**CHAPTER THREE**

**WELFARE ECONOMICS**

**2.1 ORIGIN OF WELFARE ECONOMICS**

As against the objectives of maximization of production of wealth pursued by the classical economists, the welfare economists emphasis welfare to be the objective of all economic thought and policies. England is the home for welfare economics. In the writings of the utilitarian economists Bentham and his followers, advocated welfare and J.S.Mill and used the principle of national welfare in his theory of distribution. Welfare economists seek to pin point the specific causes of the evils including inequalities of income and wealth and suggest remedial actions without changing the basic structure of the economy, including its institutions and production relations. The present century modern welfare economics is more realistic in its approach. Alfred Marshall has been regarded as the founder of the welfare economics. His welfare definition to the subject matter of economics, contribution of concepts like consumer’s surplus and producer’s surplus all evident of the use of the welfare ideas in his mind.

* Welfare Economics was a direct refutation of classical economics, especially the laissez-faire doctrine. As against the objectives of maximization of production and wealth, pursued by the classical economists, the welfare economists emphasize ‘welfare’, to be the direct objective of all economic thought and policies. Whereas the classical economists emphasized production, supply and costs, the welfare economists lay stress on consumption, utility and demand. This emphasis of welfare economists was not new but it received fillip only after the World War I, mainly because of the existence of poverty amidst plenty.
* Welfare economics is the branch of economic analysis concerned with discovering principles for maximizing social well-being. It has been described as a tendency to modify the classical doctrines and to make economics deal with social policies, directed towards achieving the goal of social welfare. According to Reder, welfare economics is ‘the branch of economic science that attempts to establish and apply criteria of propriety to economic policies.’ Welfare Economics is not a distinct and unified system of ideas.
* Economics itself is often defined as the study of how society chooses to use its limited resources to achieve maximum satisfaction. Nearly every aspect of economics, therefore, has a welfare dimension. Nevertheless, several important con­tributors to economics have focused specifically on either or both of the following: defining welfare optimality and analyzing how maximum welfare can be achieved; identifying factors that impede the achievement of maximum well-being and suggesting ways that the impediments might be removed. We refer to these indi­viduals as welfare economists.

**2.2 Forerunners of the school welfare Economics**

The concept of welfare has been developed further by a host of writers like R.G.Hawtrey, Edgeworth, Pareto, Hobson and Pigou.

**A) John. A. Hobson (1858 – 1940)**

He made an ethical approach to welfare economics in which it is meant ‘good life’. Hobson was a journalist, social reformer and economist. His writings have been chiefly directed against the classical economics saying that it fails to provide a satisfactory explanation of the existing inequalities, exploitation and distress. His major contributions in the sphere of economics were in the fields of distribution, welfare and trade cycles. ‘The economics of distribution” (1900) ‘The industrial system’ (1909) explains his ideas on distribution.

* In the field of welfare his famous work is ‘work and wealth a human valuation’ (1914). Regarding trade cycle his work ‘Economics of un employment’ (1922) is considered as the best treatment of the theory of trade cycle. He came to deal with welfare problems during his extension lectures to working men in which he started discussing economic problems from the workers’ point of view. According to his view the problems with modern economy was that all its production decisions were market oriented. To Hobson the performance of industry should be evaluated on the basis of its contribution to ‘good life’. Unfortunately, there was no objective measure available for a test of this kind. He provided three reasons for this state of affairs.

(1) An exaggerated stress up on production, reflected in the terminology and method of science, with a corresponding neglect of consumption.

(2) A standard of values, which has no consistent relation to human welfare.

(3) A mechanical conception of the economic system due to the treatment of other human action as a means to the production of non-humanly valued wealth”.

* To sum up one can say that an economic system which emphasizes cost and undermines human utilities or which exaggerates the importance of production and man as a source of labour and which neglects the utility of consumption and the importance of man as a human being is hardly of any practical value. Man produces commodities according to his needs and puts in certain sacrifices, which are the human costs of production, and which must be balanced by the utilities created as a result of these sacrifices savings is the source of capital, which involves sacrifice. The human cost among the upper and middle class of society are not heavy and in many cases does not involve any sacrifice. It is among the labouring classes that the human costs are the heaviest.
* On the practical side Hobson recommended that the state should abandon its laissez – faire policy in favour of equitable distribution. Production and distribution should be guided by true social needs and capabilities so that in the new set – up each should contribute according to his capacity and should receive according to his needs as a consumer. Profit motive must give way to human evaluation in production decisions. There should be Provision for labor laws and nationalization. Experimental industries were to be left in private hands and profits were to be taxed heavily. Raising wages, social services like, education, health, recreation etc. All appear to be socialism of utopian type.

**B) A.C. Pigou**

A.C.Pigou is considered to have done a pioneering work in the field of welfare economics; he is credited for establishing a scientific welfare economics. Others who preceded him had provided what may be called ‘case-to-case’ studies and the areas where there was a need for state intervention for improving the welfare of the society, but Pigou was the first to put the whole thing into a system. Those who had tried to concern themselves with the overall performance of the economy had primarily concentrated upon changes in wealth of the society; Pigou shifted on to the consideration of national welfare. He provided a general rule where by the social welfare was to be judged with reference to social marginal cost and social marginal benefit.

* Pigou emphasizes that welfare is a very wide-range phenomenon and for practical purposes it is essential to delimit the scope of economic welfare. He stressed the need to choose that portion of welfare which can be put into quantitative terms. “The one obvious instrument of measurement available in social life is money. Hence the range of our inquiry becomes restricted to that part of social welfare that can be brought directly or indirectly into relation with the measuring-rod of money. This part of welfare may be called economic welfare.” He further said that, “Nevertheless, though no precise boundary between economic and non- economic welfare exits, yet the test of accessibility to a money measure serves well enough to set up a rought distinction. Economic welfare, as loosely defined by this test, is the subject matter of economic science. The purpose of this volume is to study certain important casues that affect welfare in actual modern societies.”
* He studied the factors which affect economic welfare with reference to three things. These are: i. The size of the national dividend;

ii. The distribution of national dividend; and

iii. The variability of it.

Pigou recognizes that economic welfare and non-economic welfare may move in opposite directions and he gives many instances in which this happens. But he thinks it a plausible assumption that total welfare of the society would move in the same direction as the economic welfare. He does not think it necessary to provide a proof for this presumption and instead claims that ‘in all circumstances the burden of proof lies upon those who hold that the presumption should be overruled.”

* Pigou makes a qualified statement that a shift towards equality should enhance economic welfare. In this connection he first proceeds on the assumption that income enjoying capacity of all the members of the society is the same. In this situation, obviously a reduction in inequalities would increase economic welfare. But he then refers to the typical objection that some races have low income enjoying capacity; even within a society, the poorer sections may not know what to do with increased income and may rather spend the same wastefully and to their disadvantage. Pigou, however, believes that the solution of this problem is to redistribute income in those manners which would not be quickly perceived by the poorer sections such as through price reductions; or the process may be completed rather slowly which would allow the poorer sections also to acquire more of income-enjoying capacity. Similarly, the government may provide more of public goods and ‘merit goods’ which would naturally enhance their total enjoyment.

* Marshall’s analysis of economic welfare runs in terms of partial equilibrium and partial chunks of welfare in the form of consumer’s surplus and producer’s surplus. In Marshall when consumer’s or producer’s surplus in one industry is augmented through fiscal action, the other industries in the economy are left untouched. In Pigou, however, it is not partial but total welfare which is considered. And for this, his rule is that the allocation of resources and their utilization in different employments should be such as to lead to equality between social marginal benefit and social marginal cost. Marginal social cost would include, in addition to the marginal private cost, additional marginal costs being incurred by the society. In most cases, the marginal private and social costs and benefits differ. We may say that there are spill-over effects which account for the divergence between the two entities. The crucial thing in Pigou’s analysis here is that left to itself the economy is likely to allocate its resources in a manner different from what the social optimum would dictate, and that is in a manner different from the one where the marginal social benefit and the marginal social cost would be equated in each line of employment. These divergences ought to be remedied through fiscal and other policies.
* Pigou extends his general principle of equality between social and marginal cost and benefit even to the field of public finance. His principle of optimum budget or optimum state activity stresses that the public budget should ensure equality between marginal benefit to public expenditure with the marginal sacrifice which taxation imposes. This is his famous principle of maximum social advantage. Similarly, within the field of taxation, he provides the principle of least aggregate sacrifice which is ensured by imposing the tax liability upon different members of the society such that the marginal disutility of taxation is the same for every taxpayer. Ordinarily, this would entail progressive tax structure.

**Other Contributions**

Several other theories presented by Pigou have had lasting relevance.

* **On Saving:** His stress on the desirability of increasing savings in the economy found favor with many economists and government policy makers in the 1980s and 1990s.
* **On Present Satisfaction**: Pigou contended that people prefer present rather than future satisfaction of equal magnitude because the human telescopic faculty is defective; we, therefore, see future pleasure on a diminished scale. The bias contributes to far-reaching economic disharmony, because people distribute their resources between the present, the near future, and the remote future on the basis of a somewhat irrational preference. Consequently, efforts directed towards the remote future are sacrificed for those directed to the near future, while these, in turn, are given up to enhance present consumption. The creation of new capital is checked, and people are encouraged to use up existing capital to such a degree that larger future advantages are sacrificed for smaller present ones. Natural resources are consumed more quickly and wastefully because future satisfactions are underrated.
* **On Government Intervention:** Pigou concluded that economic welfare is diminished by government intervention that strengthens the tendency of people to devote too much of their resources to present use and too little to future use. Government should, thus, avoid any tax on saving, including property taxes, death duties, and progressive income taxes if it wants to maximize economic welfare. Heavy taxes on consumption are preferable because they encourage saving, but such taxes have the disadvantage of hurting low-income people disproportionately.
* **On Price Discrimination:** A final contribution of note is Pigou's discussion of price discrimination. It was he who classified price discrimination into three types: first degree, second degree, and third degree. First-degree price discrimination occurs when the monopolist charges each consumer the exact amount she or he would be willing to pay rather than go without the commodity. The monopolist, therefore, takes all of the consumer's surplus as revenue. Second-degree price discrimination is a cruder form of first-degree discrimination. The seller charges one price for each unit within an initial block of units and then charges lower prices for units within subsequent blocks. Electrical utilities commonly used this type of quantity discounting prior to the rate reforms of the 1970s and 1980s. Third-degree price discrimination involves separating groups of consumers into different classes and charging different prices based on the elasticity of demand for each group. One of many possible examples would be charging students and profes¬sors less than the general public for business newspapers and magazines.

**2.3 WALRAS’S GENERAL EQUILIBRIUM SYSTEM**

**What Is General Equilibrium Theory?**

General equilibrium theory is an analysis of the economy in which all sectors are considered simultaneously. Thus, one considers both the direct and the indirect effects of any shock to the system, and one considers the cross-market effects simultaneously with the direct effects. This interrelationship of the sectors of the economy is relatively simple to conceptualize, but it is an enormously complicated idea to put down formally. Walras’s contribution was to model the general equilibrium system in a formal manner.

**Early Precursors of General Equilibrium Theory**

Because general equilibrium is relatively easy to conceptualize, it shouldn’t be surprising that it was not a new idea in 1874 when Walras published Elements of Pure Economics. Earlier writers had had a clear vision of an economy consisting of many interconnected parts. For example, Quesnay had given this vision form in his economic table, which traced the flow of annual production among the various sectors of the economy. Similarly, in vivid descriptions of market processes, Adam Smith showed deep insight into the relationships among the various parts of the economy. But although these writers explained the interconnection, they did not formally model it. In 1838, A. Cournot (1801-1877) made an enormous advance in formalizing the interrelatedness of the economy while analyzing certain microeconomic problems. He was able to express some of the problems of the theory of the firm in mathematical form, and he used calculus to prove that profits are maximized when marginal cost is equal to marginal revenue. In doing so, he did for the theory of the firm what Jevons and Menger did for choice theory: he formulated it in marginal terms. In addition, Cournot went beyond Jevons and Menger, whose heuristic and arithmetical expositions had limited their insights. Cournot’s abstract mathematical orientation assisted him considerably in comprehending relationships within the economy and helped him to anticipate Walras. Cournot correctly concluded that “for a complete and rigorous solution of the problems relative to some parts of the economic system, it [is] indispensable to take the entire system into consideration.

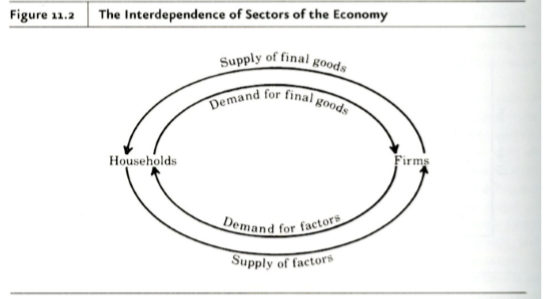
* Walras and General Equilibrium Theory Walras, Marshall, and Complexity Partial equilibrium analysis is often seen as an approach that is complementary to a Walrasian general equilibrium approach; they simply start at opposite ends. Marshall looked initially at small issues and Walras looked initially at big issues, but eventually the two would be combined. Modern work in the analysis of complex systems suggests that such a view may be wrong.
* According to this new work, general equilibrium may require information processing that significantly exceeds the computing capabilities of the human mind. If that is the case, the two approaches are not compatible, since one cannot build down from an equilibrium that is beyond the informational capabilities of the individuals in the system. In that case, the system acquires a life of its own not directly related to the decisions of individuals. To arrive at an analysis of the aggregate economy, one must approach it through partial equilibrium and then modify that partial equilibrium to be “less partial”and “even less partial.”

**2.3.1Partial and General Equilibrium Analysis**

By their very essence, models and theories assume that certain elements are held constant that they will not influence the behavior of the variables in the model. More factors are assumed to be held constant in partial equilibrium analysis than in general equilibrium analysis. Partial equilibrium analysis allows only a small number of variables to vary; all others are assumed constant. General equilibrium analysis allows many more variables to change. It does not allow all variables to vary, and thus to influence the model, however, but only those regarded as being within the scope of economics. General equilibrium models, for example, assume as given the tastes or preferences of individuals, the technology available for producing goods, and the institutional structure of the economy and society..

**Walras in Words**

Suppose we are interested in price and output in the beef industry. The demand and supply for beef can be expressed as equations relating price to quantity supplied and quantity demanded. Although there are three variables in the model—price, quantity supplied, and quantity demanded—at equilibrium there are only two unknowns, because quantity demanded equals quantity supplied.



Let us now move from this partial equilibrium model to a more complex general equilibrium model. Even in a general equilibrium model it is necessary to disregard certain aspects of a complex economy, so we will assume an economy made up of only two sectors, firms and households, and ignore the government and foreign sectors. We will assume, moreover, that firms do not buy intermediate goods from each other, that household preferences do not change, that the level of technology is fixed, that full employment exists, and that all industries are perfectly competitive. A schematic representation of such an economy is presented in Figure 11.2.

* Households enter the markets for final goods with given preferences and limited incomes and express a dollar demand for these goods. Firms enter the final markets willing to supply goods; thus, a supply of final goods flows from firms to households. It is in these markets, represented by the upper part of Figure 11.2, that the prices and quantities of final goods supplied and quantities demanded are determined. For these markets to be in equilibrium, The quantity supplied and the quantity demanded for each particular commodity must be equal. Factor markets are represented by the lower portion of Figure 11.2. In these markets, firms demand land, labor, and capital from households, and there is a dollar flow of income from firms to households. As households supply the factors of production in these markets, factor prices are determined. Equilibrium here requires that all markets be cleared so that quantities supplied equal quantities demanded for each factor. Households receive their incomes from factor markets and spend them in markets for final goods. For households to maximize the satisfaction they receive from consuming final goods, given their limited income, they distribute their expenditures so that the last dollar spent on any particular good yields the same marginal utility as the last dollar spent on any other good (Gossen’s Second Law).
* The flow of income between firms and households represents the national income of the economy; for this to be in equilibrium, households must spend all the income they receive. The distribution of income is determined in factor markets and depends upon the prices of the various factors and the quantities of factors sold by each household. When firms in a market economy look one way, they face the prices for final goods; when they look the other way, they face prices for the various factors of production. Given these prices and the technology available, they combine inputs to produce outputs in a manner that will maximize their profits. This requires that they combine inputs in such a way as to produce a given output at the lowest possible cost and that they produce at a level of output that maximizes profits. Competitive forces will result in a situation at long-run equilibrium in which the price of final goods is just equal to their average cost of production. For the level of national income to be in equilibrium, firms must spend all their receipts from final markets in factor markets.

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| **General Equilibrium, Complexity, and the Limits of the Human Mind**  In teaching economics to undergraduates, economics professors generally use examples of two goods that fit nicely into geometric presentations, such as analyzing individual choice through indifference curve analysis. In such examples, strong rationality assumptions make intuitive sense. Then we economics teachers wave our hands and extend the analysis to “n”goods without pointing out that, with each additional good, the computational requirements necessary for a decisionmaker to make this jump increase exponentially. In some ways it is equivalent to showing how a person can jump, and then assuming that the individual can fly. The reality is that in order to reach a general equilibrium with large numbers of goods, individuals would need brains with far more computing power than they currently have, and even then they would need to spend all their time processing information in order to remain rational. The point is that when there is a cost to thinking, too much “rationality”does not make sense. So when people are irrational, they are probably being rational. Recent work in the analysis of complex systems suggests that when such decision complexity exists, the nature of the aggregate system changes, and that in order to understand complex systems, one must approach the problem in a fundamentally different way. If that is correct, in the future Walras’s general equilibrium theoretical foundation for economic analysis may well be displaced by some other foundation for economic thinking. |

* For the household to be in equilibrium, income must equal expenditures, and expenditures must be made in such a way as to maximize utility. The equilibrium conditions for the firm to maximize profits, and for its average costs to equal price through the force of competition, can likewise be expressed in equations. Thus, we arrive at a system of simultaneous equations that indicates the interrelatedness of the sectors of the economy. The Walrasian formulation of the working of a market economy raises some new questions. For example, is a general equilibrium solution possible? Will the equilibrium conditions necessary produced by the market in the various sectors of the economy be consistent with a general equilibrium for the entire economy? How does production fit into the model? The unknowns determined by the market and given by a general equilibrium solution are (1) the prices of final goods, (2) the prices of factors, (3) the quantities of final goods supplied and quantities demanded, and (4) the quantities of factors supplied and quantities demanded. Is there only one set of prices and quantities that will result in equilibrium for the entire economy, or are there many possible equilibria? If a solution to this problem does exist, is it a solution that is economically meaningful, or will it yield negative prices and quantities? Will the solution be a stable equilibrium or an unstable equilibrium? Is the system determinate? Several possibilities exist. The very process of the market working may result in shifting mathematical functions that will not result in final equilibrium. Another possibility is that a final equilibrium will be reached, but that its position will depend upon the path followed by the variables in the system. This suggests that different final equilibrium values are possible. Finally, how will the equilibrium be achieved? Who sets the price? What happens if there is disequilibrium trading? Walras did not answer any of these questions satisfactorily. Thus, the historical judgment must be that if he is the father of modern neoclassical economics, he did not make it to the promised land. Instead, he promised much and delivered only an abstract framework containing many holes. Despite this negative judgment, even the harshest critic must agree that he did present a model that afforded great insight into the workings of a market and that could serve as a foundation for further theoretical developments. When one considers the development of economics over the ninety years since his death, one can say that he has had an enormous impact on economics.

**Walras, Marginal Productivity, and the Interdependence of the Economy**

Walras’s general equilibrium theory was dependent not only upon demand and, therefore, utility but also upon supply and, therefore, diminishing marginal productivity. Here, too, there is much ambiguity in Walras’s exposition. In Lesson 20 of the first three editions, his model used constant coefficients of production, which is to say that there is no marginal product because one factor cannot be varied independently of another. Thus, his early exposition of general equilibrium theory did not have the second underpinning of a full general equilibrium model. Despite this, he stated that the analysis can be extended to include variable coefficients of production. The reader is left to accept that possibility on faith. Walras recognized the problem and in the late 1800s asked a colleague how he could extend his analysis to include variable factors of production. Thus, in 1900, in the fourth edition, he incorporated variable factors of production and, thereby, the marginal productivity underpinnings of supply. Yet Walras’s incorporation of marginal productivity came six years after Philip Wicksteed had formally developed the marginal productivity concept and had publicized its importance. Because of this, Walras’s contribution to marginal analysis on the supply front is open to question. Walras recognized the possibility of multiple general equilibria, and general equilibrium analysis still must contend with it. General equilibrium theorists can show the conditions under which there will be a unique equilibrium, but they cannot show that those are the conditions we can expect in the economy.

**Is the equilibrium stable or unstable?**

An equilibrium is not necessarily stable; if the model is thrown out of equilibrium, will it return to equilibrium? This issue was answered relatively quickly, and the conditions necessary for stability were shown. What was not shown was whether those conditions fit reality. Several events might actually undermine stability. The very process of the market at work may cause shifting mathematical functions that will not result in final equilibrium. In another scenario, a final equilibrium may be reached, but its position may depend upon the path followed by the variables in the system. Thus, different final equilibrium values may be possible.

How will the equilibrium be achieved? Who sets the price, and what happens if there is disequilibrium trading? Walras struggled with this question, which is now playing a significant role in modern macroeconomic debates. He proposed numerous schemes involving written and oral pledges and a tatonnement process in which an auctioneer (who has since acquired the name the Walrasian Auctioneer) processes all the bids and offers, determines which prices will clear all markets, and only then allows trading. Donald Walker, who has examined these schemes in depth, has concluded that the model is fatally flawed, because Walras did not endow it with enough viable features. Walker’s conclusion is extremely damaging to the new classical branch of macroeconomics, which bases its analysis on the reasonableness of the assumed auctioneer. These problems are substantial, but they do not undermine Walras’s achievement.

**Walras and Marshall on Method**

It is instructive to briefly compare Walras with the Marshallian approach. Walras was interested in technique and form. He was looking for the most general mathematical exposition of a model of the economy. Marshall regarded economic theory as an engine of analysis; it must relate to the real world, or it should be forgotten, or perhaps simply kept at the back of one’s mind, to be brought into the analysis when relevant. There could not have been two more different approaches. As we will see in the chapter on modern microeconomics, Marshallian economics rules in many undergraduate courses, but Walrasian economics has become the mainstream graduate microeconomics. Despite its victory, the problems of the Walrasian approach are significant and leave modern microeconomics vulnerable to much criticism.

**Walras on Policy**

Walras regarded his pure economics as a tool to be used in formulating economic policy. He regarded himself as a socialist but strenuously objected to the views of Marx and the Utopian socialists such as Saint-Simon

He therefore advocated that the state attempt, through legislation, to create systems of perfectly competitive markets. At the same time, Walras was not a thoroughgoing proponent of laissez faire: he found many areas in which government intervention was desirable. He might reasonably be characterized as an advocate of market socialism. He followed Mill in maintaining that land rents represented unearned income and should therefore accrue to the government. With perfectly competitive markets and the abolition of rents as a source of private income, Walras reasoned, the distribution of income would not contain major inequities. In general he tried to take a policy line between the socialists of the left and the hard-line proponents of laissez faire. His attempt to prove that general equilibrium in competitive markets results in a maximum of utility for society has been largely ignored or forgotten by economists. Knut Wicksell (1851-1926) was later to prove that Walras’s conclusion would hold only if all individuals had the same utility functions and equal incomes. Walras’s socialist views of the implications of his model were extended by theorists in the 1930s and beyond in what has become known as the socialism- capitalism debate.

**2.4 Pareto efficiency in welfare and VILFREDO PARETO**

Vilfredo Pareto (1848-1923) was a disciple of Walras and an early supporter of general equilibrium theory. He carried through the reasoning Walras used in general equilibrium theory and extended the analysis to consider the welfare implications of various policies. Pareto tried to extend Walrasian economics into policy. Pareto lays claim to being one of the fathers of modern welfare economics, the other being A. C. Pigou, who extended the welfare implications of Marshallian economics. Pareto addressed the issue of how to evaluate the efficiency of resource allocation for an economy or for a particular market structure within an economy. Pareto’s ideas on distribution helped in the development of welfare economics. He maintained that if through a redistribution total well-being of the members of the community increased, it implied an advantageous redistribution. This meant that such a step should increase the well being of some without reducing that of the others. Adam Smith had concluded that perfectly competitive markets resulted in desirable consequences, particularly higher long-term rates of growth for an economy.

* Theory began in the 1870s, led to questions concerning the efficiency of resource allocation and to the development of criteria for evaluating the merits of different economic policies that affect an economy. Adam Smith’s advocacy of laissez faire was not based on a theoretically rigorous model. It focused more on the macroeconomic consequences of markets coupled with a minimum of government intervention.
* In the 1890s, Pareto began evaluating microeconomic performance using the new marginal tools and became the father of the branch of welfare economics that works largely in a general equilibrium framework.. Pareto’s answer to the question of evaluating the efficiency of resource allocation was straightforward: a change in resource allocation will improve welfare if one person can be made better off with no other person’s being made worse off. An ideal or optimum distribution of scarce resources, a Pareto optimum, is defined as one in which it is impossible to make someone better off without making someone else worse off. However, he regarded his Pareto optimal criteria as a useful analytic extension of Walras’s general equilibrium theory. Pareto optimal policies acquired a special significance when it was determined that competitive markets will lead to a Pareto optimal position—a position from which no one can be made better off without making someone else worse off. This is one of the important conclusions that flowed from general equilibrium analysis, and it has deepened our understanding of markets.

**Pareto Optimality**

Of particular relevance to the topic at hand, Pareto refined Walras' analysis of general equilibrium and set forth the conditions for what we now call Pareto optimality, or maximum welfare. Other economists then established the more rigorous mathematical proof that perfectly competitive product and resource markets achieve Pareto optimality.

Maximum welfare, said Pareto, occurs where there are no longer any changes that will make someone better-off while making no one worse-off. This implies that society cannot rearrange the allocation of resources or the distribution of goods and services in such a way that it aids someone without harming someone else. The Pareto optimum thus implies (1) an optimal distribution of goods among consumers, (2) an optimal technical allocation of resources, and (3) optimal quantities of outputs. person's well-being while not reducing someone else's welfare.

**Evaluation**

Pareto's welfare theory is a significant contribution to economics. He did much to help economists better understand the conditions for, and the welfare significance of, economic efficiency. However, the central Pareto criterion, "Does a change make someone better-off while making no one worse-off?" is not always well suited for evaluating public policies.

Of the several criticisms of the Pareto standard, four seem particularly germane. First, some economists argue that it fails to address the important issue of distributive justice, or the fair distribution of income in society. Instead, it simply establishes the efficiency conditions for any existing distribution. Second, and closely related, many public policies that increase national output and overall welfare also redistribute income as a by-product of the policy. For example, although a policy of free foreign trade normally boosts a nation's total output and welfare, it may also injure specific individuals who lose their jobs because of imports. A strict interpretation of the Pareto criteria would block the enactment of such a policy. Similarly, under most circumstances, immigration of skilled workers increases total output in the destination nation. However, the increased supply of labor may depress the wages received by native workers in the skilled labor markets. Should government legislate such policies as free trade and open immigration, even if such compensating payments are not actually made?

A third objection to the Pareto criteria is that they are based on a static view of efficiency. Short-run movements away from Pareto optimality conceivably could increase long-run or dynamic efficiency. For example, some contemporary econo¬mists contend that by focusing on static efficiency some of the provisions of antitrust laws may impede private actions-such as joint development of new technologies-that would increase the nation's long-run growth of output and welfare.

Finally, the moral judgments that the Pareto criteria purposely exclude are often legitimate and dominant factors in policy formulation. Some private transactions-for example, prostitution, the sale of babies, and the purchase of drugs-that may be Pareto optimal may also conflict with society's moral values. Such values often dwarf considerations of economic efficiency in debates on public policy.

**Questions for Review, Discussion, and Research**

**1. Which is preferable: general or partial equilibrium analysis? Why?**

**2. Are Quesnay and the physiocrats related more to Walras or to Marshall? Why?**

**3. Distinguish between Walras’s general equilibrium approach and Marshall’s partial equilibrium approach.**

**4. “For Walras, utility was only something he needed to assume to obtain the demand results he wanted.” Discuss this statement.**

**5. What difference would the existence of multiple equilibria make for general equilibrium analysis?**

**6. If there is no Walrasian Auctioneer, how is the Walrasian model changed?**

**7. What relevance does the absence of a Walrasian Auctioneer have to the new classical model?**

**8. If a policy affects relative prices, is it likely to meet the Pareto optimal criteria? Why or why not?**

**9. A policy transfers income from individual A, who gets zero marginal utility from his marginal income, to individual B, who gets a high marginal utility from income. Will this policy be a Pareto optimal policy? Why or why not?**