Welfare Economics

PARETO OPTAMILITY

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Welfare Economics Vs Positive Economics

Positive Economics

Positive Economics is largely devoted to explaining why things are the way they are: e.g., why the price of wheat has so high, why wealth in the community is unequally distributed etc., It has generalisations, principles, or laws which trace out a casual relationship between cause & effects.

Welfare Economics

Welfare economics is the normative branch of economics. It also deals with a casual relationship between cause & effect but in addition to deriving conclusions from this relationship, it seeks to evaluate various results. It is concerned primarily with policy, i.e., with judgments & prescription.

We can better understand with an example, positive economics would explain why the price of wheat has so high & welfare economics would suggest price control measures.

In *Theory & Operations Analysis, 1978,* Professor Baumol writes, "Welfare economics has concerned itself mostly with policy issues which arise out of the allocation of resources, with the distribution of inputs among the various commodities, & the distribution of commodities among various consumers. & it may be emphasized again that allocation of resources is efficient optimum when social welfare is maximized.

Individual welfare Vs Social welfare

Individual welfare

Individuals welfare at any given time or during a period of time is measured by the amount of satisfaction that he enjoys. he always tries is best to maximize his satisfaction.

Social welfare

Social welfare sum total of the satisfaction of all individual in a society.

Three Concepts of Social Welfare

Prof. Graff has distinguished three concepts of social welfare as

1. Paternalist authority- According to this concept, the preferences of the individual members of the society may be ignored & the state or a paternalist authority or a dictator uses its own ideas about social welfare.

2. Used by V. Pareto & his followers "welfare of the society is simply the sum total of the welfare of different individuals comprising it. If some persons are made better off & none worse off, social welfare increases & vice-verse. But if some are made better off & some worse off, then, we cannot know what has happened to the welfare of the society."

3. Propounded by Bergson & Samuelson, in well-known theory of social welfare function.
It involves interpersonal comparison of utility which is to be made by introducing explicit value judgments.

PARETO OPTIMALITY

The Italian economist V. Pareto rejected the notion of Cardinal utility & it's additive nature & detached welfare economics from the interpersonal comparison of utilities, his concept of maximum social welfare is based upon ordinal utility & also free from value judgments. He has specified a condition of optimal or efficient allocation referred to as Pareto condition. By this criterion, a policy change is socially desirable if everyone is made better off (the weak Pareto criterion) or at least some are made better off while no one is made worse off (the strong Pareto criterion).

Obviously, when the possibilities of making such policy changes are exhausted, we are left with an allocation of commodities that cannot be altered without someone being made worse off. Such an allocation is called Pareto optimal or efficient.

Pareto optimality: The three aspects

First, Efficiency of distribution of goods among consumers
(Efficiency of Exchange)

Second, Efficiency in the allocation of factors among firms
(Efficiency of Products)

Third, Efficiency in the allocation of factor among goods
(Efficiency in the product mix or composition of output)

First, Efficiency of distribution of goods among consumers
(Efficiency of exchange)

Condition

- The marginal rate of substitution between any two products must be the same for every individual consumes both. It means that the marginal rate of substitution between two consumer goods to the ratio of their prices, under perfect competition every consumer aims at maximizing this utility,

- Consumer A & B who buys the goods X & Y, A will choose X & Y such that his $MRS^A_{XY} = P_X/P_Y$ & similarly B choose X & Y such that his $MRS^B_{XY} = P_X/P_Y$

 Therefore, the condition for efficiency is

- $MRS^A_{XY} = MRS^B_{XY} = P_X/P_Y$

Pareto Criterion and Pareto Optimility
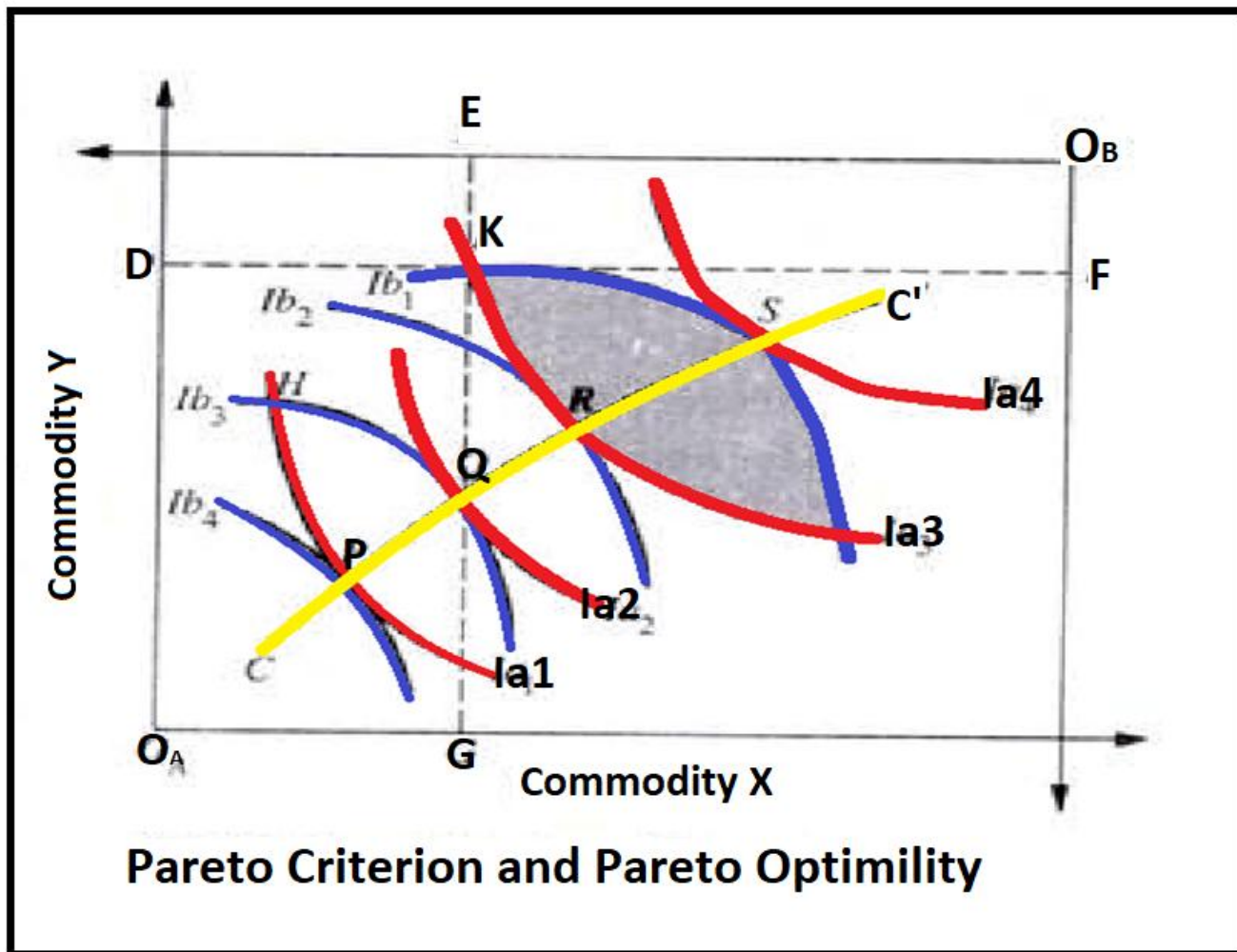
Any movement from K to S through redistribution of two goods between two individuals increases the level of satisfaction of A without any changes in the satisfaction of B because as a result of this A move to his higher indifference curve Ia4 & B remains on his same difference curve Ib. In other words as a result of a movement from K to S individual A has become better off whereas individual B is no worse off.

According to Pareto criterion social welfare has increased following the movement from K to S & therefore K is not the position of economic optimum. Similarly, the movement from K to R is also desirable from the point of view of social welfare. therefore, both the position S & R are better than K. The tendency points of the earliest indifference curves of two individuals of the society are the Pareto optimum points & the locus of these points is called contract curve.
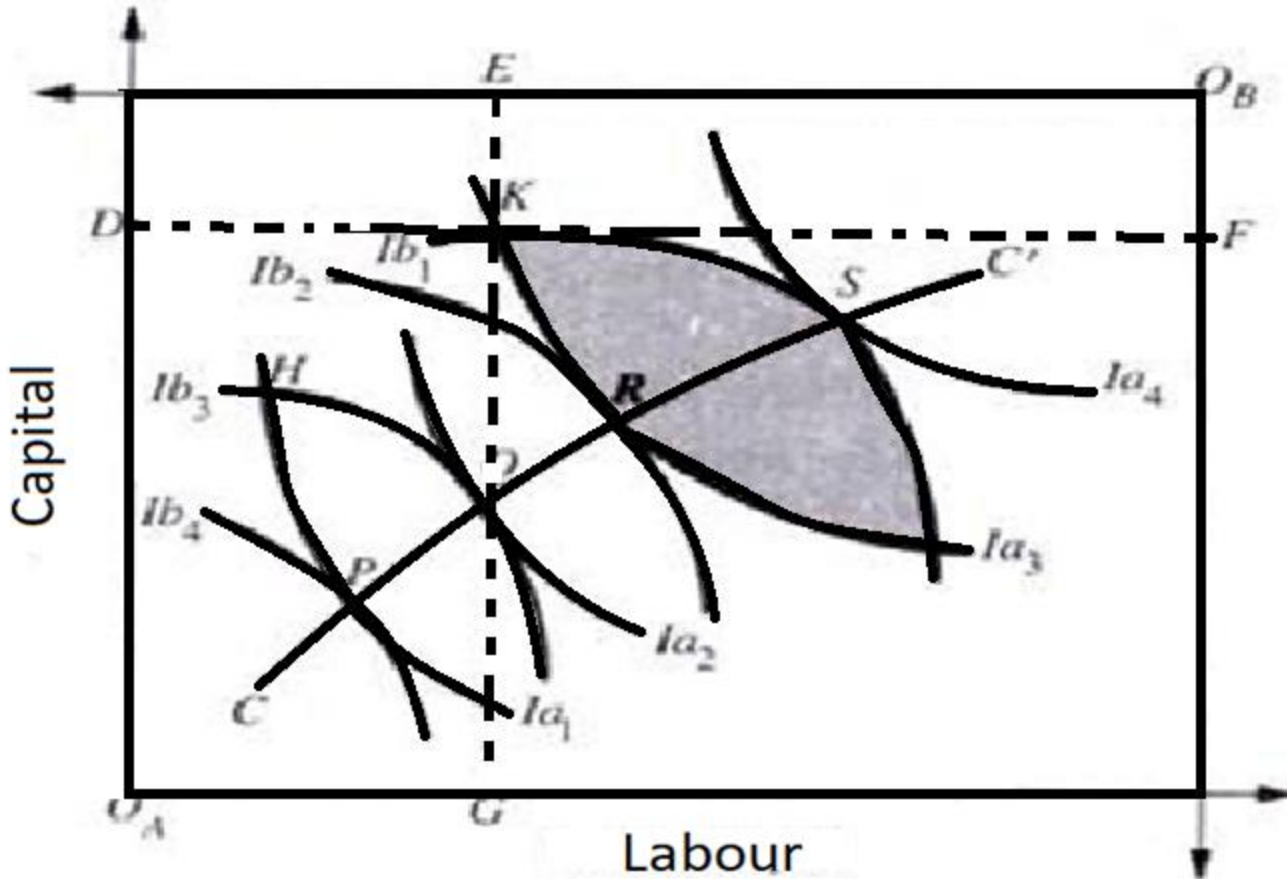
Second, Efficiency in the allocation of factors among firms
(Efficiency of Products)

The 2nd condition for Pareto optimality relates to efficiency in production. A profit maximizing firm under perfect competition will be in equilibrium when the iso-revenue line is tangent to its transformation curve. It means that for equilibrium the marginal rate of transformation between two products X & Y must equal their price ratio, i.e.,

$$MRT_{XY} = P_X/P_Y$$

Thus the optimum condition in the firm A & firm B will be

$$MRT^A_{XY} = MRT^B_{XY} = P_X/P_Y$$

**Pareto Criterion and Parieto Optimility**

Any movement from K to S or to Q raises the output of one firm without any decrease in the output of the other. The total output of the two firms increases when through redistribution of factors between the two firms, a movement is made from the point K to the point Q or S on the contract curve.

Third, Efficiency in the allocation of factor among goods
(Efficiency in the product mix or composition of output)

Pareto optimality under perfect competition also requires that the marginal rate of substitution (MRS) between two products must equal the marginal rate of transformation (MRT) between them. It means simultaneous efficiency in consumption & production.

Since the price ratios of the two products to consumers & firms are the same under perfect competition, the MRS of all individuals will be identical with MRT of all firms consequently, the two products will be produced & exchanged efficiently. Symbolically, $MRS_{XY} = P_X/P_Y$, & $MRT_{xy} = P_x/P_y$. Therefore, $MRS_{XY} = MRT_{xy}$.

Point E represents the optimum composition of production in which commodities X & Y are being produced & consumed in X_1 & Y_1 quantities. This is because of all the points on the communities transformation curve point E lies at the highest possible indifference curve I_2 of the consumer.
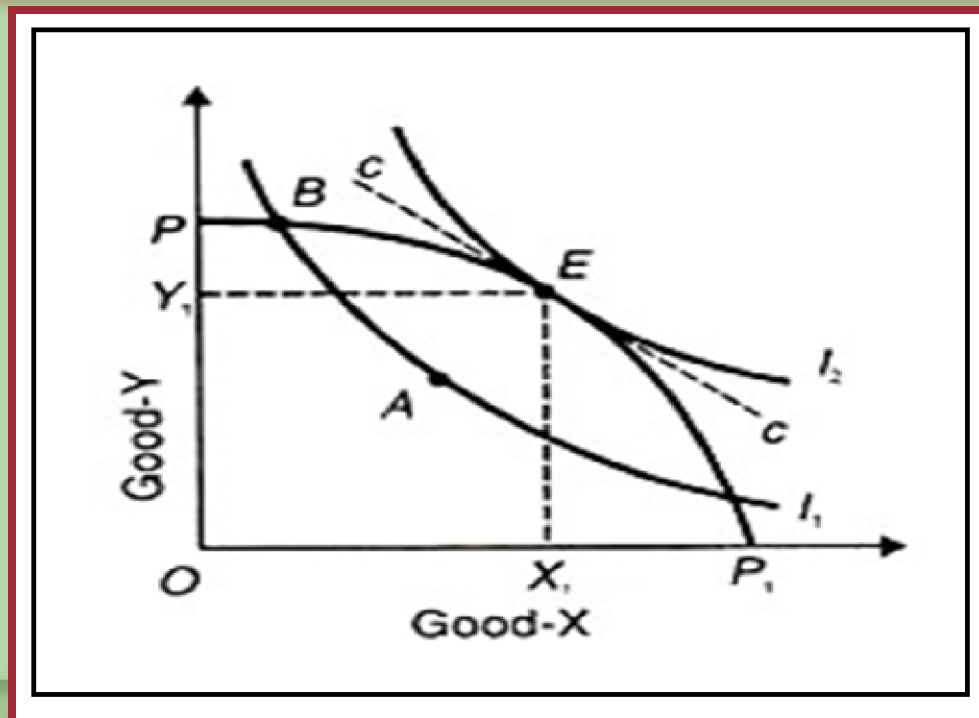
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