# The behavioral foundations of Austrian economics

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Abstract Behavioral and experimental economics present challenges to the neoclassical theory of individual behavior, which is based on individuals making choices within the framework of utility functions that are assumed to have certain well-defined characteristics. Results in behavioral and experimental economics have shown that it is common for individual behavior to systematically deviate from the neoclassical axioms of utility maximization. Austrian economics is also based on axiomatic theories of utility maximization, but the assumptions underlying utility-maximizing behavior are much weaker in the Austrian approach. As a result, they have more solid behavioral foundations and are less subject to challenge by the empirical findings of behavioral and experimental economics. Neoclassical policy conclusions are often overly strong because of its behavioral foundations which are challenged by behavioral and experimental economics and are often misleading because of the comparative static nature of neoclassical welfare economics. For purposes of policy analysis, the Austrian approach provides better insights because of its more realistic behavioral foundations.

**Keywords** Behavioral economics · Utility maximization · Austrian economics · Welfare economics

JEL Codes D03 · D60

In the last several decades of the twentieth century, and on into the twenty-first, behavioral and experimental economics have been areas of growing prominence within economics. This was recognized in part by the awarding of the 2002 Nobel Prize in economics jointly to Daniel Kahneman, for his contributions to behavioral economics, and Vernon L. Smith, for his contributions to experimental economics. These subdisciplines present challenges to the neoclassical theory of individual

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behavior, which is based on individuals who maximize their utilities by making choices within the framework of utility functions that are assumed to have certain well-defined characteristics. While the neoclassical theory of individual behavior is axiomatic, in the sense that individuals are assumed to act in accordance with certain assumptions, behavioral and experimental economics are empirically based. Behavioral economics looks at the psychological foundations of individual behavior and shows that individuals sometimes make choices that violate the neoclassical assumptions in a systematic way, and experimental economics observes behavior within controlled experimental settings and also finds evidence of behavior that is at odds with the neoclassical assumptions. This creates an inherent tension between neoclassical economics and behavioral and experimental economics. If behavioral and experimental economics challenges the neoclassical assumptions about individual behavior, then it also challenges the conclusions that are based on those assumptions.

The Austrian approach, while also largely axiomatic in its behavioral foundations, employs weaker assumptions about human behavior and assumptions that are not at odds with the findings of behavioral and experimental economics. Whereas neoclassical economics assumes that individuals have diminishing marginal rates of substitution, that preferences are transitive, and more, Austrian utility theory rests on the weaker assumption that when faced with a choice, individuals will choose the option they most prefer. This makes the Austrian approach immune to the challenges that behavioral and experimental economics pose to the neoclassical framework. This paper examines the behavioral foundations of Austrian economics and then looks at the implications of these behavioral foundations to show their relevance, especially with regard to welfare economics and policy applications.

### 1 Behavioral and experimental views on individual choice

In his discussion of behavioral economics, Kahneman (2003) describes individual behavior as boundedly rational, following Simon (1955). Kahneman (2003: 1449) notes that people have systematic biases in their behavior and beliefs that make people's actual choices different from those that are assumed in the rational agent models of neoclassical economics. Kahneman goes on to note that the findings of behavioral economics have implications for economic research generally. When compared to the neoclassical utility maximization framework, some choices people systematically make appear to be anomalies, according to Kahneman et al. (1991). They go on to describe empirically documented anomalies in which people do not act as the neoclassical model predicts, and indeed where actual behavior appears to be suboptimal, using neoclassical utility maximization as the benchmark.

Vernon Smith (1982) makes a similar point with regard to experimental economics, where he differentiates what economics has created from what it has discovered. The theories and hypotheses generated by economics are creations, but economists cannot be confident that those creations represent the facts of the world until they have been found to correspond to reality by observation. Smith (1974: 321) criticizes neoclassical economics, "...the microeconomic theory of the pre-1960s..." as a "dead end." He says, "Fortunately for the economy, but unfortunately for academic economics, this



formulation of Pareto efficiency is not the problem that real markets and other allocative institutions attempt to solve."

Smith (1994) echoes sentiments similar to Kahneman's in describing the role of experiments in economics. Theories can be tested in the laboratory, and when theories fail, the reasons for the failures can be explored in a laboratory setting. Smith notes the same anomalies as Kahneman et al. (1991) and argues that an experimental setting can help uncover the reasons for those anomalies. Isaac (2002) discusses the free rider problem, noting studies by Smith (1980), Palfrey and Prisbrey (1997), Ledyard (1995), and others showing that in experimental settings, people do not behave as the neoclassical framework would predict.

Smith also emphasizes that institutions matter. People make choices in settings that appear identical within the choice-theoretic setting of neoclassical economics but that have subtle institutional differences. Camerer (2003) gives a good overview of experimental results that find regularities in human behavior outside the predictions of neoclassical utility theory and that show how subtle differences in institutional structure can lead to measurably different choices on the part of individuals. Naturally, this points toward analyzing the institutional framework within which people engage in economic behavior rather than analyzing behavior in a setting that is purposefully designed to be devoid of institutional details. In theory, an advantage of analyzing behavior in a setting that is devoid of institutional details is that the conclusions of such analyses should be applicable across a variety of institutional settings. In practice, however, because the institutional setting does affect the choices people make, this apparent advantage of an institution-free framework turns out to be a disadvantage, at least when the goal is to understand the way that people behave in real-world settings.

The line between behavioral and experimental economics is blurred because both use experimental methods to search for empirical regularities in individual behavior. In practice, behavioral economics has tended to focus more on behavioral anomalies that appear to contradict the axioms of neoclassical utility maximization, whereas experimental economics has tended to focus on finding behavioral regularities in settings where the predictions of neoclassical utility theory are ambiguous. Even this generalization does not always hold up, however, so this paper discusses behavioral and experimental economics as if they are two components of one broader area of inquiry based on their common experimental methodology.

Behavioral and experimental economics are relatively new as economic subdisciplines, having appeared only in the last half of the twentieth century. While the economics profession treats them as subdisciplines, they are perhaps more accurately viewed as alternative methodologies for developing theories of economic behavior. The mainstream method in economics of developing theories of behavior is conjecture based on axioms of rational choice. But it is clear from behavioral and experimental economics that people do not actually behave as those axioms dictate in many real-world situations.

<sup>&</sup>lt;sup>1</sup> Note, for example, Camerer (2003), which bears the title of behavioral economics, but which cites literature which mostly falls into the "experimental" category, indicating the fuzzy distinction between the two.



#### 2 Neoclassical economics

Perhaps the prototypical exposition of neoclassical economics is found in Ferguson (1968). While this is the pre-1960s microeconomic theory that Vernon Smith referred to, it also is representative of the microeconomic theory that appears in contemporary microeconomics textbooks such as Besanko and Breautigam (2005), Browning and Zupan (2003), Frank (2003), Pindyck and Rubinfeld (2005), and Varian (2003) and more to the point, which lies at the foundation of twenty-first century neoclassical economics.<sup>2</sup> Ferguson (1968, Chapter 2) lays out the neoclassical assumptions of individual behavior, starting with full knowledge. "First, we assume that each consumer has complete information on all matters pertaining to its consumption decision" (p. 11). The framework further assumes that the utility function establishes a rank ordering for every possible consumption bundle (with indifference allowed), that preferences are transitive, and that more is preferred to less. Preferences must be stable in order for any analysis of choice to be made over time and for the application of the theory of individual choice to be extended to welfare economics.<sup>3</sup>

The assumptions underlying the neoclassical theory of individual behavior will be well known to readers of this paper, so there is no reason to go into them in more detail. However, one issue that does need to be considered is whether by taking this very restrictive framework, the paper sets up a "straw man" that is too easily subject to attack. Economic analysis has extended this neoclassical framework in many ways, changed, examined, or dropped all of its assumptions at one time or another and has examined economic phenomena within a great variety of institutional and behavioral settings. In that sense, this basic neoclassical framework might be viewed as a straw man. Yet typically, when general issues of economic policy are analyzed, the individuals within economic models conform exactly to this neoclassical straw man. Within neoclassical general equilibrium models in particular, the models tend to be so mathematically complex that the simple behavioral assumptions of neoclassical economics must be employed just to keep the models tractable.

While it is true that mainstream economics has gone well beyond this simple neoclassical framework in many cases, it tends to be the case that one assumption at a time is relaxed to look at its effect, holding the others constant. Analysts might relax the assumption of perfect information, as for example in Ackerlof (1970) and Spence (1973), but retain the other neoclassical assumptions of utility maximization. In this sense, the neoclassical model is a straw man. But when neoclassical economics is used to derive conclusions about general economic welfare, the

<sup>&</sup>lt;sup>3</sup> This statement on the stability of preferences in fact goes beyond the comparative static neoclassical framework where time is assumed away, but dynamic neoclassical general equilibrium models incorporate time, with stable preferences.



Two of these books—Besanko and Breautigam (2005) and Varian (2003)—make especially interesting comparisons when looking at the features of the neoclassical framework. While both those books are heavily neoclassical along the lines of Ferguson (1968), other books by the same authors—Bensanko et al. (2004) and Shapiro and Varian (1999)—present a much more process-oriented approach to the behavior of firms. Thus, while Besanko and Varian are very neoclassical in their presentation of textbook microeconomic theory, they clearly recognize economic behavior that goes well beyond what the neoclassical model describes. It is the neoclassical economics in their textbooks that lays the foundation for standard models of economic analysis in the early twenty-first century, however.

framework, laid out nicely by Bator (1957) and Graaf (1957) and retained to the present day, relies on the strong neoclassical assumptions of individual behavior that behavioral and experimental economics have called into question.

Neoclassical economics lays out axioms of individual behavior and behavior that conforms with those axioms is "rational." Thus, following the methodology of positive economics laid out by Friedman (1953), neoclassical economics predicts individual behavior and provides testable hypotheses. If economists really adhered to this positivist framework, the "anomalies" found by behavioral and experimental economics would be considered evidence that neoclassical utility theory has been falsified, but as Holcombe (1989, Chapter 5) explains, this does not happen, nor would it be desirable for it to happen. Considering the neoclassical theory of individual choice within the context of behavioral and experimental economics, however, it is apparent that the behavior described by neoclassical utility theory is often at odds with the systematic choices people actually make.

### 3 Austrian economics

The Austrian theory of individual behavior is much less demanding of the individuals whose behavior it describes. von Mises (1998: 18–19), an authoritative reference on the ideas of the Austrian school, says, "Human action is necessarily always rational....When applied to the ultimate ends of action, the terms rational and irrational are meaningless. The ultimate end of action is always the satisfaction of some desires of the acting man. Since nobody is in a position to substitute his own value judgments for those of the acting individual, it is vain to pass judgment on other people's aims and volitions. No man is qualified to declare what would make another man happier or less discontented." von Mises (1998: 20) goes on to say, "It is a fact that human reason is not infallible and that man very often errs in selecting and applying means. An action unsuited to the end sought falls short of expectation. It is contrary to purpose, but it is rational, i.e., the outcome of a reasonable—although faulty—deliberation and attempt—although an ineffectual attempt—to attain a definite goal."

As Mises sees it, all human action is rational in the sense that people act only in order to improve their well-being. What would improve someone's well-being is up to that individual to decide and cannot be specified by the axioms of economics. Thus, while the neoclassical framework lays out a set of axioms from which testable implications can be derived, the Austrian framework axiomatically accepts all human action as utility maximizing, given the goals of the actors. Of course people can make mistakes, but utility maximization is not a testable hypothesis in the Austrian framework, as it is in the neoclassical framework.

Rothbard (2004: 4), another authoritative Austrian reference, says, "All human life must take place in *time*. Human reason cannot even conceive of an existence of or action that does not take place through time. At a time when a human being decides to act in order to attain his end, his goal, or end, can finally and completely be attained only at some point *in the future*" (emphasis in original, in this and all quotations that follow). With this statement, Rothbard calls into question the applicability of the comparative statics methodology of neoclassical economics,



which is timeless. Along these lines, Rothbard (2004: 307) goes on to say, "Almost the entire edifice of contemporary economics in consumption theory has been built on the 'indifference' assumption. Its basis is the treatment of large-sized classes of combinations of two goods, between which the individual is indifferent in his valuations. Furthermore, the differences between them are infinitely small, so that smooth lines and tangents can be drawn. The crucial fallacy is *that 'indifference' cannot be a basis for action*. If a man were really indifferent between two alternatives, he could not make any choice between them, and therefore the choice could not be revealed in action....Any action demonstrates choice based on preference: preference for one alternative over others."

Rothbard (2004: 311) continues, "...suppose that a man, Jones, chooses each of two alternatives A and B about 50 percent of the time, upon repeated opportunities. This shifting is alleged to be a demonstration that Jones is really indifferent as between the two alternatives. Yet what is the reasonable inference? Clearly, in some cases, A was preferred to B on Jones' value scale, and that in the others, the positions were shifted so that B was preferred to A. In no case was there indifference between the two alternatives."

The Austrian theory of individual behavior and consumer choice is based on what Rothbard (1956) has referred to as demonstrated preference. Nobody can know the preferences of others, and others act only in order to try to attain their goals, whatever they may be. Therefore, when individuals are observed to act, they are demonstrating their preference for alternatives they choose over those they do not. Because action takes place over time, when placed in the same situation, individuals could choose one option one time and another the next and be completely rational. Indeed, such actions would have to be rational following the underlying assumptions of Austrian utility theory. People make the choices they do in order to increase their utility.

Austrian utility theory assumes only that people act to further their goals. Thus, all individual behavior is consistent with Austrian utility theory, and any findings of behavioral regularities—or irregularities—in behavioral and experimental economics remain consistent with a utility theory that posits only that people act to further their goals. In the Austrian framework, any action is assumed to have been undertaken to increase the utility of the actor, and the Austrian framework does not specify what those goals might be. Meanwhile, because neoclassical utility theory assumes that utility functions have characteristics that imply specific kinds of actions in certain situations (such as diminishing marginal rates of substitution and transitivity), behavioral and experimental economics can—and have—called into question the basic framework of neoclassical utility theory. Indeed, the "anomalies" that Kahneman et al. (1991) cite are anomalies only because they describe behavior that violates the neoclassical assumptions. Austrian utility theory is completely consistent with the findings of behavioral and experimental economics because it is consistent with all observed behavior.

<sup>&</sup>lt;sup>4</sup> Williamson (1990) discusses the new institutional economics within a framework where all individual choices are rational, albeit with the limits that come with limited knowledge, so the arguments here could be extended to make a connection between Austrian economics and much of the analysis of the new institutional economics, as Williamson (1990) defines it.



### 4 Models and assumptions

Having established the fundamental differences in the behavioral foundations of Austrian and neoclassical economics, it is worth considering whether if one of these approaches is accepted, the other can ever be justified. The answer, based on Holcombe (1989), is yes. Models are simplified depictions of reality, and their simplifying assumptions are a virtue. The real world is a complex place—too complex to understand just by observation alone—and the purpose of a model is to create a simplified framework that is analogous to some features of the real world, but easier to understand. Indeed, if real-world economic phenomena could be understood just by observing them, there would be no reason to model those phenomena. The virtue of a model that is simpler than reality is that if someone can understand the model, and if the model works in a manner analogous to the real world, then that person can gain some understanding about the real world. But because all models are simplified depictions of reality, no model can be ideal for understanding every aspect of the real world. Those aspects of the real world that are assumed away in the model cannot be explained by it, and often, unrealistic assumptions lead to inaccurate conclusions about the real world.

Neoclassical economics provides a good framework for examining some aspects of the economy. For example, a simple Marshallian supply and demand framework is an excellent device for showing why a price ceiling will cause a shortage because it focuses on the primary causal factors: Holding a price below equilibrium will cause the quantity supplied to decrease and the quantity demanded to increase. The model makes some unrealistic simplifying assumptions and assumes much about the real world away, but that is a virtue because in so doing, the model focuses on the characteristics of the real world that are most important for understanding the effect of a price control. The timeless comparative statics methodology is helpful in this case because it says, if these conditions exist (no price control), this would be the result, whereas with all else unchanged, if these conditions exist (price control), this different result (a shortage) would be the result. That is exactly the hypothetical experiment one would want to undertake to understand the effect of a price control.

Just because the neoclassical framework is good at illuminating some economic processes does not imply that it is the best framework for everything. All models make unrealistic assumptions and assume some things away, and behavioral and experimental economics show that one unrealistic component of neoclassical economics is its behavioral foundations, which are called into question by real-world observation. While those behavioral foundations may be good simplifying assumptions for some purposes (such as understanding why price ceilings cause shortages), they cannot hope to shed light on issues that they assume away. In the neoclassical framework, optimal public policy is policy that produces a Pareto optimal outcome, and that outcome is generated (in the model) by utility-maximizing individuals who behave in ways that behavioral and experimental economics show is unrealistic. Therefore, the use of the neoclassical benchmark of Pareto optimality to analyze policy issues must be questioned because of its unrealistic depiction of utility maximization.

Simplifying and unrealistic assumptions in models are assets because they make the phenomena they are analyzing more understandable. However, they can be



misleading when those assumptions assume away the issues they are trying to analyze. The arguments below suggest that this is the case when the neoclassical framework is applied to public policy issues.

### 5 Behavioral assumptions and policy conclusions

The questions that behavioral and experimental economics pose for neoclassical utility theory are of more than just theoretical interest. Neoclassical utility theory lies at the foundation of neoclassical welfare economics, which is the neoclassical framework used to evaluate the efficiency of public policy proposals. If the assumptions of neoclassical utility theory do not hold, then the neoclassical framework for efficiency would have no real-world counterpart, making it inappropriate for analyzing public policy issues related to economic welfare.

The neoclassical framework, well explained by Bator (1957) and Graaf (1957), sets up Pareto optimality as a benchmark for evaluating policy proposals. If the conditions for Pareto optimality are not met, the market fails, as Bator (1958) explains, and the policy goal is to design policies that move the economy to a Pareto optimal allocation.<sup>5</sup> Neoclassical welfare maximization is the basis for policy conclusions in the neoclassical framework. If analysis reveals that some factor (e.g., externality, monopoly, public good, informational asymmetry) prevents the market from allocating resources efficiently, there is a market failure that may justify a public policy to move resource allocation to a Pareto optimum. As long as resource allocation falls short of Pareto optimality, there is room for policies to improve welfare.<sup>6</sup>

A fundamental problem with this approach to evaluating public policy is that the ideal outcome in the neoclassical framework—Pareto optimality—toward which public policies should lead, is an unobservable and untestable benchmark. It is a theoretical construction, and there is no way to tell whether an economy is at a Pareto optimum or close to one, or even whether particular policy changes move the economy closer to a Pareto optimum or further away. Indeed, Lipsey and Lancaster's (1956) theory of second best suggests the futility of Pareto optimality as a benchmark for policy analysis, yet half a century later, the profession has completely ignored their point.

For purposes of analyzing public policy in the real world, a fundamental conceptual problem with Pareto optimality as a benchmark for evaluating policy is that it is based on the behavioral foundation of utility functions that are stable, continuous, transitive, and exhibit diminishing marginal rates of substitution. The behavioral foundations underlying the neoclassical policy framework are assumed, and it is this assumed foundation that behavioral and experimental economics call into question. If actual utility functions do not have these properties, then the

<sup>&</sup>lt;sup>6</sup> This line of reasoning sets aside the public choice objection raised by Buchanan (1975) that government policies may also fail to allocate resources Pareto optimally. The point is, in the neoclassical framework, if the economy is not at a Pareto optimum, there is a potential policy remedy that could move it to one.



<sup>&</sup>lt;sup>5</sup> One could take another step, following Samuelson (1956), and try to choose the best among the Pareto optimal outcomes, but that is unnecessary for present purposes.

theoretical Pareto optimum that is the ultimate goal of neoclassical welfare economics vanishes. Pareto optimality is a theoretical construct with no real-world counterpart. And again, one must emphasize that Friedman's (1953) positivism does nothing to rescue neoclassical welfare economics because there is no empirical test that can identify a Pareto optimum or tell whether an economy is close to one.

If one accepts the findings of behavioral and experimental economics, then one must as a result reject the neoclassical welfare maximization framework as inapplicable to real-world policy analysis because people do not behave as neoclassical assumptions require to solve the welfare maximization problem. As noted earlier, Vernon Smith (1974: 321) is similarly critical of the benchmark of Pareto optimality, saying, "Fortunately for the economy, but unfortunately for academic economics, this formulation of Pareto efficiency is not the problem that real markets and other allocative institutions attempt to solve." This is not the only problem one could raise with neoclassical welfare economics (its atemporal nature is another major issue), but because it rests so firmly on the neoclassical axioms of utility maximization, on this basis alone one must be skeptical of any policy conclusions derived from neoclassical welfare economics. The behavioral foundations of neoclassical economics are inconsistent with the findings of behavioral and experimental economics that describe actual economic behavior. This section illustrates that because this inconsistency calls into question policy conclusions that are based on this neoclassical framework, this inconsistency is of more than just theoretical interest.

## 6 Austrian economics and public policy

In contrast with neoclassical economics, the behavioral foundations of Austrian economics are consistent with the findings of behavioral and experimental economics. All that Austrian economics assumes about individual behavior is that when people act, they do so in order to further their well-being, so ex ante any human action is utility-maximizing. The Austrian framework does not assume that preferences are transitive or that they are stable over time. The purely self-interested neoclassical economic man is consistent with the Austrian framework, but so is any other purposeful behavior, regardless of its purpose. Therefore, the issues that behavioral and experimental economics raise with regard to the neoclassical utility-maximizing framework create no impediment to use of the Austrian approach for evaluating economic welfare or policy analysis.

Rothbard's (1956) analysis of welfare economics starts from the premise that people's welfare is enhanced when they voluntarily agree to a transaction. Their agreement signifies that they believe they will be better off as a result of the transaction. 7 Rothbard's analysis takes no account of externalities and incomplete

<sup>&</sup>lt;sup>7</sup> Rothbard (1956) argues that government action signifies a decrease in welfare for a similar reason: the fact that people have to be forced to undertake the activity signifies that they believe they would be better off without it. This aspect of Rothbard's analysis of welfare economics goes beyond what is required for the analysis in this paper, and is insightfully critiqued by Prychitko (1993), who argues that the logical extension of Rothbard's ideas implies that no conclusion can be drawn regarding the welfare implications of government intervention. Caplan (1999) offers a similar critique of Rothbard (1956). See also Lewin (1995) for an insightful discussion of welfare economics and efficient resource allocation.



markets, and Cordato (1992) extends Austrian welfare economics to do so. He concludes that because of knowledge problems (Hayek 1945), governments cannot design policies that can be demonstrated to be welfare-enhancing. Kirzner (1988), also building on Hayek (1945), similarly argues that knowledge problems plague the neoclassical framework as applied to real-world welfare and that one cannot know whether interventions are welfare-enhancing or whether welfare is maximized. Kirzner emphasizes that welfare economics should be designed from the ground up as a process-oriented endeavor, which is the Austrian link that ties the policy analyses of Rothbard (1956), Kirzner (1988), and Cordato (1992) together.

From a policy perspective, within the Austrian framework, welfare is enhanced by facilitating voluntary transactions. One can think of many current policies that prevent people from engaging in mutually agreeable transactions. Labor market regulations, such as minimum wage laws and laws that restrict work hours or types of work that can be done, are examples. Often, people are prohibited from selling certain goods or services without government certification. For example, it is common for barbers and hairdressers to be required to have licenses and specific training to sell their services (even though many people appear competent to cut the hair of family members with no such training), and in the USA, people are allowed to sell their own houses without a real estate agent, but to sell someone else's house requires formal training and a license. Similarly, many laws exist that restrict the characteristics of goods that can be exchanged on the market. For example, automobile crashworthiness standards in the USA prevent the small and fuel-efficient German-manufactured Smart cars from being sold in the United States<sup>8</sup> (even though the sale of motorcycles is allowed).

These are all examples of cases where current laws prevent people from engaging in exchanges that all parties could view as mutually advantageous. To enhance welfare, public policy would remove these impediments to exchange. This illustrates how a process-oriented approach to public policy evaluation, based on an Austrian foundation, can be applied to replace the outcome-oriented neoclassical approach. This process-oriented approach is built directly on the behavioral foundations of Austrian economics.

The Austrian approach to public policy and economic welfare relies only on the assumption that people act to further their well-being, which is consistent with the findings of behavioral and experimental economics. To enhance welfare, then, policies should be pursued that remove impediments to human action. This is consistent with policies that facilitate Pareto improvements, but there is no implication that there is some ultimate welfare-maximizing (Pareto optimal) outcome. Behavioral and experimental economics suggest taking an Austrian approach to public policy analysis.

The application of the Austrian framework to issues of economic welfare could be extended—and has, by Rothbard (1956), Kirzner (1988), Cordato (1992), Prychitko (1993), and others—but the purpose of this and the preceding sections was not to reconstruct welfare economics but to use policy analysis as an example that illustrates the practical significance of the behavioral foundations of utility theory.

<sup>&</sup>lt;sup>8</sup> DaimlerChrysler, the manufacturer of Smart, is working on a model of the car that will be legal in the USA, but it is not available as of 2007 because the current models do not meet U.S. regulatory standards.



Different behavioral assumptions do lead to differences in policy conclusions, so the differences in neoclassical and Austrian behavioral assumptions are of more than just theoretical interest.

#### 7 Conclusion

Neoclassical and Austrian economics rest on completely different behavioral foundations. Neoclassical utility theory is based on a number of behavioral assumptions that are called into question by behavioral and experimental economics. Uncovering these behavioral "anomalies" by experimental methods, behavioral and experimental economics shows that the strong neoclassical assumptions about utility-maximizing behavior frequently do not correspond with people's real-world behavior. In contrast, Austrian economics rests on behavioral foundations that are not inconsistent with these behavioral "anomalies." Indeed, Kahneman et al. (1991) call them anomalies only because they are inconsistent with the axioms of neoclassical utility theory. They are not inconsistent with Austrian utility theory, which assumes only that when people act, they do so to further their interests, whatever those interests may be.

The significance of the behavioral foundations of economic analysis is of more than just theoretical interest. When applying economic analysis to public policy issues, the neoclassical framework uses Pareto optimality as a benchmark for evaluating policy, which rests on the foundation of neoclassical utility theory. Calling neoclassical utility theory into question also calls into question the policy conclusions that are based on neoclassical welfare economics. Because the behavioral foundations of Austrian economics are consistent with the findings of behavioral and experimental economics, its policy analysis is unaffected by the conclusions drawn by behavioral and experimental economics. The behavioral foundations of economics have important implications for the analysis of public policy that extend beyond abstract economic theory.

This paper's conclusions are not meant as a general criticism of neoclassical economics. Economic models are useful because they provide simplified depictions of reality. The real world is too complicated to understand via simple observation, so models employ simplifying and often unrealistic assumptions to show essential relationships among a model's components, with the idea that the relationships among the model's components are analogous to the economic relationships in the real world. Because even the most complex models are simplified depictions of reality, no model can explain everything. Those things that a model assumes away, or simplifies through unrealistic assumptions, cannot be depicted in the model because they are not a part of the model.

Neoclassical economics offers substantial insight into the properties of economic equilibria and focuses on the equilibrating nature of markets. Its lessons are profound, but at the same time, because it is a simplified depiction of a real economy, neoclassical economics cannot provide insight into those aspects that it assumes away or that are affected by the unrealism of some of its assumptions. The behavioral foundations of Austrian economics make it better suited to drawing policy-relevant conclusions regarding economic welfare.



The behavioral assumptions underlying the Austrian approach to economics are considerably less restrictive than those underlying neoclassical economics and are not inconsistent with the findings of behavioral and experimental economics. As a result, the challenges that behavioral and experimental economics present to neoclassical economics do not have the same implications for the Austrian economics. The less-restrictive behavioral assumptions in Austrian economics come from its process-oriented approach. Looking at individual transactions, one only needs to recognize that people engage in voluntary transactions because they believe the transactions will increase their utility. Neoclassical economics, with its static equilibrium outcome-oriented approach, employs more restrictive behavioral assumptions at its foundation, and when these assumptions are called into question, the conclusions that follow from those assumptions are also called into question. This provides a good argument for beginning with as robust a behavioral foundation as possible, and the robust behavioral foundations of Austrian economics have much to recommend them in this regard.

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