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# Rationality and Beyond: A Critique of the Nature and Task of Economics

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**Abstract:** This paper shows that the means-end rationality principle, as an ‘ultimate given’ of economics, delimits the faculty of economists to observe, describe and understand the manifold human behavior. Given such epistemological limitations, as a descriptive science, the main task of economics is to incorporate appropriate empirical content into the *a priori* analytical framework with the aim of better explaining and predicting some aspect of human behavior. As a normative science, economists should draw on their persuasion and communication skills whereby changing the means and end of the decision makers to the extent that the real world decision-making can be improved.

## INTRODUCTION

What can economists know, what kinds of questions do they hope to answer, how is the economic inquiry possible, and are there logical limits of economics? These fundamental questions that arise in defining the methodological heartland of economics remain, however, generally misunderstood by both professionals and lay public, who pervasively hold fallacious beliefs on the nature and task of economics as a distinct intellectual discipline.

In a way, such misunderstanding stems from the widely shared view that the mainstream economics is a study of the rational choice made by a specific conceptual species of human being, called *homo economicus* or economic man, whose actions can be theorized by application of the constrained utility-maximizing framework. As the root of all evil, this alleged *first principle* of economics has long been an inviting target for critics because of its unrealisticness and poor explanatory and predictive power. In particular, since the onset of the global financial crisis in 2008 and resulting worldwide economic recession which economists as a group failed to predict, the practitioners of the dismal science, especially those who extolled the virtues of *laissez-faire* economic system, have been considered to be partially, if not mainly, responsible for their inaccuracy and arrogance. In this regard, the assertion that Hayek made in his Nobel Lecture some forty years ago is surprisingly fresh: ‘As a profession we have made a mess of things’ (Hayek, 1974).

The above claims, however, seem to be justified on the grounds of a series of tired ideas repeated for centuries, which go back, at least, to Adam Smith’s *Theory of Moral Sentiments* (Smith, 1759): real people, motivated by ethics, emotions, social norms, physiological factors, and other non-economic considerations, might have unstable and inconsistent preferences structures and utility functions, along with the limits on computation, reasoning, willpower, and information. Simply speaking, people are not always *rational* in the neoclassical sense and thus the research programmes in economics based on the omniscient rationality assumptions are doomed to failure. As is well known, these arguments have already been intellectually systematized and advanced by some critical

departures from the neoclassical agenda, such as behavioral and neuroeconomics, which, supposedly, make *homo economicus* evolve into *homo sapiens* like us, who might follow rules and habits, commit mistakes, act on impulse, fall in with the crowd, have sympathy for the well-being of others, and so forth.

In response to the criticisms, some defenders of the neoclassical economics contend that the rational choice modeling based upon the *homo economicus* hypothesis, is not true but *almost* true, and, therefore, can be viewed as a *good enough* approximation to the empirical and factual reality. According to them, the fictional features of its assumptions are *necessary evil* for the sake of theoretical abstraction and, more importantly, bring about only some minor deviations from the reality. This view is shared among some brilliant thinkers, such as Schumpeter (1934, p80) who wrote, ‘The assumption that conduct is prompt and rational is in all cases a fiction. But it proves to be sufficiently near to reality, if things have time to hammer logic into men. Where this has happened, and within the limits in which it has happened, one may rest content with this fiction and build theories upon it’. On this subject, the very influential philosopher of science Karl Popper (1985, p362) also argued that ‘...the rationality principle, ...is actually false, though a good approximation to the truth’.

Another endeavour to shore up the fundamental role of the individual rational choice in economics can be found in some forms of instrumentalism. In a landmark paper on the methodology of positive economics, Milton Friedman summarizes the central thesis of his instrumentalist position, ‘The ultimate goal of a positive science is the development of a “theory” or “hypothesis” that yields valid and meaningful (i.e., not truistic) predictions about phenomena not yet observed’ (Friedman, 1953, p.7). In Friedman’s view, ‘theory is to be judged by its predictive power for the class of phenomena which it is intended to “explain”’(p.8-9). According to this alleged instrumentalist argumentation, the realisticness of the hypotheses does not matter to the extent that it has no impact on the prediction power of the theory in consideration.

However, I am skeptical of both defences. As an academic discipline, economics in general appears to lack sufficient empirical success that the justification for the above arguments demands. In particular, as already mentioned, the dramatic events of the past six years in the world economy have highlighted the limitations of neoclassical modeling on the basis of narrowly defined rational behavioral assumptions. In short, neoclassical theorists cannot easily rebut the criticisms, due to their poor performance in the real world.

To deal with the distinctive and fundamental methodological issues raised in this heated debate, the current study, inspired by Kant’s epistemology (Kant, 1787), seeks to offer a critique of the nature and task of economics through subjecting the epistemological limitations of the discipline to severe scrutiny. In doing so, we show that economics, as a way of representing the world, is confined to the aspect of human behavior which can be merely understood within the framework of the chronically contested rationality principle. The latter, which is taken as an ultimate given, serves as an ‘*a priori* form of intuition’ (to use Kantian language) and hence delimits the faculty of economists to observe, describe and understand the manifold human behavior. Other aspects of behavior, however, just *transcend* the scope of economics, and thus are beyond the understanding of economists. Broadly speaking, that’s where economists draw the line between their intellectual domain and those of other academic disciplines to which they have no professional competence. Given the epistemological limitations of economics thus defined, the task of economics is twofold. As a descriptive science, by pushing the economic approach to its logical limits, the main job of economists is to incorporate appropriate empirical content into the *a priori* analytical framework on the basis of rationality

principle and to check the outcomes with the aim of better explaining and predicting some aspect of human behavior. As a normative or policy science, economics is aimed at improving the real world decision-making. To achieve this, however, as the nature of the subject implies, economists should draw on their persuasion and communication skills whereby changing the means and end of the decision makers.

The rest of the paper is organized as follows: Section I discusses the concept of economic rationality that represents a fundamental aspect of the nature of economics. By distinguishing the theoretical abstraction and its empirical content, Section II deals with two main strands of criticism of the rationality principle. Section III addresses the implications of the nature of economics for its task, with a focus on the use of economics in terms of both description and prescription. Section IV contains a summary of main ideas and concluding remarks of the paper.

## I. RATIONALITY AND THE RATIONAL APPARATUS

Arguably, the most central concept underlying economics is that of rationality, which refers to, in the usual way of economic theory, the quality of allocating scarce means among competing ends. Such an interpretation of rationality, which generates countless great insights and sophisticated confusions, constitutes the heart of the path-breaking definition of economics proposed in Robbins' famous *Essay* (1935): 'Economics is the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses' (p.16).

Nevertheless, Robbins's plural 'ends' have to be understood as some 'intermediaries' to reach an ultimate end called 'utility' or 'satisfaction', or any other names. From a methodological perspective, economics cannot, anywhere and anytime, deal with different ends which are ultimate in themselves. Indeed, it seems that Robbins himself would agree with this account in writing '... the ends have different importance' (p.12) and '(when) the ends are capable of being distinguished in order of importance, then behaviour necessarily assumes the form of choice' (p.14). The term 'importance' invoked here is nothing but an alternative way to describe 'utility' that is obtained from reaching different intermediary ends. Ultimately, an economic agent who is capable of ordering his/her ends by importance has only one end to achieve, to maximize his/her 'utility'. In this manner, the means-end rationality principle is reduced to a more familiar model of human conduct, our old friend, the utility maximization subject to constraints.

This concept of rationality leads us to regard economics as a way of representing the world or, to be more visually, a *rational apparatus* organizing and crystallizing manifold human behaviour in the light of rationality thus stated. The latter that serves as an *a priori* form of intuition or form of thought, defines the nature and the epistemological boundary of economics, or loosely speaking, what economists can know. To put it differently, it is the rationality that gives the messy explanandum, human behaviour, a *rationalized*, and thus understandable structure, among many others<sup>1</sup>. Therefore, economics, as a distinct discipline, not only *starts with*, but also *ends up with* that rationalized representation of the world.

To avoid confusion, three points about the concept of rationality need to be clarified. Firstly, in no sense do we claim that such a way of thinking is the only or the favored one to explore all kinds of human behavior. Unlike a general theory of human action, praxeology, as suggested by the Austrian

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<sup>1</sup> This statement can be better understood with reference to the widely known assertion of Kant that the objects of the senses must conform to the constitution of our faculty of intuition, which summarizes the central idea of his *Copernican Revolution*.

economists, and notably by Ludwig von Mises (1949), it is merely concerned with one specific aspect, say economic aspect, of behaviour that is detectable by the rational apparatus. It is recognized that a significant contribution of Robbins to the definition of economics is his rejection of identification of economics with certain kinds of behaviour (see Kirzner, 1960, chapter 6, and Backhouse and Medema, 2009). Following Robbins' argumentation, we may claim that neither a pure economic behaviour nor a pure noneconomic behaviour does exist. The economic aspect of the behaviour of all kinds is necessarily rational in nature, while irrationality is not an economic issue and consequently, lies beyond the scope of the subject.

The second point is highly related to the first one: The rationality in economics does not exclude the rule-following behaviour to which a fairly large and growing literature has been devoted (See, among others, Heiner, 1983, Langlois and Csontos, 1993, Fehr and Schmidt, 1999, Ostrom, 2000, Vanberg, 2012). Although this approach is commonly believed as an alternative to the rational choice model of human conduct, as discussed above, rule-following is equally a kind of composite behaviour and thus cannot be, as a whole, subjected to economic inquiry that filters out all its constituent elements which are not detectable by the rational apparatus. Accordingly, the rational choice and rule following are neither contrasting nor complementary approaches. Their relationship looks more like that between a way of thinking and an object of thought: economists have to account for the so called rule-following behaviour only in terms of constrained maximization framework (Coleman, 1987). In particular, they should check whether individual agents continue to follow rules or violate rules when their perceived incentives change (Vriend, 1996). If, hypothetically, an individual unconditionally follows some rules regardless of the changing situations, such as the 'categorical imperative' in Kant (1787) or the 'commitment' in Sen (1977)<sup>2</sup>, economists will simply treat them as certain kinds of behavioral constraint, along with other traditional ones such as budget.

Thirdly, applying the rationality principle to human behaviour does not, however, require that human beings act necessarily upon deliberations and definite means-end considerations. In fact, as widely observed, many human actions and inactions might be, or, at least look like, purposeless. But as an *a priori* form of intuition, or form of thought of economists, the concept of rationality implies that all decision makers will be deemed, from an economic standpoint, *as if* they were rational being with full awareness of their means and end (for a more detailed account of the 'as-if' thesis, see Alchian, 1950, and Friedman, 1953). In this regard, there seems to be no need to worry about whether the rationality is a kind of substantial law or is simply given by economists for practicing their discipline. What is important is whether the economic way of thinking could help us to gain insight into human choice and make better decisions.

## II. CRITICISMS OF ECONOMIC RATIONALITY

Surprisingly, in spite of the fact that the rationality principle constitutes the very nature of economics, it has been beleaguered by many practitioners of the subject, who themselves also necessarily follow that principle in some ways without realizing they are doing so. Before addressing two major criticisms of the rationality principle, we distinguish two notions of rationality, 'theoretical rationality' and 'empirical rationality', which facilitate our later argumentation.

By 'theoretical rationality' or, alternatively, '*a priori* rationality', we mean that the aspect of

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<sup>2</sup> It should be stressed that both categorical imperative and commitment here should be taken in a broader sense: they simply represent some hypothetical behavioral rules that cannot be understood in terms of the maximization model.

human behavior subjected to the economic inquiry is necessarily rational and hence can be, in principle, incorporated into a maximizing framework. This is a restatement of the idea of rational apparatus discussed above. By its apriorist or metaphysical feature, this notion of rationality, which establishes nothing but the form of thought of economic inquiry, is not treated as subject on its own to any kind of empirical tests, and hence is not an approximation to the empirical truth as many believed (see Popper, 1985 ). Indeed, its reality is deliberately put beyond question<sup>3</sup>.

By ‘empirical rationality’, or, alternatively, ‘*a posteriori* rationality’, we mean filling the *a priori* rational apparatus with empirical content or raw materials or ‘data’, whereby setting an *ad hoc* maximizing framework equipped with specific utility function and constraints. That is to say, when claiming an individual is empirically rational or irrational, it should be referenced to a given maximizing model. A prime example for mainstream economics is that a representative consumer maximizes his/her consumption (assumed to be the sole variable in the function of utility) subject to the budget constraint (given price and income). Patently various behavioral anomalies, imperfect information, and institutional contexts are neglected here. Yet, the empirical rationality is by no means, as will be discussed below, necessarily restricted to such a paradigm.

In contending that the rationality principle constitutes the methodological heart of economics, there are, at least, two main strands of criticism arise. The first criticism is that the scope of economics has been narrowed by focusing exclusively on the rational aspect of behaviour, sidestepping the numerous behavioral ‘anomalies’ as well as historical and institutional environments that have been well documented in the related academic works, such as Tversky and Kahneman (1981), Smith (1982), Kahneman et al. (1991), Hodgson (2001), Camerer et al. (2005), and Ariely (2008). This criticism can be labeled ‘too-narrow’ view.

Second, it is argued that basing economics upon the unshakable rationality principle, and especially its central theoretical core, the concept of utility, economists risk ending up with far too broad a discipline to be very useful. From this angle, the dismal science appears to be guilty as charged of being an empty and irrefutable tautology, which seemingly accommodates everything and actually explains nothing (see, for example, Coase, 1978, Rosenberg, 1979, Green and Shapiro, 1994, and Hodgson, 2012). This criticism can be labeled ‘too-broad’ view.

Although both views somehow contribute to the methodological discussions, neither is based upon well-defined framework of rationality. On the one hand, the theoretical rationality seems to have emptied the theoretical construction of economics. However, as argued above, it establishes an apparatus to represent human behaviour in a structured way, the economic way. Like any other distinct subjects, economics does have its own nature and limits, and especially, as Mises (1949) argues in his masterpiece *Human Action*, its necessary ‘ultimate given’ (see also Hey, 1993). The advocates of the too-narrow view just fail to distinguish the two notions of rationality. While targeting the rational framework, they are indeed criticizing certain kinds of empirical rationality or, stated differently, the empirical content of the theoretical rational model, including objective function and constraints. For example, although the ‘ultimatum game’ is commonly viewed as a showpiece of irrational behaviour (Nowak et al., 2000), according to our argumentation on the theoretical rationality, it merely suggests that in addition to monetary payoff, the players of the game care about the ‘fairness’ or other moral considerations, which all form their utility function. Furthermore, one can also consider the very influential thesis of the ‘bounded rationality’ coined by Herbert Simon (1955).

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<sup>3</sup> Notably, as Boland (1981) argues, the maximization hypothesis is a metaphysical statement which is beyond question in the neoclassical theory. In our view, however, this statement can be extended to the entire research programme of economics.

The central message of this idea, as we see it, is to take into account some behavioral constraints other than those proposed by the neoclassical vision, such as bounded computational ability, imperfect information and so forth. Putting them together, when a specific rational model, say, the one in the neoclassical sense, is stretched to accommodate new evidence, it is just replaced by another rational model with different constituent elements but always with the same structure. Unfortunately, many economists wrongly equate the neoclassical paradigm as narrowly construed with rational choice model based on utility maximization. Among them, we can mention a single instance provided by George Stigler: ‘...the very logic of economic theory: we deal with people who maximize their utility, and it would be both inconsistent and idle for us to urge people not to do so. If we could persuade a monopolist not to maximize profits,..., and our theory would become irrelevant’ (1980, p.150). Apparently, Stigler’s first sentence is in perfect accord with the main idea of the current study, while the second sentence shows his confusion of the concept of ‘utility’ with one specific version of its empirical counterpart proposed by the neoclassical theory, ‘profits’.

On the other hand, our emphasis on the purely abstract theoretical rationality does not imply that human conduct can be understood by, say, a kind of Descartes’ deductive reasoning or even ‘wishful thinking’. The theoretical rationality has, however, something informative about the real world if and only if being combined with empirical content. To gain a deeper understanding, a metaphor borrowed from mathematics seems helpful. To make the simple tautological statement ‘ $1+1=2$ ’, which is true by definition, practically meaningful, we have to insert empirical content into this formula, for example ‘1 dollar +1 dollar =2 dollars’, or ‘1 mile +1 mile = 2 miles’. The advocates of the too-broad view, however, strip the empirical materials from its theoretical ‘container’. As an example of this view, Hodgson (2012) ironically argued ‘Q: Why did the chicken cross the road? A: To maximize its utility’ (p.101). This caricature is clearly unqualified because virtually no economic inquiry ends up with that answer, which is to say, explaining behaviour in terms of unobserved utility. Serious economists have to further investigate the ‘chickens, roads, specific motives, developmental histories, or detailed causal mechanisms’ in search of better empirical model judged by either explanatory or predictive power. By this kind of practice, or as some call it, ‘content-enriching strategies’ (Vanberg, 2012), economic theory makes progress. However, we do stress once again that the defining characteristics and the epistemological limitations of the subject remain unchallenged. Economists can only see the world as their eyes, structured in the way of the theoretical rationality, enables them to do so. Of course, the chicken’s behaviour can be studied from different angles, but it transcends the scope of economics.

In sum, a meaningful economic model or theorizing should be an appropriate combination of the two kinds of rationality defined above. It seems absurd, even unimaginable, to keep one and abolish another. Without theoretical rationality, economists risk of falling into a chaotic world and hence economic inquiry is impossible. Meanwhile, without empirical rationality, economics ends up with an empty tautological or metaphysical statement, which is empirically irrelevant. Once again, one can also make sense of the inseparability of these two notions of rationality in the light of Kantian epistemology. As Kant argues, ‘thoughts without content are empty, intuitions without concepts are blind’(p.193-94). Loosely speaking, by this famous motto he means that to gain knowledge both intuition and conception are required. The former gives us an object of thought, while the latter affords us a certain form of thought. Evidently this is reminiscent of our account of the theoretical and empirical rationality, upon which economics is methodologically based<sup>4</sup>.

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<sup>4</sup>Due to limited space, we do not address the relationship between the so called ‘theoreticity’ and ‘*ad hocness*’,

### III. FROM THE NATURE TO THE TASK OF ECONOMICS

Importantly, defining economics as a study of rational aspect of behaviour is not a matter of name. In fact, the very issue that is at stake is about the *real definition* rather than *nominal definition* of economics. The former refers to the inquiry of the nature of the *definiendum*, economics, while the latter, which is related to names, is not the object of our interest (see Kirzner, 1960, p.4-5). After all, as Shakespeare's Juliet recites her famous line, 'a rose by any other name would smell as sweet!' In saying this, exploring the nature of economics then amounts to inquiring into the common features in 'what economists actually do'.

Indeed, as will be shown below, this scientific endeavour has significant implications for tasking the subject, and especially for exploring its use for the real world. Specifically, in the light of the above argumentation on the nature of economics, the task of the subject is at least twofold.

As a descriptive science, by pushing the maximization logic to its limits, economics may help us gain insights into some driving forces underlying human behaviour of all kinds. In this light, since the birth of economics, enormous and exciting advances have been achieved within the traditional intellectual territory of the subject, mainly the market behaviour: the application of economic approach has progressed greatly in the sense that a growing number of variables, previously assumed to be 'exogenous', have come to be put under investigation of the maximizing framework or, in the terminology of the modern economic theory, have been *endogenized*. Probably the most important and well-known example in macroeconomics would be the changing manner of dealing with the technological change. In the Solow-Swan model developed in the 1950s, the variable was taken as an exogenous determinant of long-run economic growth, while in the 'endogenous' growth theory mainly emerged in the 1980s, it has become endogenously determined by the choices of rational economic agents, namely consumption-maximizing consumers and profit-maximizing producers (for a more detailed discussion, see Barro and Sala-i-Martin, 2004). Over the past few decades, however, under the heading of 'economic imperialism' an increasing body of literature, mainly pioneered by Gary Becker (1976), has attempted to apply economic approach to the issues previously deemed to be outside the realm of economics, such as marriage, crime, discriminatory tastes, language choice and so forth. Indeed, by 'crossing boundary', this line of research helps us gain a better understanding of the scope of economics: The principal duty of the practitioners of economic imperialism is to show the outcome of a given maximizing framework, and then to call for the expertise of psychologists, sociologists, anthropologists, philosophers, biologists, and others, who are hoped to bring new insights into the objective function and behaviour constraints involved in the choice making process. From this viewpoint, despite its imperialist expansion, economics is also likely to be a kind of 'colony' of other subjects.

As a normative or policy science, economics would contribute to the policy and decision-making in the real world *if and only if* its theoretical statements and empirical findings are capable of influencing the means and end of the decision makers, namely the empirical content of the latter's rationality. In this regard, the one-shot prisoner's dilemma provides a good example: other things being equal, it is impossible for economists to improve the outcome of the game (lesser charge for each) if the utility function of and the constraints facing the prisoners remain unchanged: say, if they stay rational in the sense that each cares only about his/her own sentence and have neither

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which also shares some common features with the one between the two notions of rationality. For further discussion, the reader is referred to, among others, Lakatos (1970), Popper (1985), and Mäki (1993).



sympathy for nor sense of commitment to the accomplice<sup>5</sup>. In such a context, what economists can do in terms of normative stance is to effectively communicate their inquiry to the prisoners to the extent that the latter's values, tastes, information set, moral and other behavioral constraints can be changed. From this viewpoint economics is reduced to an essay in persuasion, or a kind of preaching. Accordingly, there seems to be no reason to expect a 'silver bullet', or a genius discovery as a simple guaranteed solution for a dilemma from economic theory. Very often, economists need to stress, to restate, to spread their ideas, and to pay more attention to their rhetoric. In short, their empirical success depends mainly on its persuasion and communication skills (see McCloskey, 1985, and Stigler, 1980).

#### IV. CONCLUDING REMARKS

As a result of the division of theoretical labour, economics occupies itself exclusively with a certain aspect of human behaviour, the rational aspect, which can basically be detected and represented in the light of the means-end rationality principle, or on a narrow understanding, the constrained maximization framework.

In the text, this rationality principle that defines the nature of economics, is understood by drawing a conceptual distinction between the 'theoretical rationality' which establishes the form of thought of economic inquiry, and the 'empirical rationality' which provides economists with the object of thought. Confusion between the two notions of rationality leads to unqualified criticisms of the scope of economics, such as the 'too-narrow' view and 'too-broad' view, which this study addresses.

Turing to the task of economics, although there seems to be nothing new in claiming that economics is useful in terms of both description and prescription, unlike existing studies, we discuss the task of the subject in relation to its nature as a rational apparatus. That is to say economists can only do what the apparatus enables them to do and nothing else. Logically, the subject should reach its limits at some point where other disciplines start, and thus is by no means an all encompassing approach. Or, to borrow the words of Wittgenstein (1961), economists cannot 'speak' about everything and thus must be 'silent' sometimes, somewhere.

There is, however, an important caveat. Defining the epistemological limitations and the scope of economics does not give economists reason for being complacent or shirking their responsibility. In particular, economists should not rush to conclude that some phenomenon is irrational and hence none of their business. This kind of misleading methodological attitude has long been criticized, especially by the economists who engage in the 'imperialist expansion' of their intellectual domain, such as Becker who argues: 'When an apparently profitable opportunity... is not exploited, the economic approach does not take refuge in assertions about irrationality.... Rather it postulates the existence of costs, monetary or psychic, of taking advantage of these opportunities that eliminate their profitability-costs that may not be easily "seen" by outside observers' (1976, p.7). In a certain sense, the dismal science can be viewed as an endless intellectual effort for searching for where economists cannot speak.

Eventually, regarding the recent methodological discussions in the wake of 2008 crisis, to a large extent, the very nature of economics seems not to attract much attention. Accordingly, the task

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<sup>5</sup> Following Sen (1977), in this case, by 'sympathy' we mean that lesser charge for the accomplice makes the player personally happier; by 'commitment' we mean even the charge of others does not affect the player's own welfare, but the latter still stays faithful to the accomplice because he/she believes that it is right thing to do.

and the use of economics have been discussed without a critical examination of the defining characteristics and epistemological limitations of the subject. As a matter of fact, when undertaking their rethinking, many still focus on the realisticness of the central hypotheses of neoclassical theory, especially that of *homo economicus*, and on the relation between market and government, which is basically derived from the first (see, among many others, Posner, 2009, Krugman, 2009, Stiglitz, 2010, and Coyle, 2012). By and large, in repeating some over familiar ideas, they base their arguments upon a misconception of the rationality principle, and especially fail to distinguish the *a priori* theoretical abstraction of economics and its specific empirical content. Importantly, such a misunderstanding is pervasive, and widely shared by both the proponents and opponents of the neoclassical paradigm. For example, to defend the dismal science, Robert Lucas, one of the most influential neoclassical theorists, still underlies the empirical accuracy of the efficient market hypothesis (Lucas, 2009). With all due respect, one can easily notice a surprisingly narrow-minded methodological attitude embodied in his defence, where the theoretical development and empirical findings of the non-neoclassical heterodox schools during last decades are almost entirely disregarded. By contrast, Dan Ariely, a prominent behavioral economist declares ‘the end of rational economics’ (Ariely, 2009). In our view, however, the ultimate end of rational economics is impossible because it is exactly the same as the end of economics per se. Otherwise, what economists can do, including Ariely himself, is to end a specific version of rational model and then to replace it by another one.

In sum, given the ferocious severity of the crisis, we, economists, should tackle more fundamental methodological issues with courage. In particular, besides the reforms of the theoretical framework and curriculum of the dismal science, there is more need for some kind of *Copernican Revolution* in addressing the basic questions: What are we, and what can we know?

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