"Summary of article by Peter Jackson: Welfare Economics"

Welfare economics, the normative branch of modern microeconomics, addresses the basic question: how should resources be allocated to maximize well-being? The search for comprehensive theoretical answers has been a difficult one, as this article makes clear in its review of modern developments in welfare economics. [Note: this summary omits the original article's discussion of Arrow's theorem, and of distributional questions, since they overlap with other articles summarized in this volume.]

TRADITIONAL WELFARE ECONOMICS

Welfare economics is usually said to have started, as a distinct branch of economics, with Arthur Pigou's The Economics of Welfare (1920). However, Adam Smith in the Wealth of Nations (1776) had already presented the core concept of welfare economics in his demonstration that the market offered a means to achieve the common good. In 1932, Lionel Robbins transformed welfare economics with his argument against interpersonal comparisons of utility. Subsequently, the "new welfare economics" attempted to separate value judgments from factual propositions, and minimized the use of interpersonal comparisons.

The principal results of this endeavor were formalized by Kenneth Arrow in two so-called "fundamental theorems of welfare economics." The first theorem states that a competitive equilibrium, if it exists, is a Pareto optimum. (Proof of the existence of a competitive equilibrium is a separate matter, requiring a set of strong assumptions such as atomized competition, price taking, incorporation of all relevant information into prices, and a process of price adjustments toward equilibrium.) The second welfare theorem is roughly the converse of the first. It states that any Pareto-optimal equilibrium can be achieved via competition, provided the appropriate lump sum taxes and transfers are imposed on individuals and firms.

Do these results make it possible to identify an economic or policy change that leads to welfare improvement, without making interpersonal comparisons of utility? Debate over "compensation tests", beginning in the 1930s, addressed this question. In 1939, Nicholas Kaldor and John Hicks argued that a change implies an improvement if those who gain from it could compensate the losers, potentially making everyone better off. In 1941, Tibor Scitovsky demonstrated the paradoxical result that both a change and its reversal could simultaneously be potential improvements. He suggested that an event was only a welfare gain if it was a potential improvement in the Kaldor/Hicks sense, and its reversal was not. Debate has continued, and no clear set of rules has been established to judge the desirability of economic changes.

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One might hope that a comprehensive social evaluation of outcomes could be established, reflecting society's preferences. Along these lines, in 1938 Abram Bergson proposed the use of a social welfare function -- a function that converts the individual utilities of all members of society into a single numerical ranking. Although the notion of a social welfare has been used at times in applied studies, it was demonstrated to be a dead end in theory by Arrow's "possibility theorem," often referred to as the third fundamental theorem of welfare economics. In 1951, in his Social Choice and Individual Values, Arrow proved that under just a few innocuous-sounding assumptions, there is no logically consistent, non-dictatorial social welfare function that ranks all social outcomes. [See the summary of Hammond's article in this section for elaboration.]

FIRST- AND SECOND-BEST WELFARE ANALYSIS

In the ideal (called, by awkward analogy, "first-best") world of economic theory, all markets are either perfectly competitive or can be made perfectly competitive with suitable government intervention. Under these circumstances, efficiency and distributional issues are logically separate, and policies that address the two areas can be pursued independently of each other.

If some market imperfections cannot be overcome, or the theoretically ideal taxes and transfers are not feasible, then the entire analysis changes. The "first-best" outcomes developed by economic theory are no longer attainable, and analysis of second-best alternatives is necessary. The principal result of such analysis is that under second-best conditions, pursuit of Pareto-optimal outcomes is not necessarily desirable. Other, non-Pareto-optimal economic states could achieve the maximum welfare attainable under the existing constraints. Such conditions as externalities and increasing returns to scale (in technical terms, significant non-convexities), justify public intervention to restore Pareto efficiency. However, the government still faces the problems of how to aggregate individual preferences and design policies in a second-best world.

IMPERFECT INFORMATION AND INCOMPLETE MARKETS

The mathematical analysis of competitive equilibrium requires perfect information and complete markets. Since these conditions are rarely satisfied, it is difficult to demonstrate that any actual situation is a Pareto optimum. For this reason, a weaker criterion has been proposed, known as "constrained Pareto efficiency." When markets are incomplete, a competitive equilibrium is constrained Pareto-efficient if there is no other competitive equilibrium, based on the same resource endowments, which Pareto-dominates it.

Can the fundamental welfare theorems be rescued in an imperfect world, on the basis of constrained Pareto optimality? If insurance markets functioned perfectly, or if all economic agents acted as described by rational expectations theory, many of the problems could be overcome; but these assumptions have generated controversies of their own.

Incomplete markets may arise because (1) it is costly to organize a complete set of contingent markets; (2) adverse selection, or hidden information, inhibits market transactions because buyers cannot confirm quality at the time of purchase (used cars may be "lemons"); and (3)

moral hazard, that is the ability of agents to affect outcomes through actions that are unobservable to others (to cheat without being caught), leads to socially inefficient increases in costs.

POTENTIAL COMPETITION AND CONTESTABILITY

The basic welfare theorems are not designed to deal with market imperfections; yet most industries are not perfectly competitive. One potential resolution of this problem lies in the concept of "potential competition." Several authors have argued that what matters is not actual competition, but rather potential competition that ensures Pareto efficiency by driving profits to zero. The fear of potential entrants into contestable markets could conceivably force even a monopolist to set prices at the Pareto efficient level.

However, in the presence of increasing returns, potential competition can be Pareto inefficient. Established producers could respond strategically to potential competitors by overexpanding capacity; the resulting level of welfare could be lower than if there had been no threat of competition, and no excess investment. Potential competition could drive profits to zero, but still result in monopoly prices being charged to consumers; the former profits are used up in excessive investment to deter competitors. Theoretical analysis has shown that such perverse outcomes are possible even if the sunk costs, or fixed investments, in the industry are comparatively small.

CONCLUSION

Beyond the analytical questions addressed so far lie the even more difficult questions of equity and distribution. Once we are forced to leave the "first-best" ideal world of economic theory, the separation of equity and efficiency concerns can no longer be maintained. There are many rival approaches, including utilitarian, egalitarian, libertarian, and Marxian perspectives, with important differences within as well as between these camps [many of which are discussed elsewhere in this volume]. The issue of fairness has been raised, but not dealt with satisfactorily, in recent debates in welfare economics.

Welfare economics is again an active branch of economics. Establishing the criteria that are to be used to judge the performance of an economy which is characterized by incomplete markets and asymmetric information is at the forefront of current theoretical research. The debate about competing theories of distributive justice is incomplete and enables economists to join with the research agenda of social and political philosophers... Most of the exciting work remains to be done. (127-128)