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Behavioral economics: A methodological note

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ABSTRACT

When a theory faces a set of facts that are not compatible with its key assumptions, there are several ways it might respond. In response to the challenge posed by behavioral economics, neoclassical economics has attempted numerous different approaches. After briefly reviewing these responses, this paper turns to argue in favor of one of them.

When a theory faces facts that are not compatible with its key assumptions, there are several options concerning the ways it might respond. All of these are being applied in response to the challenge posed by behavioral economics (BE) to neoclassical economics. After briefly reviewing these responses, I turn to argue in favor of one of them.

One response is to *treat BE findings as marginal*. Tim Harford, writing in the *Financial Times*, reports that many economists hold that BE "merely illuminates some fascinating but relatively minor foibles". He adds that he has "long been persuaded that the evidence shows that we are fundamentally rational creatures when it comes to most decisions that really matter" (2008). Many of the key findings of BE are, however, are difficult to minimize because they show that people have congenital cognitive limitations evident in numerous choice situations.

Several economists argue that *even if many individuals act in ways which seem to conflict with the rational, utility-maximizing assumptions – in aggregate, they act as if they were optimizers*. For instance, Gary Becker argues: "It doesn't matter if 90% of people can't do the complex analysis required to calculate probabilities. The 10% of people who can, will end up in the jobs where it's required" (quoted Stewart, 2005).

Becker however provides no data to demonstrate that 10% (or even 1%) of economic actors are optimizers, or that the markets in aggregate act rationally, as opposed to, for instance, gyrating between periods of irrational exuberance and greed, and irrational fear and panic (Shiller, 2005).

A different response relaxes the criteria that define rationality. This response takes several forms:

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(a) Some use *tautologies*, employing the same item of behavior to both reveal the preferences of the actor and the optimal way to serve them. Thus neoclassical economists have argued that if a person who never drank wine – and had no intention of drinking wine – suddenly purchased a bottle of wine, this must have been a rational choice – because otherwise why would he have bought it? (Tagliacozzo, cited by Kirzner, 1976: 169–170). Others argue that when a person chooses to become a criminal, he 'must have' weighed the pros and cons and made a rational decision that being a criminal was the optimal choice (Andreano & Siegfried, 1980; Becker, 1968; Murray, 1984: 168; Rubin, 1980: 13). Nobel Laureate George Stigler (1966) pointed out, "a reason. . .can always be found for whatever we observe man to do" which "turn[s] utility into a tautology" (57). This approach violates a basic tenet of science, that propositions are to formulated in ways that they can be falsified.

(b) In contrast, the introduction of the concept of information costs is much more productive. When the expected costs of obtaining and processing information outweigh the expected utility to be derived from said information, it is rational to stop seeking or processing more information, even if this leads one to act without all the relevant facts – to act 'irrationally', so to speak (Downs, 1957, chap. 11–13; Stigler, 1961).

From a BE viewpoint, the key empirical question is whether people can correctly (i.e. rationally) assess the costs and benefits of information they have not yet collected or processed (Elster, 1986: 25–26). The findings of BE lead one to wonder if this is possible.

(c) A third way neoclassical economics attempts to reframe the irrational as rational is by suggesting that people use heuristics as a kind of prefabricated rationality. They spare people the need to absorb and process information and hence, it is suggested, allow them to optimize despite cognitive limitations. As far as I can determine, no one collected a random sample of heuristics and showed that most, a majority, or even a fraction of them lead to rational behavior or that their selection does not suffer from the same cognitive difficulties other processing of information reveals. The questions raised about information costs also apply here; how is a person to determine which heuristic is the right one to follow?

Yet another way to attempt to reconcile the findings of BE with neoclassical economic theory is to define down that which is entailed by being rational. Herbert Simon utilized the concept of 'bounded rationality' explicitly to hold that although it seems that people's choices are irrational, they actually act rationally – because they intended to act rationally. "Bounded rationality is not irrationality", Simon writes. "On the contrary, I think there is plenty of evidence that people are generally quite rational; that is to say, they usually have reasons for what they do" (1985: 297). Others used the term to suggest that people acted rationally because they used all the information available to them (Cipriani & Guarino, 2008: 48).

As I see it, these deliberations suggest that it is very fruitful to think about rationality not as a dichotomous but as a continuous variable. Hence, one can refer to degrees of rationality. If one seeks to draw on BE merely to show that the optimization model is not valid, a dichotomous variable may suffices. However, if one is to develop another model, degrees become significant. First, they allow one to express the key finding that most people in many situations are not merely short of optimization by a few points, say 96% rational, but much closer to the other end of the continuum. Second, such a concept points to the merit of determine which factors increase the level of rationality of a person or a give group of people – training? education? modern culture? self control? – without presuming that anything can turn them into optimizers or even high level rational choosers.[1]

A colleague raise the following point: "The use of a one-dimensional continuum does not seem very satisfactory. It seems to entail putting different types of 'subrational' behaviors or beliefs on the same continuum. Eating a wafer and believing it is the flesh of some long dead character seems deeply 'subrational' in a very different way than, say, failing all three items on the Cognitive Reflection Test. Though both individuals would fail, by a large margin, the test of perfect rationality, their errors do not seem comparable".

This is a very well taken point. One should note in response that most of the studies I am reviewing and drawing on, in effect, use rationality as a one-dimensional concept. However, there is no reason in principle one could not use several dimensions (e.g. factual errors as distinct from beliefs that are inherently untestable). One could then either score each dimension or build an index.

A much greater departure from the neoclassical model is implied by those who favor dividing the social world between realms of behavior that adhere to the laws of neoclassical economics and those that are governed by different rules. The study of preferences illustrates this approach. Neoclassical economics tend to assume that preferences are fixed and hence changes in behavior occur due to changes in income and prices (and other information). However, the precept that preferences are fixed is hard to defend, especially when one studies the education of children. Indeed, many neoclassical economists tend to portray economic man as a biological–psychological miracle, born fully formed, say in his mid twenties (Maital & Maital, 1984: 65) with his preferences "immaculately conceived".[2]

[1] Thaler (1991) in this context uses the term "quasi rational", but regrettably implies that it means people are nearly optimizers, in his words "less than fully rational" (xviii) while, at the same time, he adds volumes of evidence to other B.E. studies that show that people are much nearer to being not rational than to being rational.

[2] As Kenneth Boulding put it to a 1985 George Washington University Seminar on socio-economics.