerned, and in whose analysis he was the pioneer.6

What Pigou sought was to provide a theoretical basis for statesmen to enact measures that promoted welfare and, being the leading neoclassical economist after the death of Marshall, Pigou hoped that it would be economic science that lead to social improvement.7 Because Pigou was concerned and strived for a theoretical basis for the improvement of social welfare, one might argue that welfare economics began with Pigou. Or as Boulding says, "Some might argue that the work of A. C. Pigou, as represented by Wealth and Welfare and in the various editions of his subsequent Economics of Welfare, represents the emergence of the subject as a separate department of economic thought."8 Little states, "We would prefer to say that welfare economics began with Pigou. Before that, we had happiness economics; and, before that, wealth economics."9

Lending further credence to Pigou, more than any other modern economist, being identified with welfare economics is a statement by Bator,

... In contrast, the development of modern welfare economics can best be understood as an attempt to sort out ethics from science, and allocative efficiency from particular modes of social organization. The classical tradition reached its culmination in Professor Pigou's Wealth and Welfare. Pigou, the last of the great premoderns was also, as witness the Economics of Welfare, among the first of the moderns.10

Positive or Normative

Before examining Pigou's analysis it is important to establish the context with in which his analysis falls. If Pigou is the synthesizer of a modern welfare school, then his works have to be viewed as frankly normative. His reliance upon the national dividend and interpersonal utility comparisons, although written in a positive framework are in scope and meaning, normative, due to policy implications.

A distinction between positive and normative may be witnessed in the work of Friedman.

Positive economics is in principle independent of any particular ethical position or normative judgements. ... Its task is to provide a system of generalizations that can be used to make correct predictions about the consequences of any change in circumstances. Its performance is to be judged by the precision, scope, and conformity with experience of the predictions it yields.

Normative economics and the art of economics, on the other hand, cannot be independent of positive economics. Any policy conclusion necessarily rests

on a prediction about the consequences of doing one thing rather than another, a prediction that must be based—implicitly or explicitly—on positive economics. 11

With this definition it will be understood that Pigou sought a prescriptive analysis based upon positive foundations. In his own words Pigou writes,

... it follows that the type of science that the economist will endeavour to develop must be one adopted to form the basis of an art. It will not, indeed, itself be an art, or directly enunciate precepts of government. It is a positive science of what is and tends to be, not a normative science of what ought to be. Nor will it limit itself to those fields of positive inquiry which have an obvious relevance to immediate practical problems. This cause would hamper thorough investigation and shut out inquiries that might ultimately bear fruit. 12

So, in the words of the master, Pigou has stated that welfare economics is a study of, "what is and tends to be." It is precisely this that Pigou concerns himself with throughout the Economics of Welfare, i.e., the causes of welfare through production and distribution of the national dividend. As Radomysler says,

Professor Pigou in his Economics of Welfare does not prescribe; he examines what would increase economic welfare and leaves it at that. This is important. As the Economics of Welfare is concerned with the causes of welfare, it follows that it is a positive study... It is a positive study of causes, not a normative study of what ought to be done. 13


12 Pigou, The Economics of Welfare, p. 5.

The above quote was used to illustrate how some may interpret Pigou's work as being strictly positive. But, as said before, normative and positive welfare theories are interrelated, and in the Pigovian framework this is true. It is wrong to say that Pigou did not prescribe. For all through the *Economics of Welfare* Pigou makes policy recommendations through a review of different measures of economic policy, and an assessment of their primary economic effects. Or as Blaug says, "Pigovian welfare economics, on the other hand, is frankly normative and geared to practical applications."\(^{14}\)

**Value Judgement and Interpersonal Utility Comparisons**

What is the relevance of Pigou being viewed as frankly normative? Because the propositions of welfare economics are logical deductions from definitions and assumptions, which may or may not be either realistic or ethical in nature, the difficulty lies in listing a welfare proposition. As Graaff says, ". . . whereas the normal way of testing a theory in positive economics is to test its conclusions, the normal way of testing a welfare proposition is to test its assumptions."\(^{15}\) This is important to the Pigovian analysis


for the assumptions to be tested are based upon the very
normative assumptions of interpersonal utility comparisons. It should be noted that although most of the Economics of Welfare analysis hinges upon interpersonal comparisons there is one part in which Pigou attempts a relatively objective measure of welfare and the national dividend thus trying to avoid ethical comparisons. To emphasize the importance of interpersonal utility comparisons let us now review the work of Pareto. This brief excursion into an analysis of Pareto is needed to strengthen an important point of this chapter; the need and value of interpersonal utility comparisons.

As viewed in Chapter III, the "new" or Paretian welfare criterion, attempting to reach a social optimum, denied the relevance of interpersonal utility comparisons. With that analysis, Pareto accordingly established welfare economics as a scientific study. But has Pareto achieved a scientific study? Pareto was concerned with the methodological problems of welfare analysis rather than with its practical applications, and in so doing established an optimum which avoided interpersonal comparisons of utility and value judgements. To achieve this, Pareto had to sacrifice realism and assume the conditions of perfect competition.

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\[16\] See P. A. Samuelson in Oxford Economic Papers, January, 1950 for a detailed discussion of the real national income in relation to the national dividend and how Pigou made substantial contributions to the modern theory of economic index numbers.

Stated simply, the optimum is a situation in which nobody can move to a position which he prefers without moving somebody else to a position which is less preferred. But by denying value (ethical) judgements this analysis exhibits some flaws. One is that it does not define a point of optimum but a range of values of the economic universe.\textsuperscript{18} In other words, to find an optimum position one would have to assume that the economic welfare of each individual or different individuals is comparable. But to deny this, there is no way of finding the best optimum, or as Boulding states, "it lies somewhere in a fog of uncertainty."\textsuperscript{19}

Thus if two societies are to be compared with one having Paretian characteristics and the other far from a Paretian optimum, of what value is the Paretian analysis? Boulding answers by stating,

The Paretian welfare economist therefore seems to have worked himself into a position where either he has to deny that interpersonal comparisons of economic welfare have any meaning... or he has to admit that except for one unknowable point the society might be better off when his conditions are not satisfied than when they are.\textsuperscript{20}

Boulding points out another area of trouble for the Paretian analysis with regard to the question of the payment of compensating payments. He states, "If interpersonal comparisons are rejected, then we cannot say that one position of the


\textsuperscript{19}Ibid.

\textsuperscript{20}Ibid., p. 13.
economic universe is better than another unless at least one person is better off and nobody is actually worse off." The essence of this is that efficiency cannot be separated from equity. Or as Blaug states,

Once again, we see that the new welfare economics attempts the impossible by trying to separate efficiency from equity. It is not possible to design a price system solely on an ethically neutral criterion of efficiency and then to expect that the accompanying redistribution of income will in no way affect efficiency. The quest for an ideal pricing criterion without recourse to interpersonal valuation is doomed to failure."

What is lacking, without interpersonal comparisons, is a reasonable guess to the impact of any path followed on a structure of preferences. It is possible that any movement is painful, and provides a fall in the preference schedule. This may, and very possibly does, lead to a strong preference for the status quo. The upshot is, of what value is welfare economics if it is nothing more than a defensive science? If welfare economics is, and should be, concerned with income and wealth then a refusal of interpersonal comparisons limits the scope of welfare economics. This idea is put forth by Reder as he states,

Our refusal to attempt interpersonal comparisons of utility makes it impossible to judge, on welfare grounds, the propriety of measures involving (or aiming at) a redistribution of income or wealth. Many readers may feel that this conception of welfare unduly limits the scope of welfare economics."

\[21\] Ibid.

\[22\] Blaug, Economic Theory in Retrospect, p. 603.

Some writers, the most notable being Little, have protested the idea that interpersonal valuations are, in essence, devoid of value judgements. Little's argument was advanced to counteract the claim by Lord Robbins that propositions which purport to be interpersonal comparisons of utility often contain a purely conventional element based solely upon ethical or political value judgements.\(^2\) Little contends that Lord Robbins was right in thinking that welfare Economics involved ethics, but not so in thinking that ethics crept in via interpersonal comparisons. For as Little states, "The Ethics that reside for welfare terminology is an ethical terminology."\(^2\) It is indeed the belief of this paper that welfare economics, most notably, the modern welfare criteria advanced by Pigou is, at best, a system of presumed ethical notions. But as Little maintains, "The fact that interpersonal comparisons are not very objective in this sense is not, however, a ground for denying them."\(^2\)

It is not the position of this paper that one may concur with the idea that interpersonal comparisons are not value judgements as advanced by Little, for any discussion that boarders upon redistribution of income and policy

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\(^2\) Ibid.
prescriptions, must indeed rest upon value judgements. If one were to say that "A is happier than B." Then one is interjecting a personal bias as to the nature of happiness. When Pigou argues that transferences to the poor from the rich and increasing the national dividend for welfare expansion, he is making a value judgement based upon cardinal additives of utility. The idea is that value judgements and interpersonal comparisons of utility are one in the same and do not necessarily limit a Pigovian analysis to the nature of welfare maximization.

In building a modern welfare school, Pigou strongly believed in the relevance of interpersonal utility comparisons. He argued that if economic welfare were not something to which a notion of greater or less were applicable then the discipline would vanish. That is, such a notion cannot be applicable unless satisfactions are measurable.27 In laying a foundation for the importance of interpersonal valuations, Pigou emphasized two propositions in his famous Economics of Welfare. These being "... the elements of welfare are states of consciousness and, perhaps, their relations; secondly, that welfare can be brought under the category of greater and less."28 But Pigou had to limit

28 Pigou, Economics of Welfare, p. 10.
his investigation of all causes which might affect economic welfare, so he chose to restrict his inquiry, "to that part of social welfare than can be brought directly or indirectly into relation with the measuring-rod money." This part of welfare Pigou labeled as economic welfare. But what does economic welfare have to do with states of consciousness? Pigou answers that, "the only aspects of conscious life which can, as a rule, be brought into relation with a money measure, and which, therefore, fall within economic welfare, are a certain limited group of satisfactions and dissatisfaction." So, up to this point, we have economic welfare consisting of a group of satisfactions which can be brought into relation with a money measure. But, says Pigou, "This relation is not a direct one." In other words, the concept of utility has to be brought in to measure the satisfaction or the desire of a thing wanted. Pigou writes,

The substantial point is that we are entitled to use the comparative amounts of money which a person is prepared to offer for two different things as a test of the comparative satisfactions which these things will yield to him, only on condition that the ratio between the intensities of desire that he feels for the two is equal to the ratio between the amounts of satisfaction which their possession will yield to him.

In essence, what Pigou has done is to subsume that the marginal utility of money is the same for different individuals so that quantities of satisfaction are proportionate to the

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29 Ibid., p. 11. 30 Ibid., p. 14. 31 Ibid., p. 23. 32 Ibid.
quantities of money. Or, given a basket of goods, Pigou argued that the utility or satisfactions of each good may be measured among individuals with different incomes. The fact that Pigou used money as a measuring rod of satisfaction led to many difficulties. Because Pigou did not examine what differences real or nominal income made upon measuring utilities, he came under substantial criticism. The more notable critiques came from such writers as Hicks, Robbins, Kaldor, Scitovsky and Samuelson.\textsuperscript{33}

Because Pigou was a dedicated economist and deeply interested in that part of social welfare called economic welfare, he came to realize that perhaps utilities can not be correlated with a series of cardinal numbers. He writes,

\begin{quote}
\ldots pleasures, satisfactions, utilities, are intensive magnitudes and are not measurable. They are not the sort of thing that we can correlate with a series of cardinal numbers. \ldots Money does not, therefore, enable us to correlate satisfactions with a series of cardinal numbers, that is, to measure it in the sense understood here. \ldots\textsuperscript{34}
\end{quote}

Still, Pigou insisted that interpersonal comparisons of satisfactions are relevant as he states, "This, however, is far from entailing that satisfactions are not in principle comparable."\textsuperscript{35} Using a quote in logic from Bertrand Russell, Pigou attempts to show that the utilities enjoyed by different...


\textsuperscript{34} Pigou, "Some Aspects of Welfare Economics," p. 289.

\textsuperscript{35} Ibid., p. 290.
people are not in their nature incomparable. Thus, to Pigou, it is not nonsense to say that A is happier than B. Pigou writes,

The issue for Welfare Economics is important. For if the satisfactions of different individuals cannot be compared, a large part of that subject is undermined. . . . To ask whether inter-personal comparisons of satisfactions or utilities are in fact possible is thus not an idle question.

As stated earlier, the concept of interpersonal valuations underlies much of Pigou's analysis, especially with regard to the size and distribution of the national dividend. Thus, Pigou sought to arrive at a definition of these valuations which would try to lend credence to two basic propositions in Welfare Economics. These being: first, additions of real income increases on individual's satisfaction; secondly, transfers of money income from well-to-do people to worse-to-do people will increase satisfaction. With this in mind, Pigou presented to his critics the following,

Now, if we take random groups of people of the same race and brought up in the same country, we find that in many features that are comparable by objective tests they are on the average pretty much alike; and, indeed, for fundamental characters we need not limit ourselves to people of the same race and country. On this basis we are entitled, I submit, to infer by analogy that they are probably pretty much alike in other respects also. In all practical affairs we act on that supposition. We cannot prove that it is true. But we do not need to do so. Nobody can prove that anybody besides himself exists, but, nevertheless, everybody is quite sure of it. We do not, in short, and there is no reason why we should, start from a

36 Ibid., p. 291 for quote in full.
37 Ibid., p. 292.
38 Ibid., p. 293.
tabula rasa, binding ourselves to hold every opinion which the natural man entertains to be guilty until it is proved innocent. The burden is the other way. To deny this is to wreck, not merely Welfare Economics, but the whole apparatus of practical thought. On the basis of analogy, observation and intercourse, interpersonal comparisons can, as I think, properly be made; and, moreover, unless we have a special reason to believe the contrary, a given amount of staff may be presumed to yield a similar amount of satisfaction, not indeed as between any one man and any other, but as between representative members of groups of individuals, such as the citizens of Leeds. This is all that we need to allow this branch of Welfare Economics to function. Of course, in working it out, positive conclusions can only be reached subject to very important qualification. . . .39

With this one statement, Pigou has asserted the importance of interpersonal valuations to Welfare Economics and hints at the implications of income distribution, policy procedures and the practical application of Welfare Economics. To fully appreciate Pigou's stand on interpersonal utility comparisons as being critically important, one must analyze his treatment of the national dividend and the divergence between social and private valuations of economic activities.

The National Dividend

Pigou introduces the national dividend as an "objective counterpart of economic welfare which economists call the national dividend or national income."40 Having defined economic welfare as that part of total welfare which can be brought directly or indirectly into relation with a money measure, Pigou asserts that the national dividend is a part

39 Ibid.
40 Pigou, Economics of Welfare, p. 31.
of the objective income of the community which is measured in money terms. In other words, the two concepts are co-ordinate as he writes, "any description of the content of one of them implies a corresponding description of the content of the other." Pigou defines the national dividend as the flow of goods and services annually produced after maintaining capital intact. Now, this definition is taken almost directly from Marshall. Pigou writes,

In concrete terms, his conception of the dividend includes an inventory of all new things that are made, and of all the services not embodied in things that are rendered, accompanied, as a negative element, by an inventory of all the decay and demolition that the stock of capital undergoes.

In contrasting Marshall's national dividend to that of Fisher's, Pigou chooses the former in that Fisher defined it as the flow of goods and services actually consumed during a year. Pigou writes, "it is through total consumption, and not immediate consumption, that economic welfare and economic causes are linked together." Having stated that economic welfare and the national dividend are co-ordinate, Pigou did not mean to imply that the economic welfare of a community varies simply with the size of the national dividend. Perhaps realizing the dimensions of the national dividend prompted Pigou to write, "... economic welfare of the country is intimately associated with the size of the national dividend ..." Hutchison adds that some dimensions of the national dividend

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41 Ibid.  42 Ibid.  43 Ibid., pp. 34-35.  44 Ibid.  45 Ibid., p. 37.  46 Ibid., p. 50.
dividend are the distribution of the dividend as-well-as its variability through time.47

Pigou realized the extent to which the economic welfare of society was dependent upon not only the size of the dividend but its distribution also. Pigou explains it as

... evident that any transference of income from a relatively rich man to a relatively poor man of similar temperament, since it enables more intense wants to be satisfied at the expense of less intense wants, must increase the aggregate sum of satisfaction. The old "law of diminishing utility" thus leads securely to the proposition: any cause which increases the absolute share of real income in the hands of the poor, provided that it does not lead to a contraction in the size of the national dividend from any point of view, will, in general, increase economic welfare.48

Thus Pigou has now reached the objective counterpart of economic welfare, the national dividend in its size and distribution.

What Pigou has done is to use the size of the national dividend as an indicator of welfare. Or, as Blaug states, "... the national dividend is maximized only if the marginal social product or, what comes to the same thing, the marginal social cost of all resources in all alternative uses is the same."49 Before examining the marginal social product, let us further examine what effect changes in the size of the national dividend have upon economic welfare. Pigou examines this problem by stating, "The economic welfare of

47 Hutchinson, Review of Economic Doctrines, p. 287.
48 Pigou, Economics of Welfare, p. 89.
the country is intimately associated with the size of the national dividend, and changes in economic welfare with changes in the size of the dividend. Samuelson has proposed that perhaps Pigou would have liked to adopt the position that the dividend should be a function of objective qualities and not depend upon the state of people's tastes. But this was not possible for Pigou as Samuelson writes,

But since (a) there is not a single commodity, and (b) all commodities do not move in the same proportion, or (c) even all in the same general direction, Pigou reluctantly considers such an objective definition not feasible, and settles for a more subjective definition according to which the real income of any person is said to be higher for batch of goods II than for I if II is higher up on his indifference or preference map.

This is witnessed in Pigou's writings as he takes the case of a single individual, expands upon it to a group then concludes by stating that the dividend is higher in period II than in I if "the economic satisfaction (as measured in money) due to the items added in period II is greater than the economic satisfaction (as measured in money) due to the items taken away in period II." One important assumption to be made here is that of constant tastes, the distribution of

50 Pigou, Economics of Welfare, p. 50.
52 Ibid., p. 25.
53 Pigou, Economics of Welfare, p. 54.
purchasing power, and that people will know their own minds and correctly identify ex ante desire with ex post satisfaction.54

Thus with the discussion of the size and the distribution of the national dividend in hand, Pigou attempts to define some supreme criterion or achieve the Optimum. Or, as T. W. Hutchison states,

The apparatus of . . . economic welfare, and the national dividend, represents an attempt to define some supreme criterion or objective of economic policy, some comprehensive social maxim and, so that the problems of economic policy can be formulated precisely and even mathematically (like those of positive micro-economic analysis) as maximizing problems, or so that action policies can be compared with an ideal maximum or optimum.55

Two points may be used for a summation of the way that improvements in social welfare, and thus economic welfare, may be detected: (1) an increase in the national dividend without any increase in the supply of factors, and (2) a transfer of wealth from rich to poor. In regard to the national dividend, an increase in its value, which is brought about either by increasing some goods without diminishing others or by transferring factors to activities in which their social value is higher, is considered an improvement in economic welfare provided that the share of the poor is not reduced.56 Regarding the transfer of wealth, any reorganization

of the economy which increases the share of the poor without injuring the national dividend is to be accepted as a gain in economic and social welfare.\textsuperscript{57}

As stated before, the national dividend attempts to arrive at a social maximum or optimum. But many imperfections and obstacles faced the more efficient use of social resources, one such obstacle being "the free play of self-interest."\textsuperscript{58} An important point is that this optimum can only be reached when the marginal private and marginal social net products are identical will this free play result in an equality in the values of marginal social net products, and make the national dividend a maximum.\textsuperscript{59}

The Divergence of Social and Private Costs

Because Pigou was concerned with defining an Optimum through the national dividend approach, the production or output should be an ideal output. The output must be measured in terms of social value as opposed to private value. Therefore, Pigou makes a clear distinction between the value of the marginal private net product, and the value of the marginal social net product. Or, as Breit and Ransom state,

Since the whole is always equal to the sum of its parts, all costs and all benefits being incurred by

\textsuperscript{57}Ibid., p. 20.

\textsuperscript{58}Pigou, \textit{Economics of Welfare}, p. 144.

\textsuperscript{59}Hutchinson, \textit{Review of Economic Doctrines}, p. 290.
the individuals in society precisely in proportion to their participation in production and consumption, social [economic] welfare is optimized. But Pigou asked, what if there is a divergence between the private and the social product?60

The marginal social product includes, in the words of Pigou, "the total net product of physical things or objective services due to the marginal increment of resources in any given use or place, no matter to whom any part of this product may accrue."61 Now, since the investment of additional resources may cause costs to be thrown "upon people not directly concerned through, say, uncompensated damage done to surrounding woods by sparks from railway engines."62 Therefore, according to William Kapp, "the marginal net social product of a given unit of investment may diverge and, indeed be considerably smaller than the marginal private net product."63 The marginal private net product being defined as,

... that part of the total net product of physical things or objective services due to the marginal increment of resources in any given use or place which accrues in the first instance--i.e., prior to sale--to the person responsible for investing resources there.64

60 Breit and Ransom, Academic Scribblers, p. 50.
62 Ibid.
The upshot of this discussion is that according to Pigou, the central problem of economic policy is to eliminate divergencies between marginal private and marginal social products. For, Pigou saw waste and inefficient allocation in the laissez-faire market, where others saw efficiency. To prove his point, Pigou set out three principle groups of divergencies; arising out of the fact that under simple competition "in some occupations, a part of the product of a unit of resources consists of something, which, instead of coming in the first instance to the person who invests the unit, comes instead, in the first instance, as a positive or negative item, to other people."  

The first case of divergence arises in connection with the separation between tenancy and ownership of certain durable instruments of production, i.e., to the wasteful forms of tenancy which do not provide needed compensation to the tenant of land for the repairs and improvements which he may have undertaken during his tenure. Or, in Pigou's words,

... it is often found that, towards the close of his tenancy, a farmer, in the natural and undisguised endeavour to get back as much of his capital as possible, takes so much out of the land that, for some years afterwards, the yield is markedly reduced.

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65Breit and Ransom, Academic Scribblers, p. 49.
67Ibid., p. 175.
A second type of divergence arises when the production of a commodity gives rise to incidental uncharged services or uncompensated disservices to a third party. Pigou states,

... the matter is that one person A, in the course of rendering some service, for which payment is made, to a second person B, incidentally also renders services or disservices to other persons (not producers of like services), of such a sort that payment cannot be extracted from the benefited parties or compensation enforced on behalf of the injured parties.\footnote{Ibid., p. 183.}

The example that Pigou uses is that of a factory owner attempting to reduce air pollution, through his productive output, in which he incurs the expense of installing a smoke-preventing device. Pigou argues that because of the laissez-faire model, smog prevention will unlikely happen. Therefore, factory owners causing this smog should be given bounties to encourage the installation of smokeless smoke stacks.

The third type of divergence that Pigou illustrates arises,

... when a part of the effect of employing a unit of resources in any occupation consists of something, which, instead of coming in the first instance to the person who invests the unit, comes instead, in the first instance, to other persons engaged in the occupation.\footnote{Ibid., p. 213.}

What Pigou maintains here is that the marginal social product of the resources employed in an industry with decreasing supply price is greater than their marginal private product in a way such that the output of the industry is less than
the optimum amount. Hutchinson has said of this last divergence, "It is difficult to find examples of what precisely remains under this heading . . . and it was agreed by Pigou that the results in this third case are results in pure theory. . . ."\textsuperscript{70}

We are concerned with these three cases of divergences between the marginal private and marginal social products in how they affect Pigou's Optimum. For only within an optimum will the national dividend and thus economic welfare be maximized. In one sweeping, but rather lengthy paragraph Pigou sets out the conditions of the Optimum regarding the cases of divergence. It is necessary to quote it in length. Pigou writes,

If the amount of investment in any industry was carried exactly to the point at which the value of the marginal social net product there is equal to the central value of marginal social net products, the national dividend, so far as that industry is concerned, would be maximized. Disregarding the possibility of multiple maximum position, I propose, for convenience, to call the investment that would then be made in the industry the ideal investment and the output that would be obtained the ideal output. Under conditions of simple competition, if in any industry the value of the marginal social net product of investment is greater than the value of the marginal private net product, this implies that the output obtained is less than the ideal output: if the value of the marginal social net product is less than the value of the marginal private net product, this implies that the output obtained is greater than the ideal output. It follows that, under conditions of simple competition, for every industry in which the value of the marginal social net product is greater than that of the marginal

\textsuperscript{70}Hutchinson, \textit{Review of Economic Doctrines}, p. 292.
private net product, there will be certain rates of bounty, the granting of which by the state would modify output in such a way as to make the value of the marginal social net product of resources in general, thus--provided that the funds for the bounty can be raised by a mere transfer that does not inflict any indirect injury on production--increasing the size of the national dividend and the sum of economic welfare; and there will be one rate of bounty, the granting of which would have the optimum effect in this respect. In like manner, for every industry in which the value of the marginal social net product is less than that of the marginal private net product, there will be certain rates of tax, the imposition of which by the State would increase the size of the national dividend and increase economic welfare. . . . 71

The importance of this lengthy quote cannot be over-emphasized. These divergences between marginal private and social products constitutes the essence of his *Economics of Welfare*. The essence being that of calling forth for government regulation to assume the Optimum or to maximize the national dividend. Pigou makes this point by stating,

"In any industry, where there is reason to believe that the free play of self-interest will cause an amount of resources to be invested different from the amount that is required in the best interest of the national dividend, there is a prima facie case for public intervention." 72

While much of Pigou's work was based upon the assumption of simple competition, he did not ignore elements of monopoly or imperfect competition; indeed, he strove mightily to incorporate them into his theory. All one need do is to read Part II, Chapters XII through XVIII for a convincing

72 Ibid., p. 331.
discussion of the cases of divergences between the marginal private and social net products under conditions other than simple competition. For example, when discussing a monopoly Pigou states, "when monopoly rules, it is theoretically possible to render it innocuous by the regulation of price, -- in conjunction, in some circumstances, with the regulation of output."73

In summation, what Pigou has done is to scrutinize the effects of a whole category of economic, social, and fiscal policies, in a society not yet at the planning level, upon the total social income and its distribution in the short and long run, with modifications depending on increasing or decreasing returns. Pigou argued that it was incorrect to calculate the costs of production solely in terms of the costs charged to the private producer. For there were other costs of production, like the damaged health of a worker, or smoke invading the neighborhood, where are borne by the community or other individuals. Pigou further argued that it was also incorrect to calculate the gains of production solely in terms of private profit: there may develop social gains not occurring to the producer who made the original capital outlay. Those industries whose private costs are too low thus become too large; those industries with too low a private gain, too small. The upshot is that Pigou shows that the success of a business or the outcome of competition is not necessarily advantageous to society.

73 Ibid., p. 381.
Up to this point, we have discussed Pigou's work in light of four major headings. Again, these being (1) positive versus normative, (2) interpersonal comparisons of utility, (3) the national dividend, and (4) market externalities or the divergence between the marginal social and private net products. Let us now turn to the crux of this chapter as well as the paper, the Pigovian synthesis.

A Modern Welfare School

As it was seen in Chapter III, the "new" welfare economics conceived of the welfare of the community in terms of the sum total of the utilities of individuals, and tries not only to dispense with all quantitative comparisons of utilities but also with any social evaluation of the utilities of individuals stemming from the work of Pareto. But is this a new type of welfare economics? Again, let us be reminded that when we speak of "new" welfare economics, we are referring to that of Pareto. Pareto insisted upon a positive, objective approach to his Optimum, but framed it within the confines of a perfectly competitive market situation. As Myint states, "In order to achieve its aim, however, it has to sacrifice realism and assume the ideal conditions of Perfect Competition. . . ." Thus the Paretian "new" welfare economics is a partial approach; whereas,

75Myint, Theories of Welfare Economics, p. 188.
Pigou attempted a general optimum approach. Again quoting Myint, "... in his attempt to systematise his predecessors' concrete ad hoc approach to welfare economic problems Professor Pigou has arrived at a concept of the general optimum."\textsuperscript{76}

This optimum, while not as stringent as a Pareto Optimum, assumes a world of free not perfect competition, with degrees of immobility, indivisibility, and imperfections of knowledge not to be found in the Paretian scheme of perfect competition. If one were to contrast the Paretian and the Pigovian systems, one would find two common features (1) they both give a general welfare analysis based on the concept of the Optimum for the economic system as a whole, and (2) they both use marginal techniques to determine the Optimum conditions.\textsuperscript{77}

But, while the Paretian Optimum has little or no prescriptive value, the Pigovian system is primarily concerned with the practical application of welfare economics. Pigou said "it is the promise of fruit and not of light that chiefly merits our regard."\textsuperscript{78} Now, in search of this fruit, Pigou has developed a system of welfare economics that finds its merit in being prescriptive in nature. Hicks, in writing on the foundations of welfare economics, has stated that Pigou was the culmination of a great line of economic thought in which a sure basis for prescriptions of economic policy were

\textsuperscript{77} Ibid., p. 187.

\textsuperscript{78} Pigou, \textit{Economics of Welfare}, p. 4.
imbedded in utility theory. Because Pigou's system was indeed concerned with the practical aspects of welfare economics it is not an old welfare system, as Samuelson would have us believe but a modern system concerned for the economic well-being of society.

Pigou has developed a modern welfare school because it is a synthesis of the classical (old) welfare doctrines with the "new" or Paretian welfare economics. How is this so? First, Pigou used the concept of the national dividend as the main indicator of the economic well-being of society. This is exactly the approach the classical writers took. Adam Smith was concerned for the well-being of society, and using the production and distribution of the national dividend this well-being was analyzed. Thomas Malthus concerned himself with the production aspects of increasing the national dividend. And, David Ricardo sought to enhance the economic well-being of society through an analysis of the productive and distributive aspects of the national dividend. Myint has stated that Pigou's concept of the national dividend "is not very different from Ricardo's Net Revenue." Hutchinson writes

The Economics of Welfare is built around the economic welfare of the community and the size and


81 Myint, Theories of Welfare Economics, p. 174.
distribution of its national dividend, and is the leading modern example of the approach to economics adopted in the Wealth of Nations. Thus, the classical writers viewed the growth and well-being of society to be dependent upon increasing the size of the national dividend as well as its distribution.

Next, while Pigou was concerned with the efficient increase of the national dividend he was also concerned for its equitable distribution. Pigou developed the concept of a general optimum. The concept of his optimum rested upon the premis of an ideal output. Now, Pigou's concept of the ideal allocation or output is in fact similar to that of a Paretian optimum. Pigou's ideal allocation is seen as a situation "in which each several sort of resource is allocated in such a way that the last unit of it in any one use yields a physical product of the same money value as the last unit of it in any other use." This ideal is irrespective of the distribution of money incomes. But if the community has some rich and poor people, then "though it is true that aggregate satisfaction can be increased by departures from this type of allocation in ways deliberately designed to benefit poor people, it is probable that departures taken at random, e.g., through the operation of monopoly power,


84 Pigou, Economics of Welfare, p. 33.
would diminish aggregate satisfaction."\textsuperscript{85} According to Nath, "such an allocation is properly called the ideal allocation with respect to the existing distribution of money income."\textsuperscript{86} Nath argues further that the underlying analytical structure of Pigou's theory is exactly similar to that of Pareto's and, more importantly, concerning the theory of allocation "... the only big difference between the Paretian and the Pigovian approaches is the latter's emphasis on external economies and diseconomies. ..."\textsuperscript{87}

The importance of this can not be overstated. For Pigou, through a positive approach, arrived at a Paretian optimum through his allocative rule for an ideal allocation. But in achieving a Paretian optimum, Pigou was to expand his criteria to the real world of imperfect competition through his divergence between the marginal private and social net products. This distinction enabled Pigou to trace a number of cases in which private productive activities tended to give rise to social losses of various kinds. This "modern" analysis allowed Pigou to list some examples of social costs.

\textsuperscript{85}\textit{Ibid.}, p. 35.

\textsuperscript{86}Nath, \textit{A Reappraisal of Welfare Economics}, p. 36.

\textsuperscript{87}\textit{Ibid.}; Nath achieves this by a series of equations using first derivative calculus. Through this method, Nath postulates that Pigou achieved a unique social optimum not only comparable to a Paretian Optimum but where the allocation was both efficient and with the right distribution of incomes, pp. 1-37; especially pages 36-37.
Some of these being the overrunning of a neighbor's land by rabbits originating from game preserves; the destruction of the amenities and lighting of neighboring sites by the construction of factories in residential area; the wearing out of the surfaces of roads by motor cars; the increase in expenditures for police and prisons made necessary by the production and sale of alcohol; the negative effects of woman labor in factories; the costs of competitive advertising; the costs of collective bargaining; the various negative effects of monopolistic practices etc..

Pigou must indeed be considered as the founder of a modern school of welfare, not only from his synthesis of classical and neoclassical ("old" and "new") doctrines but from the valuable contributions toward policy implications that his analysis of market externalities has lead to. Let us remember the underlying thought of Pigou's analysis: Some have argued that no State action is needed. But the system has performed as well as it has because of State action. Nonetheless, there are still imperfections. Is additional State action required? This is what the modern welfare school attempts to answer. Because the world is not governed by natural laws, and perfect competition is not be to found, Pigou's analysis is not old but modern in what it ascribed to be: a theoretical basis of positive economics for prescriptive purposes. In closing, a quote from Pigou conceals the essence of this modern welfare school.
Pigou states,

But even in the most advanced States there are failures and imperfections... there are many obstacles that prevent a community's resources from being distributed... in the most efficient way. The study of these constitutes our present problem... its purposes is essentially practical. It seeks to bring into clearer light some of the ways in which it now is, or eventually may become, feasible for governments to control the play of economic forces in such wise as to promote the economic welfare, and through that, the total welfare, of their citizens as a whole.\footnote{Pigou, Economics of Welfare, pp. 129-130; as quoted in Ronald Coase, "The Problem of Social Cost," Readings in Microeconomics, edited by William Breit (New York, 1971), p. 506.}
CHAPTER V

CONCLUSIONS

This paper has concluded that A. C. Pigou is the founder of the modern welfare school. It was argued that Pigou accomplished this though a synthesis of the "old" and "new" welfare doctrines. Let us remember that this argument follows a suggested interpretation, for nowhere in the literature does one find such a suggestion. Quite the contrary, most references are made to Pigou as a member of the old welfare school. As Samuelson states,

... it is possible to distinguish between the New Welfare Economics, which involves roughly the contents of the sections on production and exchange and which makes no assumptions concerning interpersonal comparability of utility, and the Old Welfare Economics which starts out with such assumptions. Roughly it is the distinction between Pareto and Pigou ... the former is included in the latter, but not vice versa.¹

But this is not so damning a statement as it might appear for in the very next sentence Samuelson writes, "Strickly speaking there is no opposition between the two points of view."² As a matter of fact, in his entire discussion concerning welfare economics Samuelson analyzes a social welfare

²Ibid.
function pertaining to: production conditions, pure exchange conditions, and interpersonal optimal conditions. His argument is, through a series of thirty equations, that working directly from a well-defined welfare function (requiring that the welfare be maximized subject to the constraints of the system) the equations, "are cast almost exactly in the form followed by Professor Pigou in his *Economics of Welfare*." The essence of his argument is that while the new welfare economics is, "not without value, . . . they are not at all substitutes for the policy dictates which stemmed from the old welfare economics." A similar argument has been advanced by Nath pertaining to the degree of similarity between the Pigovian Optimum and the Paretian Optimum. The upshot is that this New Welfare Economics is nothing more than an extension of the Pigovian tradition. As E. J. Mishan writes, ". . . the New Welfare Economics appears as a straightforward extension--to some extent anticipated by Pigou . . . of Pareto's definition of an optimum position. . . ."

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3Ibid. This digression is found through pages 209-246; what Samuelson is saying is that two conditions have to be implied for the comparison: the marginal social utility of the same good must be equal for each individual and every factor of production must be divided among different possible uses so that its indirect, derived marginal social utility must be the same in every use.

4Ibid., p. 25.

5Refer to Chapter IV.

If Pigou is the founder of a modern welfare school, then let us trace this development. Pigou's *Economics of Welfare* was deeply entrenched in the Cambridge tradition, this being the acceptance of the law of diminishing marginal utility and the postulate of equality. The postulate presumes the equal ability of different people to enjoy themselves; or, that by and large different people will derive the same satisfaction out of the same income. Now this Cambridge analysis was to come under attack by notable economists, namely Lionel Robbins. Professor Robbins argued that Economists have no right to make interpersonal comparisons.

This attack by Robbins seemed to cast the Pigovian analysis aside and establish the positive Paretian approach as the only criteria for welfare economics. But in 1938 the Pigovian analysis was once again brought forth by R. F. Harrod. Using the repeal of the Corn Laws in Britain in 1846, Harrod argued that the gain to the community might exceed the losses to the landlords only if all people affected were treated as equal in some sense. What Harrod was arguing is, "If the incomparability of utility to different individuals is strictly pressed, not only are the prescriptions of the welfare school ruled out, but all prescriptions whatever."

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The economist as an adviser is completely stultified. . . . some sort of postulate of equality has to be assumed. But it should be carefully framed and used with great caution."  

This analysis received strong argument. Nicholas Kaldor, responding to Harrod's argument, denied the relevance of interpersonal comparisons for prescriptive statements. Kaldor argued for a more objective test of economic efficiency. Kaldor proposed measures of compensation whereby the Government could so compensate the losers as to make everyone better off. This compensation test was to be understood as an objective test of economic efficiency and prescriptions based on it had a scientific status detached from any value judgements.  

This argument by Kaldor marks the dawn of the Modern Welfare Economics. Sir John Hicks hailed this new compensation test as a more suitable foundation for welfare economics than the Pigovian system. Hicks argued that economists may make policy recommendations, but only on the basis of efficiency considerations alone, thus ignoring the problem of distribution. It is interesting to note that this Kaldor-Hicks compensation principle rested


upon the simplifying assumption of Pareto: the independence of different people's satisfactions and the absence of external economies and diseconomies. With these assumptions, the modern welfare economists were able to segregate the conditions of optimum welfare into two groups and deal with them separately under the titles of efficiency and equity. But the problem with this new welfare economics is its insistence upon making policy recommendations on efficiency criteria alone. Their argument is that if a community were to follow the policy recommendations based on efficiency criteria the redistribution of income would correct itself through a system of compensations.

Little has criticized this approach because some economic changes may occasion such changes in distribution that we cannot expect successive redistributions of welfare to cancel each other out. The upshot of this new welfare economics is that it said little that was new, and as Mishan states, "Although 1939 is a useful watershed in welfare economics, the perspective allowed by the passage of time since then reveals the New Welfare Economics to be less of a novelty and more of an adaption of the existing Pareto approach. . . ."
What is the state of this new welfare economics today?
The New Welfare Economics of the Kaldor-Hicks type has
given way to a more modern offshoot developing the concept
of a social welfare function of the Samuelson-Bergson type.\textsuperscript{17}
This welfare function is regarded as a function either of
the welfare of each member of the community or of the
quantities of products consumed and services rendered by
each member of the community. It is a completely general
social welfare function, for it can take into account external
economies and diseconomies as well as the dependence of one
person's satisfaction on other people's welfare. Or, as
Scitovsky writes,

For the social welfare function is a kind of collective
utility function, which expresses everybody's prefer-
ences relating not only to his personal satisfaction
but also to the state of the entire community and to
the distribution of welfare among the members of the
community.\textsuperscript{18}

The question arises whether this social welfare function is
a more effective tool for welfare theory. Samuelson has
stated that this social welfare function, while recognizing
an explicit set of ethical premises, is superior to the
techniques of the new welfare economics. He states that

\textsuperscript{17}For a discussion of the decline of the New Welfare
Economics see, R. De Scitovsky, "A Note on Welfare Propositions
in Economics," Review of Economic Studies, IX (1941), 77; J.
De V. Graaff, Theoretical Welfare Economics, (Cambridge, 1957),
I; I. M. D. Little, "The Foundations of Welfare Economics,"
Oxford Economic Papers, I (1949), 227; and Mishan, "A Survey

no one any longer defends the hope originally attached to the new welfare economics, "that welfare economics can be solidly based on objective economic criteria, independently of ethical notions about interpersonal distributions of income."¹⁹ Kenneth Boulding accepts the social welfare function of the Samuelson-Bergson type over the Hicks-Kaldor-Paretian method. Boulding writes, "all economic policy has to be based on interpersonal comparisons, as compensation is hardly ever administratively practicable."²⁰

The purpose of the previous discussion has been to trace the development of welfare economics. Since the work of Pigou, this writer believes two separate traditions of welfare have developed. These traditions are viewed as modern welfare analysis. The Kaldor-Hicks ad hoc welfare analysis is a direct descendent of the "new" Paretian analysis. The other tradition is the Samuelson-Bergson a priori welfare analysis consisting of the social welfare function. It is the contention of this writer that the modern social welfare function is a logical extension of the Pigovian tradition. We have already witnessed the "new" or Paretian welfare economics as being an extension of Pigou. While the modern social welfare function sought to


expand the new welfare economics, its basis was the Pigovian analysis. In effect, the social welfare function gives us a choice between the formulation of an ordinal or cardinal valuation of welfare. Stated another way, the formulation of a social welfare function raises the important problem of ordinal or cardinal valuation of welfare.

Or, as Scitovsky states,

> For the shape of the social welfare function must somehow be determined; and this, to put it crudely, amounts to determining the relative weights attached to each individual's preferences when these are aggregated into the social preference function. Should everybody's preferences be given equal weight. . . . Do we stand on surer ground when we give people equal votes than did the classical economists when they assumed that everybody has the same ability to enjoy like? I doubt it.\(^1\)

This social welfare function, while incorporating external economies and diseconomies, still proceeds on the postulate that all possible configurations of the social system are arranged in order of value, hence an ordinal ranking. It is argued that this approach has lifted a burden off of the economist; no more responsibility for attaching weights to different people's satisfactions or welfare. But it has imposed upon the economist the new responsibility of attaching weights to different people's opinions and preferences.\(^2\)

In essence, this social welfare function tries not only to dispense with all quantitative comparisons of utilities

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\(^2\) Ibid.
but also with any social evaluation of the utilities of individuals. While this analysis dispenses with utility comparisons, it by no means can divorce itself from its logical foundations. For Bergson admits that only the Cambridge School (Pigou in particular) have a clear-cut social welfare function: if social welfare is the sum of individual utilities diminishing marginal utility implies that the maximum social welfare is consistent only with equality of the marginal utility of money income among all individuals. If all have equal capacity for enjoyment, this first-order condition for a maximum is fulfilled when all incomes are the same.\textsuperscript{23} Thus the Samuelson-Bergson criteria sought to construct a more general model under which the contributions of the previous writers could conveniently be grouped.\textsuperscript{24} But, Kapp argues that if this analysis lacks "practical applicability ... we are compelled finally to conceive of the welfare of the community in terms of interpersonal comparisons of utility. ..."\textsuperscript{25}

Let us consider the relevance of a cardinal measurement of utility for deriving the social optimum. Boulding argues, if utility is cardinally measurable for the individual and if (what is not the same thing) the utilities of different individuals can be added, a total social

\textsuperscript{24} Ibid.
utility function could be derived simply by adding the utilities of all individuals at each configuration of the economic universe. The maximum social utility in this function would then be the social optimum.26

But we have already seen where the cardinal measurement has been denied by most theorists; therefore, we have, as Boulding states, "... a social optimum ... that it does not define a point but a range ..."27 The problem is one of practical purposes. A cardinal aggregation would give a more definite answer. As Zeuthen states,

But when it comes to simplifications for practical purposes, I think the cardinal simplification, which can make full use of the system of figures, is preferable. It enables one, e.g., to multiply two chosen schedules (as for instance for income and age) and to avoid ... cases of voting or combination of individual preferences.28

Such a reformulation may be found in affirmative action programs where quotas are established. One may wish to incorporate both ordinal and cardinal measures in one framework, e.g., construct an ordinal social welfare function by aggregating the individual functions and applying chosen interpersonal weights. The essence of this is the Pigovian tradition: this social welfare function is only a symbolic expression of a consistent formulation of political purposes. It is not a formula to be put into a calculation machine but a guide, just as Pigou's work was a guide for the times.

27 Ibid., p. 12.
Thus, our argument is that modern welfare economics is an extension of the Pigovian analysis. More importantly the modern social welfare function incorporates Pigou's famous divergence between private and social costs and allows one to accept either an ordinal or cardinal measurement of welfare to serve as a guide to policy makers. As Richard Armey states, "The answers are ready and are provided for us by the Pigovian tradition. If we are to communicate them, we must now incorporate the Pigovian tradition."29

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