How might a pareto efficient outcome be unfair economics essay

An Italian economist, Vilfredo Pareto, suggested that every state of economy is characterized by a certain allocation of resources and these can be compared with each other in terms of efficiency and fairness. Indeed, an initial state of the economy characterized by a given allocation of goods among individuals, might shift to a different allocation that yield at least one individual better off without making other individuals worse off. This is called a Pareto improvement.

We call Pareto efficient or Pareto optimal an allocation of resources when no additional Pareto improvements are possible. In this case the social welfare achieves its maximum and the reallocation of resources is optimal provided that any change of this reallocation worsens the welfare of at least one individual of the society.

The Pareto-optimality in the market consists to optimize a set of target functions. That is to say: consumer's goal is the maximization of utility while for firms is the profit maximization. While the firm uses a certain set of production possibilities that will guarantee the maximum spread between total revenue and total costs, the consumer, purchases such a set of goods that provides the highest utility for him/her.

It is important to understand that Pareto-efficiency is not only efficiency as a " technological" feature, but with the term " efficiency", in a Paretian context, we are required to take into consideration also " consumer efficiency". Thus, an economic situation can be " efficient" in a production sense, yet " inefficient" in a general Paretian sense (The history of economic thought website, 2001).

Consumption efficiency implies that the goods are reallocated efficiently if marginal rates of substitution of any two goods are equal for all individuals. It is obvious that the point set of contact between indifference curves of the first individual with the other one determines all possible Pareto-efficient allocation among the individuals, reaching through points of Pareto-efficiency.

The set of optimal points can be represented with two different analytical tools. If we measure in the axis the utilities for consumers, the combinations of utilities associated with the optimum points compose the Utility possibilities curve (Figure 1). If, within the Edgeworth Box, all the points tangency between the indifference curves are joined we obtain the contracts curve, which is precisely the place of optimal allocation in the sense of Pareto (Figure 2).

Figure 1. Utility possibilities curve.

Source: The Paretian System. (The history of economic thought website, 2001)

If consumers' current use of outputs is not on the consumption contract curve, and therefore there is not the situation of Pareto optimum, Pareto improvements are possible (see Figure 1). According to Pareto allocation, A is more preferable than allocation G, only if A brings higher utility level than G does at least to one individual, not reducing the utility level of other individuals. Thus, moving from G to A, no one loses anything. Allocation A is determined as Pareto-superior to G, and G is Pareto-interferer to A.

Consequently, trade from G to A is a Pareto-improving movement. Notably that Pareto-improving movement for G is possible only within the triangle AGC and any other trades, for instance to E allocation, will not improve consumer's welfare (as explained bottom). Thus, allocation is Pareto-efficient if there is no Pareto-improving allocation to the latter. It's important to underline that if consumers' current use of outputs is on the consumption contract curve Pareto improvement are not possible because of the definition Pareto efficiency.

Optimality and equity

Optimality and equity are different attributes. Optimality is, in fact, a criterion of efficiency in resource allocation and it not refers to the equity. There are so many optimal allocations as there are initial distributions of factors among individuals. There may be a Pareto optimum balance of income distributions involving " unfair" in terms of equality.

The optimality can be observed along with unfair equilibrium. For instance a society contains of one rich man and one hundred the poor. If the utility of the rich increases and the poor's stands stable, the total welfare will increase as well in compliance with Pareto's criteria, that is, the situation will be efficient, even if all income might be distributed in favor of the individual.

Figure 2. The contract curve

If we look at the contract curve OO' (figure 2), where X is the initial position, the final solution must lie on the section AB, with A and B included. Since

that the optimal distribution of goods cannot be represented by L or M, because one is not interested in L, because from his point of view L is on a lower indifference curve than A initially represented by X, and the other is not interested in M, because from his point of view M lies on an indifference curve lower than initially represented by X. The most important observation from figure 2 is that the final point, the optimum, depends on the initial endowments and therefore the Pareto optimum is intended only in the allocative sense; it refers to the situation in which there is an efficient distribution of goods, given the initial endowments, and not to an equitable optimum (Zamagni, 1987) and in fact the initial allocation represented by point X provides a very unequal distribution of goods and the efficient allocation (points on the section AB), does not involve much more equitable outcome compared to the initial allocations. This allocation is therefore strongly influenced by initial endowments.

This is particularly important when problems of wealth, culture or social position are faced. Since the results reached by the individual are strongly influenced by their endowments, in some countries, like Italy, even the inheritance are heavily taxed. This action looks like an attempt to change the initial allocation, moving from a position as that defined by point X in Figure 2 to a position like that indicated by point Y, and then leave for the voluntary exchange between individuals to determine an outcome not only efficient but also more socially acceptable from the standpoint of fairness.

The last consideration allows introducing the two theorem of Welfare.

The first theorem, establishing the Pareto optimality in any competitive equilibrium, provides a normative justification of the market mechanism based on the idea of efficiency. The theorem takes the intuition of the invisible hand originally formulated by Adam Smith (1776): the idea is that the pursuit self-interest by each economic agent lead, through the work of an invisible hand, to achieve a result desirable for the society. Based on this insight, however, to achieve a desirable result for the society is not therefore necessary that the agents are good or altruistic: individual self-interest, guided by the mechanism of market prices, contribute to reach an efficient outcome.

The second theorem deals with a different theme. Consider the contract curve: every point on it is optimum in the sense of Pareto. However, differents optimum have very different implications in terms of distributive justice. Because of the first theorem, we know that the competitive market, starting from a given set of endowments, will lead the system to an efficient allocation. We assume that this allocation is not desirable for reasons of fairness and suppose that there is another optimum, among the possible ones, which appears to be desirable in terms of distribution. Is it necessary to abandon the market system and adopt a different mechanism for allocating resources in the name of equity? The second theorem answers this question, establishing that, in order to achieve the desired allocation, it will be enough to intervene on endowments through the appropriate redistribution – Taxes and subsidies in fixed sum – and then letting the market do the rest.

In other words, the second theorem shows that any efficient allocation, and then also the preferred allocation in terms of distribution, can be obtained through a decentralized market mechanism, so long as it is making a redistribution of endowments through taxes and subsidies in fixed amount (lump sum).

To sum up, the two theorems are crucial because provides a framework for the normative analysis of allocation mechanisms resources. However, their demonstration is based on highly unrealistic conditions. The first theorem assumes that markets are perfectly competitive and that there is no other market imperfection. In reality, markets are often characterized by insufficient competition or other imperfections (public goods, esternalities, asymmetric information): in all these cases, the market takes a inefficient allocation of resources. The second theorem assumes that the State is able to operate a redistribution of the resources through taxes in fixed sum. These taxes are fixed in amount commensurate to exogenous factors, that is out of control of individuals to which they are applied: for this reason, these instruments do not create distortions in the behavior of agents and do not violate the conditions of Pareto efficiency. In reality, the tools used by public sector have distorting effects and therefore generate efficiency losses.

As a result, any intervention aimed at achieving a desirable allocation in terms of equity will lead to costs in terms of efficiency. This is the trade-off between efficiency objectives and equity objectives.