

# ECONOMIC VALUE AND COSTS ARE SUBJECTIVE

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## Introduction

What makes goods valuable? Are objects intrinsically valuable, valuable based on how much labor they require to make, or are they simply valuable based on how much they satisfy people's subjective preferences? In a certain sense it might be accurate to exclaim, "We are all subjectivists now."<sup>1</sup> With a few exceptions, almost all modern economists believe that goods are valued based on how they satisfy individuals' subjective preferences. Yet economists disagree about what it means to believe in economic subjectivism. George Mason University economist Bryan Caplan (1997) criticizes writers in the tradition of Austrian economics for portraying non-Austrians as non-subjectivists. He writes, "Innumerable Austrian essays and books use the word 'subjectivism' in the title. This leaves one with the impression that other economists fail to embrace subjectivism – an impression that is simply false." Caplan claims that although many Austrian views, including economic subjectivism, are correct, he says they "are simply not distinctive enough to sustain a school of thought."

Caplan is undoubtedly correct that almost all modern economists believe in some type of economic subjectivism. However, this truth does not imply that all economists believe in economic subjectivism in exactly the same way. Rather than using a dichotomous distinction to classify economists either as economic subjectivists or economic objectivists, I will argue that we should recognize that economists can believe in economic subjectivism in several different forms. In this

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<sup>1</sup> Here I refer to economic subjectivism, which states that what goods people consider valuable is subjective. It is unrelated to ethical subjectivism or metaphysical subjectivism.

article I will present ten questions that get at ways in which economists believe in economic subjectivism. These ten questions are certainly not exhaustive, but they are a first step towards recognizing that economic subjectivism comes in many forms and degrees. Using these ten questions as a guide, one could even create a “Subjectivism Purity Test” in much the same way that Bryan Caplan has created a “Libertarian Purity Test.” Although almost all economists would be classified as subjectivists to some extent, some economists would be classified as more thorough subjectivists than others.

Making such distinctions is not just an interesting academic exercise. How much one believes in economic subjectivism has many important implications for how one practices positive economics and the normative recommendations one may or may not prescribe. For example, economists who believe that consumer utility is subjective, but that producer costs are objective, can reach very different conclusions than economists who believe that both consumer utility and producer costs are subjective. Similarly, economists who believe that outside observers can know what will satisfy an individual’s subjective utility function will come to very different conclusions than economists who believe that only individuals know what they like best. Similarly, economists who believe that utility (which is subjectively determined based on individual preferences) can be observed, compared, and aggregated among many people will come to very different conclusions than economists who believe that people’s utility levels are unobservable and incommensurable.

Question 1 begins by discussing an area of subjectivism where most economists agree: Is economic value subjective? This area differentiates most modern economists from classical economists and many non-economists. Question 2 probes an area where many but not all economists agree: Are costs subjective? This area differentiates many Austrian and certain neoclassical economists from orthodox neoclassical economists following Alfred Marshall’s tradition. Questions 3, 4, 5, and 6 discuss areas where even fewer still economists agree: Can we

survey people's subjective preferences? Can we measure an individual's utility? Can we compare utility between individuals? Can we aggregate the utility of many people? For these questions one can find Austrian and neoclassical economists on both sides of the debate. Questions 7, 8, 9, and 10 look at alternative approaches to making welfare comparisons between nations that do not purport to depend on measuring subjective utility, such as looking at per capita income, migration patterns, society-wide cost-benefit analysis with dollars as the unit of measurement, and a demonstrated preference Pareto rule. Where one stands on these issues depends on how far one is willing to extend the logic of economic subjectivism. And where one stands on questions of economic subjectivism has an important influence on how one analyzes the world and what policies one recommends.

### **Question 1: What makes goods valuable?**

Nearly all economists agree that consumer goods are valuable based on how much consumers believe the goods will satisfy their preferences. This idea has revolutionized the practice of economics over the past one hundred and thirty years. This perspective is referred to marginal-utility economics or subjective-value economics (Buchanan, 1969, p.9). Before Stanley Jevons, Carl Menger, and Leon Walras advanced the theory of marginal utility in the 1870s, many theorists believed in some form of a labor theory of value that held that the value of a good is determined by how long it takes to make. Economists pondered differences in "use value" and "exchange value," and they had a difficult time explaining many things, such as why diamonds are more valuable than water.

Today, most economists rightfully reject the labor theory of value. Economists recognize that one hour of work by the average Joe does not produce the same value as an hour of work by Bill Gates. Some people are smarter, work harder, or have different tools, so not everyone has the

same productivity. Economists also point out that the labor theory of value would still be flawed even if everyone had the same productivity. A chef could spend one hour producing a delicious apple pie and a second hour producing an otherwise identical pie in which the apples were replaced with dirt, and it takes no more than common sense to see that the value of the two pies will be different.<sup>2</sup>

Most modern economists would accept that the value of the two pies would be determined by individuals' subjective perceptions about their marginal utility rather than some intrinsic value they may possess. The approaches of Jevons, Menger, and Walras had some important differences, but they reached similar conclusions.<sup>3</sup> In Carl Menger's explanation, for a good to be useful, a human want must exist, an object must have properties that can satisfy that want, and humans must know that the object can satisfy their want. A good is valuable to the extent that it can satisfy our wants, nothing more and nothing less. Thus, goods are not objectively valuable; they are only valuable when people consider them useful. The same physical good may be useful at one point and not useful at another. As Buchanan (1969, p.9) explains, "Marginal utilities...were acknowledged to be dependent on quantities." This perspective allowed economists to explain the diamond and water paradox. Even though water is necessary for life and diamonds are not, the marginal utility of an additional unit of water (given that we have so much) is very low, whereas the marginal utility of an additional diamond is high. This simple approach changed the face of economics. Almost all modern economists accept some subjective theory of marginal utility, so in this sense, "We are all subjectivists now."

## **Question 2: Are Costs Subjective?**

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<sup>2</sup> I borrow this example from Joseph Salerno.

<sup>3</sup> For a dehomogenization of some of the differences, see Rothbard (1962, p.315).

Although most economists believe in a form of economic subjectivism when it comes to consumer goods, not all economists have the same conception of costs. As James Buchanan explains:

A distinction must be made between the orthodox neoclassical economics which incorporates the subjective-value or marginal-utility revolution in value theory and the *subjectivist economics* of the latter-day Austrians, notably Mises and Hayek. The dependence of price (value) on marginal utility, subjectively determined, can be fully recognized, while essentially an *objective* theory of cost is retained. (1969, p.23)

Neoclassical economists such as Alfred Marshall described demand and supply as a pair of scissors that cut paper to determine price. To Marshall, the demand side was determined by subjective utility, but the supply side was determined by the objective cost of production. In this view, where the subjectively determined demand curve intersects with the objective cost curve will determine the price.

In contrast, Austrian economists, such as Mises, and many modern neoclassical economists view a supply curve as essentially the flipside of a demand curve. Just as a buyer's subjective preferences influence how much he is willing to pay buy units of a good, a seller's subjective preferences influence how much he must be paid to sell units of a good. In the words of Mises:

Costs are a phenomenon of valuation. Costs are the value attached to the most valuable want-satisfaction which remains unsatisfied because the means required for its satisfaction are employed for that want-satisfaction the cost of which we are dealing with.

When the seller gives up a unit of a good, he must consider what satisfaction he is forgoing. Each person will value the foregone opportunities differently, so each person will have a different supply curve. For example, the individual attached to his childhood comic books will have a different supply curve than an otherwise similar individual with less attachment to his comics. One could pay the comic book owners different amounts to get them to sell because they have different subjective preferences on parting with their wares. According to this perspective, the supply curve is simply determined by sellers' evaluations of their opportunity costs or, in other words, what sellers foresee

they are forgoing by making the sale. Just as buyers weigh the subjective marginal utility of gaining an additional unit of a good, sellers weigh the subjective marginal utility lost of having one fewer unit of a good. Referring to Marshall's analogy, Rothbard (1962, p.360) concludes, "costs are themselves subjective utilities, so that both 'blades of the scissors' are governed by the subjective utility of individuals."

Thus supply curves, like demand curves, are determined by subjective preferences rather than some objective cost of production. This perspective is explored in detail in James Buchanan's (1969) *Cost and Choice*. Buchanan reaches the following conclusions about the subjectivist notion of cost:

1. Most importantly, cost must be borne exclusively by the decision-maker; it is not possible for cost to be shifted to or imposed on others.
2. Cost is subjective; it exists in the mind of the decision-maker and nowhere else.
3. Cost is based on anticipations; it is necessarily a forward-looking or *ex ante* concept.
4. Cost can never be realized because of the fact of choice itself: that which is given up cannot be enjoyed.
5. Cost cannot be measured by someone other than the decision-maker because there is no way that subjective experience can be directly observed.
6. Finally, cost can be dated at the moment of decision or choice. (Buchanan, 1969, p.43)

Costs are based on individual perceptions of utility foregone at the moment of choice. This utility foregone is not objective and not something that people can measure.

Whether one adopts a subjectivist notion of costs has some important implications for the way one practices economics. Many economists and even entire fields in economics rely on measuring costs for their analyses and normative conclusions. For example, the antitrust economists who accuse firms of charging above marginal cost (or below marginal cost in the case of accusations of predatory pricing) are assuming that costs can be measured from a positive point of view, and that a divergence between price and cost is a problem from a normative point of view. In contrast, many economists who believe in economic subjectivism in this realm believe that these costs cannot

be observed, and that it makes as much sense to worry about suppliers selling above marginal cost as it does to worry about buyers buying below their marginal benefit.<sup>4</sup>

Those who believe in subjectivism in the realm of costs hold that both economic value and economic costs are subjective. Many neoclassical economists might be in full agreement with Buchanan on the above points. But whole fields in economics seem to rest on foundations that deny that costs are subjective, so not all economists should be classified as being economic subjectivists in the realm of costs.

### **Question 3: Can we survey people's subjective preferences?**

Many economists accept some theory of subjective marginal utility, and many also accept a theory of subjective marginal opportunity cost. Nevertheless, many disagree about how much external parties can know about individuals' subjective preferences. Many economists believe that outside parties can observe or survey individuals' utility functions with the goal of helping formulate future policies. Some of the more thorough economic subjectivists, however, argue that preferences are not constant and that it makes little sense to talk about someone's preferences independent of their specific time and place. "What are you in the mood for eating today?" is a much more sensible question than "What food do you always prefer to all others?"

Economic thinking is thinking at the margin, and the more thorough subjectivists argue that consistent marginal thinking means that it only makes sense to look at how people value goods in their specific situations. How much someone values a good at a given point in time will be influenced by a myriad of factors, including how much of all goods they have recently consumed. Mapping all goods in a person's "subjective" utility function becomes less and less possible as one considers the number of things that influence people in a given day. Little things can put people into

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<sup>4</sup> This is only a subset of arguments in the area of antitrust. The antitrust arguments based on Kaldor Hicks efficiency differ.

different moods that will change how they value other goods, so it is unclear how economists could map a utility function include all of the factors that might influence a person's mood and propensity to consume something at a given time.

Economic subjectivism can be extended further if one rejects the idea of constancy of preferences. Murray Rothbard (1956, pp. 228-230) criticizes those who attempt to observe or ask people about their preferences and then think they can map those people's preference for the future. Past choices do represent a person's preferences at the time they made the choice, but an attempt to create a map of someone's preferences will necessarily be limited to the past and specifically to that time period in which the person made the choices. For example, it would be a folly to observe a person make a choice as a young adult and infer that the person will make that same choice in his middle age. Even within short periods of time on two seemingly identical days, people may make a different choice. Yes, some people eat the same item at every meal, but the fact that this is so rare should lead us to question any theory that encourages us to assume that past choices reveal future preferences. Some people may make similar choices on a regular basis, but that does not imply they will always make that choice. F.A. Hayek (1968/2002, p.12) writes:

We might be able to notice certain regularities ('empirical laws' in the specific sense in which Carl Menger contrasted them to theoretical laws) in the observed behavior of these variables. Often these regularities apply, but sometimes they do not.

Austrian economists argue that economics differs from the natural sciences because economics deals with humans, who can always change how they react. Thus, observing past choices demonstrates preferences when people made the choice, but that does not imply that those revealed preferences will be constant over time. From this perspective, it makes little sense to talk about what someone prefers independent of their specific situation.

One can also apply this logic to surveys that attempt to ask people about their preferences. For example, many cost-benefit analyses use surveys to attempt to figure out how much people value

environmental amenities or public works projects. But many of the criticisms about inferring future demand based on observing past choices can be applied to surveys, and, in fact, surveys are even more problematic because they require people to consider their demand in unfamiliar situations.

Boudreaux, Meiners, and Zywicki (1999, p. 791) write:

Asking people to reckon their demand curves for all goods, services, and amenities under a welter of different conditions is to ask the impossible. The impossibility of mapping a full schedule of preferences for every given survey respondent means that, by necessity, a certain number of alternatives must be excluded from the menu of options over which a person can hypothetically spend his or her money.”

To these economists, it makes little sense to talk about how much people value something independent of them being in a specific situation where they have to make their choice. How much people value things will always be contingent on the time and place.

If one adopts this position, can economists say anything about people’s preferences? Rothbard argues that economists cannot say that an individual values a good in all circumstances; the only thing economists can say is that an individual considered a good valuable in a specific situation. By observing someone making a choice, Rothbard says that economists can deduce that the person preferred his choice *ex ante* at that time. Rothbard (1956, p. 225) writes, “[A]ctual choice reveals, or demonstrates, a man’s preference; that is, that his preferences are deducible from what he has chosen in action.” When someone purchases a beer rather than a glass of wine, we can say that the person preferred the beer to the wine at that time, but we cannot say that beer is always preferred to wine.

The implication of this aspect of economic subjectivism is that economists cannot go around telling government what people really want. Preferences not only differ between individuals, but people’s preferences change over time. When government makes choices for people rather than allowing individuals to make their own choices, they are assuming that they can know what individuals truly want independent of the market process. But according to Hayek, the outcome of

the market process cannot be known ahead of time. Hayek (1968/2002, p.9) says that we should “consider competition systematically as a procedure for discovering facts which, if the procedure did not exist, would remain unknown.”

#### **Question 4: Can we measure an individual’s utility?**

Furthermore, not all economists agree whether subjective utility is measurable. Some economists believe that individuals value goods based on their subjective preferences, but also believe that how much they value goods can be measured by external parties. The idea is that just as doctors observe heart rates using stethoscopes, economists can measure the utility levels of individuals. More thorough economic subjectivists, on the other hand, argue against this perspective. Representing this point of view, James Buchanan (1969, p.9) writes, “utility is a subjective phenomenon, and it is not something that can be externally or objectively measured.”

The first question is what would it take to measure utility levels. Economists would need to create a unit they are going to measure and then develop a way to measure that unit. Perhaps this could be done if economists could invent a utilometer to measure a person’s number of utils. No such device exists, however, and according to economists such as Rothbard, it never could. Rothbard (1956, p. 232) writes, “Psychological magnitudes cannot be measured since there is no objectively extensive unit—a necessary requisite of measurement. Further, actual choice obviously cannot demonstrate any form of *measurable* utility; it can only demonstrate one alternative being preferred to another.” Since utils do not exist, it is not possible to measure an individual’s total level of utility.

To the economic subjectivist, economists can observe whether someone prefers something at the margin, but they cannot observe the magnitudes. Mises writes, “To prefer and to set aside and the choices and decisions in which they result are not acts of measurement. Action does not measure

utility or value; it chooses between alternatives.” Individuals rank goods as having more or less utility at the margin, but considering marginal utilities does not imply that total utility exists. As Rothbard (1956, p. 234) writes, “*there is no such thing as total utility*; all utilities are marginal.” In the words of Mises (1949/1996, p.122), “There is no abstract problem of total utility or total value.”

Whereas some economists derive marginal utility mathematically as the first derivative of a person’s total utility function, Austrian economists such as Mises talk about an individual’s analysis of marginal utility as ordinal rankings of the relative value of additional units of a good. In the words of Mises (1949/1996, p.703), “acting man does not measure utility. He arranges it in scales of gradation.” When observing someone making a choice, economists can say that an individual preferred a glass of wine to a beer, but economists cannot say how much more he preferred the wine because there is no a way of measuring magnitudes of utils. Rothbard (1962/2004, p.258) writes, “Value scales of each individual are purely ordinal, and there is no way whatever of measuring the distance between the rankings; indeed, any concept of such distance is a fallacious one.” In this perspective, utility is ordinal, not cardinal. A good might provide marginal utility, but we cannot measure levels of total utility because there is no such thing as a “util.”

### **Question 5: Can we compare utility between individuals?**

The next way in which many economists believe in subjectivism less than others is their belief that one can compare utility between different people. One could believe that the utility of goods is determined by subjective preferences, but also believe that one can compare the utility of an item or the utility levels between two people. Consider the classic example of taking one dollar from a rich person and giving it to a poor person. Economists such as Arthur Pigou have argued that the principle of diminishing marginal utility implies a rich man does not value the dollar as much as a poor man, so redistributionist policies make society better off. A similar type of argument

is often used in antitrust law to content that preventing monopoly practices will cause consumers to gain more than companies lose.<sup>5</sup>

Despite the argument's popularity in policy debates, Lionel Robbins maintains that it attempts to extend the principle of decreasing marginal utility beyond what logic can prove. He says that the principle of decreasing marginal utility holds for individuals but that we cannot extend that argument between individuals. Robbins writes:

[I]t is one thing to assume that scales can be drawn up showing the *order* in which an individual will prefer a series of alternatives, and to compare the arrangement of one such individual scale with another. It is quite a different thing to assume that behind such arrangements lie magnitudes which themselves can be compared as between individual scales. (1932, p.122)

An individual can rank order how *he* values some choices in comparison to others, but to Robbins, economists cannot compare how two different people value choices. Any comparison between their relative levels of satisfaction would rest on interpersonal comparisons of utility, which Robbins and Rothbard argue are invalid. Rothbard (1962/2004, p.258) writes, “there is no way of making interpersonal comparisons and measurements, and no basis for saying that one person subjectively benefits more than another.”

Consider the example of taking a dollar from a rich man and giving it to a poor man. How can we say that the poor man will enjoy the dollar more? What if the rich person was a joyous soul and the poor person was miserable with everything he got? Rothbard (1962/2004, p.302) writes, “It is certainly possible that a Rockefeller enjoys the services of each dollar more than a poor, but highly ascetic, individual does.” The fact is that economists cannot make a judgment either way, because there is no scientific way to compare the relative satisfactions between different people. What would it take to measure the satisfaction levels between different people?

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<sup>5</sup> Again I should emphasize that this is only a subset of the arguments in the area of antitrust. The antitrust arguments based on Kaldor Hicks efficiency differ.

Robbins brings up an interesting question about the possibility of measuring people's utilities by examining the state of their bloodstreams, which might indicate how satisfied someone is. But to Robbins even this would not allow us to measure their comparative levels of utility. Robbins (1932, p.124) writes: "*There is no means of testing the magnitude of A's satisfaction as compared with B's.* If we tested the state of their blood-streams, that would be a test of blood, not satisfaction." Robbins adds, "Introspection does not enable A to discover what is going on in B's mind, nor B to discover what is going on in A's." Utility is a subjective phenomenon only in the mind of the person making a choice. One cannot make comparisons about two separate individuals who have different subjective assessments about the world.

Robbins and Rothbard maintain that the entire set of arguments about increasing social welfare by redistributing from rich to poor rests on invalid assumptions. To judge that redistribution makes society better off requires economists to measure the utility lost by the rich and compare it to the utility gained by the poor. But like it or not, no such measurement exists. Robbins writes:

Hence the extension of the Law of Diminishing Marginal Utility, postulated in the propositions we are examining, is entirely illegitimate. And the arguments based upon it therefore are all lacking in scientific foundation. ...The Law of Diminishing Marginal Utility does not justify the inference that transferences from the rich to the poor will increase total satisfaction. (1932, p.125)

In this perspective, one cannot say that the poor will value something more than the rich. Following this logic to its extreme means that economists cannot say that any one person derives greater utility from something than someone else. We might observe that they might have different willingness to pay or willingness to be paid, but we cannot conclude that one person derived greater utility than the other. To the thorough economic subjectivist, there is no way to measure or compare utility between different people.

**Question 6: Can we aggregate the utility of many people?**

To the more thorough economic subjectivists, utility is subjective; it is not cardinal, it is not comparable between people, and it cannot be measured. Nevertheless, some economists who have made important contributions to the theory of value subjectivism do not appear to be aware of the far reaching implications of their theory. For example, disagreement still exists about the ability to measure the total number of utils of all people in a society. Despite their arguments in favor of economic subjectivism elsewhere, some economists make surprisingly non-subjectivist arguments when defending their normative conclusions. From this perspective, many economists should not be classified as thorough subjectivists.

One of the more prominent examples of economists falling into this category is Ludwig von Mises. After making many of the subjectivist arguments mentioned above, Mises makes several arguments at odds with important aspects of economic subjectivism. At various points in his writings, Mises uses extremely non-subjectivist phrases such as the “well-being” of a nation, “commonweal,” “social utility,” and “social welfare” (Mises, 1949/1996, p.497, p.174, p.175, p.157, p.271, p.721). In fact, Mises’s whole defense of liberalism rests on his belief that policies should be judged against the yardstick of “human welfare” (Mises, 1949/1996, p.147). Mises writes:

From this point of view one may describe the objective of social cooperation as the realization of the greatest happiness of the greatest number. Hardly anybody would venture to object to this definition of the most desirable state of affairs and to contend that it is *not* a good thing to see as many people as possible as happy as possible. All the attacks directed against the Bentham formula have centered around ambiguities or misunderstandings concerning the notion of happiness; they have not affected the postulate that the good, whatever it may be, should be imparted to the greatest number. (Mises, 1949/1996, p.834)

Mises defends Bentham’s notion that property is valued for its utility rather than for other reasons external to economics such as morality (Mises, 1949/1996, p.175). It is curious then that Mises is often grouped with people who are much more subjectivist.

Besides the fact that “greatest happiness of the greatest number” aims at two conflicting goals (should we aim for the maximum happiness of a lesser number of people, or should we aim

for slightly less than maximum happiness for a higher number of people?), the concept is completely undefined. Nowhere does Mises specify what he means by “social utility,” “social welfare” or the “well being” of a nation. Mises’s notions, if they are to mean anything at all, seem to have much more in common with Harvard and M.I.T. economists Abram Bergson and Paul Samuelson, who believed both that one could examine society’s social welfare function and that one should formulate policy based on it.

It seems that Mises, Bergson, and Samuelson were all followers of Bentham, but the main difference between Mises and his Massachusetts counterparts is that the latter were more explicit about what they meant. Although Mises did not talk about social indifference curves, for policy to be judged based on how much “a policy is beneficial to the commonweal” (something he supports [1949/1996, p.175]), Mises had to believe that social welfare could be measured in some way. Otherwise, his standard is useless. One must conclude precisely that, however, if one accepts the economic subjectivism of later writers. Rothbard (1956, p.255) writes:

It is not possible, however, for an observer scientifically to compare the social utilities of results on the free market from one period of time to the next. As we have seen above, we cannot determine a man’s value-scales over a period of time. How much more impossible for all individuals!

To Rothbard, an individual can decide whether he likes Choice A versus Choice B at a specific moment in time, but he is not in a position to rank Choice A versus Choice B at different points in time. When trying to investigate how a policy affects “social utility,” one would need to develop a way of ranking the preferred state of the world according to the well being of the “commonweal.”

But if one accepts that utilities are ordinal rather than cardinal, one is led into a conundrum. Kenneth Arrow looked into deriving a social welfare function based on individuals’ ordinal preferences and found that under certain plausible conditions, the most socially preferable state of the world is undefined. One cannot say that social utility is higher in State of the World 1 compared to State of the World 2. A dictator could say *he* prefers State of the World 1 according to his

subjective preferences, but an economist could not say that either state of the world has higher social utility. From this perspective, the mathematical economist Kenneth Arrow is more of an economic subjectivist than Mises!

### **Question 7: Is monetary income a proxy for national utility?**

Until now we have been discussing ways in which many economists attempt to measure and aggregate individuals' subjective utility, things that cannot be done, according to the more thorough economic subjectivists. Many economists agree that there is no such thing as a util, yet they do not want to abandon welfare comparisons completely. Instead, they rely on other measures to try to approximate the well being of people. One of the more talked-about proxies for the well being of a nation is per capita income. Much of the literature on economic growth relies on per capita income statistics as the benchmark for comparing nations.

Money enables people to purchase goods, and since more is preferred to less, many economists assume that maximizing monetary income should be the normative goal of society. This standard does not rely on interpersonal comparisons of utility; instead, it relies on something that can actually be measured: dollars. Is this standard in accordance with economic subjectivism? Rothbard (1962/2004, p.300) writes, "We can—at least, theoretically—measure monetary incomes by adding the amount of money income each person obtains, but this is by no means a measure of psychic income." To Rothbard, individuals are concerned with utility or psychic income, not just monetary income: "it is *psychic* and not *monetary* income that is being maximized."

This position can be explained using simple economics from either a neoclassical or a Misesian approach. As Mises points out, monetary income is a positive, but needing to work to obtain monetary income is a negative (what Mises [1949/1996, p.65] calls the disutility of labor). When someone is free to make his own choice, he will choose his most preferred mix of labor and

leisure. In his ideal combination, an individual will want to work no more and no less. If, however, an individual is forced to work less and consume more leisure than he would have preferred, he is worse off because he will have less money because he worked less than preferred. Likewise, if an individual is forced to work more than he would prefer, then he is also worse off because although he has more money, he has less leisure than he would have preferred. In addition to the obvious examples of forced labor, basic microeconomics shows that many ways exist to make people work more than they would have liked. A lump sum tax, for example, makes a person poorer without reducing the marginal monetary payoffs of working and can induce someone to consume less leisure (that is, to work more) than he would prefer (Rothbard, 1962/2004, p. 915). In this case, monetary income in the society has gone up even though a person is made worse off. Or, in the case of forced labor, monetary income might go up even though those forced to work are obviously worse off.

This means that policies to maximize monetary income alone (without consideration of all of the non-pecuniary benefits or psychic income that individuals enjoy) will not make people happier. When individuals are free to maximize their psychic income, they will choose their optimal mix of labor and leisure, which for some includes working more in high paying professions. Others will choose a different combination, which could include non-monetary forms of psychic income such as living a life of contemplation. Can we say that one person has a higher psychic income than the other? Rothbard writes:

[P]sychic income, being purely subjective, cannot be measured. Further, from the standpoint of praxeology, we cannot even ordinally compare the psychic income or utility of one person with that of another. We cannot say that A's income or "utility" is greater than B's. (1962/2004, 300).

Outside observers can measure monetary income, but they cannot measure psychic income, which is what matters (Block, 1977, p.115). Because psychic income is immeasurable, one cannot compare two individuals and say that one is better off.

An implication of this point of view is that one cannot look at monetary incomes in different regions and conclude that one group is better off. The average person in Alaska has a higher monetary income than the average person in Hawaii, but we cannot say the average Alaskan is happier than the average Hawaiian, because we have no way to observe their psychic income. The same goes for the average person in Mexico compared to the average person in the United States.<sup>6</sup> Looking at monetary incomes might have some use, because low monetary income in a region might indicate that government has interfered more in the area of exchangeable goods, but it's entirely possible for a country to have high monetary income and a government that interferes more in choices relating to leisure.<sup>7</sup> More monetary income may be a good thing, but to the economic subjectivist, it's not the only thing.

#### **Question 8: Are migration patterns a proxy for national utility?**

Another way in which economists talk about obtaining a proxy for well being is by looking at migration patterns between countries. Following the Tiebout model to its extreme, Dinesh D'Souza (1999) says, "There is one pretty objective measure of what countries work well, and that is do people want to come there?" The most common examples are the net migrations from East Berlin to West Berlin and from Mexico to the United States. This proxy does not have the same problem of looking at monetary income, because when people choose where to reside they take into account not just monetary income but also the total psychic income of the two places. If we observe an individual choosing to migrate from country A to country B, we can say that the individual viewed the total package in country B as preferable to that in country A. Economists need not observe psychic income or compare utility levels; economists only need to observe people's choices.

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<sup>6</sup> Matters get even more complicated when prices and available goods differ between countries, not to mention preferences of individuals (Rothbard, 1962/2004, p.301).

<sup>7</sup> Restrictions on alcohol, drugs, or gambling can fit this bill.

Despite the simple grace of this theory, one can question how usable the standard is. While we certainly can say that the 10 million Mexicans who have migrated to the United States have demonstrated that they preferred current day United States to current day Mexico, can we say that the total or average utility is higher in the United States than Mexico? Mexico still has 100 million people who have not demonstrated that they prefer the U.S. to Mexico. One interpretation of their actions is that those 100 million people actually prefer living in Mexico to the United States. Does that demonstrate that Mexico is more preferred than the United States?

One could argue that in a zero transaction cost world without immigration restrictions, more than 10 million Mexicans would migrate to the U.S., and this might be true.<sup>8</sup> But if we observed 50 million people migrating and 60 million people staying, could we say that we say that the U.S. is preferable to Mexico? If one just counted numbers, more Mexicans are demonstrating that they prefer to live in Mexico than are demonstrating that they want to live in the United States. And even if the number migrating was 70 million compared to 40 million staying, unless economists had a way of measuring and comparing the total psychic income of those leaving to those staying, it's not clear what measuring the number of people making a choice even indicates. The migrants' consumer surplus or psychic income associated with migrating might be very small compared to the extremely large consumer surplus or psychic income of those staying. Economics is not just about adding up the numbers of people who make a choice. Following such a standard would imply that relative values of goods could be determined by voting, a view that is at odds with the most basic principles of economic subjectivism.

Another way that migrations patterns might be used would be to look beyond the number of Mexicans leaving versus staying, and instead compare the number of Mexicans migrating to the U.S.

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<sup>8</sup> On the other hand, it might not actually turn out that way. In a zero transaction cost world, it might be the case that all migrant workers would be hired from lower wage countries such as Vietnam rather than from relatively higher wage countries such as Mexico. Large numbers of Mexicans might be coming to the U.S. only because of the high transaction costs for Americans to hire other migrant workers.

to the number of Americans migrating to Mexico. This eliminates the problem stemming from the fact that most Mexicans and most Americans stay in their native country. But this standard also has problems. An estimated 10 million Mexicans live in the U.S., and an estimated 1 million Americans live in Mexico. However, many of these 1 million Americans are very rich expatriates who could have chosen to live anywhere in the world, whereas many of the 10 million Mexicans living in the United States have much more limited means. Which group of migrants benefits from their move more? Although the actual number of Americans preferring to move to Mexico is less than the number of Mexicans preferring the United States, unless one can measure the marginal utility gained by the 10 million Mexicans moving to the U.S. and compare that to the marginal utility gained by the 1 million Americans moving to Mexico, the net migration patterns say little about the total utility in a country. Coming to such a conclusion would be akin to saying that the 3 million Ford consumers derive more utility from their purchase than the 300,000 Mercedes consumers. We can deduce that the 3 million Ford consumers preferred their choice to all others, and we can deduce that the 300,000 Mercedes consumers preferred their choice to all others, but we cannot say that the Ford consumers preferred their choice more than the Mercedes buyers preferred their choice. And it would be entirely erroneous to try to infer from the data that Ford is better than Mercedes.<sup>9</sup>

### **Question 9: Can cost benefit efficiency be a proxy for utility?**

Monetary income and migration patterns cannot be used to make comparisons about national well being because they do not capture important aspects of utility, such as psychic income or consumer and producer surplus. The most popular way to take consumer and producer surplus into account is to perform a society-wide cost benefit analysis. This construct, known as Kaldor

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<sup>9</sup> It is even more problematic to use migration patterns show the superiority of free markets. Although many migrants go to nations with more economic opportunity, economic research also shows that higher welfare benefits are another motivating factor at the margin. Simply observing the net number of migrants does not enable one to disentangle these two factors.

Hicks efficiency, cost-benefit-efficiency, or simply economic efficiency, yields a measure of consumer surplus and producer surplus calculated in dollar terms. This construct has advantages over traditional social welfare functions because it does not attempt to sum up imaginary utils. Rather, it attempts to sum up an objective and cardinal unit: dollars. By looking at the net willingness to pay associated with different potential outcomes, economists obtain quantitative figures they can rely on to compare different policies. Bryan Caplan (1997) writes, “this criterion of efficiency has many advantages over Rothbard's approach. In particular, it actually allows one to make efficiency judgments about the real world – to judge, for example, that Communism was inefficient, or rent control is inefficient, or piracy was inefficient.”

Not only is economic efficiency held up as useful for positive analysis, but many economists also hold up Kaldor Hicks efficiency as their normative ideal. Policies, legal cases, and property rights should be determined based on how well they maximize economic efficiency. Supporters say that Kaldor Hicks efficiency is the best usable proxy for well being because it takes into account not only monetary income but also consumer and producer surplus.

But to some economic subjectivists, a comparison of the net willingness to pay associated with all different states of the world is much easier said than done. To the most thorough economic subjectivist, Kaldor Hicks efficiency requires outside observers to know more about individuals' utility functions than outside observers can know. Observing a transaction and market price is straightforward, but how can one observe consumer and producer surpluses for all goods, and how can one compare net consumer and producer surpluses in all possible states of the world?

At the current margin of choice, most Americans are willing to spend an additional one fifth of one cent to consume their 80<sup>th</sup> gallon of water in a given day, and the marginal utility of the 80<sup>th</sup> gallon exceeds the marginal utility of the \$0.002 foregone. But what is my consumer surplus for all 80 gallons? What is your hypothetical maximum willingness to pay for your 70<sup>th</sup> gallon, your 10<sup>th</sup>

gallon, or your 5<sup>th</sup> gallon? If someone had four gallons and was contemplating purchasing his fifth, we might be able to observe his willingness to pay for the fifth gallon. But given that we are so far from only having five gallons, it is difficult for most people to think about what they would do with those gallons of water or how much they would be willing to pay for each of them.

If calculating the consumer surplus for one person were not difficult enough, cost benefit efficiency requires the calculation of the consumer surplus of water for *everyone*. And once one has calculated the consumer surplus for water, the economist then has to calculate the consumer surplus for all other goods.<sup>10</sup> Once one is finished calculating total consumer and producer surplus for all goods for everyone in society, one then has to compare the net surplus associated with that state of the world with the net surplus of every other imaginable state of the world.<sup>11</sup>

To the most thorough subjectivist, not only is economic efficiency incalculable for simple positive analysis, but it's especially meaningless for normative issues. To those whose normative ideal is maximizing economic efficiency, property rights and all other policies must be formulated in a way that maximizes wealth, but to the economic subjectivist, a problem of infinite regress exists. When property rights are yet to be defined, willingness to pay is indeterminate, and when willingness to pay is indeterminate, no unique assignment of property rights maximizes wealth. Gerald O'Driscoll (1980, p.357) writes, "Maximization makes sense if we know who has what rights, and what rules govern the choice process. The suggestion that the maximization principle be used to

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<sup>10</sup> Once while I was in graduate school at a social event, a professor educated at the University of Chicago was pondering, "How do we calculate the consumer surplus for air?" I responded, "Simple, we just take the integral with respect to air."

<sup>11</sup> The advocate of economic efficiency might argue that efficiency comparisons do not require calculating the consumer and producer surplus for all goods in all states of the world; they just require calculating the marginal changes in consumer and producer surpluses between two states of the world. Although comparisons between two close states of the world might be easier, if that was all economists could do, they could not ensure they were at a global, as opposed to a local, optimum of economic efficiency.

determine the rights distribution and the legal rules is almost incoherent.” How can willingness to pay determine property rights when willingness to pay is determined by property rights?<sup>12</sup>

Since willingness to pay is only meaningful within a system of defined property rights, we have a circularity problem in using economics to render policy. Economists would need to know who owns the property to solve these maximization problems. Unless economists assume that all people are exactly the same and would spend their money exactly the same way, then the assignment of property rights will matter for evaluating economic outcomes. This means that economists cannot say that a certain outcome is socially preferable even if the standard is willingness to pay. The problem relates to the Scitovsky Reversal Paradox, which shows the potential incommensurability of efficiency levels. This is the case when the willingness to pay attached to one outcome exceeds another under the current assignment of property rights, but once property rights are rearranged, the ranking is the opposite. This problem can surface if preferences vary across individuals or if individuals’ preferences vary over time. Since changes in property rights can alter the production possibilities frontier, even in a simple two person world we can have a situation in which Person 1’s preferred bundle is only attainable in State of the World A and Person 2’s preferred bundle is only attainable in State of the World B. Which state of the world is more socially efficient (i.e., which state of the world will have the most willingness to pay associated with it)? The answer will depend on the distribution of property rights. When the first person is assigned a large portion of the property rights, the net willingness to see State of the World A will be higher than to see State of the World B, but when the second person is assigned a large portion of the property rights, the results will be the opposite. Rizzo (1980, 646) writes, “There is no way, then, to stand outside the law and see how it measures up against an external standard.”

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<sup>12</sup> The following four paragraphs are based on Stringham and White (2004, pp.378-80).

Consider an example of a neighbor who wishes to play his stereo at night when a neighbor wishes to sleep in perfect quiet. If the person wishing to sleep is a rich old man and the person wishing to play the stereo is a poor young man, chances are the rich man is willing to pay a lot more money for quiet than the young man is willing to pay to play. In this case, a quiet neighborhood is Kaldor-Hicks efficient. But if property rights were reassigned so that the old man becomes a poor miser and the young man becomes a rich bachelor, the willingness to pay associated with quiet will decrease and the willingness to pay associated with music will increase. Is the society with the music richer than the quiet society? Since the two have different preferences, the willingness to pay associated with the two outcomes will differ according to the assignment of property rights.

The inability to determine the efficient outcome is an issue whenever property rights are up in the air. Consider someone who accidentally damages a statue of Stalin outside the residence of a government official. Is this action efficient or inefficient? If the net willingness to pay attached to having the statue in place is positive, then damaging the statue is inefficient, and if the net willingness is negative (assuming the transaction costs of negotiating to remove the statue are prohibitive), then damaging the statue is efficient. But the evaluation will clearly be contingent on the existing assignment of property rights. In societies where dictators own a large portion of resources, we see high prices associated with Stalin statues (either in terms of willingness to pay or willingness to be paid to remove the statues), but when property rights are rearranged away from dictators, these statues become worthless, and, historically, are often destroyed. When a Stalin loving dictator owns most of the property, the state of the world with the Stalin statue in place is more efficient (the willingness to pay attached to that outcome is higher), but when individuals own most of the property, the state of the world without the Stalin statue is more efficient. Is the society with numerous statues of government officials richer than a world without? We cannot answer the

question unless we know the distribution of property rights. Rizzo (1980, 646) writes, “There is no way, then, to stand outside the law and see how it measures up against an external standard.”

If determining what state of the world is richer for one society is not difficult enough, these issues are even more problematic when making income comparisons between different societies. One must consider not just how one society would rank two social outcomes, but how two societies with different sets of preferences would compare outcomes. When price vectors, preferences, and population size in two societies differ, comparisons about which society is better off becomes even more awkward (Sen, 1976).

It makes sense to examine how much people value things at the margin *in their existing situations*, and speculators might also guess about how people will react in slightly different situations. But how much people are willing to pay for goods is influenced by each individual’s time and place. As Hayek has argued, it is precisely because nobody knows that outcome of markets that we need markets. An outside observer cannot peer into the minds of all individuals and calculate not only market prices, but also the entire consumer surplus for all goods for all possible states of the world. Without being able to compare the net surpluses associated with different states of the world, economists cannot make comparisons about which societies are more economically efficient.

**Question 10: Can a Demonstrated Preference Approach to the Pareto Principle allow us to make relative comparisons about social utility?**

If one rejects all of the above ways of making welfare comparisons between different states of the world, what is one left with? In *The Elgar Companion to Austrian Economics* entry on “Austrian Welfare Economics,” Tyler Cowen (1998, p.304) writes, “Welfare economics has received only sporadic attention from those economists usually classified as Austrian. In some cases, the Austrians argue explicitly that welfare economics is an empty box.” One set of arguments that Cowen mentions is Rothbard’s “Toward a Reconstruction of Utility and Welfare Economics,” in which

Rothbard critiques existing conceptions of welfare economics and then presents a different point of view.

Rothbard's proposal can be seen as a twist on Pareto's concept of efficiency. The mainstream conception of Pareto efficiency says both that something is an improvement if it makes at least one person better off without making anyone worse off, and that the world is efficient if no remaining Pareto improvements exist. While many economists pay lip service to this conception of efficiency, few economists use it for real world policy prescriptions because as long as at least one person does not like to see others gain, then nothing can be a Pareto improvement. In Rothbard's (1957, p.250) proposal, on the other hand, "we are not interested in his opinions about the exchanges made by *others*, since his preferences are not demonstrated through action and are therefore irrelevant," so he concludes that all one can say is that trade makes parties better off while making no one worse off. Government intervention, in contrast, may benefit the intervener, but we know that it necessarily makes at least one person, those coerced by the intervention, worse off. Following the premises of the Paretian economists, Rothbard goes on to state:

Generally, even the most rigorously Wertfrei economists have been willing to allow themselves one ethical judgment: they feel free to recommend any change or process that increases social utility under the Unanimity Rule. Any economist who pursues this method would have to (a) uphold the free market as always beneficial, and (b) refrain from advocating any governmental action. In other words, he would have to become an advocate of "ultra" laissez-faire. (1956, p.253)

Since government action makes at least one person worse off, whereas markets allow all people to maximize (subject to the constraints of the market) their individual utility, Rothbard then states that we can say "that the free market maximizes social utility."

This argument has received a lot of attention, some of it positive but much of it negative. Authors such as Laurence Moss and David Prychitko have criticized Rothbard's discussion of social utility. Some economists argue that Rothbard is illegitimately attempting to blend positive economics with libertarian policy conclusions, and others hold that Rothbard is illegitimately making claims

about society's cardinal utility. Might it be that Rothbard is not as thorough of a subjectivist as many people believe?

Despite the controversy of those pages in Rothbard, an interesting and little known fact is that Rothbard himself did not take them too seriously. On a tape recorded lecture series with little circulation, "A Short Course on Free Market Economics,"<sup>13</sup> Murray Rothbard actually says, "I had a lot of fun with this myself...in my first article that ever came out." He describes how trade increases the utility of both parties involved, and then he says, "If we want to use the term society, which I do not really like anyway, then we can say that social utility is increased." He then says, "When the government enters the picture whatever the government does decreases someone's social utility, usually of course it's the taxpayer." Rothbard then states:

Unfortunately I have been accused, or I won't say accused, it has been maintained that my whole my whole basis for laissez faire rests on this whole *social utility nonsense* (emphasis added). *Of course* it really doesn't. It's all *really a gimmick* (emphasis added) to show that if you really go along with this whole Pareto-optimality-social-utility then you have to confine yourself to laissez faire. It's not my major argument for laissez faire. At any rate, the trouble with those people who think it's my major argument are so inamorate that that's all they can focus on. (Rothbard, Tape 6, "Cost of the Firm" Side B, 35:57 to 37:44)

Thus, while some economists have chided Rothbard's alleged formalism in welfare economics as a pretense of knowledge and others have defended it, they all seem to be reading too much into his writing. Rothbard did not claim to be able to compare the levels of social utility in the free market to other systems. And ultimately, Rothbard was explicit that his defense of the free market depends not on utility comparisons but on rights.

## Conclusion

The principles of economic subjectivism underlie much of modern economics, and their importance cannot be overstated. But although almost all economists believe that goods are valued

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<sup>13</sup> I am grateful to Bryan Caplan for spending more than \$100 when these tapes were available and allowing me listen to his copy.

based on how much they satisfy a person's subjective preferences, some economists believe in economic subjectivism in more ways than others. Rather than classifying economists as subjectivists or non-subjectivists, this essay has discussed some of the ways that economists may or may not be subjectivists. If given a test on economic subjectivism, certain neoclassical economists will score higher than others. Bryan Caplan, for example, might be in agreement with the most thorough subjectivist on Questions 1-8.<sup>14</sup> In that sense, an economist like Caplan might score higher on an economic subjectivism test than someone who believes in social utility, such as Ludwig von Mises. But when it comes to Question 9 about cost benefit efficiency, Caplan would score lower on the economic subjectivism test than Lionel Robbins or Murray Rothbard. The more thorough subjectivists would say that outside observers cannot know how much an individual would be willing to pay for all units of a good under different circumstances, so they cannot calculate and compare consumer surpluses for different states of the world. Yes, Caplan is correct that almost all economists can be classified as believing in some type of economic subjectivism, but many can only be classified as believing in economic subjectivism in the weakest sense. Economists will disagree over what is optimal realm of economic subjectivism, but they should agree that not all economists embrace economic subjectivism to the same degree.

Economic subjectivism has many implications from positive and normative points of view. From a positive point of view, economic subjectivism rules out many of what might be considered the unscientific endeavors of economists. Robbins (1932, p.125) writes, "Indeed, all that part of the theory of Public Finance which deals with 'Social Utility' goes by the board." Positive economics would still have a lot to say about the world; it just would not attempt to do things like claim to compare total levels of utility. From a normative point of view, although economic subjectivism is

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<sup>14</sup> Caplan, of course, might score lower, but the extent to which a neoclassical economist like Caplan would not fully agree with the most thorough subjectivists on questions 1-8 further strengthens my point that not all economists "embrace subjectivism" (to use Caplan's words) in the same way.

completely value free, embracing it means one is more likely to actually rule out whole classes of normative prescriptions. For example, the person who rejects interpersonal comparisons of utility is less likely to support schemes that forcibly make some worse off for the betterment of the commonweal. Nothing is stopping the economic subjectivist from supporting a specific policy for other normative reasons, but it would be illogical for him to reject adding up utility and then support a policy because it increases total utility.

Exactly how much one embraces economic subjectivism is likely to influence the types of policies one is willing to support. Let us consider some examples. Economists who embrace even moderate subjectivism are much less likely to favor laws mandating that goods be priced according to the number of hours they take to make.<sup>15</sup> This might be one of the reasons why full fledged socialists are rarer among economists as compared to other groups. For those economists who delve deeper into economic subjectivism, there are further implications still. Economists who embrace the subjectivism of costs are less likely to favor laws that mandate how much firms charge. Economists who recognize that preferences differ among individuals, are not constant, and are not readily apparent independent of actual choice will not be likely to favor government schemes to provide “goods” for the benefit all people.

Many justifications for government use utilitarian arguments, which assume that subjective utility is cardinal and commensurable between different people. But the most thorough economic subjectivists reject these premises. How can we maximize the sum of utils in society when we have no way of adding up or even measuring imaginary utils?<sup>16</sup> In addition to rejecting utilitarianism, the most thorough subjectivists reject other attempts to create proxies for societal well being such as monetary income, migration patterns, or cost benefit analysis. Each of these policies measures

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<sup>15</sup> Nothing would stop an economic subjectivist from advocating such a policy since economic subjectivism is only about positive economics, but most people would probably find that position questionable.

<sup>16</sup> Such criticisms apply equally to act utilitarianism and rule utilitarianism because even though the theories have differences, both of them attempt to maximize utils in society.

something, but none measure psychic utility. If consequentialist theories such as utilitarianism or economic efficiency are meaningless, then what are we left with? For one, economic subjectivism does not rule out deontological or rights based theories. Perhaps this is why many thorough economic subjectivists happen to judge policy based on rights. Economic subjectivism does not provide any arguments for rights, but it rules out a substantial number of consequentialist schemes.

## References

- Block, Walter (1977) "Coase and Demsetz on Private Property Rights" *Journal of Libertarian Studies* 1(2): 111-115.
- Boudreaux, Donald, Roger Meiners, and Todd Zywicki, (1999), "Talk is Cheap: The Existence Value Fallacy," *Environmental Law* 29(4): 765-809.
- Buchanan, James M. (1969) *Cost and Choice: An Inquiry in Economic Theory*. Chicago: University of Chicago.
- Caplan, Bryan. 1997. "Why I Am Not an Austrian Economist." Unpublished Manuscript. Available at: [www.gmu.edu/departments/economics/bcaplan/whyaust.htm](http://www.gmu.edu/departments/economics/bcaplan/whyaust.htm).
- Cowen, Tyler (1994) "Austrian Welfare Economics" in Peter J. Boettke (ed.), *The Elgar Companion to Austrian Economics*, pp. 304-312, Cheltenham, UK: Edward Elgar.
- D'Souza, Dinesh (1999) "Transcript of Interview with John Stossel" in *Is America Number One?* [www.abcnews.go.com/onair/ABCNEWSSpecials/stossel990919\\_scriptA.html](http://www.abcnews.go.com/onair/ABCNEWSSpecials/stossel990919_scriptA.html)
- Hayek, Friedrich (1968/2002) "Competition as a Discovery Procedure" reprinted in *Quarterly Journal of Austrian Economics* 5(3): 9-23.
- Mises, Ludwig Von (1949/1996) *Human Action: A Treatise on Economics* (4<sup>th</sup> edition) San Francisco: Fox and Wilkes.
- O'Driscoll, Gerald (1980) "Justice, Efficiency, and the Economic Analysis of Law: A Comment on Fried" *Journal of Legal Studies*, 9(2): 355-366.
- Rizzo, Mario (1980) "The Mirage of Efficiency" *Hofstra Law Review* 8(3): 641-658.
- Robbins, Lionel (1932) *An Essay on the Nature and Significance of Economic Science*. London: Macmillan.
- Rothbard, Murray (1956) "Toward a Reconstruction of Utility and Welfare Economics," in Mary Sennholz (ed.), *On Freedom and Free Enterprise: Essays in Honor of Ludwig von Mises*, pp. 224-262, Princeton: Van Nostrand Company.
- Rothbard, Murray (1962/2004) *Man, Economy, and State*. Auburn, AL: Mises Institute.
- Sen, Amartya (1976) "Real National Income" *Review of Economic Studies* 43(1): 19-39
- White, M. and Stringham, E. (2004) "Economic Analysis of Tort Law: Austrian and Kantian Perspectives" in *Law and Economics: Alternative Economic Approaches to Legal and Regulatory Issues*, M. Oppenheimer and N. Mercuro (eds.), pp. 374-92, New York: M.E. Sharpe.