



Behavioral economics has two ‘souls’: Do they both depart from economic rationality?

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ABSTRACT

In this paper, I argue that behavioral economics, far from being a monolithic theory, consists of two different ‘souls’ and that a fundamental asymmetry exists between them, with regard to the nature of the departures from the economics’ ‘canonical model’ they focus on. While a first class of departures deals with the major cognitive limitations and systematic biases in decision-making affecting economic behavior, a second research area investigates deviations from the classic assumption that economic agents are systematically driven by the pursuit of material self-interest. Even though on methodological grounds the two research areas share a broadly inductive approach – as they both aim at incorporating the major results obtained through several empirical methods (in particular, via experimental work) into formal economic analysis –, I claim that rather different methodological conclusions and regulatory and policy implications can be drawn, depending on the cognitive or social nature of the departures from the standard economic model under study.

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1. Introduction

As far as recent developments in economics are concerned, ‘Behavioral Economics’ (BE) represents one of the most interesting and promising research frontiers in the last decades. BE aims at establishing a new disciplinary field grounded on *methodologically realistic* roots, as its major goal is to increase the explanatory and predictive power of economic analysis through an increase in the degree of realism of the assumptions at the basis of economic models. As Camerer and Loewenstein (2003) point out: “behavioral economics increases the explanatory power of economics by providing it with more realistic psychological foundations. (...) We share the positivist view that the ultimate test of a theory is the accuracy of its predictions. But we also believe that, *ceteris paribus*, better predictions are likely to result from theories with more *realistic* assumptions” (p. 3). This objective has been pursued by means of a greater and greater integration between economics and psychology (see also Rabin, 2002), but also, more recently, between economics and social sciences such as, for example, cultural anthropology (see on this Henrich et al., 2002, 2004).

While the core theory traditionally used in economics assumes that agents (i) are driven by well-defined, stable and self-centered preferences, (ii) use all the information available and (iii) act in order to maximize their objective functions, psychology reveals that

it is often the case that such assumptions cannot be taken as an adequate and satisfactory description of human behavior. In this light, BE has been investigating both real and experimental environments where some economic agents involved make choices that appear to substantially deviate from traditional economic predictions. Hence, it deems it crucial and urgent to incorporate the major psychologically robust findings in the set of economic models’ assumptions. Such methodological stance is taken explicitly by prominent behavioral economists such as Matthew Rabin: “*Ceteris paribus*, the more realistic our assumptions about economic actors, the better our economics. Hence, economists should aspire to make our assumptions about humans as psychologically realistic as possible” (Rabin, 2002, p. 658).

In this paper, I argue that BE, far from being a monolithic theory, (a) consists of two different ‘souls’ and that (b) a *fundamental asymmetry* exists between them, with regard to the nature of the departures from the economics’ ‘canonical model’ they focus on. While a first class of departures deals with the major cognitive limitations and systematic biases in decision-making affecting economic behavior (let us shortly refer to this component of BE as to the ‘cognitive component’, CC), a second research area investigates deviations from the classic assumption that economic agents are systematically driven by the pursuit of material self-interest (let us call this second component of BE the ‘social component’, SC).¹ Even though on methodological grounds the two research

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¹ Historically, the seminal paper inspiring SC by using experimental methods can be identified in the well-known work by Güth et al. (1982).

areas within BE share a broadly *inductive* approach, as they both aim at incorporating the major results obtained through several empirical methods (in particular, via experimental work) into formal economic analysis, I claim that rather different methodological conclusions and regulatory and policy implications can be drawn, depending on the *cognitive* or *social* nature of the departures from the standard economic model under study.

More specifically, the aforementioned ‘fundamental asymmetry’ between CC and SC within BE can be illustrated as follows. Both kinds of findings can be seen as systematic deviations from the previously received theory of rational choice. However, within the first area (CC) it is assumed, analogously to neoclassical models, that agents act according to the self-interest hypothesis, but also that they are affected by various forms of cognitive limitations and behavioral biases occurring at some stage of the decision-making process (in line with classical contributions on bounded rationality; see, in particular, [Simon, 1955](#)): several papers within CC explore non-standard phenomena such as framing effects, self-control problems, overconfidence, status quo bias and projection bias, to name only the major ones (for a comprehensive review, see [Della Vigna, 2009](#)). The second area (SC) departs from the neoclassical approach by taking a different road. Unlike traditional analyses, these studies have been focusing, so far, at both an empirical (mainly experimental) and a theoretical level, on interaction scenarios where players (i) show a concern for the welfare of others and (ii) are modeled as if they were not driven by classic selfish preferences, but by (different types of) *social preferences* (see e.g. [Charness and Rabin, 2002](#); [Camerer, 2003](#)). In particular, behavioral choices by individual agents (as well as their objective functions) can (either positively or negatively) be affected by *other players’* preferences, material well-being, intentions and/or behavioral choices.

In this light, the asymmetry thesis can be expressed as follows: most of the biases and heuristics on individual decision-making investigated within CC can be viewed as departures from the notion of economic rationality; by contrast, as far as SC is concerned, I argue that, *in itself*, the presence of either social preferences or other forms of sociality (as I make clear in Sections 2 and 3) does *not* make the subsequent behavior necessarily *less rational*.²

Despite the still relevant influence exerted by the so called canonical model of *homo oeconomicus*, there is today a lot of agreement in economics about the fact that humans (including economic agents) do *not* systematically behave in the pursuit of their own *material self-interest*. BE has undeniably played a key role in generating such widespread consensus on the need to depart from the so called ‘selfishness axiom’³ and consider other-regarding behaviors

as part of the subject matter of economics. However, on more constructive grounds, it is still unclear what the actual driving forces behind human sociality are, with specific reference to economically relevant domains. In this regard, in the last decades several different proposals have been advanced in the economics literature in order to shed light on various social phenomena where motivational factors other than material self-interest seem to be critically at work. While, as anticipated above, BE’s proposal has been to formalize sociality via different models of ‘social preferences’ (SC), other significant approaches have been advanced in the economics literature in the last decades, in order to account for various forms of sociality. In the next two sections, I maintain that in either case many socially oriented behaviors need not be viewed as departures from economic rationality. In particular, I show that modelling sociality via social preferences (SC) is compatible with the classic notion of rationality as ‘internal consistency’ (Section 2). Further, I refer to some interesting non-preference-based theories of sociality where the other-regarding behaviors under study are compatible with suitably defined notions of rationality, though not with a standard self-centered utility-maximizing framework (Section 3).

2. Social preferences and rationality as ‘internal consistency’

Within the so called ‘revealed preference’ approach (RPA)⁴ to economic behavior, preference is defined as the binary relation underlying consistent choice: in this view, a preference ordering on a set A is a relation between two elements of this set. The well-known key requirement in RPA is *internal consistency*: what is not allowed is that, as far as a single agent is concerned, if $x, y \in A$ and x turns out to be preferred to y , then y turns out to be preferred to x . Hence, by discriminating between consistent and non-consistent behaviors, RPA characterizes only the former as ‘rational’. A fundamental implication to be drawn with regard to this characterization of rationality is that, within the RPA framework, it is *choice* – not preference – that ends up being the key theoretical concept.⁵ As [Sugden \(1991, p. 758\)](#) correctly observes, Savage’s formal theory can be seen as confirming this as, even though he formulates his axioms in terms of the concept of preference, his goal seems to be to construct a theory of rational choice, rather than a theory of rational preferences.

All this entails that, apart from the normative component illustrated above, RPA is a basically *descriptive* theory of economic behavior, in which the notion of rationality is extremely *thin*, being confined exclusively to formal properties (namely completeness, reflexivity and transitivity) providing an otherwise exclusively descriptive theory with a normative element. The role of such properties was to guarantee the consistency required to individual behavior in order to rule out non-rational choices (see, on this point, [Sugden, 2001](#)).⁶ By referring to RPA, [Binmore \(1994, 2005\)](#) makes clear that, with regard to the domain of non-cooperative games, the theory is open to *any* form of preferences to be maximized, not only

² BE has been successful in showing that under many circumstances “people’s preferences are not what economists had supposed” ([Camerer et al., 2003, p. 1216](#)). In this regard, they observe that such findings “challenge the descriptive validity of standard economic models, but they do not raise questions about the rationality of economic behavior. To the extent that such tendencies accurately reflect true preferences, they do not create a need for paternalism” (p. 1217). In order to provide examples of non-standard phenomena reflecting true preferences (rather than departures from economic rationality), the authors interestingly refer to developments in BE falling both into CC (decision makers’ aversion to ambiguity about probability) and SC (social preferences). Hence, they are aware that, unlike most of the findings within CC, SC does not raise questions about the rationality of economic behavior, in line with the asymmetry thesis advanced in this paper. As I make clear in Section 3, I also argue for an extension of this claim to several non-preference-based theories of sociality.

³ Though it is true that formally speaking the ‘selfishness axiom’ has never existed, it is hardly deniable that economics has, for more than a century, often relied on the assumption that agents are driven by materially selfish goals only, in their economic choices. As [Bruni and Sugden \(2007\)](#) recall, early neoclassical economists like [Jevons](#) and [Edgeworth](#) confirm that this has actually been the case: [Jevons \(1871\)](#) viewed his theory as “the mechanics of utility and self-interest” (p. 90). In a similar vein, in a famous and oft-quoted passage, [Edgeworth \(1881\)](#) declared: “The first principle of economics is that every agent is actuated only by self-interest” (p. 16).

⁴ For a critical appraisal of the revealed preference interpretation of social utility payoffs in non-cooperative games, see [Zarri \(2008\)](#).

⁵ In [Zarri \(2007, 2008\)](#), I argue that the reasons underlying the turn that, in modern economic theory, led to the attribution of such a central role to choice have to do with an articulated historical process that had a decisive phase with the so called ‘Pareto turn’ (or ‘indifference-curve’ or ‘ordinalism revolution’). Due to this process, Bentham’s usage of the term ‘utility’, related to people’s subjective hedonic experiences, was gradually replaced by a new interpretation.

⁶ In its modern form, rational choice theory rests on axioms of consistency rather than on the traditional psychological assumptions of classical utilitarianism and it has been developed thanks to the important contributions of [Frank Ramsey](#), [Paul Samuelson](#), [John von Neumann](#), [Oskar Morgenstern](#) and [Leonard Savage](#) (see on this [Hargreaves Heap, 1992](#)).

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