

# The Pareto Rule and Welfare Economics

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It is [my] contention . . . that the wake for all welfare economics is premature, and that welfare economics can be reconstructed with the aid of the concept of demonstrated preference. This reconstruction, however, will have no resemblance to either of the "old" or "new" edifices that preceded it. In fact . . . our proposed resurrection of the patient may be considered by many as more unfortunate than his demise.<sup>1</sup>

When Murray N. Rothbard published his seminal article, "Toward a Reconstruction of Utility and Welfare Economics," these were bold words indeed, considering the disarray into which welfare economics had fallen by 1956.<sup>2</sup> The Old Welfare economics had crashed to the ground decades before when Lionel Robbins, building on the subjective-value foundation laid by Ludwig von Mises, demonstrated that its underpinning—interpersonal utility comparisons—was an impossibility.<sup>3</sup> Being subjective, utility has no cardinal index and, thus, no common cardinal units could possibly exist for the purpose of comparing the utility of different individuals. Since individual ordinal rankings of utility cannot be compared, the argument advanced by Pigouvian welfare theorists, that redistribution of wealth

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<sup>1</sup>Murray N. Rothbard, "Toward a Reconstruction of Utility and Welfare Economics," in Mary Sennholz, ed., *On Freedom and Free Enterprise: Essays in Honor of Ludwig von Mises* (Princeton, N.J.: D. Van Nostrand, 1956), p. 249.

<sup>2</sup>The importance of this article as a contribution to the Austrian literature can be seen in the assessment of Israel M. Kirzner, who said, "[I] can personally attest to the excitement engendered by the lucid manner in which this paper deployed Austrian insights to illuminate fundamental theoretical issues (concerning which contemporary economics was floundering), and by the characteristic erudition which Rothbard poured into that single essay." See Kirzner, "Welfare Economics: A Modern Austrian Perspective," in *Man, Economy, and Liberty: Essays in Honor of Murray N. Rothbard*, Walter Block and Llewellyn H. Rockwell, eds. (Auburn, Ala.: Ludwig von Mises Institute, 1988), p. 77.

<sup>3</sup>For the original contribution of Ludwig von Mises on the ordinal nature of utility, see Mises, *Theory of Money and Credit* (Indianapolis: Liberty Classics, [1912] 1980), pp. 51ff. For the blow delivered by Lionel Robbins to Old Welfare economics, see Robbins, *An Essay on the Nature and Significance of Economic Science*, 3rd ed. (New York: New York University Press, [1932] 1984), pp. 137–41.

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from the rich to the poor would increase social welfare because of diminishing marginal utility of money, fails. To the chagrin of advocates of Old Welfare redistributionist policies, economists conceded that the subjective nature of utility renders cardinal measurement, a necessary requisite of interpersonal utility comparisons, impossible.<sup>4</sup> Moreover, they admitted that advocates of such policies were not value-free economists but ethicists advancing their own, usually egalitarian, ethical biases.<sup>5</sup>

Paul Samuelson, a major architect of New Welfare economics, characterized the egalitarian desire typical of Old Welfare economists to equalize income as “a fetish or shibboleth, albeit a useful one, in that the means becomes the end, and the letter of the law takes precedence over the spirit.” According to him, egalitarianism fails because “it is easy to show that the rule of equality of income . . . applied to individuals of different tastes . . . is actually inconsistent with any determinate, definite [social welfare] function”; a statement more revealing of the importance he placed on his social-welfare construct than of the genuine deficiencies of egalitarianism.<sup>6</sup> He also rejected Old Welfare economics for making the “essentially unnecessary assumption” that the social welfare function to be maximized was “the sum of the cardinal utilities experienced by each individual.”<sup>7</sup>

Yet, Samuelson’s cavalier attitude toward the demise of cardinal utility and consequent acceptance of ordinal utility did not result in a simple and quick

<sup>4</sup>In addition to cardinal units for each individual’s utility, interpersonal utility comparisons require a *common* cardinal unit in which the utility units of different individuals could be expressed. Those familiar with Ludwig von Mises’s argument that socialism is impossible because of the inability of central planners to make economic calculations will recognize a parallel between that argument and the impossibility of interpersonal utility comparisons. The impossibility of economic calculation in socialism rests on the absence of a common, cardinal unit in which different types of factors of production can be reckoned. See Mises, *Human Action: A Treatise on Economics*, 3rd rev. ed. (Chicago: Henry Regnery, [1949] 1966), pp. 206–9.

<sup>5</sup>Pigouvian Welfare Theory is developed in Arthur C. Pigou, *The Economics of Welfare* (London: Macmillan, 1920). For a discussion of the necessity of having ethical judgments taken from disciplines outside economic theory as the foundation of Old Welfare economics, see Lionel Robbins, “Interpersonal Comparisons of Utility: A Comment,” *Economic Journal* 48 (December 1938): 635–41.

<sup>6</sup>Paul Samuelson, *Foundations of Economic Analysis* (Cambridge, Mass.: Harvard University Press, 1947), p. 225. He added analytic rigor to this line of argument in idem, “Social Indifference Curves,” *Quarterly Journal of Economics* 70, no. 1 (February 1956): 8–14. He had less sympathy with “the bourgeois penchant for laissez-faire,” which he claimed was “the only case on record where a substantial number of individuals have made idols of partial derivatives, i.e., imputed marginal productivities.” That Samuelson rejected “the belief that the individual should rightfully receive his imputed productivities,” because “[it] is not consistent with a [social welfare] function having properties” which he deems important reflects more on his own ethical biases than on a genuine ethical assessment of laissez faire. See, Samuelson, *Foundations*, p. 225. Oscar Lange, a New Welfare economist sympathetic to the egalitarian leanings of the Old Welfare school, demonstrated that the Pigouvian analysis can be recast in the New Welfare framework. See idem, “The Foundations of Welfare Economics,” *Econometrica* 10 (1942): 221–23.

<sup>7</sup>Samuelson, *Foundations*, p. 226.

solution to the problem of explaining the relationship between ordinal utility and the cardinal magnitudes in the social welfare function to be maximized. New Welfare economists struggled in vain for several decades to show how ordinal ranks relate to cardinal numbers and were useful for welfare analysis. One by one, they began to admit defeat and surrendered to the impossibility of interpersonal utility comparisons of ordinally-ranked utility.

Had they not been wedded to their mathematical formulations, perhaps they could have accepted the solution given by Mises. From his development of the concept of ordinal marginal utility in 1912 Mises went on to explain how *ordinal* utility can be the basis for socially-meaningful *cardinal* comparisons of value.<sup>8</sup> Money is a common denominator in which ordinal preferences can be expressed, by exchanges of private property for and against money, resulting in cardinal numbers, namely, money prices, which are in the same units, namely dollars, for all goods and factors traded on the market. The price for the existing stock of each consumer good reflects, but is not and cannot be equal to, the subjective value of its marginal unit, i.e., the unit with the least subjective value. The price for each factor is imputed to it by entrepreneurial demands to rent the factor, according to the objective value of the amount of the consumer good the factor produces at the margin, i.e., its marginal value product. This price will also reflect the subjective opportunity cost factor owners place on the marginal unit of the factor, including renting the factor into other production processes.<sup>9</sup>

As Mises showed, by transforming the ordinal preference ranks of different individuals, which are impossible to compare, into a quantity of common, cardinal units, the monetary, private property, market system provides the basis for economic calculation. Entrepreneurs use money prices to make calculations of profit and loss, and in so doing compare, in objective value, different factors of production against each other and one set of factors against others in producing each consumer good and each factor or set of factors in producing different consumer goods. That money prices, only possible in a monetary, private property, market system, provide a common cardinal unit in which different factors can be compared in social value is an essential part of Mises's economic calculation argument.<sup>10</sup> Moreover, entrepreneurial calculations of profit allow for cardinal comparisons of the social value of the consumer good produced (the total revenue generated by consumer purchases) with the social value of factors used (the total cost generated by entrepreneurial purchases). Any time an

<sup>8</sup> On ordinal marginal utility, see Mises, *Theory of Money and Credit*, pp. 59–61. His discussion of the relationship between ordinal utility and cardinal value is in *Economic Calculation in the Socialist Commonwealth* (Auburn, Ala.: Ludwig von Mises Institute, [1920] 1990), pp. 11–13, 23, and 48–49.

<sup>9</sup> On the pricing process, see Mises, *Human Action*, pp. 327–50.

<sup>10</sup> *Ibid.*, pp. 206–9.

entrepreneur earns profit, social wealth increases; any time he suffers a loss, social wealth decreases. It is within this general economic framework that Professor Rothbard developed Austrian welfare economics.<sup>11</sup>

By showing that the voluntary exchanges of private property using money transform ordinal ranks into cardinal numbers reflective of those ranks, Mises solved the theoretical problem that welfare theorists, both Old and New, would attempt, within their neoclassical framework, to solve in vain.<sup>12</sup>

Old Welfare theorists, such as Alfred Marshall, approached this problem in a superficially similar, but entirely unsatisfactory, manner. His consumer-surplus approach implicitly assumes that the marginal utility of a good equals a sum of money.<sup>13</sup> Thus, cardinal utility enters by the back door, the common cardinal unit for utility being a dollar. Writing of a consumer purchase, Marshall says, "the economic measure of . . . the *satisfaction* which he gets from its purchase" is "the excess of the price which he would be willing to pay rather than go without the thing, over that which he actually does pay."<sup>14</sup> Defining producer surplus in an analogous way (the excess of the price he receives over that which he would be willing to accept rather than forego the sale) allows one to add the money sums of consumer and producer surpluses, treating the aggregate, total surplus, as a measure of total utility. The total utility from the production and exchange of different goods can then be compared and policy directed toward the maximization of total surplus.

In addition to assuming cardinal utility this analysis makes the illegitimate assumption that the marginal utility of a dollar to everyone is the same since each dollar added into total surplus counts as one. It would seem, however, that if these objectionable features could be expunged, the analysis could be saved.<sup>15</sup>

Such a purification provides the theoretical justification for cost-benefit analysis. There is no need to assume anything about cardinal utility, proponents of this

<sup>11</sup>The connection between Misesian general economics and Rothbardian welfare economics will be explored below.

<sup>12</sup>This is an excellent illustration of the inferiority of a mathematical method *vis-à-vis* a verbal method in economic reasoning. Mathematics is inherently incapable of solving this basic economic problem which is easily handled using literary means. On mathematics and pricing, see Mises, *Human Action*, pp. 350–57, 701–3, 710–15.

<sup>13</sup>Marshall's discussion of consumer surplus is in *Principles of Economics* (New York: Macmillan, [1890] 1948), pp. 92–101, 124–37, and 831–32.

<sup>14</sup>*Ibid.*, p. 124. Emphasis added.

<sup>15</sup>J.R. Hicks attempted to expunge cardinal utility from the surplus approach in a manner consistent with the New Welfare economics. See Hicks, "The Rehabilitation of Consumers' Surplus," *Review of Economic Studies* 8, no. 2 (1941): 108–16; *idem*, "Consumers' Surplus and Index Numbers," *Review of Economic Studies* 9, no. 2 (1942): 126–37; *idem*, "The Four Consumers' Surpluses," *Review of Economic Studies* 11, no. 1 (1943): 31–41; *idem*, and "The Generalized Theory of Consumers' Surplus," *Review of Economic Studies* 13, no. 2 (1945–46): 68–74.

approach argue, if government officials can use the market in the same way that entrepreneurs do—as the basis for calculation of profit. When contemplating a government intervention, they can use existing market prices to project anticipated benefits and costs in sums of money. If the project renders net benefits then intervene, if not, social wealth would be greater without the intervention.

Cost-benefit analysis does not fail as a social-welfare technique for lack of a method for assessing the subject value of individuals in cardinal terms. It circumvents that problem by relying on the same market procedure that entrepreneurs do. Its fundamental error is in equating the *appraisal* that can be performed only by entrepreneurs in economic calculation with the superficially similar “paper” calculations made by government officials. Genuine appraisal of social values requires entrepreneurs to put their own wealth at risk in the process of production and exchange. Without this, there is no connection between existing market prices and the expectations of future prices upon which profit and loss will hinge. Government officials can only “play” market and, thus, cannot make genuine appraisals.<sup>16</sup>

Mises made this point in rebutting economists, in particular those following the approach of Enrico Barone, Oscar Lange, and Abba Lerner, who used the neoclassical apparatus of general equilibrium in attempted refutations of his economic calculation argument against socialism.<sup>17</sup> Barone and Lerner are cited as important forerunners of the New Welfare economics by its major architects, Abram Bergson and Paul Samuelson. Bergson’s seminal article is dedicated to presenting “the value judgments required for the derivation of the conditions of maximum

<sup>16</sup>On this point, see Mises, *Human Action*, pp. 705–10. Moreover, both bureaucratic cost-benefit calculations and entrepreneurial appraisals require formulating expectations of the future. Bureaucratic expectations are categorically different than entrepreneurial ones because government officials do not place their own wealth at risk on the accuracy of their forecasts. And for those government projects for which there will be no future market, bureaucrats have less basis than entrepreneurs for formulating any type of expectations. On the differences between bureaucratic and entrepreneurial management, see Ludwig von Mises, *Bureaucracy* (Cedar Falls, Iowa.: Center for Futures Education, [1944] 1983).

<sup>17</sup>What came to be called the Lange–Lerner rule states that central planners can maximize social welfare by solving the perfectly-competitive, general-equilibrium equations to obtain “shadow” prices of all inputs and outputs, then make this list of prices known to the relevant consumers and producers, and finally instruct them to behave as if they were maximizing utility and profit in a perfectly-competitive economy. Enrico Barone, “The Ministry of Production in the Collectivist State,” in *Collectivist Economic Planning*, F.A. Hayek, ed. (Clifton, N.J.: Augustus M. Kelley, [1935] 1975), pp. 245–90; this article was first published in Italian in 1908. Oscar Lange, “Mr. Lerner’s Note on Socialist Economics,” *Review of Economic Studies* 4 (October 1936): 143–44; and idem, “The Foundations of Welfare Economics,” *Econometrica* (1942): 215–28. Abba Lerner, “Economic Theory and Socialist Economy,” *Review of Economic Studies* 2 (October 1934): 51–61; and idem, “Theory and Practice in Socialist Economies,” *Review of Economic Studies* 6, no. 1 (1938): 71–75. In refuting this approach, Mises specifically identifies Barone as failing to “penetrate to the core of the problem,” *Human Action*, p. 701.

economic welfare which have been advanced in the studies of . . . Pareto and Barone, and Mr. Lerner."<sup>18</sup> Samuelson calls Barone's article on optimizing social welfare "masterly," claiming that "it is a tribute to this work that a third of a century after it was written there is no better statement of the problem in the English language." Of Lerner, Samuelson says, "[He] developed the Paretian conditions which show that the marginal equivalences realized by perfect competition lead to an optimum of production and exchange."<sup>19</sup> Since the New Welfare economics emerged from the debate about economic calculation, it is not surprising to find Mises's arguments demonstrating the impossibility of economic calculation in socialism useful also in rebutting the New Welfare economics; nor is it surprising to find proponents of the New Welfare economics dedicated to demonstrating that the free market fails to maximize social welfare.<sup>20</sup>

It was left to Rothbard to reconstruct welfare economics upon Mises's foundation or, rather, within Misesian general economic theory. The crucial concept in that reconstruction is demonstrated preference, that, as he says, "a man's preferences . . . are deducible from what he has chosen in action."<sup>21</sup> That demonstrated preference is the operative concept in value-free, welfare economics is implied by the subjective nature of value. Because the value a person places on alternative ends is an intensive mental state, another person can say nothing about it unless it is revealed in action.<sup>22</sup> Moreover, modern price theories, both Austrian and neoclassical, presuppose demonstrated preference. In both

<sup>18</sup>Abram (Burk) Bergson, "A Reformulation of Certain Aspects of Welfare Economics," *Quarterly Journal of Economics* 70, no. 2 (February 1938): 310.

<sup>19</sup>Samuelson, *Foundations*, pp. 214–17.

<sup>20</sup>What is surprising is Samuelson's befuddlement that "Barone satisfies himself with deriving optimal *production* conditions" without bothering to extend his analysis to consumption conditions. He claims that this "oversight resulted from his wish to avoid the use of indifference curves and utility." Samuelson, *Foundations*, p. 217, emphasis in original. The absence of consumption optima, however, is no oversight at all for managing a *collectivist* regime of production. As Mises argued, socialism solves the problem of determining what consumer goods to produce by having the central planners use their own preferences. Mises, "Economic Calculation," pp. 23–24. Since Barone developed his framework of welfare theory to explain how to manage production in a collectivist state, it is not at all surprising that consumption optima were absent from his set of optimum conditions.

<sup>21</sup>Rothbard, "Toward a Reconstruction," p. 225. On the early development of the concept of demonstrated preference by Mises, see *Theory of Money and Credit*, p. 60; and *idem*, *Human Action*, pp. 94–96.

<sup>22</sup>To remain value-free economists, i.e., to abstain from injecting into economic theory ethical propositions, adherents of cardinal utility among the Old and New Welfare economists had to agree with the ordinalists that actions are necessary to demonstrate utility, e.g., consumer surplus is a monetary calculation of utility using a demand curve, which is the result of the actions of buyers in the market. Those cardinal-utility advocates who did not develop value-free theories were not bound by the demonstrated-preference principle, e.g., the Pigouvian prescription, driven by egalitarian ethical notions, of increasing social welfare by equalizing monetary incomes is founded on the undemonstrable principle that each person has a capacity for utility satisfaction identical to that of every other person.

theories, price is determined by the actions of buying and selling that are prompted by subjective evaluations. The imaginary constructs of consumer surplus (from Old Welfare economics) and general equilibrium (from New Welfare economics) are built from the assumption of demonstrated preference. Thus, when adherents of Old or New Welfare economics discuss improving or maximizing social welfare, they are not referring to more general concepts of social "well-being." To be value-free, this is a necessary restriction on welfare economics. It is no defect of Austrian Welfare economics that it fails to encompass a broader concept of social "well-being." Value-free economic theory cannot do so.<sup>23</sup>

Acceptance of the subjective nature of value required economists to reject cardinal utility in favor of ordinal utility. The inability to make cardinal comparisons of the gain in utility to some with the loss in utility to others from a social interaction, in turn, forced them to "reintroduce Pareto's Unanimity Rule into economics, and establish it as the iron gate where welfare economics must test its credentials," as Rothbard puts it.<sup>24</sup> To increase social welfare, according to the Rule, a social interaction must benefit at least one person while harming no one. If so, the post-interaction state is called Pareto Superior to the pre-interaction state. Pareto Optimality exists when all Pareto-Superior changes have been exhausted.<sup>25</sup> Forced to accept the Pareto Rule and demonstrated preference, it would seem that economists could make pronouncements about the social welfare of voluntary exchanges, which necessarily demonstrably benefit each participant while doing no demonstrable harm to non-participants, but not involuntary exchanges (such as government intervention), which necessarily benefit some and harm others. Only a social system of unanimous consent can generate the greatest benefit for society; the free market is the "economic" component of such a social system.<sup>26</sup>

Non-socialist advocates of the New Welfare economics, far from being predisposed to provide a welfare justification for the free market, were anxious

<sup>23</sup>On this limitation of welfare theory, see David Gordon, "Toward a Deconstruction of Utility and Welfare Economics," *Review of Austrian Economics* 6, no. 2 (1993): 103–4. Gordon makes this point in response to a criticism of Professor Rothbard's welfare theory made by Roy Cordato, who argues that, "demonstrated preference . . . does not allow for any consideration of harm that is not demonstrated," which rules out "the welfare effects of envy, trauma, etc." Thus, voluntary exchanges "may have negative psychic effects on others," which negates the claim that such activity renders an "unambiguous increase in 'social utility.'" Cordato, *Welfare Economics and Externalities in an Open Ended Universe* (Boston: Kluwer Academic Publishers, 1992), pp. 42–43.

<sup>24</sup>Rothbard, "Toward a Reconstruction," p. 244.

<sup>25</sup>Vilfredo Pareto, *Manual of Political Economy* (New York: Augustus M. Kelley, [1927] 1971).

<sup>26</sup>Given the strictures of value-free economics, consent can only be inferred from voluntarily-undertaken actions by which preferences are demonstrated.

to demonstrate the welfare superiority of interventionism.<sup>27</sup> Thus, they set themselves to circumventing this stricture of the Pareto Rule. Two approaches were attempted: trivialize the Rule by subsuming it into a general equilibrium framework and transcend the Rule with the compensation principle. The first attempt led to the development of the social welfare function and the concept of market failure, the second to the concept of potential compensation and political rules for defining consent.

Bergson pioneered the social welfare function approach.<sup>28</sup> This technique trivializes the Pareto Rule by making it the criterion of attaining the set of optimal conditions for maximizing the social welfare function. The social welfare function approach uses the Pareto Optimality interpretation of the Pareto Rule, demonstrating that the Rule merely describes the static, end-state condition necessary, but not sufficient, for maximum welfare. As such it provides no barrier at all to advocacy of government intervention to increase social welfare by redistributing income and correcting for market failure.

There are three optimum conditions derived using the Pareto Rule in this way.<sup>29</sup> The Exchange Optimum requires every individual to consume so that the Marginal Rate of Substitution (MRS) for each pair of goods, which is equal to the ratio of the goods' marginal utilities, be equal. If violated, then goods can be exchanged between individuals moving at least one to a higher indifference curve without moving anyone else to a lower indifference curve. The Factor Use Optimum requires each good to be produced so that the Marginal Rate of Technical Substitution (MRTS) for each pair of factors, which is equal to the ratio of the factors' marginal products, be equal. If not, factors could be rearranged to produce more of at least one good without reducing the production of any other good. The Production Optimum requires each good to be produced so that the Marginal Rate of Transformation (MRT) between each pair of goods be equal to the corresponding MRS. If unequal, production of the high-cost good could be reduced and that of the low-cost good increased; thereby moving at least one person to a higher indifference curve without moving any other to a lower indifference curve.

<sup>27</sup>The socialist proponents of the technique used by New Welfare economists were anxious to show by mathematical proof that central planning could operate a division of labor as efficiently as the market by solving the system of perfectly-competitive, general-equilibrium equations. For Mises's criticism of their attempts, see *Human Action*, pp. 701–3.

<sup>28</sup>Bergson, "A Reformulation of Certain Aspects of Welfare Economics": 310–34.

<sup>29</sup>Bergson's list of optimum conditions differs from the one presented here. For our purposes, the differences between this list, as developed and synthesized by later authors, and Bergson's is inconsequential. For a presentation of how the perfectly-competitive market achieves the optimum conditions, see Francis Bator, "The Simple Analytics of Welfare Maximization," *American Economic Review* 47, no. 1 (March 1957): 22–59.

Achieving the Production Optimum ensures production along society's Production Possibilities Frontier (PPF), where any increase in production of one good necessarily reduces the production of another good. There are an infinite number of production combinations along the PPF. For each point on the PPF, the goods produced can be divided among individuals in an infinite variety of ways, each of which is Pareto optimal, i.e., no one can increase his utility without reducing the utility of someone else. Only one such consumption combination, however, has a MRS in consumption equal to the MRT in production. Thus, each of the infinite number of Pareto optimal production combinations along the PPF renders one Pareto optimal consumption combination. A Utility Possibility Frontier (UPF) can then be constructed showing the utility each individual acquires from each Pareto optimal consumption combination: along the UPF, any change in production or consumption that increases one person's utility must decrease another person's utility. To select the social-welfare maximum combination, a social welfare function having all the properties of an individual's utility function, e.g., smooth, continuous, convex indifference curves, is constructed. The socially-optimal point on the UPF is the one corresponding to the highest social-welfare indifference curve.

It would seem that a social welfare function, so constructed, must of necessity compare the utility of one person with that of another, which is precisely what the stricture laid down by the impossibility of interpersonal comparisons of utility prohibits. If so, the efforts of New Welfare economists to provide a complete, value-free, social welfare theory were in vain. Its proponents struggled mightily to avoid this conclusion. Samuelson made the most notable attempt by formulating a version of New Welfare economics based on his own interpretation of ordinal utility in which he followed Bergson.<sup>30</sup> But the lack of a cardinal index for utility by which interpersonal utility comparisons could be made, which he treats in a cavalier fashion in criticizing the Old Welfare economics, brought up short his attempts.

Samuelson postulates a social welfare function dependent upon the welfare each individual obtains from the amounts of all goods and services he receives. He then asserts that such a social welfare function is "only ordinally determinable" but can be subject to all mathematical operations (e.g., aggregation of individual utilities and differentiation) by assigning arbitrary cardinal numbers to each ordinal rank.<sup>31</sup>

<sup>30</sup>Samuelson calls Bergson "the first who understands the contributions of all previous contributors, and . . . the first to develop explicitly the notion of an *ordinal* social welfare function in terms of which all the various schools of thought can be interpreted" and claims that "there is only one all-inclusive welfare economics, which reaches its most complete formulation in the writings of Bergson." Samuelson, *Foundations*, pp. 219 and 249. Emphasis added.

<sup>31</sup>*Ibid.*, pp. 228–29.

The construction of Samuelson's social welfare function is illegitimate. To be an ordinal function consisting of ordinal utility ranks of individuals, the social welfare function must make interpersonal comparisons of utility in every case where one person's utility rank increases while another's decreases. Its existence presupposes interpersonal comparisons of utility. This problem is not circumvented by asserting that the social welfare function has a reduced form that depends only on the amount of each good going to each individual. Then the social welfare function must either compare the utility of different individuals for different distributions of income or it must ignore the utility of individuals and impose upon them the preferences of a dictator.<sup>32</sup>

Moreover, Samuelson's construction of the social welfare function on the analogy of the standard treatment of individual utility as an indifference map fails on the crucial point. He is in error when he claims that the problem of interpersonal utility comparisons can be circumvented by a social welfare function that "need only be ordinally defined" and then having done so assign to each social indifference curve an arbitrary cardinal number.<sup>33</sup> The possibility of circumventing the problem of interpersonal utility comparisons in the construction of an individual's utility map by building with ordinal ranks alone and then assigning cardinal numbers to each indifference curve exists only because the items being subjectively evaluated by the individual are goods (the dimensions of the graph are the amounts of the different goods). The individual must be able to compare his own utility for different combinations of goods. But the social welfare function must be able to compare the utility of different individuals (the dimensions of the graph are the utilities of different individuals) in order to construct the social indifference curves. To construct social indifference curves, one must presuppose cardinal utility and infinitesimal units of cardinal utility.

Additionally, whether individual or social, indifference curves either imply cardinal utility or forbid utility functions. Drawing a set of indifference curves with cardinal numbers assigned to them is mathematically equivalent to having a differentiable utility function. But any function that can be differentiated must be defined cardinally. One cannot differentiate a function of ordinal rankings. Thus, drawing a set of indifference curves without assigning cardinal numbers to them forbids a corresponding utility function. It is precisely the absence of such cardinal numbers that gives indifference curve analysis the appearance of being consistent with ordinal utility. That Samuelson knows this point full well is revealed by his attempt to claim the efficacy of arbitrary assignment of cardinal

<sup>32</sup>The latter possibility is examined in Samuelson, "Social Indifference Curves": 14–18.

<sup>33</sup>Samuelson, *Foundations*, p. 221.

numbers instead of stating that cardinal numbers are simply not necessary for his theory. It does no good to claim to replace cardinal marginal utility with ordinal marginal rates of substitution if the analytic device to do so, i.e., the utility function, mathematically implies the equivalence of the marginal rate of substitution of one good for another with the ratio of their marginal utilities. Yet, this is precisely what any utility function, individual or social, does. In the hands of its practitioners, indifference curve analysis is not a means of expunging cardinal utility from economic theory; it is a way of disguising its use.

The comment of Joseph Schumpeter on the measurability of utility, that "there is in fact no compelling necessity of insisting upon measurability so long as we are interested only in a maximum problem: there are means of telling whether or not we are on the top of a hill without measuring the elevation of the place where we stand," illustrates the fundamental misunderstanding of the problem posed to the social welfare function by ordinal utility.<sup>34</sup> If utility is ordinal, there is no hill; to construct the hill one must assume cardinal utility and a social welfare function that is continuous and differentiable. What would a "hill" of ordinal ranks look like? The reason the assertion works for a real hill is that it is continuous and differentiable; therefore it is possible to assign cardinal numbers, which one could plausibly maintain are arbitrary since there is no absolute unit of altitude, to the various elevations on the hill. While one could construct a "stair-step" from ordinal ranks of an individual from which one could plausibly find a maximum position, i.e., a highest rank, to do so for a social welfare function presupposes interpersonal utility comparisons.

Samuelson clearly understood that an ordinal social welfare function was useless within his mathematical framework since without cardinal numbers it could not be maximized in the standard calculus manner. Furthermore, he implied that his method of specifying arbitrary cardinal numbers to the social-welfare indifference curves both avoids assuming cardinal utility and renders a useful social welfare function. This claim, however, is patently false. Any set of indifference curves, either for individuals or society, with cardinal numbers arbitrarily assigned to them, implies cardinal utility. As they emanate from the origin of the diagram, the numbers must increase in magnitude to reflect the fact the curves farther from the origin are preferred to those closer to it because, by assumption, more goods are preferred to less. But the very assignment of cardinal numbers means that the differences in ordinal rank between combinations of goods are cardinally measurable. For example, if an individual's indifference curve with 2 units of X and 3 units of Y is assigned the number 12 and his indifference curve

<sup>34</sup> Joseph Schumpeter, *History of Economic Analysis* (New York: Oxford University Press, 1954), p. 1062.

with 2 units of X and 4 units of Y has the number 15, the difference in rank is 3. The extra utility of having the fourth unit of Y is 3, i.e., its marginal utility is cardinal.

Thus, despite his thinly-veiled hostility toward "Robbins's dicta concerning the inadmissibility of welfare economics," his solution is a mathematically-dressed up version of the one posed by Robbins himself.<sup>35</sup> Although Robbins denied that cardinal numbers are thereby implied, he did assert that one can assess the differences in ordinal rankings, a condition which is "accepted doctrine" as a requisite for measurement of the preference rank. As Rothbard makes clear, the preference rank can only be revealed in action; "only pure rankings are revealed by acts of choice" while "differences in rank are not so revealed and are therefore . . . irrelevant to economics."<sup>36</sup>

Furthermore, if differences in rank cannot be demonstrated in action, neither can "indifference." Instead, both indifference and intensity of preference are psychological concepts and, thus, using them in utility analysis is impermissible.<sup>37</sup> While this argument is widely accepted for "differences in rank," it is widely rejected for indifference. Yet, if preference can only be demonstrated in action, economic theory can say nothing about either differences in rank or indifference.<sup>38</sup>

Finally, to construct indifference curves one must presuppose infinitesimal units: for individual indifference curves, units of the goods; for social indifference curves, units of the utility of individuals. Yet, human action cannot be predicated upon infinitesimal differences. Such differences are imperceptible so a person could not establish a preference between the imperceptibly-different options; thus, he could not demonstrate a preference by action on the basis of the imperceptible difference.<sup>39</sup> Demonstrated preference precludes the existence of smooth, continuous utility functions and the use of calculus in utility and welfare economics.

It was not these criticisms, made by Rothbard, that convinced New Welfare economists to surrender their attempts, but the demonstration by Kenneth Arrow that, given reasonable preconditions, it is impossible to construct a

<sup>35</sup>Samuelson, *Foundations*, p. 249. Contra Samuelson, Robbins did not think that the impossibility of interpersonal comparisons of ordinal utility ranks prohibited welfare economics. He argued that it prohibited the Old Welfare economics based on the assumption of cardinal utility. This was the major theme offered in Robbins, "Interpersonal Comparisons of Utility."

<sup>36</sup>Robbins's discussion is in Robbins, "Robertson on Utility and Scope," *Economica* (May 1953): 104. Professor Rothbard's comment is in idem, "Toward a Reconstruction," p. 235.

<sup>37</sup>It makes utility and welfare theory branches of psychology instead of strictly praxeological disciplines.

<sup>38</sup>On indifference, see Rothbard, "Toward a Reconstruction," pp. 236-38.

<sup>39</sup>*Ibid.*

consistent social welfare function.<sup>40</sup> This demonstration destroyed the previous work of Tibor Scitovszky in constructing social indifference curves by proving that they intersect, i.e., they have intransitive preferences.<sup>41</sup> In his response, Samuelson failed to grasp the destructive power of Arrow's theorem. Samuelson used the analogy of family welfare to explain how the social welfare function evaluates the utility of different individuals in a consistent way.<sup>42</sup> Assuming that society consists of at least two members, each one has utility dependent on the consumption of his own set of goods which is independent of the consumption of other members. The "ethical worth" of each person's consumption is accounted for by a social welfare function that constrains society to act "as if it were maximizing their [sic] welfare function." The constraint is the distribution of social income across all members which must be distributed by "lump-sum transfers . . . that ensure ending up with equal social marginal utilities."<sup>43</sup>

While these conditions do result in a consistent social welfare function, they still fail to circumvent Arrow's theorem. Arrow did not contend that it was impossible to construct a consistent social welfare function, but that if it was consistent it would violate at least one of his "reasonable" preconditions, as Samuelson's function did. Samuelson's exercise was in vain.<sup>44</sup> Social welfare theory of the New Welfare economics, therefore, lay in ruin by the mid-1950s.<sup>45</sup>

The market-failure approach has had a much longer and more pernicious life. It takes note of the fact that actual market systems never achieve perfectly-competitive, general equilibrium; and thus, they are never Pareto Optimal, let alone at the bliss point of social-welfare maximization. Thus, various types and degrees of government intervention can be justified as movements toward Pareto Optimality, i.e., increases in social welfare.

<sup>40</sup> Kenneth Arrow, *Social Choice and Individual Values*, 2nd ed. (New York: John Wiley and Sons, [1951] 1963).

<sup>41</sup> Tibor Scitovszky, "A Note on Welfare Propositions in Economics," *Review of Economic Studies* 9 (1941): 77-88.

<sup>42</sup> Samuelson's thinly-veiled contempt for Arrow's work is illustrated in his comment about how "conventional theory" can be saved on the analogy of "family consensus." He says, "Perhaps Arrow will produce a proof that such a consensus is impossible." Samuelson, "Social Indifference Curves": 9.

<sup>43</sup> *Ibid.*: 10 and 13. The condition of "equal social marginal utilities" cannot be met by a social welfare function of ordinal ranks; only if cardinal numbers are attached to the social indifference curves is such a condition definable, let alone achievable. But assigning cardinal numbers implies cardinal utility whose marginal social values can be made equal. Ordinal ranks cannot make the "social (ordinal) utility of every person's last dollar equal," as Samuelson claims. *Ibid.*: 15.

<sup>44</sup> Arrow, *Social Choice*, pp. 96-103.

<sup>45</sup> On the concession of defeat, see Abram Bergson, "On the Concept of Social Welfare," *Quarterly Journal of Economics* (May 1954): 249; and Paul Samuelson, "Welfare Economics: Comment," in *A Survey of Contemporary Economics*, B.F. Haley, ed., vol. 2 (Homewood, Ill.: Irwin, 1952), p. 37.

Given certain preconditions, a perfectly-competitive market system can be shown to achieve a point on the Utility Possibilities Frontier, i.e., it satisfies all three Pareto Optimality conditions. If consumers maximize utility, they will purchase each pair of goods so that its MRS is equal to its corresponding ratio of prices. Under perfect competition, prices for all goods, and therefore price ratios for all pairs of goods, are the same for all consumers. By equating his MRS to the common price ratio, each consumer (unwittingly) equates his MRS to that of every other consumer, satisfying the Pareto Optimal condition for consumption. If producers maximize profit, they will hire factors so that the MRTS between any two equals the corresponding price ratio between them. Perfect competition ensures that all producers face the same prices for all factors; thus, their maximizing behavior leads to the satisfaction of the Pareto Optimal condition for factor use. The Pareto Optimal production condition requires the MRT for each good to equal its MRS. Since, for each pair of goods the MRT is identical to the ratio of its marginal costs, perfect competition satisfies this condition because profit maximization occurs only when the price of each good equals its marginal cost.

Within this framework, the theory of market failure proceeds from the observation that real world market systems neither satisfy the preconditions for nor exhibit the outcomes of perfect competition. Consumers and producers pursue non-economic goals instead of maximizing utility and profit. Prices diverge from marginal costs because of "monopoly" elements. Real markets do not always equate the prices paid by different consumers for the same good. Costs born by private producers may not include all those born by society at large because of externalities.<sup>46</sup>

This approach turns the Pareto Rule on its head; instead of being a barrier to intervention, it guarantees high levels of government activity. Real world markets cannot be perfectly competitive; a perfectly-competitive situation assumes conditions that cannot be achieved in the real world.<sup>47</sup> Demand curves in the real world always slope downward to the right, ensuring, within the neoclassical framework, that prices will always exceed their corresponding marginal costs. Thus, government can be kept busy intervening with anti-trust laws to make actual markets more like perfectly-competitive ones, regulation to force actual firms to act like perfectly-competitive ones, and taxes and subsidies to equate actual private costs to social costs.

<sup>46</sup>On the theory of market failure, see Francis Bator, "The Anatomy of Market Failure," *Quarterly Journal of Economics* 72 (1958): 351-79.

<sup>47</sup>Not the least of these assumptions is perfect information. After listing the standard set of assumptions, F. A. Hayek comments on the meaning of perfect information. "I shall here," he says, "not go into the familiar paradox of the paralyzing effect really perfect knowledge and foresight would have on all action." See Hayek, "The Meaning of Competition," in *Individualism and Economic Order* (Chicago: University of Chicago Press, 1948), p. 95.

These problems of market failure are chimeras—illusions created by the artificial construct of perfectly-competitive, general equilibrium.<sup>48</sup> They pose no difficulty for Rothbard's welfare theory because it is not constructed within such a framework. As he puts it, "the theorem of maximum social utility applies not to any type of 'perfect' or 'pure' competition, or even to 'competition' as against 'monopoly.' It applies simply to any voluntary exchange."<sup>49</sup> Moreover, general equilibrium is inconsistent with the principle of demonstrated preference upon which both the New Welfare and Austrian Welfare economics are built. Preference can only be demonstrated in actions taken by participants in actual exchanges given actual situations. Pareto Optimality or Efficiency as developed within the general-equilibrium framework fails to describe actual situations or allow for actual exchanges; in fact, action itself is inconsistent with general equilibrium. New Welfare economics utterly fails to provide a useful criterion of even the necessary condition of social welfare maximization.

Moreover, the use of a general-equilibrium method to define Pareto Optimality makes this technique unable to provide a framework for *price determination*, but the conditions of Pareto Optimality are defined in terms of perfectly-competitive, general-equilibrium prices. Demand and supply curves are actions based upon, and demonstrations of, people's ordinal preferences, *given the existing conditions under which the actions are taken*. Since the conditions of actions in general equilibrium cannot exist in the real world, the prices of general equilibrium cannot exist either. Yet, the definition of efficiency, e.g., price must equal marginal cost (or the conditions of Pareto Optimality, e.g., price ratios must equal marginal cost ratios) are defined by these prices, i.e., in terms of the conditions of general equilibrium.

The existence of general equilibrium prices is inconsistent with the principle of demonstrated preference upon which any theory of price determination rests. It is impossible for a person to be in a situation of acting as described by general equilibrium; therefore, he cannot demonstrate a preference under such conditions, since preferences can only be demonstrated in actual situations and postulated about in conceptually-possible situations. Even if one accepts the existence of such prices, the market failures developed in this framework are fictitious since they compare two general-equilibrium states, both impossible to attain in the real world. When asserting market failure, New Welfare economists are not comparing an ideal-

<sup>48</sup>F.A. Hayek says, "It is difficult to defend economists against the charge that for some 40 to 50 years they have been discussing competition on assumptions that, if they were true of the real world, would make it wholly uninteresting and useless." See Hayek, "Competition as a Discovery Procedure," in *New Studies in Philosophy, Politics, Economics and the History of Ideas* (Chicago: University of Chicago Press, 1978), p. 179. Emphasis in original.

<sup>49</sup>Rothbard, "Toward a Reconstruction," p. 255.

ized, perfectly-competitive, general-equilibrium market system with an actual market system, they are comparing an idealized, perfectly-competitive, general-equilibrium market system with an idealized, imperfectly-competitive, general-equilibrium market system. That the latter is inferior to the former is wholly irrelevant to any actual market system and, thus, to genuine welfare theory.

In contrast, Austrian price theory has as its goal the explanation of actual market prices. It demonstrates that the actual price of the existing stock of each good is determined solely by the subjective value placed on it. Each individual acts in accordance with his preferences: buying to add to his stock, selling to diminish his stock, or holding to retain his stock. The price that exists at any moment in time results from these actions. These actual prices are unrelated to those of general equilibrium; but being real prices determined by real actions, they are based on demonstrated preferences and, thus, are relevant for welfare theory. This is the foundation of Mises's demonstration of profit and loss as the correct objective test of social-wealth changes discussed above. Moreover, the voluntary exchanges by which actual prices are determined in real markets involve a set of Pareto-Superior moves as each participant demonstrates his preference by his action. Since nothing can be or need be said about the end-state of these interactions, Pareto Optimality, as an end-state condition, is irrelevant to Austrian welfare theory.

Rothbard recognized that by rejecting the neoclassical penchant for analyzing the real world solely with the imaginary construct of general equilibrium, one must dispense with the use of the Pareto-Optimal version of the Pareto Rule as well, since it is a "static," end-state principle. To reconstruct welfare economics, it must be made consistent with Austrian general economic theories of real markets. Doing so requires using the Pareto-Superior version of the Pareto Rule, which is a "dynamic," step-by-step principle. As he says, "Since we cannot discover people's utilities over time . . . the free market *at any time* will maximize social utility . . . Thus, in Period 1 the free market will maximize social utility. Then, suppose some producers voluntarily form a cartel in an industry. This cartel makes its exchanges in Period 2. Social utility is again maximized, for again no one's exchanges are being altered by coercion."<sup>50</sup>

Proponents of the New Welfare economics attempted a superficially similar but fundamentally flawed approach to integrating the Pareto-Superior criterion into the general-equilibrium framework. The Kaldor-Hicks compensation principle attempts to circumvent the static, end-state character of the Bergson-Samuelson framework by employing a Pareto-Superior version of the Pareto Rule to judge

<sup>50</sup>*Ibid.*, p. 255.

movements toward the satisfaction of the optimal conditions. Yet it debases the Rule in a more damaging way than Bergson and Samuelson did by formulating it in potential terms, i.e., a change is Pareto Superior if those who gain benefit enough so that they could compensate those who lose in such a way that no one is worse off.

Nicholas Kaldor demonstrates the ability of the compensation principle to transcend the stricture of the Pareto Rule using the example of repeal of the corn laws in nineteenth-century England. Because this policy would increase the real income of society, though reducing that of landlords, the economist has made his case for it, he claims, "since in all such cases it is *possible* to make everybody better off than before, or at any rate to make some people better off without making anybody worse off."<sup>51</sup> As Rothbard points out, this argument suffers from a grave defect.<sup>52</sup> By transcending the Pareto Rule (some can be worse off after a change and yet the change increases social welfare), it contradicts the very foundation of all welfare theory: social welfare must be based on the welfare of individuals that make up society, which can only be demonstrated in action. Unless the compensation is actually made, it is impossible to tell from the fact that real income has risen whether or not the reduction in *utility* of those who lose can be more than offset by *monetary* compensation. Thus, potential compensation does not eliminate interpersonal utility comparisons; it merely camouflages them in money terms. The Pareto Rule cannot be transcended with a social-welfare calculation that strictly adheres to individual, ordinal utility.

Moreover, the compensation principle, being an extension of the Bergson-Samuelson approach, suffers from the defects of general equilibrium. It is impossible to pronounce on the economic consequences, including welfare, of changing from one actual social state to another with the apparatus of general equilibrium, since neither state can be compared to general equilibrium. One cannot tell which actual social state is closer to general equilibrium. One must first develop an economic theory of actual markets that can establish criteria for comparing actual social states; only then is it possible to build a useful welfare theory.<sup>53</sup> One must first develop an economic theory of actual markets; from it,

<sup>51</sup>Nicholas Kaldor, "Welfare Propositions of Economics and Interpersonal Comparisons of Utility," *Economic Journal* 49, no. 195 (1939): 550. Emphasis original.

<sup>52</sup>Rothbard, "Toward a Reconstruction," pp. 246-47.

<sup>53</sup>Some neoclassical economists recognized this defect of the general equilibrium approach in their development of the theory of second best. They demonstrated that if a market system is not in general equilibrium, then one cannot discern the correct government policy toward a market failure in any one market using the general equilibrium framework. The seminal article on the theory of second best is Kelvin Lancaster and Richard Lipsey, "The General Theory of Second Best," *Review of Economic Studies* 24 (1956): 11-32.

a theory of the determination of actual prices can be built, and criteria for comparing the social welfare of actual social states can be developed.

Finally, the Kaldor–Hicks argument fails as a value-free justification for government intervention, even if one accepts the dubious concept of potential compensation, since it misconstrues the nature of free-market exchange and government intervention and, by so doing, establishes the status quo as the appropriate benchmark for judging social change.<sup>54</sup> In fact, Kaldor invented the compensation principle in response to an error of Robbins, who said, “the statement that social wealth was increased [by free trade] itself involved an arbitrary element—that the proposition should run, if equal capacity for satisfaction on the part of the economic subjects be assumed, then social wealth can be said to be increased. Objective analysis of the effects of the repeal of duties only showed that consumers gained and landlords lost. That such an arbitrary element was involved was plain.”<sup>55</sup>

The error in this assertion is defining consumer gain and landlord loss in terms of the previous state of affairs, i.e., the status quo, which is no longer a social alternative. Each time the duty was levied on exporters of grain, they had their utility demonstrably reduced. Given this state of affairs, they entered into contracts to purchase grain, demonstrably benefiting themselves and the farmers who sold to them. They, and other retailers, entered into contracts with consumers, demonstrably benefiting all participants. Landlords, and other factor owners, entered into mutually-beneficial rental contracts with farmers. In each of these contracts, the prices agreed to by both parties were mutually beneficial. When the duty was no longer levied on exporters, then the demonstrable harm no longer existed. This new state of affairs led to new contracts among the various groups at new prices, lower for grain and land. Acceptance of these new contracts, however, demonstrated the preferences of all parties; they all gain. Only from a fundamental misconception of the nature of voluntary exchange or demonstrated preference could one conclude that landlords lose when they agree to the terms of the new contract. Each party to a voluntary exchange demonstrates that he prefers its terms to whatever alternative actually exists at that point in time. On demonstrated-preference grounds, one cannot tell if the landlords lose in comparing the terms of the new contract with those of the old

<sup>54</sup>On the compensation principle as a defense of the status quo, see Murray N. Rothbard, *The Ethics of Liberty* (Atlantic Highlands, N.J.: Humanities Press, 1982), pp. 203–5.

<sup>55</sup>Robbins, “Interpersonal Comparisons of Utility”: 638. Quoted in Kaldor, “Welfare Propositions”: 549–50. Kaldor rightly criticizes Robbins, saying, “It can be demonstrated . . . that in the classical argument for free trade no such arbitrary element is involved at all.” *Ibid.*: 550. It is not on the basis of the compensation principle, however, that such an argument can be sustained; but on the principle of mutual benefit in voluntary exchange, as Professor Rothbard demonstrates.

contract, because no one in the market is now offering the old terms. The old higher price is not a social option and, thus, landlords cannot demonstrate a preference for it once the new terms are offered. The genuine alternatives are only those being offered given the new social situation, the old (status quo) situation is now irrelevant. Comparisons of the ordinal rank an individual places on an alternative at one point in time with the ordinal rank he places on a different alternative at a different point in time are impossible. Since an individual cannot demonstrate a preference between them, such judgments involve illegitimate inter-temporal comparisons of utility.<sup>56</sup>

The logic of Kaldor's compensation-principle solution to Robbins's error was worked out fully by J.R. Hicks.<sup>57</sup> After replicating the Pareto-Optimality conditions of the New Welfare economics, discussed above in somewhat different form, he applies the analysis "as a means of criticizing or testing the efficiency of production by private enterprise," by asserting that, "under private enterprise, any ordinary change in economic policy involves a change in the price-system, and any change in prices benefits those on one side of the market, and damages those on the other. Thus no simple economic reform can be a permitted reorganization in our sense, because it always inflicts a loss of some sort upon some people." In other words, Hicks asserts that market activity itself, and not just the removal of government intervention, creates losses for some participants whenever such activity has effects on prices, i.e., as long as the economy is not in a general equilibrium.<sup>58</sup> While this would seem to prevent welfare analysis of almost all market activity, Hicks claims that "this does not prevent us from applying our [social welfare] criteria to the case of private enterprise, because we can always suppose that special measures are taken through the public revenue to compensate those people who are damaged."<sup>59</sup>

By transcending the Pareto Rule and following the compensation principle to its logical end, Hicks winds up in absurdity. Voluntary exchange, instead of

<sup>56</sup>As Professor Rothbard puts it, "It is not possible . . . for an observer scientifically to compare the social utilities of results on the free market from one period of time to the next." Rothbard, "Toward a Reconstruction," p. 255.

<sup>57</sup>J.R. Hicks, "The Foundations of Welfare Economics," *Economic Journal* 49, no. 196 (December 1939): 696-712.

<sup>58</sup>To illustrate conditions under which the free market would not maximize social welfare (specifically, imperfect competition), Hicks uses the example of a firm closing down. He says, "The loss involved in its cessation is measured by the compensation which would have to be given to consumers to make up for their loss of the opportunity to consume the missing product, plus the compensation which would have to be given to producers to make up for the excess of their earnings in this use over what they could earn in other uses." *Ibid.*: 709-10. Clearly, this "economic reform" involves no government intervention, but is a purely private affair of voluntary "reorganization" of factor usage.

<sup>59</sup>*Ibid.*: 706.

being mutually beneficial, "inflicts a loss of some sort upon some people." Yet, social-welfare judgments of "private enterprise" are still possible because "we can suppose" that losers in exchange are compensated "through the public revenue." But what kind of private-enterprise system is it that requires, for a demonstration of welfare enhancement, an all-encompassing government program of income distribution? If Hicks means that the compensation is only potential, and must not actually take place, then why is it necessary to suppose "special measures are taken" to compensate losers? And if he means that the compensation is only potential but the gain to winners exceeds the loss to losers because enough additional income is generated by the change to compensate all losers so that everyone is better off, then he is confusing income with utility and making assertions about preferences apart from people's actions.

Instead of correcting the deficiencies of the New Welfare economics, the compensation principle adds to them. Every actual market activity, not identical to the status quo, is *a priori* suspect on welfare grounds, since one can identify "losers" according to the compensation-principle. Thus, a vast new field is available for government intervention, especially in the form of income distribution. Ignoring these new possibilities, Hicks examines the situations of market failure within his framework, finding them to be the same as those of the social welfare function approach. He then concludes in the same way that economists of the social welfare function variety do: economic theory can delineate the conditions for Pareto Optimality, what Hicks calls efficiency, but not interpersonal utility comparisons, what Hicks calls distributive justice.<sup>60</sup>

For both the social welfare function and the compensation approaches, if income distribution could be specified by economic theory, then they would have a complete welfare theory. In fact, the social welfare function technique could do this *ex ante*. The social welfare function is necessary to decide among points on the Utility Possibilities Frontier because the framework does not specify an initial income distribution among individuals. If it did start with such a specification, or specified initial factor ownership among individuals, then market exchange would lead to a single point on the UPF, which by construction would maximize social welfare.

Since Austrian Welfare economics is based on Pareto Superiority (a step-by-step analysis), not Pareto Optimality (an end-state analysis), the importance of a starting point is all the more manifest. The solution provided by Professor Rothbard rests on two value-free propositions: demonstrated preference and self-ownership. That each individual owns, i.e., controls the use of his mind and

<sup>60</sup>Ibid.: 712.

body is self-evidently true.<sup>61</sup> As Mises showed, the entire corpus of economic theory is axiomatic-deductive: the logical implications of the primordial fact that individuals engage in human action.<sup>62</sup> Yet, action itself, being done only by individuals, presupposes self-ownership. One can no more refute the proposition that individuals are self-owners than the proposition that individuals act, since any attempt presupposes the proposition in either case.

Moreover, the fact of self-ownership is not accepted by just Austrian economists but is a presupposition of the neoclassical school as well. Both schools build price theory from the foundation of individuals who buy and sell in accordance with their own subjective evaluations. In fact, the central problem of welfare economics—interpersonal utility comparisons—disappears as soon as the presupposition of self-ownership is dropped. Without individuals, each making their own evaluations and decisions and actions based upon them, welfare theory could directly postulate a “collective welfare” separate from the individuals that make up society. This fallacy is one even New Welfare economists refused to embrace. Instead, they failed to accept the logical implication of the presupposition of methodological individualism for welfare economics while accepting its implications for price theory.

For welfare economics, the implication is that self-ownership is the proper starting point of analysis. New Welfare economists are led into a contradiction, perhaps by their desire to employ general equilibrium (and thus, mathematical techniques) when they accept self-ownership in price theory, i.e., allowing individual utility and buying and selling to determine prices, and then deny its implications in claiming that income distribution is indeterminate within the nexus of these market exchanges. They recognize the necessity of private ownership of property as a prerequisite of voluntary exchange and market prices, but fail to recognize either that self-ownership of labor is also a prerequisite of these phenomena or the logical connections between self-ownership of labor and individual ownership of other property.

Professor Rothbard avoids these contradictions by accepting self-ownership as the appropriate starting point of welfare economics and then proceeding step-by-step according to the Pareto-Superior version of the Pareto Rule.<sup>63</sup> Each

<sup>61</sup>We are not here dealing with the right of self-ownership but with the fact of self-ownership. While moral ownership cannot be established merely by the fact of ownership, economic ownership can. For a natural-law argument for the right to self-ownership, see Murray N. Rothbard, *For a New Liberty*, rev. ed. (New York: Macmillan, [1973] 1978), pp. 26–37; and idem, *Ethics of Liberty*, pp. 29–34. For an axiomatic argument for the right to self-ownership, see Hans-Hermann Hoppe, *The Economics and Ethics of Private Property* (Boston: Kluwer Academic, 1993), pp. 195–201.

<sup>62</sup>See Ludwig von Mises, *The Ultimate Foundation of Economic Science*, 2nd ed. (Kansas City: Sheed Andrews and McMeel, [1962] 1978), pp. 1–9.

<sup>63</sup>On this process, see Hans-Hermann Hoppe, “Book Review of *Man, Economy, and Liberty*,” *Review of Austrian Economics* 4 (1990): 257–58.

person owns his labor. When anyone employs his labor in an act of acquisition over some item previously unowned, he owns, i.e., controls in action the use of, the item. His action demonstrates a gain in utility, while the failure of others to acquire the item demonstrates their preference not to acquire it. Thus, each such act of acquisition is Pareto Superior. When the owners of means acquired in this way make a voluntary exchange, such an act is Pareto Superior—demonstrably benefiting the participants while doing no demonstrable harm to non-participants. The totality of these acts of acquisition and voluntary exchange, whether of factors or consumer goods, constitute the free market; since each of them is Pareto Superior, the free market creates the greatest satisfaction of individuals' preferences at every point in time.<sup>64</sup>

This conclusion about the free market can be further clarified by examining charges recently made against Professor Rothbard's welfare economics. Roy Cordato claims that one "fundamental problem" with it is that it "ignores the fact that preferences are expressed sequentially through time, as part of a general set of goal-oriented activities. The actor in Rothbard's framework is operating in a static world where actions are undertaken in isolation from one another."<sup>65</sup> But the conclusion about the free market's welfare properties is not "static" in this sense; to the contrary, it is genuinely "dynamic." It properly accounts for social welfare at each successive point in time *when a social interaction takes place*. Thereby, it properly accounts for any possible changes in circumstances during a sequence of actions that influence a person's "goal-oriented activities," including his own preferences and the preferences of others. For private actions, involving no demonstrable preferences of non-participants, which may be part of the sequence of actions a person undertakes to achieve a goal, welfare theory, *per se*, does not apply.

To clarify this point, consider the following illustration. Suppose a man agrees to a one-year contract in which he trades a particular labor skill for some particular compensation, and furthermore, that he does so as part of a sequence of actions which he expects to culminate in the acquisition of a capital gain, for which he has a preference, from trading shares of stock of a particular company. He benefits, as does his employer, at the time he makes the labor contract. At that point in time, the free market has created the greatest satisfaction of individuals' preferences, *given the actual situation they find themselves in at that time*.<sup>66</sup> Having accepted the contract, his situation of acting is changed, including

<sup>64</sup> Hoppe, *The Economics and Ethics of Private Property*, pp. 232–33.

<sup>65</sup> Cordato, *Welfare Economics*, p. 44.

<sup>66</sup> That these circumstances of action at any point in time depend on past action is clear; but this fact does not result in an infinite regress or indeterminacy since the starting point of the free market is self-ownership.

perhaps his own preferences; thus, some actions he might contemplate taking will now have a different opportunity cost to him. Over time he accumulates sufficient savings from his wages to buy shares of the firm's stock. We know, by the principle of demonstrated preference, that both he and the seller benefit at the time of the exchange. At that point in time, the free market has created the greatest satisfaction of individuals' preferences, *given the actual situation they find themselves in at that time*. But suppose after his purchase of the stock its price falls, so that he regrets having bought it. Or suppose that he comes to regret having agreed to his labor contract before it expires. These circumstances do not represent a failure of the free market to create the greatest satisfaction of individual preferences. To the contrary, if he continues to possess the stock, instead of selling it to someone in the market, he demonstrates his preference for retaining ownership *compared to the actual social opportunities now available to him*; if he fulfills the duration of his contract, he demonstrates his preference for the terms of the contract *compared to the actual social opportunities now available to him*. If he sells the stock and suffers a capital loss he demonstrates his preference for the money received at the time of the sale, or if he resigns his job, he demonstrates his preference for his perceived alternative. In each case, participating in the free market increases his utility. The (assumed) subjective loss he experiences from the capital loss, when viewing the sequence of events in its totality, is not caused by his participation in the free market, but by his lack of entrepreneurial insight into the future state of affairs before he started the series of actions. It is properly assigned to the period in the sequence of his actions when he was acting privately, by retaining ownership of the stock as its share price fell, and not to those moments when he participated in the free market. That such losses occur in no measure diminishes the conclusion that the free market renders the greatest satisfaction of individual preferences *compared to any other institutional arrangement for social interactions*.<sup>67</sup>

The entrepreneurial success or failure of each individual's actions when viewed in sequence is parallel to the success or failure of the specialized entrepreneur in the market. After formulating his expectations of the future profitability of various courses of action, he contracts with factor owners to rent their factor services, and thereby, incurs monetary costs. In each of these contracts, both he and each factor owner gain. Since he owns the goods produced by combining the factors, he earns the monetary profit or suffers the monetary loss

<sup>67</sup> Cordato's charge, that "Rothbard's conclusions [about the welfare properties of the free market] would only hold in an error-free world of perfect knowledge, where expectations necessarily coincide with results," is entirely unfounded. Cordato, *Welfare Economics*, p. 43. This charge is more suitably made against the New Welfare economics.

when they are sold. In each of the sales, both he and each consumer gain. If these sales generate revenues in excess of his costs, he earns profit; if his revenues fail to cover his costs, he suffers loss. His profit or loss is independent of the fact that he acquires, without exception, subjective benefit in each of his voluntary exchanges. The extent of profit or loss is determined by his entrepreneurial insight, that is, how accurately he anticipated the outcome of the sequence of actions. The welfare enhancing character of the free market is not impugned by entrepreneurial losses, whether they are monetary or subjective.

Far from having an "emphasis on static, unconnected action," Professor Rothbard's welfare economics correctly delineates between actions (including social interactions) which demonstrably increase the utility of each participant at the time they are undertaken given the actual situation in which they are taken, and entrepreneurial insights about the future consequences of the actions. The former can never reduce utility; the latter are the source of either profit or loss from the sequence of actions over time.<sup>68</sup> This delineation also defuses another of Cordato's criticisms: that "by focusing strictly on demonstrated preferences and *ex ante* evaluations, he rules out all consideration of costs and therefore the possibility of utility loss."<sup>69</sup> But acceptance of the principle of demonstrated preference logically requires restrictions on statements about utility to those referring to points in time when action is taken. To make an *ex post* statement about utility requires an impermissible inter-temporal utility comparison.<sup>70</sup> Moreover, far from ignoring costs, Professor Rothbard's welfare economics correctly accounts for opportunity costs. Opportunity cost exists only for each action and only at the time the action is taken; it is the subjective value of the most-valuable alternative to the action actually undertaken. Cordato's claim, that "by definition, costs cannot be demonstrated," is irrelevant for welfare theory; what is demonstrated in action is that the subjective value of the action taken

<sup>68</sup> *Ibid.*, p. 44. Professor Rothbard's discussion of entrepreneurship is in *Man, Economy, and State* (Auburn, Ala.: Ludwig von Mises Institute, [1962] 1994), pp. 5–6, 55–56, and 463–69.

<sup>69</sup> Cordato, *Welfare Economics*, p. 43.

<sup>70</sup> Cordato himself criticizes the New Welfare economics for requiring both interpersonal and inter-temporal utility comparisons to implement Pareto Optimality. Cordato, *Welfare Economics*, pp. 6–7. Also, discussing his own concept of demonstrated preference, he says, "preferences that are revealed at one point in time cannot be assumed to remain constant over time." *Ibid.*, p. 59. While it is impossible to say anything on demonstrated preference grounds about the *ex post*, subjective profit or loss of a sequence of actions, it is possible to calculate the monetary profit or loss of the specialized entrepreneur *ex post*, as shown above. Even in the case where a specialized entrepreneur earns profit (loss) from a sequence of actions, however, it is not possible to say that his *ex post utility* is greater (less) than that *ex ante*. Cordato makes this error in his example of an individual who expends resources in a free market pursuing a goal, yet fails to reach it, when he concludes, "clearly he would have experienced a loss in utility." *Ibid.*, p. 43. Such a statement presupposes the ability to make inter-temporal utility comparisons.

exceeds the subjective value of the best alternative.<sup>71</sup> Neither the subjective benefit nor the subjective cost of an action is demonstrated when an action is taken; preference is demonstrated, and demonstrated preference is a sufficient foundation for welfare economics.

Value-free welfare economics must be based on the principle of demonstrated preference, acceptance of which precludes inter-temporal utility comparisons, since an individual cannot demonstrate a preference in action between two different situations at two different points in time. Welfare economics can say nothing about *ex post* utility; instead, it must be content to describe utility *ex ante* or at the time of action when the individual actually demonstrates a preference between two relevant alternatives. As Professor Rothbard has correctly pointed out, however, general economic theory shows a greater tendency for correspondence between *ex ante* anticipations of gains from a sequence of actions and *ex post* realization of such gains in a free market *vis-à-vis* an interventionist system.<sup>72</sup> Specialized entrepreneurs on the market appeal to the test of profit and loss to determine whether or not they have arranged production to best satisfy consumer preferences while consumers themselves appeal to trial and error to determine which of the various consumer goods best satisfies their ends. By distorting economic calculation and interfering with consumer choice, interventionism retards this tendency to match *ex ante* and *ex post* utility.

Instead of being a weakness of Professor Rothbard's welfare theory, the fact that "by definition, though, people always expect to benefit, relative to the alternatives, from every action that is undertaken," as Cordato claims, is true, and therefore, a great strength of it. Cordato misconstrues how Austrian Welfare economics judges social interactions, namely, with the Pareto-Superior version of the Pareto Rule, when he concludes that, "this is true under any institutional arrangement," including "action taken at the point of a gun."<sup>73</sup> The relevant question for social welfare in such a situation is whether or not this interaction *itself* increases the utility of at least one person without decreasing that of another *at the time it occurs*. Since the victim of violence would not have voluntarily undertaken the interaction in the absence of aggression, one can *infer* that such an involuntary social interaction, unlike a voluntary one, forces him to accept a less-preferable alternative. It is by this inference, and not his action under duress (i.e., after the aggression has begun), that the Pareto-Inferior nature of involuntary interactions is

<sup>71</sup>Ibid.: 43. On this criticism of Cordato, see Gordon, "Toward a Deconstruction," p. 105.

<sup>72</sup>Murray Rothbard, *Power and Market* (Kansas City: Sheed Andrews and McMeel, 1970), pp. 18–20. David Gordon also makes this point in "Toward a Deconstruction," p. 105.

<sup>73</sup>Cordato, *Welfare Economics*, p. 43.

seen.<sup>74</sup> There is no inconsistency between the Pareto-Inferior nature of involuntary interactions at the moment aggression begins and the achievement by the victim of his highest preference by adjusting his actions during the time under duress.

Professor Rothbard's welfare economics is constructed from Misesian general economics. It is the only welfare economics that is completely consistent with the principles deduced from the axiom of action. Each person owns his labor, i.e., his mind and body. Employing his labor, man acts by evaluating the possible ends he can attempt to attain by the combination of means he owns. The scarcity of means requires him to choose from among the possible ends; to be purposeful his choice must be according to his evaluations. When he acts, one can infer that he has established a preference between the course of action taken and the course of action not taken; he chooses to do what he prefers more and sets aside what he prefers less. From the axiom of action, one can deduce only an ordinal ranking of preference; quantitative comparisons of subjective value are impossible for lack of a cardinal index and a common unit of subjective value. Only his concrete action can demonstrate his preferences.

Welfare economics examines the consequences of social interactions in terms of the demonstrated preferences or utility of individuals. Social interactions can be either voluntary or involuntary; the former is done without, and the latter with, the use or threat of invasive violence. The subjective nature of value implies the impossibility of comparing either the utility of different individuals from a social interaction or the utility of any individual at different points in time. The impossibility of interpersonal comparisons of utility restricts welfare economics to conclusions about interactions that benefit some without harming any one. Such an interaction is called Pareto Superior. The impossibility of inter-temporal comparisons of utility restricts welfare economics to conclusions about interactions at the time they occur. Any voluntary interaction demonstrably benefits each participant at the time it occurs, while doing no demonstrable harm to any non-participant. An interaction that benefits at least one person while doing no harm to anyone else increases social utility, i.e., either improves or leaves unchanged the preference rank obtained by every individual. Any involuntary interaction demonstrably benefits some participants at the time it occurs, while demonstrably harming others. An interaction that harms at least one person is called Pareto Inferior, and cannot increase social utility.

<sup>74</sup> Consider the analogy of government taxing a person's income. At the time the tax is paid, under duress, the person is made worse off than otherwise. After the tax is paid, he will adjust his action to the new circumstances, including this aggression, in the way he finds most preferable. That he does so is no refutation of the Pareto-Inferior nature of the interaction between the tax-man and himself.

Every social interaction presupposes ownership of the means used by each participant and every demonstration of preference, upon which rests the welfare criterion of changes in social utility, and presupposes self-ownership of labor. Welfare economics is incomplete without an analysis of the acquisition of the items traded in voluntary exchanges, and is inconsistent if such an analysis contradicts the principle of self-ownership of labor.

Welfare economics begins with each person owning his labor. With his labor, he acquires unowned items existing in nature. Each such act of acquisition demonstrably benefits the person engaged in the act at the time it occurs, while demonstrably harming no one. Their abstention from acquisition or transformation of the item demonstrates the preferences of non-participants for devoting their means to other ends. Each such act of acquisition is Pareto Superior. Once the item is owned by the first-user, others no longer have the option of being its first-user; thus, their preferences at that point in time have no bearing on the Pareto-Superior nature of the acquisition by the first-user. For a person to obtain ownership of the item from the first-user in a Pareto-Superior interaction, the person must induce the owner to either voluntarily exchange it or voluntarily give it away.

With his labor and homesteaded means, each action a person takes benefits him at the time of the action. This is true for private actions, such as reading a book in one's home, and for social interactions, such as contracting to sell one's labor or to buy consumer goods. Non-participants in these actions demonstrate their preferences for allowing these actions and interactions by devoting their means to other actions and interactions. Each private action and voluntary social interaction is Pareto Superior. Once the actions or interactions take place, non-participants no longer have the alternative of acting toward them in a participatory way. Whatever actions non-participants take after the action or interaction of others are irrelevant to the Pareto-Superior nature of the action or interaction. In fact, non-participants must now establish a preference for the new alternatives actually available to them. When they act upon these new preferences in light of the new circumstances, they benefit.

The same principle applies to each person's preferences inter-temporally. When someone buys a consumer good, he benefits at that time. If after the purchase, he reevaluates the good, placing it lower on his preference rank, then he will act according to his new preferences. His new action will again benefit him. As economists, we cannot compare his utility inter-temporally, since he cannot demonstrate a preference between these two states of affairs. It is not the new action or interaction that reduces his utility; rather, it is his failure to correctly anticipate future conditions, including his own preferences, i.e., it is

his failure as an entrepreneur. This assessment of the sequence of actions of the individual is the analogue to the assessment of the sequence of interactions directed by the specialized entrepreneurs in social production and exchange.

The free market consists of all acts of acquisition and interactions that are voluntary, and is brought about by a legal system that defends these property titles and contracts. The free market consists entirely of Pareto-Superior movements. Thus, it achieves the highest degree of utility possible for each person, given the conditions of action and interaction, including the different preferences of different people. It is in this sense that the free market can be said to maximize social utility; it is not the utility that is social but the actions—the free market gives the greatest possible utility to every individual in their interactions.<sup>75</sup>

Interventionism consists of the mixture of voluntary and involuntary acts of acquisition and interactions. Each involuntary act of acquisition or interaction is Pareto Inferior. Thus, interventionism fails to achieve a degree of all individual utility as great as that of the free market.

Professor Rothbard correctly concludes that the free market achieves the greatest social utility possible of any economic system. His achievement is no less than a rigorous proof of the long-standing conviction among economists that the free market, without qualification, maximizes social welfare.

<sup>75</sup>This is analogous to the distinction Professor Rothbard makes when discussing the difference between individual utility and total utility, as the aggregation of the marginal utilities of units of a stock, and the marginal utility of different-sized units. Total utility is an illegitimate, cardinal concept which must be rejected. As he points out, what is marginal, in cardinal terms, is the unit of the stock, not the utility obtained by its possession. See Rothbard, "Toward a Reconstruction," pp. 234–35. Perhaps this definition of social welfare will satisfy those who have asked explicitly for one. See, Gary North, "Why Rothbard Will Never Win the Nobel Prize," in *Man, Economy, and Liberty*, Block and Rockwell, eds., p. 105.