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Social Welfare function

Introduction

*The concept of social welfare function was propounded by A. Bergson in his article "A reformulation of Certain Aspects of Welfare Economics" (1938). Prior to it various concepts of social welfare function had been given by different welfare economists but they failed to provide a satisfactory solution to the problem of **maximisation of social welfare***.

*Bentham discussed the concept of welfare in terms of " **the greatest happiness of greatest number"***
*Pareto emphasised that maximisation of social welfare can only take place by satisfying various marginal conditions of **production, distribution and allocation of resources.** But unfortunately these conditions failed to achieve the target of maximum social welfare due to presence of various **externalities and imperfection in the market.** Later on, The Compensation principle of Kaldor - Hicks and Scitovsky also failed to attain maximum social welfare just because their criteria was based on the **value free objectives and ordinal utility analysis.** So, their criteria was not operationally feasible. After that, **Bergson and Samuelson** attempted to discuss the concept of social welfare function based on; **ordinal utility analysis and values judgement (explicit).***

Classical social welfare Function:

An important social welfare function was put forward by **Bentham, Pigou and Marshall.** According to them, **social welfare is the sum of Cardinal utilities** obtained by all members of the society. In algebraic form,the classical social welfare function can be written as :

$$W = U_1 + U_2 + U_3 + ... + U_n$$

Where, W= social welfare
$U_1, U_2, U_3, ….. U_n$ = Cardinal utilities of individual members of the society

The goal of a society is to maximize social welfare that is the aggregate of utilities of individuals comprising the society. In classical welfare function it is further assumed that the law of diminishing marginal utility applies to money income given this, **maximization of social welfare will be achieve if income is distributed in such a way that the marginal utility of income is equal for all individuals in the society.**

It means , according to classical welfare function,
"Maximization of social welfare is achieved only e with the equal distribution of income"

Bergson - Samuelson social welfare function

Bergson and Samuelson social welfare function is an ordinal index of society's welfare and it is a function of utilities level of all individuals constituting the society. Bergson- Samuelson social welfare function can be written as;

$$W = W (U_1, U_2, U_3, ... U_n)$$

Where, W= social welfare
$U_1, U_2, U_3, ... U_n$ = ordinal utility indices of different individuals of the society

The ordinal utility index of an individual depends:

- Goods and services which people consume
- The magnitude of kind of the work he does and the leisure he enjoys.

Bergson and Samuelson social welfare function based on the three propositions:

1. Social welfare function depends solely on the utility e for Welfare of individual member of the community and no one else.
2. Welfare or individual utilities denoted by U1,U2,U3,.....Un etc depends on individuals on evaluation of their own welfare rather than anyone else (individualistic).
3. The notion that unless there are specific reasons to the contrary individuals should be free to act in the light of their own personal assessments of their own welfare is a fundamental one in market oriented economies and therefore needs to be taken into account in appraising the potential efficiency of such economies.

Assumptions:

1. Social welfare depends upon each individual's wealth and income and on the distribution of welfare among the members of the society.
2. It assumes the presence of external diseconomies and economies with their consequent effect.
3. it is based on ordinal ranking of the combination of those variables which influence individual welfare.
4. Interpersonal comparison of utility involving value judgements are fully permissible.

Main features of social welfare function:

- ***It is based on explicit value judgement and involves interpersonal comparison of utility in ordinal terms.***
- ***The maximum social welfare position is completely determined as a result of***
- ***introduction of the value judgement regarding distribution of welfare among individuals.***
- ***It is not based on any unique value judgement.***
- ***Once the social welfare function has been decided upon bi value judgement, the maximization technique used to obtain the maximum social welfare position at which allocation of resources is pareto optimum and distribution of goods and services are equitable.***
- ***It is used along the pareto optimality analysis.the concept of social welfare function enable us to find a unique solution generally called the** "Point of bliss".*
  - *A social indifference curve is the locus of various combination of utilities of individual A and B which gives equal level of social welfare.*

*Note: The properties of Social indifference curves are just like those of indifference cure.*

(Social indifference Curve)
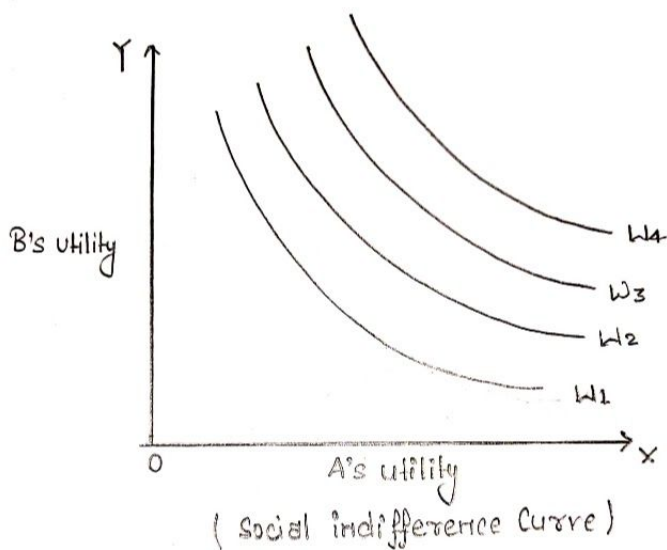
W1,W2,W3,W4 = welfare curve / social indifference curve
W1 < W2 < W3 < W4 (the level of satisfaction goes on increasing as we go from lower IC to higher IC)

Significance of social welfare:

- It helps to opton a unique position the regarding social welfare.
- The unique/optimal position is the best of all the pareto optimal position.
- Grand utility possibility frontier (GUPF) is the locus of of various physically attainable utility combinations ofr two individuals when factor endowments, individual preferences and state of technology are given.
- Every point on Grand utility possibility frontier represents the position of "*pareto optimality*" and "*economics efficiency*". Thus, welfare analysis helps to arrive at a solution for maximization AP social welfare which combines *efficiency and equity.*
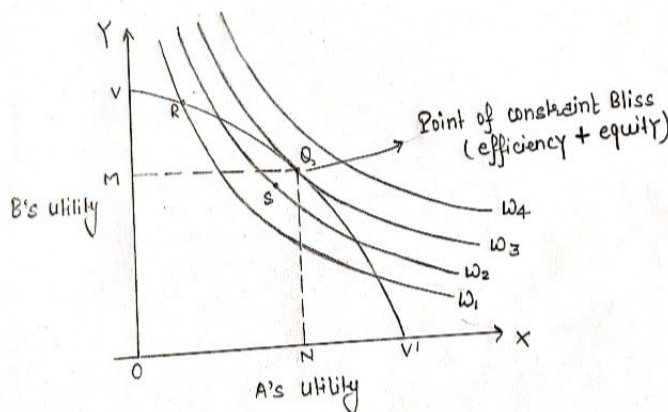
In the above given graph,

VV'= GUPF(Grand utility possibility frontier)

W1,W2,W3,W4 = **social indifference curve**

W4 >W3>W2>W1 = satisfaction goes on increasing

Point Q = Point of constraint bliss
*Social indifference curve W3 is tangent to the Grand utility possibility frontier VV'. Therefore point Q is known as" **the point of constraint bliss".** With the given constraints such as factor endowment, state of technology etc. Point Q is the highest possible state of social welfare which the society can attain.*
- *Social indifference curve w4 is the higher to the social indifference curve W3 passing to Q but it is unattainable given the factor endowments.*
- *Point - R = position of economic efficiency but inequitable distribution of resources.*
- *point - S = economically inefficient but equitable distribution of resources.*
- *point - Q = position of economic efficiency with equity (point of constraint bliss)*
- *Individual will not go on the w4 indifference curve because it can't be afford by them due to different reasons such as lack of resources and technology etc. That's why, W4 is preferable but unattainable because of constraints.*
- *Thus, from a large number of pareto optimum points on the Grand utility possibility frontier, we have a unique optimum point Q at which social welfare is maximum.*
- *Optimal point Q , only represents economic efficiency as it lies on the Grand utility possibility curve but also equitable distribution as judged by ethical judgement made by the society.*

Meaning of point of bliss:

The point of constraint bliss represents the unique pattern of production of goods, unique distribution of goods between the individuals and unique combination of factors employed to produce goods.

Criticisms:

- This theory has limited practical significance. **Little,Baumol and Streeten** have pointed out that social welfare function is of limited practical significance. It does not tell how to get value judgement which require for its construction.
- It is impossible to construct a social welfare function from individual preferences.

- Bergson and Samuelson's social welfare function is individualistic in nature.
- Amartya K. Sen also criticised The Bergson - Samuelson's concept of social welfare function and emphasised that ***Utility is not true indicator of welfare.***

Conclusion:

From the above discussion we can conclude that by explaining the concept of social welfare function , Bergson and Samuelson have attempted to provide a new approach in the field of Welfare Economics. In this way, we can say that they have given a great contribution in order to attain the point of maximum social welfare where the equity as well as efficiency can be achieve.

References:

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