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Morality and Value Neutrality in Economics: A Dualist View

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Abstract

In this paper, we argue that economics exhibits the properties of both moral science and value-free technique, thereby establishing a dualist view on the two identities of economics. This duality is implied by the fundamental logic of the economic way of thinking – investigating human behavior upon the means-end rationality principle. In this view, on the one hand, economics behaves as a moral science for two reasons: all economic theories and policy discussions are necessarily based on some moral premises about means-end considerations; economics as an analytical approach can be and has been applied to explanations of a wide range of ethical issues. On the other hand, economics remains neutral regarding judgmental positions. This is because economists cannot deal with the comparisons and choices among different value criteria, unless some ethical presuppositions of higher order are given to them. Therefore, economics is indeed featured by both morality and value neutrality.

JEL classification: A11; B41; D60

Keywords: Methodology; Rationality; Moral science; Value-free approach

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1. Introduction

Economics has a doubtful origin: ‘ethics’ and/or ‘engineering’ (see Sen, 1987). The former deals with human ends and values, whereas the latter is viewed as a mere technique neutral to different moral positions. In fact, many practitioners of the ‘dismal science’ have long been struggling with making an either/or choice between these two options. For those who believe that economics is originated from ethics, the discipline still remains a branch of it, because “(economics) employs introspection and judgments of value” (Keynes, 1938); and even “no science of any kind can be divorced from ethical considerations” (Boulding, 1969, p.2). However, for those who emphasize the ‘engineering’ aspect of economics, their discipline and ethics “are not on the same plane of discourse” (Robbins, 1935, p.148); and although economic study is surely for “the bettering of human life” (Pigou, 1920, p. vii), the welfare in economics only refers to “that part of social welfare that can be brought directly or indirectly into relation with the measuring-rod of money ” (p.11).²

More recently, this long-lasting methodological debate about the origin(s) and identity of economics has been reignited in the wake of the 2008 financial crisis, which dramatically worsened the living standards of billions of people across the globe. In this context, welfare economics and some related ethical issues have come to the center of the post-crisis methodological rethinking. This is especially the case for distributive justice, business ethics, and relationship between efficiency and equity (see, among others, Posner, 2009, Atkinson, 2011, Bhagwati, 2011, Friedman, 2011, Shiller and Shiller, 2011, Stiglitz, 2012, and Piketty, 2013).

Nonetheless, on the basis of the belief that morality and value neutrality are mutually exclusive, most studies on the topic systematically contradict economics as a moral science with economics as a value-free approach. In this paper, we attempt to call into question this ‘identity’ dichotomy, which according to us stems from misunderstanding the fundamental logic of the subject, namely theorizing upon the principle of means-end rationality. Holding this principle is an essential, but often latent, property common to all approaches relying on the economic way of thinking – from the neoclassical school to behavioral economics – regardless of how they differ in the concrete empirical content of the ‘means’ and ‘ends.’ This methodological heartland leads to a dualist view about the morality and value neutrality in economics. On the one hand, economics behaves as a moral science: it is not just because all theorizing and policy discussions in economics are necessarily based on certain moral premises, but also because economics as an approach of analysis to human behavior can be and has been used to answer a wide range of moral questions. On the other hand, economics remains a value-free science. It is because without certain ethical

² Also see Hawtrey (1925), Samuelson (1947), and Stigler (1981). In addition, Hausman and McPherson (1993) provides a review of literature on the relationship between economics and ethics.

presuppositions, economists have no professional competence to deal with the comparisons and choices among different value criteria and moral norms, which are assumed to be justified as ends for their own sake. In proposing such a reconciliation of the two identities of economics, we provide new insights into the ways in which economics, ethics, and engineering are linked, thereby contributing to the related methodological discussions.

The rest of the paper is organized as follows: Section 2 discusses the means-end rationality principle which is fundamental to revealing the dual identity of economics: both as a moral science and as a value-free engineering technique. Section 3 addresses the moral dimension of economics, and explores how ethical principles guide economics and how economics, in return, contributes to understanding ethical issues. Section 4 turns to the engineering dimension of economics, and shows that the discipline remains, however, neutral regarding judgmental positions in the sense that certain kinds of moral premises and value criteria should be given prior to economic inquiries. Section 5 concludes the paper.

2. Rationality principle and economic inquires

According to Robbins' definition of economics (Robbins, 1935, pp.16), economic inquiries are essentially concerned with how the available means can be allocated to achieve an end which is given *a priori*³. In other words, economics is a study about the aspect of human behavior that can be read as an outcome of means-end consideration. In much the same spirit, Becker (1976) later argued that the assumption of maximizing behavior, among others, forms "the heart of the economic approach" (pp.4), thereby proposing a definition of economics equally based on its method of analysis. Of course, there are also many others who define economics differently, such as by subject-matter⁴, they are indeed not fundamentally at odds with Robbins' analytical definition (to some extent, also Becker's): even if economists may only focus on some particular classes of social phenomenon and human behavior, they should necessarily rely on a special cognitive instrument, which is nothing but the *economic way of thinking*. This instrument, by common understanding, is self-evidently founded on the principle of means-end rationality⁵. As a matter of fact,

³ In his original text, Robbins (1935) uses the plural 'ends' rather than the singular 'end.' However, in a specific research project, economists cannot deal with several ends without additional information, unless they are intermediary or instrumental ends, which can be measured by some common metric, to achieve an ultimate or intrinsic end.

⁴ For example, classical theorist Jean-Baptiste Say (1832) defined 'political economy' as a science that "unfolds the manner in which wealth is produced, distributed, and consumed"; Institutional economists such as Buchanan (1964) and Coase (1978) place emphasis on the market system and related institutional arrangements as the subject-matter by which economics is defined. It is to note that the debate about the definitions of economics is beyond the scope of this paper. Interested readers are referred to Backhouse and Medema (2009) for further discussion.

⁵ Since other disciplines, such as sociology, psychology, and biology, may also rest on some versions of the rationality principle, and thus holding the latter does not offer a *sufficient* condition to define economics.

once we stretch the connotation of the terms ‘means’ and ‘end’ to accommodate various so-called ‘behavioral anomalies’ and other ‘nonmaterial’ concerns, this principle of rationality is shared, explicitly or implicitly, with all economic approaches and schools of thought, as long as they do not abandon the economic way of thinking when inquiring into human choices and trade-offs.

With this understanding in mind, the argument logically follows that economics is a study about ‘rational’ choices. Here the term ‘rational’ seems confusing and should be taken in its broader sense. It does not mean that people always make the best choice that leads to the highest level of material satisfaction. In reality, of course, people often make wrong decisions on the one hand, and also pursue non-material satisfaction on the other. Instead, by ‘rational’ we simply mean that from an economic point of view, all human actions and choices are motivated (or as if motivated) by some ends and subjected to some constraints. Hence, they are regarded by economists as the outcomes of certain kinds of means-end reasoning, no matter what the means and ends are. At this juncture, it is worth quoting Becker again who wrote that “it (the economic approach) is a method of analysis, not an assumption about particular motivations” (Becker, 1996, pp.139). In this light, for example, if an investor, who wants to make as much profit as possible (and wants nothing else), loses money in his/her investment, it simply suggests that the behavior of this investor is constrained by his/her cognitive capacity, knowledge, willpower and so forth.

Unfortunately, the above logic may be so obvious that economists do not notice it anymore, especially when they are fooled by the very different empirical appearances of the means and ends. In particular, it is not uncommon to equate Robbins’ definition with neoclassical economics, which bears essentially on self-material interests and resource/technique constraints. For example, as a leading philosopher of economics, Daniel Hausman argued, economics as defined by Robbins refers to, in effect, neoclassical theory, and thus, it excludes Keynesian theory (Hausman, 2008, pp.32). Nonetheless, this holds *if and only if*, at the very beginning, we restrict the means-end considerations to those in the sense of neoclassical economics, even though there is no logical reason to prevent us from doing differently: why can we not treat ‘sense of achievement’ as a variable affecting the utility of investors? Why can we not consider ‘computational capacity’ and ‘information,’ along with ‘budget,’ as constraints to which consumers are subject? Why can we not take ‘fairness’ into account when exploring the players’ choices in ‘ultimatum’ game? All these questions are not only legitimate, but also reflective of the fundamental approach to human understanding that economists use every day, with or more often without their own consciousness. In awakening this kind of self-consciousness, we realize that it is Hausman rather than Robbins, who excludes non-neoclassical theories from Robbins’ ‘economics.’

To further clarify our point, the table below shows that although both neoclassical economics and one of its major ‘rivals,’ behavioral economics, differ in what the maximization goals and constraints are considered, they can be reduced to a single form of inquiry (or, a single conceptual scheme), namely constrained maximization framework. The latter is interpreted in the broader sense described above, and thus is not restricted for explicit mathematical optimization. Also, it should be noted that the empirical contents for the two approaches do complement, rather than substitute for each other. For example, in the real life most individuals are concerned not only with their own material interests, but also, to a different extent, with those of others.

Table 1: Comparison between Neoclassical Economics and Behavioral Economics

Items	Neoclassical Economics	Behavioral Economics
Explanatory variables affecting utility function	Self-material interests such as consumption, profit, wage, and monetary rewards...	Moral enjoyment and psychological needs such as sense of fairness, sympathy for others, self-actualization...
Constraints	Budget, production capacity, resources, technology...	Moral commitment, information, limits of reasoning and computational capacity, willpower...

Importantly, understanding the principle of means-end rationality as a common feature shared by various economic theories is not a digression, but instead a key to deal with the topic of this paper. The above argumentation indeed helps us know how economic inquiries have been pursued: they necessarily start with, at least at the heart of economists, some presuppositions about the ends and means involved in the social phenomena and human behavior. The reality or ‘goodness’ of these presuppositions has simply been put beyond question for a specific research project. Although it is perfectly legitimate for economists to further investigate the causes of the goals and behavioral constraints, this kind of endeavor should, again, build on other presuppositions and be addressed in a new research agenda. Once we understand the way economic inquiries go, the dualist view on the identity of economics naturally follows.

3. Economics as a moral science

We first deal with the moral dimension of economics. Roughly speaking, there

are four major arguments supporting the identity of economics as a moral science.

The first is fairly straightforward: the end motivating the behavior of economic agents reflects their ethical positions about the goals, desires, preferences, and other value concerns. In particular, from an economic point of view, the sense of sympathy, feeling of fairness, religious beliefs, and other nonmaterial factors serve as the determinants of the level of utility (broadly defined) which people seek to maximize. Importantly, some may not be aware that the neoclassical hypothesis about the utility function is indeed also a latent value assumption in itself: it basically says that economic agents are only concerned with their own material welfare, such as profit, consumption, wage, and other monetary payoff.

Second, a less uncontentious argument is that some ethical concerns and moral principles also take the form of constraints affecting human conduct. Generally speaking, they prevent people from making the choices that are believed as morally wrong, even if these choices can yield a higher degree of satisfaction, judged from one perspective or another. In this regard, it is particularly noteworthy that the ‘commitment’ proposed by Sen (1977), which does not help ‘the pursuit of one’s own utility,’ can be understood as a case of moral constraint on human behavior. The reason for that is quite unequivocal: according to our discussion in Section 2, if a relevant factor is assumed not to affect the end of behavior – or equivalently, it does not enter the utility function, it should necessarily belong to the set of behavioral constraints. Otherwise, it is no longer relevant. Notably, that is not an empirical matter but a necessary implication from the fundamental logic of economic way of thinking. However, it seems that Sen himself did not realize this logic hidden in his argumentation.

Third, the role of morality in guiding economic inquiries appears to be more evident in normative economics: all welfare judgments and relevant policy recommendations build necessarily on the value criteria and theories of justice that are adopted by economists. In this view, the disagreements in welfare topics – say, from taxing the super-rich to stopping environmental dumping – often spring from the different, or even opposing ethical positions held by the people at issue. Consequently, policy questions can hardly ever be resolved by logical reasoning and/or by describing facts⁶. Instead, to attain a higher level of some predefined public well-being, one should have recourse to persuasion and communication in the hope of mending the desires, preferences, as well as moral constraints of the people who face decision problems. In particular, as discussed in Section 2, in the eyes of economists, if a policy maker chooses policy A rather than B, the only legitimate explanation for this

⁶ In a sense, this argument corresponds to some sorts of non-cognitivist meta-ethical theories, such as *emotivism* of A. J. Ayer and C. L. Stevenson and *prescriptivism* of R. M. Hare. In general, they assert that moral principles are not based on facts and logic, but emotional attitudes and other subjective factors. For further discussion, see Hodgson (2001).

choice is that policy A is the outcome of his/her maximizing strategy, given the latter's means-end considerations (or maximization goals and constraints). Therefore, if an economist believes policy B is better than A and thus wants to recommend it, he/she should change the empirical content of the policy maker's rationality insofar as policy B appears as the outcome of the latter's new maximizing strategy. Otherwise, the recommendation for policy B is doomed to fail. Once again, we should stress that this is not an empirical argument, but rather a logical inference derived from the economic way of thinking⁷.

As a final point, economics can also be viewed as a moral science in light of its imperialist expansion into the traditional domain of the latter. As a matter of fact, following the pioneering efforts of Gary Becker and many others (see Becker, 1976, 1996; Stigler and Becker, 1977; Hirshleifer, 1985), the research line under the heading of 'economic imperialism' has successfully provided economic explanations for the emergence and survival of preferences, values, social norms, ideological favors, business ethics, and other ethical aspects of human conduct in relation to the relevant social and natural environments. In doing so, economists no longer treat these moral factors and phenomena as 'exogenous' givens⁸, but account for them through 'economic approach' that builds essentially on the assumption of maximizing behavior.

4. Economics as a value-free science

Nonetheless, the close interlink between economics and morality is not at odds with the discipline's value neutrality. That is to say, economic inquiries should be necessarily based on some *a priori* means-end considerations which definitely bear on ethics. In this light, the value neutrality of economics can be justified by the logic that once these premises are given beforehand as 'explanantia,' their empirical reality and moral rightness or wrongness have been put beyond discussion. However, there is no logical reason to prevent the latter from being the objects of other inquires (namely as 'explananda'), either within or without the field of economics.

To better articulate our thoughts, let us look at two societies, *a* and *b*. Society *a* is very unequal in terms of income distribution but even the poorest person there can make 5000 dollars each year. Society *b* is composed of individuals with equal annual income, say 4000 dollars. Then, if you ask an economist, keeping other things constant, which society is better to live in? The most likely answer would be: It all depends on your value criteria. If a bigger (smaller) enough weight is given to the absolute income than to the 'desire for equality' in your utility function, society *a*

⁷ In this sense, economics, especially normative economics, might be regarded as a kind of persuasive advertising.

⁸ By the same token, in doing so economists no longer stick to the maxim 'de gustibus non est disputandum'—namely 'there is no arguing about tastes.'

(society *b*) will be your choice. Or, if you take the moral commitment to choose a more equal society, regardless of your own material situation⁹, there will be no other choice than going to society *b* subject to this behavioral constraint. In this view, economic approach remains completely neutral regarding your choices and the means-end considerations behind them.

A second example may help to further illustrate our point: When we ask ‘what is the ‘optimal’ Gini coefficient for a society?’ logically, it is always followed by another question like, ‘optimal in which sense?’ There are surely a number of candidate criteria: a certain level of Gini coefficient can be seen as ‘optimal’ in the sense that other things being equal, it can lead to the highest economic growth rate, or longest average life expectancy, or lowest crime rate, etc. But how should we choose and weight these different criteria of optimality which correspond to different ends? Obviously, to deal with this new question, we further need an *a priori* criterion that allows the comparison of these candidates. Then, the latter should be reduced to some intermediary or instrumental ends to achieve a single intrinsic end of higher order¹⁰. In other words, some common metric is needed to measure those candidate criteria or intermediary ends at the same time, thereby making the comparison possible. Yet, there is a cautionary note that any particular end, like ‘desire for equality,’ should not always be taken as intrinsic. The reasoning above would indeed continue until the investigators are, more or less reluctantly, satisfied with certain kinds of ‘free’ argument. The latter may be borrowed from other disciplines including ethics, or even be given arbitrarily. Here, ‘free’ merely means that it is taken for granted and we don’t ask why about it in a particular paper, book, and research project.

Unfortunately, in the relevant literature the value neutrality of economics has been widely misinterpreted as an argument that the formations of values, norms, and tastes are *always* put beyond question by economists. For example, in his 1969 paper, Kenneth Boulding ironically referred to one illusion of economists as the ‘Immaculate Conception of the Indifference Curve.’ By that term, Boulding basically refers to the belief shared by some economists that the tastes of economic agents are simply given and the question of how they are formed is beyond their profession. Here, we by no means claim that Boulding’s irony is entirely irrelevant. Instead, our attitude toward this issue is ‘yes and no.’ On the one hand, following Boulding’s argument, we claim that economists not only need to but also have plenty of analytical tools to inquire into the process of the taste/value/preference formation in order to deal with questions like ‘why does an indifference curve look like *this* rather than *that*?’ Indeed, as mentioned above, under the heading of economic imperialism, the applications of economic approach to ethical issues have already been yielding some findings of great

⁹ ‘Commitment’ is as described in Sen (1977); also see Section 3 of the current paper.

¹⁰ Also see footnote 3 of this paper about the Robbins’ definition of economics.

significance. On the other hand however, economics cannot start with nothing but necessarily with some presuppositions about the goals and constraints which frame human conduct. These presuppositions should be taken for granted, or, to use Boulding's words, to be 'immaculately conceived.' In economic inquiries, they indeed play a role as the *first mover* that gets the ball rolling (also see Hausman, 2012, chapter 6).

Accordingly, in light of the analogy of the *first mover*, it turns out that economics remains a neutral instrument to explore the consequences and implications of certain moral premises and value criteria we hold beforehand. There are, however, two caveats: the first one concerns the statement that every economic inquiry necessarily comes out of some presuppositions. It does not mean that the latter are morally justified by the economists who rely on them. Instead, these presuppositions are exogenously given in a specific context. But can economists answer the question of what are the morally right premises and value judgments? Generally speaking, our response should be 'no.' The reason is that in order to judge we should have recourse to other criteria for judgment about the moral rightness or wrongness of behavior, which are prior to our inquiry. The second caveat concerns the purpose of economics. According to common understanding, the subject is, as already quoted, for "the bettering of human life" (Pigou, 1920, p. vii). However, its identity as a value-free technique implies that we cannot know this purpose by solely doing economics, just like we cannot know the purpose of physics by solely doing physics. Both are indeed metaphysical (if not religious) questions that are beyond the scope of economics and physics respectively. In this light, if economics is used for some evil purposes (for example, designing an intentional inflation to steal people's savings), the discipline per se is not to blame for that.

By providing these caveats we touch on the epistemological limitation of the economic way of thinking, which is delimited by the principle of means-end rationality. In short, economists cannot know the moral significance underlying resource allocations, market relationships, and any other traits of human conduct and social institutions until some presuppositions about means-end considerations are given to them for free. Here, we hasten to stress that just like every scientific discipline – including natural sciences which rely also on some prior principles, axioms, or 'ultimate givens' (such as the assumption of the existence of physical laws), economics is not an exception. Importantly, the recognition of this kind of 'limit of knowing' or 'professional incompetence' due to the division of theoretical labor is not a shame but a good starting point for a call-for-collaboration with other disciplines, especially ethics.

5. Conclusions

For centuries, although no one denies that economics is closely entwined with both ethics and engineering, many, if not most, economists are inclined to draw a sharp dichotomy between the two identities of economics – as a moral science and as a value-free approach. In essence, this dichotomy is the result of the belief that the morality and value neutrality are mutually exclusive, and thus they cannot be used together for featuring the discipline. In our view, however, this common belief rests on misunderstanding the fundamental logic of the economic way of thinking. The latter can be summarized as observing and theorizing human behavior through the lens of the rationality principle.

It should be emphasized that holding this principle is not for the need of realism, and thus it goes beyond empirical justification; nor is it for mathematical convenience, and thus it holds regardless of whether formal mathematical optimization techniques are used. Instead, it is just the *a priori* common grammar of economic analyses that determines how economists understand their subject-matter: no matter what analytical frameworks and hypotheses are taken, the choices and tradeoffs of economic agents can be understood by economists *if and only if* they are reduced to the outcomes of means-end considerations of certain kinds; by the same token, social norms, institutions, and market relationships can be understood *if and only if* they are reduced to the outcomes of the choices and interactions of the aforementioned ‘rational’ agents. As already stated, the above arguments are not inconsistent with the fact that different empirical contents of the means-end rationality have been combined with the general structure of the economic way of thinking.

Importantly, being aware of this common grammar leads us to the reconciliation of the morality with value neutrality in economics. However different these two features appear, they are indeed nothing but the two sides of the same coin. On the one hand, economics is a moral science not only because all theorizing and policy discussions in economics are necessarily based on certain moral premises about the means-end structure of the agents; it is also because economists have provided, from the standpoint of their discipline, explanations for a wide range of moral issues, including preference formation and the development of social norms. On the other hand, economics remains, however, neutral regarding judgmental positions and value systems. This is because, without ethical presuppositions, economists cannot judge and evaluate the human choices in which different value criteria or intrinsic ends are involved.

Furthermore, some may still be reluctant to accept the dualist view that the morality and value neutrality are two inseparable features, coexisting in the very same body. To a large extent, this avenue of understanding is reminiscent of the long struggle with the ‘duality paradox’ of light. Today, the latter is no longer paradoxical

for most, if not all, physicists, because quantum mechanics tells us that light behaves both as a wave and as a particle. In light of ‘light,’ there is nothing unbelievable that economics, as its methodological heartland implies, behaves both as a moral science and as a value-free technique.

Finally, the rejection of the false dichotomy of the two facets of economics also allows revisiting the debate with which we start the paper, ‘where did economics originate from?’ Now, with the dual identity of economics in mind, we can illuminate the origin(s) of the discipline by analogy with biological reproduction: Ethics and engineering are nothing but two parents, who gave birth to economics and had since then transmitted their attributes, morality and value neutrality respectively, to their common child. Plainly, it is not an account from the perspective of the history of economic thought, but a methodological explanation through the clues underlying the very nature of that *child*.

References

- Atkinson, A. B., 2011. The restoration of welfare economics. *American Economic Review, Papers and Proceedings* 101 (3), 157-161.
- Backhouse, R.E., and Medema, S. G., 2009. Retrospectives: On the definition of economics. *Journal of Economic Perspectives* 23 (1), 221-233.
- Becker, G., 1976. *The Economic Approach to Human Behavior*. University of Chicago Press, Chicago.
- Becker, G., 1996. *Accounting for Tastes*. Harvard University Press, Cambridge, MA.
- Bhagwati, J., 2011. Markets and morality. *American Economic Review, Papers and Proceedings* 101 (3), 162-165.
- Boulding, K., 1969. Economics as a moral science. *American Economic Review* 59 (1), 1-12.
- Buchanan, J., 1964. What should economists do? *Southern Economic Journal* 30 (3), 213-222.
- Coase, R. 1977. Economics and contiguous disciplines. *The Journal of Legal Studies* 7(2), 201-211.
- Friedman, B., 2011. Economics: A moral inquiry with religious origins. *American Economic Review, Papers and Proceedings* 101 (3), 166-170.
- Hausman, D., 2008. Introduction, in Hausman, D. (ed.), *The Philosophy of Economics*, Third Edition. Cambridge University Press, Cambridge.
- Hausman, D. 2012. *Preference, Value, Choice, and Welfare*, Cambridge University Press, Cambridge.
- Hausman, D., and McPherson, M., 1993. Taking ethics seriously: Economics and contemporary moral philosophy. *Journal of Economic Literature* 31 (2), 671-731.
- Hawtrey, R.G., 1925. *The Economic Problem*. Longmans, Green and Co., London.
- Hirshleifer, J., 1985. The expanding domain of economics. *American Economic Review* 75 (6), 53-68.
- Hodgson, B., 2001. *Economics as Moral Science*. Springer-Verlag, Berlin.
- Keynes, J. M., 1938. *Letter to Roy Harrod*, 4, July.
- Pigou, A.C., 1920. *The Economics of Welfare*. Macmillan Co. Limited, London.
- Piketty, T., 2013, *Capital in the Twenty-First Century*, Harvard University Press, Cambridge, MA.
- Posner, R.A., 2009, *A Failure of Capitalism: The Crisis of '08 and the Descent into Depression*, Harvard University Press, Cambridge MA.

- Robbins, L., 1935. *An Essay on the Nature and Significance of Economic Science (second edition)*. Macmillan, London.
- Samuelson, P., 1947. *Foundations of Economic Analysis*. Harvard University Press, Cambridge, MA.
- Say, J-B., 1832, *A Treatise on Political Economy*. Grigg & Elliot, Philadelphia.
- Sen, A.,1977. Rational fools: A critique of the behavioral foundations of economic theory. *Philosophy and Public Affairs* 6 (4), 317-344.
- Sen, A., 1987. *On Ethics and Economics*. Blackwell Publishing, Oxford.
- Shiller, R., and Shiller, V., 2011. Economists as worldly philosophers. *American Economic Review, Papers and Proceedings* 101 (3), 171-175.
- Stigler, G. J., 1981. The economist as preacher. *The Tanner Lectures on Human Values*, vol.2. Cambridge University Press, Cambridge.
- Stigler, G. J., and Becker, G. S., 1977. De gustibus non est disputandum. *American Economic Review*, 67 (2), 76-90.
- Stiglitz, J.E., 2012, *The Price of Inequality: How Today's Divided Society Endangers Our Future*, W.W. Norton & Company, New York.