
Science as a Free Market: A Reflexivity Test in an Economics of Economics

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One prominent aspect of recent developments in science studies has been the increasing employment of economic concepts and models in the depiction of science, including the notion of a free market for scientific ideas. This gives rise to the issue of the adequacy of the conceptual resources of economics for this purpose. This paper suggests an adequacy test by putting a version of free market economics to a self-referential scrutiny. The outcome is that either free market economics is self-defeating, or else there must be two different concepts of free market, one for the ordinary economy, the other for science. Both conclusions will impose limits on the applicability of the ordinary economic concept of the market to the study of science.

1. Introduction

In science studies, the issue of the link between science and the market appears in two main forms. Traditionally, the issue was presented in the context of the question of whether and why not the private market sector is able to sustain science, and whether and why massive public funding is needed. This is the issue of *science within the market*. The conventional answer to this question referred to yet another presumed market failure and the public good character of scientific knowledge. The other issue is whether science itself is a market, whether there is something like

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the marketplace for ideas within science—whether publicly funded or not. This is the issue of *market within science*. My focus is on this latter issue.

The belief that there is—or should be—a market, or something like a market, within science, seems to be increasingly popular among philosophers, sociologists, and other students of science (Polanyi 1962; Tullock 1966; Bourdieu 1975; Latour & Woolgar 1986 [1979]; Knorr-Cetina 1983; Barnes 1985; Hull 1988; Rescher 1989; Bartley 1990; Goldman & Shaked 1991; Kitcher 1993; Goldman 1999). This is a major indication of the increasing popularity of economic metaphors in the study of science. Parts of the new sociology of scientific knowledge started moving to this direction in the late 1970s, suggesting ideas such as the market for credibility and transepistemic arenas (see Mäki 1992; Hands 1994*a*). Some philosophers of science have recently started talking about scientists as intellectual entrepreneurs acting in the science market governed by division of cognitive labour and, perhaps, by an epistemically generous invisible hand. This development involves an interesting twist regarding the relationship between economics and the philosophy of science. Economists used to (and still do) draw from the philosophy of science to justify and explain their activities. Some philosophers of science—among those who seek to “naturalize” and “socialize” the philosophical account of science—now draw from economics as an intellectual resource to explain and justify the activities of scientists, thereby relocating and refueling traditional controversies over the credentials of economics as an intellectual resource (see Hands 1994*b*; also Hull 1998; Mirowski 1995; Sent 1998).

If economic notions are supposed to help us understand science, we may expect them to help us understand economics itself. I take the latter (economics of economics) as a demanding test case of the former (economics of science or economically reconstructed philosophy of science). If economics applies to itself, then we might be on a firmer ground when applying it to science in general. Of course, it is conceivable that economics is a peculiar case, that it is unlike most or all other scientific disciplines; if so, then the failure of an attempt to apply economics to itself would not have any direct implications about the applicability of economics to science more generally. But obviously, this would cast indirect doubt on the use of economics as a resource in the study of science in general: to be taken seriously as such a resource, economics had better be taken sufficiently seriously as a scientific discipline.

We may thus entertain ourselves with the idea of economics of economics. Especially in the current era of economics expansionism, it should not be too far-fetched to suggest that economics might be used to study eco-

nomics itself.¹ To make clear the thought implied here we can make a distinction between what may be called object-economics and meta-economics, or economics of the first degree and economics of the second degree. *Object-economics* (economics of the first degree) is the study of the economy in the conventional sense of ‘economy,’ while *meta-economics* (economics of the second degree) is the study of object-economics in the conventional sense of economics as an academic discipline. Meta-economics is a matter of applying economics to itself. A special case, to preoccupy us in the following, is the application of one economic theory or one type of economics to itself, that is, economics of type X to economics of type X. This creates the issue of *reflexivity or self-reference*.²

‘Economics of type X’ here will designate free market economics—an ambiguous notion itself. The reason for this choice is simple: I know of no better way of assessing the use of the economic notion of a free market of ideas in the scientific context than to examine it in the self-referential context of an economics of economics.³ To anticipate, the major argument of the paper—the conclusion of which we only reach at the end of the paper—is based on the recognition of the ambiguity of ‘free market.’ It seems likely that most of the time when economists—note: *economists*—talk about the free market of ideas, they do not use ‘free market’ in any of the established and relatively well-defined senses found *in economics*. If this is so, this should be an interesting piece of information to non-economists talking about the free market for ideas.

The evidence I employ is limited, thus the conclusion will be suggestive rather than fully substantiated. Two recent pieces of evidence will be examined: a collective plea for a free market of economic ideas signed by forty four prominent economists, and one Nobel Laureate’s—viz. Ronald Coase’s—suggestion that we should analyze methodological issues as economic issues. Even if limited, my conjecture is that this evidence is not unrepresentative.

1. In the spirit of explanatory unification, economics has a strong tendency to expand its domain of application to cover politics, marriage, crime, tooth-brushing, church-going, among other things (see Mäki 1999*a* and 1999*b*).

2. For the issue of reflexivity in the social study of sciences in general, see Woolgar (1988); for the issue in economics in general, see Hands (1994*a*); for the issue in institutionalist economics, see Mäki (1993*a*) and (1993*b*).

3. For the purposes of this paper, I will not try to eliminate the ambiguity of ‘free market economics’—after all, this ambiguity is part of the intended message of the present paper. As an example of how an elimination of this ambiguity could be pursued, Schotter (1985) lists assumptions of “the free market argument” such as individualism; rationality of agents, consisting of selfishness and utility maximization; atomistic competition; invisible hand *laissez faire*; and efficiency-equity trade-off.

I believe the examination of the reflexivity issue, by way of an imminent scrutiny as it were, has potentially far-reaching ramifications: among other things it will help identify whatever limitations there may be to the use of economic concepts in the study of science.⁴ To the extent that economics is used as a tool for studying science, we had better understand this tool. To the extent that economics itself is a science, we are advised to apply the tool to itself to understand it.

2. The market for goods and the market for ideas

A few years ago, Geoff Hodgson, D. McCloskey and I organized a collective statement or petition concerning the state of conversation in economics (let us call it “The Petition”). The Petition was printed in the announcement section of the May 1992 issue of the *American Economic Review* (see Appendix). The statement was a plea for pluralism and rigor and was phrased in terms of free market as opposed to monopoly, that is, in terms that were familiar to economists. The Petition boldly suggests that “Economists today enforce a monopoly of method or core assumptions . . . Economists will advocate free competition, but will not practice it in the marketplace of ideas” and argues that adopting free markets in academic practices will make economics better.

Some economists who are known as advocates of free market object-economics, refused to sign The Petition. This may be because they believed that there is nothing about which to complain: an intellectual free market already prevails within economics (but it was suggested by some of the responses we received that this was not so in each case). Perhaps more interestingly, people who are known as less enthusiastic about free market object-economics, did sign. Such observations are taken by many to give rise to an issue of congruence or consistency (in the sense of degree of similarity of views pertaining to various subject matters).

Some economists do hold what at least appears to be a consistent free market view of both the goods market and the ideas market. Among those who have explicitly expressed their advocacy of a free market for ideas, we find D. McCloskey and Ronald Coase. McCloskey entertains the idea of a competitive market of conversation: “all writers are . . . competing minute-by-minute with other writers in an atomistic market of ideas” (McCloskey 1985, p. 189). Laissez faire rather than methodological regulation is the right policy for this market: the “free market—not the central planning proposed by official methodologies—gives the only promise worth having that the economy of intellect will continue to run as well as

4. Examining the reflexivity issue may also provide a useful service in locating the boundaries of the domain of economics in general.

can be expected” (McCloskey 1988, p. 252). Likewise, Coase protests against the regulationist “discussion of the question of how economists ought to choose between theories, developing criteria, and relying on exhortation or perhaps regulation to induce them to use these criteria in making their choices” and recommends instead that we should “leave economists free to choose” in the market for ideas, that is, in the “competitive process in which purveyors of the various theories attempt to sell their wares” (Coase [1982] 1988, pp. 79, 76, 75).

Coase is particularly sensitive to the issue of consistency. This is exemplified by his critique of Milton Friedman’s views: Coase says Friedman holds a free market view of the economy and (with his prescriptive methodology) a regulationist view of economics, and that “my way of looking at this question is more consonant with Friedman’s general position as expressed in *Capitalism and Freedom or Free to Choose* than with that found in “The Methodology of Positive Economics” (Coase [1982] 1988, p. 64).⁵ In his discussion on “the economics of the first amendment,” Coase is also concerned about the issue of consistency. He complains that many—perhaps a majority of—intellectuals hold a free market position insofar as the world of ideas is concerned and a regulationist stance when it comes to the economic world of goods and services, thus implying a qualitative difference between the two worlds (Coase might attribute this mixture of views to some of the signatories of The Petition). In opposition to this presumption, Coase says that “I do not believe that this distinction between the market for goods and the market for ideas is valid. There is no fundamental difference between these two markets [. . .]” (Coase 1974, p. 389).

Given the two groups of markets (for goods and for ideas) and the two types of views in regard to them (regulationist and free market), we get four relevant permutations:

1. Regulated market for goods and regulated market for ideas
2. Free market for goods and regulated market for ideas
3. Regulated market for goods and free market for ideas
4. Free market for goods and free market for ideas

The supposition underlying Coase’s criticism and other similar criticisms is that positions 2 and 3 are inconsistent, while 1 and 4 are consistent positions and should therefore be preferred. Let us call this *the Consistency Supposition*. The Consistency Supposition implies the following: if one

5. “The Methodology of Positive Economics” (Friedman 1953) gives Friedman’s famous statement to the effect that one should judge economic theories in terms of their predictive successes rather than the realisticness of their “assumptions.”

holds an object-economics of type X regarding the market for goods, one is thereby required to hold a meta-economics of same type X regarding the market for scientific ideas, and vice versa.

3. Self-explanation and self-justification

The Consistency Supposition leads to the issue of self-reference or reflexivity: the troublesome requirement that economics be applied to itself, or more precisely, that economics of type X be applied to economics of type X. The issue of reflexivity appears in the form of two questions; let us call them the problem of self-explanation and the problem of self-justification.

The problem of self-explanation takes on the form, “Is an economics of type X able to explain itself, that is, to explain its existence and degree of popularity?” More specifically, “Is a free market economics able to explain itself, that is, to explain its existence and degree of popularity as an outcome of a free market of economic ideas?”

The problem of self-justification has the form, “Is an economics of type X able to justify itself, that is, to explain why it is good economics?” With ‘X’ specified as ‘free market economics,’ the question becomes, “Is a free market economics able to justify itself, that is, to depict itself as an intellectually optimal outcome of a free market of economic ideas?”

A free market economics of economics is expected to support a positive answer to both of these questions. How can one support such an answer? In what way does one substantiate the thesis that free market economics is both able to explain itself and to justify itself? One possibility might be to test the thesis empirically, by checking whether the outcome of an actual free market for economic ideas is a free market object-economics meeting some optimality requirements. This method presupposes the empirical actuality of a free market for economic ideas. One way of guaranteeing this is to find an actual situation which approximates sufficiently closely such a free market for ideas, and then to check whether, in that situation, free market object-economics emerges. The problem with this is that it is highly controversial whether any given situation is a close enough approximation. Those who doubt the actual existence of such a situation—including those who signed The Petition and (much of the time) Coase and McCloskey—may propose that a free market for economic ideas be materially established. Then, once such a situation has actually been established, the checking of the outcome can be carried out. The problem with this is that the thesis cannot be tested now, and not until certain institutional changes have been implemented in the “industrial organization” of economics.

If it is the case that, due to the absence of a free market for economic ideas, it is impossible to test empirically the thesis of the capability of free market economics to self-explain and self-justify, then another route has to be attempted. This is the theoretical route, suggested by a familiar view about a certain feature of object-economics. Namely, many claims in object-economics are counterfactual in character, depending on theoretical support for their acceptance. The suggestion is that perhaps this is also the case with the claims of meta-economics. Perhaps free market economics of free market economics puts forth claims of the form, “If there were a free market for economic ideas, then it would tend to generate free market economics with certain optimality properties as an outcome”? Such claims require theoretical support for their substantiation.

If the claims of free market meta-economics are counterfactual and if such counterfactuals have to be theoretically supported, we had better look for such support. For this purpose, we need to become more specific. There are, of course, several interesting specific versions of free market economics, thus we have to choose. In what follows we will focus on Coasean meta-economics. The task is to see whether this version is able to theoretically support positive answers to the questions of self-explanation and self-justification. A sufficient reason for focusing on Coase is that he has been explicit about the need to depict economics in economic terms. The exploration of other versions of free market economics will have to await other occasions. The following is a simple exercise of speculation within a very narrow framework excluding a host of relevant considerations. This means that the following thought-experiment does not do full justice to Coase, who never spelled out a complete economics of economics and who emphasizes the importance of acknowledging the complexity of concrete phenomena. It is hoped, nevertheless, that the exercise is Coasean in invoking transaction costs—even though perhaps not entirely Coasean in its narrowness and speculative character.

4. Coase and reflexivity: Transaction cost economics of transaction cost economics?

Among the features that characterize Coasean economics are the central role given to the concept of transaction costs; the acknowledgement of the “impurity” of the empirical world and the importance of empirical case studies in dealing with it in comparative institutional analysis; and optimism about—or at least “statistical bias” towards—free market solutions.⁶ The question is whether this economics is able to self-explain and

6. The last point concerning optimism about free market solutions would need some qualification. The very idea of optimism appears to refer to an *a priori* attitude, whereas

self-justify in the twin roles of object-economics to be explained and justified, and of meta-economics to explain and justify.

That Coase advocates an economic approach to the study of economics is obvious from statements such as, “the approach to the methodological problem in economics that is likely to be the most useful is to transform it into an economic problem” (Coase [1982] 1988, p. 79). Methodological problems are problems related to the evaluation and choice of theories and models, and the suggestion is to deal with these problems of choice in economic terms. Unfortunately, Coase has little to say about the specific contents of his favorite meta-economics. He does put forth an assumption about the behavior of economists: they are supposed to pursue “respect and position” and “maximize” their “self-esteem” (ibid., p. 78). It is notable that these goals are non-epistemic; no epistemic objectives are mentioned by Coase in this context. He also states that economists practice activities similar to “advertising” when attempting to “sell” their theories which he likens with “wares” (ibid., p. 75). There is nothing specifically Coasean about these elements. To make Coase’s meta-economics a uniquely Coasean meta-economics, we have to incorporate one key element that is missing in Coase’s own outline of the economics of economics: *transaction costs*.⁷ (For a more complete account of Coase’s economics of economics, see Mäki 1998a.)

According to Coasean object-economics, the relatively optimal institutions (such as the market and the firm) that emerge and prevail are transaction-cost efficient arrangements.⁸ Provided that the transaction costs are able to shape the institutions unhampered, invoking them will serve in the double role of both explaining and justifying the institutional facts. The optimality of the free market is then itself contingent upon transaction cost considerations. These are some of the answers provided by Coasean object-economics to first-order questions. The second-order question of self-explanation and self-justification is *whether Coasean object-*

Coase’s official stance seems to have an *a posteriori* character, making the choice between institutional options depend on empirical considerations. For a useful intellectual portrait of Coase, see Medema (1994).

7. Transaction costs are the costs of “using” various organizational structures involving contractual arrangements—such as the market, the firm, public bureau. They include the costs of search, measurement, negotiation, monitoring, enforcing, and the like. The tradition that Coase helped launch argues that low transaction cost arrangements tend to be adopted.

8. It is important to see that if we want to use the concepts of optimality and efficiency when discussing or using Coase’s views, these must be understood as relative rather than absolute notions. Coase is only interested in optimality in a comparative sense; the relevant attributes have the form, ‘is better than,’ ‘is more efficient than’ rather than ‘is efficient’ or ‘is inefficient.’

economics is transaction-cost efficient economics. This question and any attempt to answer it presuppose that there are some kind of costs of transacting also in the market for economic ideas, that is, costs due to search, communication, negotiation, assessment, monitoring, and things like that.

In the spirit of Coasean comparative institutional analysis, we may then try to compare two strands of object-economics. This presupposes conceiving of these strands as institutions with rules of conduct and a structure of costs and benefits. The comparison itself has to be in terms of relative transaction-cost efficiency. One strand is Coasean object-economics: empirically and institutionally oriented, case-study based, transaction cost economics. The other is “blackboard economics” as Coase calls it. It consists of mathematically formalized theorizing on strongly simplified imaginary rather than actual situations without the “friction” of transaction costs and institutions. Coase is highly dissatisfied with blackboard theorizing which he thinks is characteristic of mainstream economics. He is not happy with the fact that “when economists find that they are unable to analyze what is happening in the real world, they invent an imaginary world which they are capable of handling” (Coase 1993*b*, p. 52). “What is studied is a system which lives in the minds of economists but not on earth. I have called the result ‘blackboard economics’” (Coase [1992] 1993, p. 229).

Comparing these two types of economics in transaction-cost efficiency terms is bound to be speculative; only highly stylized *ceteris paribus* arguments will be provided.⁹ To begin, one might suggest that Coasean object-economics suffers from high transaction costs. These are partly due to the complications and ambiguities of empirical field work, the results of which are typically subject to multiple and rival interpretations. Another reason is the lack of a mathematically rigorous theoretical framework which would organize and formalize the rules of theoretical puzzle solving. Research within Coasean object-economics therefore tends to be characterized by complexity and ambiguity. This can then be conjectured to give rise to high costs involved in search, communication, and assessment.

One might then speculate that formalized blackboard economics dominated by a simple theoretical framework is relatively efficient in reducing transaction costs because it disambiguates and standardizes problems, concepts, and suggested results. Formalized standardization helps decrease search and monitoring costs in that it facilitates the discovery, communi-

9. One dramatic “other thing” that is assumed to be “constant” is the “benefits” or “returns” of a piece or line of research. In other words, only the impact of costs will be considered.

cation, and assessment of relevant research tasks and outcomes. Relative to Coasean object-economics, blackboard economics may be transaction-cost efficient economics—measured in terms of Coasean meta-economics.¹⁰

This suggests that Coasean transaction cost economics appears to be able to provide an interesting self-explanation. Ironically, this is no less than a limited explanation of its own limited popularity. That the practical popularity of Coasean economics (characterized as we have done above) is limited is a matter of obvious fact.¹¹ If it is the case that Coasean transaction cost economics is accompanied by relatively high transaction costs, then this might help explain its failure to attract large masses of economists to do research along Coasean lines. However, even if this were part of the answer to the question of self-explanation, it would not be part—or at least the same kind of part—of the answer to the question of self-justification.

The speculations above also suggest that Coasean transaction cost economics is unable to solve the problem of self-justification. It is not capable of justifying itself as an optimal outcome of the market for economic ideas. Coase believes Coasean economics is good and blackboard economics is bad. Yet, from the point of view of Coasean meta-economics, blackboard economics seems to be closer to optimal economics than Coasean object-economics because the transaction costs it involves are lower. How could Coase reconcile these two viewpoints?

Coase recognizes the fact that the net benefits for an economist of a given intellectual choice depend on the professional values and standards prevailing among economists. “Respect and position are obtained by doing work which meets the standards of the economics profession” (Coase [1982] 1988, p. 78). Now it appears that the prevailing standards are not supportive of Coasean object-economics. Consider the role of case study and gathering of detailed data. Sidney Winter points out: “I doubt that a dissertation prospectus outlining the sort of research program Coase conducted in 1931–1932 [preparing the way for his Nobel Prize winning ‘The Nature of the Firm’] would pass muster in most economics departments today. Indeed, even a much more structured plan of inquiry into ac-

10. A number of qualifications would be needed to refine these speculations. For example, intellectual transaction costs themselves—provided there are such—have to be perceived as population-relative; for example, the costs of search, communication, and assessment are low in formalized blackboard economics only for those who meet some minimum mathematical literacy conditions.

11. I use the expression ‘practical popularity’ to point out the difference between “doing research along the lines of economics of type X” and “saying (or thinking) that economics of type X is good.” ‘Practical popularity’ is to be understood in terms of the former; it is practitioner’s popularity or popularity of a practice.

tual business practice would be likely to confront great skepticism regarding the value of such research. And certainly the reason is not that we have accumulated so many good observations about how firms work that we do not need any more. Quite the opposite is the case” (Winter 1993, p. 184).¹² Coase himself remarks: “As the concept of transaction costs is not usually used by economists, it is not surprising that an approach which incorporates it will find some difficulty in getting itself accepted” (Coase 1988*b*, p. 7). Thus, if left to make free choices in pursuit of respect and position, most economists do not opt for Coasean object-economics in their research. Provided Coasean object-economics is good or even optimal economics, then there has to be something wrong with “the standards of the economics profession.”

Accordingly, one may argue that the institutional structure of the market for ideas is not right and therefore the market does not favor the practical popularity of Coasean object-economics, that is, it does not encourage economists to adopt Coasean object-economics in their research. Indeed, Coase is fully aware of the importance of institutional conditions for the proper functioning of the ideas market:

[. . .] we should investigate the effect of alternative institutional arrangements for academic studies on the theories that are put into circulation and on the choices that are made. From these investigations we may hope to discover what arrangements governing the competition between theories are most likely to lead economists to make better choices (Coase [1982] 1988, p. 79).

Now the key question is this: what are “better choices”? One may conjecture that “better choices” for Coase are choices that favor Coasean object-economics as against blackboard economics. Coase explains, in a free market spirit, what he considers to be the institutional arrangements conducive to “better choices”:

For economists to be free to choose the theories that will be most helpful in guiding them in their work, and to invent new theories when the existing ones seem unsatisfactory, research has to be carried on within a relatively free educational structure, with universi-

12. The same logic can be used to explain and justify economists’ reluctance to replicate empirical tests. Replication takes time that can be used for other kind of work that is better rewarded by the economics profession, therefore replication is rare even though it is often mentioned as a major ingredient in the so-called scientific method (*cf.* Wible 1991). More generally, it can be argued—as Zamora Bonilla (1999) has done—that relative neglect of empirical work is in line with economists optimizing their epistemic utility functions, which are different from those of physicists.

ties, research institutes, and the foundations and other bodies that finance research all following independent policies and even within universities allowing a considerable degree of autonomy for schools and departments (Ibid., pp. 78–79).¹³

How could one show that such an institutional structure would favor Coasean object-economics? How does one identify the optimal outcome of the free market for economic ideas in the empirical absence of such a free market? Why would Coasean object-economics be optimal—or just better—economics? As part of a theoretical argument, transaction cost considerations seem to suggest that blackboard economics is closer to the optimum than Coasean economics, as we have seen. But Coase does not like this conclusion.

It is here that his reliance on economics for an answer has to break down. Other resources have to be invoked to characterize the intellectual optimum—to define what “better choices” amount to. Indeed, this is what actually happens: the bulk of the metatheoretical commentary provided by Coase on economics has not been in the form of a meta-economics. Most of it has consisted of levelling traditional methodological criticisms against conventional economics: Coase blames it for being overly unrealistic, residing in an imaginary world detached from the real world, and he emphatically advocates a more realistic economics, based on detailed empirical case studies. Thus, there is a sense in which his metatheoretical commentary appears to be largely “regulationist” rather than “free market” after all (see Mäki 1998*b* for a detailed account of this aspect of Coase’s metatheoretical views). It is this regulationist element in the identification of optimal object-economics that ultimately undermines (at least one version of) free market economics as a fully self-justified endeavor.¹⁴

In this connection, it is interesting to compare Coase’s view on these matters with those pursuing an economically reconstructed philosophy of science. Take Kitcher and Goldman, who would identify themselves as scientific realists to whom it is a virtue of science to attain true accounts of the world (Kitcher 1993; Goldman & Shaked 1991). If my account of Coase’s “regulationist” stance is correct, he is also a realist who thinks that “realistic” economics (in relevant senses of ‘realistic’)

13. It is likely that the signatories of The Petition shared something like this view at a general level.

14. One may add that the same regulationist retreat characterizes McCloskey’s assessment of what she perceives as good and bad in economics: ultimately, she does not rely on the “free market” giving “the only promise worth having that the economy of intellect will continue to run as well as can be expected” (see Mäki 1995 for the detailed argument).

is good economics (Mäki 1998*b*). Simplifying a little, the difference between Coase and these philosophers is the following. The latter tend to rely on the capability and high likelihood of the market within science to foster the attainment of true accounts of the world. Coase, on the other hand, is forced to complain that the actual market for economic ideas favors “unrealistic” economics which is unable to provide true accounts of the actual economy, therefore methodological “regulation” is needed.

5. Coase and consistency: Boundaries of the domain of economics?

The speculations of the preceding section are based on the presumption that the very idea of economics of economics is feasible. Now it is most interesting to note that Coase’s own comments dealing with the appropriate domain of economics cast some doubt on the application of economics to itself. This creates another problem of consistency among Coase’s views as we shall see next.

Interestingly, Coase’s economic perspective on economics and other disciplines appears also in the context of his arguments against some of the extreme forms of what may be called *economics expansionism*. His meta-economic approach is exemplified in the following:

If the question is asked, how do these boundaries between disciplines come to be what they are, the broad answer I give is that it is determined by competition. The process is essentially the same as that which determines the activities undertaken by firms [. . .] The practitioners in a given field extend or narrow the range of the questions that they attempt to answer according to whether they find it profitable to do so [. . .] (Coase 1978, p. 202).

At the same time, Coase is skeptical about the recent victories of economics in expanding its domain to neighboring disciplines such as political science, sociology, linguistics, education, and law.

The reason for this movement of economists into neighboring fields is certainly not that we have solved the problems of the economic system; it would perhaps be more plausible to argue that economists are looking for fields in which they can have some success (ibid., p. 203).

He seems to imply that the expansion of the domain of economics is based on the narrowing of the economic perspective to a logic of choice.

The general impression one derives, particularly from the journals, is of a subject narrowing, rather than extending, the range of its in-

terest. This seems inconsistent with the concurrent movement of economists into the other social sciences, but I believe that there is a connection between these two apparently contradictory developments (ibid., p. 204).

Coase then suggests that the recent expansionist victories are going to be temporary only. His argument is based on the suggestion that a group of scholars may be bound together so as to form a profession, by three factors, namely “common techniques of analysis, a common theory or approach to the subject, or a common subject matter” (ibid., p. 204). He then argues that since *the identity of a discipline is ultimately based on a common subject matter*, expansionist victories based on techniques or approaches are going to be short-lived:

[I]n the long run it is the subject matter, the kind of question which the practitioners are trying to answer, which tends to be the dominant factor producing the cohesive force that makes a group of scholars a recognizable profession [. . .] However, in the short run, the ability of a particular group in handling certain techniques of analysis, or an approach, may give them such advantages that they are able to move successfully into another field or even to dominate it (ibid., p. 204).

Coase then argues that there is something specific in the subject matter of economics that imposes limits on its wider applicability. This factor is “*the measuring rod of money*.” He says that within the proper domain of economics, “important determinants of behavior” are measured by money, and that hypotheses in economics can be “examined and checked” since “the data (on prices and incomes)” are available in monetary terms (ibid., p. 209). There are limits to the domain of applicability of economics based on the extent to which the “measuring rod of money” helps constitute the subject matter of inquiry.¹⁵

15. Richard Posner is famous for endorsing an expansionist application of standard economic theory to various domains ranging from law to sex. Posner criticizes Coase for a “narrowness of his conception of the domain and methodology—and hence the past, present, and future—of economics” (1993*b*, p. 203). In Posner’s judgement, “economics is increasingly a single field, utilizing a common paradigm in Thomas Kuhn’s sense” (Posner 1993*a*, p. 74). This is obviously so because Posner takes economics to be defined in terms of “common technique” or “common theory or approach,” to use Coase’s terminology. Following up the speculations in the previous section, one might suggest that in a transaction-efficient situation, everybody uses the same framework or approach but applies it to different domains and topics free from limits of applicability based on considerations of “subject matter.” This would be more in line with Posner’s suggestions of which Coase is

If it is true that the more developed state of economics, as compared to the other social sciences, has been due to the happy chance (for economics) that the important factors determining economic behavior can be measured in money, it suggests that the problems faced by practitioners in these other fields are not likely to be dissipated simply by an infusion of economists, since in moving into these fields, they will commonly have to leave their strength behind them. The analysis developed in economics is not likely to be successfully applied in other subjects without major modifications (Coase 1978, p. 209).

We are now ready to turn Coase against himself, as it were.¹⁶ Let us call the above argument offered by Coase *the limits argument*. It would now seem that the limits argument puts Coase's economics of economics at stake. The critical question is, *Does Coasean meta-economics share the subject matter of economics of the first degree?* Ideas in economics do not typically have monetary prices, and the determinants of the behavior of economists are not measurable in terms of money; according to Coase's meta-economics, economists are supposed to pursue respect and position rather than higher income. Coase's argument for the limited success of economics in conquering contiguous disciplines might therefore be taken to apply to the economic study of economics as well. The limits argument would seem to suggest that the problems in Coase's outline for an economics of economics might be due to the characteristics of the "subject matter" itself, such as economics being an epistemic activity with a peculiar institutional structure, irreducible to dimensions that are accessible by the measuring rod of money.

Once again, it is notable that Coase did not reach his argument for the limits of economic expansionism by way of an economic argument. His claim about the centrality of the subject matter goes beyond meta-economic considerations, just as his methodological preferences concerning good object-economics go beyond the limits of meta-economics, as we have seen. There seems to be a double standard in play in both cases. Witness the following: "I would not expect [economists] to continue indefinitely their triumphal advance and it may be that they will be forced to withdraw from some of the fields which they are now so busily cultivating. But such a forecast depends on the practitioners in the other disciplines making a competitive response" (Coase 1978,

so critical. Thus it appears that *Coasean premises might give us Posnerian conclusions!* For a critique of Posner's critique of Coase, see Mäki (1998c).

16. "Turning Coase against himself" may sound a little strong, and that is what it is. This is because his suggestions on these matters tend to be less than fully worked out.

p. 209). The point may be that even though there are limits to economics anchored to some deeper reasons, these reasons are not the ones that motivate scholars in their day-to-day practice which is a matter of a competitive pursuit of respect and position. Similarly, there are some deeper standards of good economics even though they do not drive the competitive pursuit of such social qualities. The problem with this double standard situation is that it is not clear how the two standards can be reconciled and how the two standards can themselves be justified.

I conclude this section by submitting two problems for an economics of science implied by the definition of the domain of economics in terms of the measuring rod of money. I formulate the problems in the form of dilemmas.

First, consider the speculations in section 4 about comparing two strands of economics. How does one compare the costs and returns linked to two or more lines or traditions of research in a discipline like economics—such as Coasean and blackboard economics? Such a comparison would require a common denominator in terms of which to measure such costs and returns. A common denominator is needed, because schools and traditions tend to establish their own criteria according to which “respect and position and self-esteem” are determined. The dilemma is this. One horn consists of the following steps: Coase’s economic approach to science requires that scientific traditions be compared in economic terms; the measuring rod of money defines the subject matter of economics; but on Coase’s own account, the criteria of comparison cannot be formulated using the measuring rod of money; the idea of a Coasean economics of science therefore becomes suspect. The other horn takes off from the other end: the measuring rod of money cannot be used to measure “respect and position and self-esteem”; the measuring rod of money defines the subject matter of economics; therefore the idea of a Coasean economics of science becomes suspect

The second problem is the following. We may acknowledge that the “measuring rod of money” is not alien to the way in which many scientific ideas are actually treated. The patent system, the domain of which is expanding beyond “directly applicable” scientific ideas, is a prime example of this. At the same time, it has to be reminded that the patent system is often depicted as creating a deficiency in the market for scientific ideas—a market failure, as it were. Accordingly, a market for scientific ideas with strictly and formally guarded property rights is not an efficiently functioning market. This creates another dilemma for a Coasean approach to the economics of science. One horn of the dilemma is that insofar as the “measuring rod of money” is absent in science, the very idea of an economics of science becomes suspect. The other horn is that insofar as the “mea-

suring rod of money” is actually being employed in science, thus making the application of economics to science justified, the very idea of a free market economics of science becomes suspect.¹⁷

Some adjustment seems to be needed somewhere in Coase’s views; it appears that either he has to reconsider the limits argument, or he has to reconsider the limits of his own economic expansionism. Before making a final judgement, however, we would need to see if there are such “major modifications” that Coase refers to that would help eliminate the problems we have encountered: “The analysis developed in economics is not likely to be successfully applied in other subjects without major modifications.”

6. Questioning the Consistency Supposition

Coase’s intellectual mentality is characterized by two features: engagement in critical and detailed reflection on conceptual issues and the emphasis of the importance of detailed empirical information about the issue at hand (see Mäki 1994, 1998*b*). It is very much in the spirit of this approach to raise questions about the closeness of the analogy between “the free market for goods” and “the free market for ideas”—even though Coase himself failed to do so. A close analogy is presupposed by what we called the Consistency Supposition which says the following: if one holds an object-economics of type X regarding the market for goods, one is thereby required to hold a meta-economics of same type X regarding the market for scientific ideas.

How would one proceed being a good Coasean in regard to the conceptual foundations of the analogy?¹⁸ One might want to question the application of the notion of transaction costs to intellectual life. Since the notion implies that of contract, with search, negotiation, and monitoring involved, one may wonder whether there are close enough analogues to these in the epistemic realm. But this is not my foremost worry. More fundamentally, the metaphor of the market for ideas is not unproblematic. Is there a sufficiently strong analogy to warrant the metaphor?¹⁹ Coase’s own

17. Regarding the notion of market failure caused by patents, Coase might respond by saying that this notion has validity only within neoclassical blackboard economics.

18. The notion of being a “good Coasean” here refers to the acknowledged need to scrutinize the conceptual foundations of one’s arguments rather than the pursuit of detailed empirical information on the issue. One may also try to be a “good Coasean” in the latter sense and investigate the relevant markets empirically before deciding on the recommendable kind and degree of regulation or the lack of it. This empirical approach would make the acceptability of the Consistency Supposition an *a posteriori* matter, contingent upon the relevant empirical findings.

19. Goldman and Shaked (1991, p. 31) are aware that the “analogy with the marketplace is imperfect. The ideas or discoveries that a scientist offers are not private goods in

notion of the market is defined in terms of exchange—exchange of property rights.²⁰ We may perhaps think of exchange in the intellectual marketplace as involving costly persuasion and the gain for the persuader consisting of an increase in respect and position and perhaps an acknowledgement of intellectual property rights (which in the scientific context are mostly—apart from patents—informal and not very well defined). But what would be the gain for the persuadee? Most strikingly, what precisely would be *exchanged* in the market for ideas? Ideas? Rights over ideas as Coase would have it? Is there a clear sense in which rights are exchanged in the presumed market for ideas? When an economist is persuaded to accept another economists' idea, this latter economist does not seem to give away his right to the idea or his right to being recognized as the originator of the idea. On the contrary, in many cases (and one might add: in appropriate cases), his or her right to the idea is fortified.

As pointed out earlier, Coase does believe that the goods market and the ideas market are similar; I cited the following passage: "I do not believe that this distinction between the market for goods and the market for ideas is valid. There is no fundamental difference between these two markets [. . .]" (Coase 1974, p. 389). However, in this connection Coase seems to refer to newspapers, books and the like, which indeed are exchanged. There certainly are markets for newspapers and books, but it is important to be reminded of the trivial point that newspapers and books are not ideas but rather *material embodiments of ideas*. The fact that rights over such material embodiments are exchanged does not imply that the (rights over the) ideas they embody are exchanged.

There is absolutely no doubt that we are not yet in the position to pass the final verdict on these matters. Much more conceptual scrutiny and empirical research is required to check the extent to which science can be viewed as an economy—and whether and in what sense there is a market for scientific ideas describable (or prescribable) in free market economic terms. The point of departure of such an inquiry is the recognition that all the key terms used to characterize the four positions 1 through 4 and those underlying the Consistency Supposition are highly ambiguous. These include terms such as 'regulation,' 'market' and 'free'—it will turn out that a multitude of concepts are designated by such terms. In the formulation of 1 through 4, these concepts are overly ab-

the economist's sense. Nonetheless, there are parallels with the marketplace that are worth exploring." Unfortunately, they fail to be explicit about the detailed imperfections and parallels.

20. "Markets are institutions that exist to facilitate exchange, that is, they exist in order to reduce the cost of carrying out exchange transactions" (Coase 1988a, p. 7).

stract and generic and therefore tend to conceal an important variety of meanings.

Most strikingly, the expression ‘free market’ may mean different things in conventional economics and in our preferred accounts of much of science. In the latter, we might even be tempted to adopt other expressions, such as ‘agora’ or ‘open forum’ or ‘competitive network of reciprocal information sharing’ or (to cite Habermas’s term) ‘ideal speech situation’ (see Elster 1986; Mäki and Vromen 1998). As an instantiation of 4, one can conjecture that, for example, a “free market for ideas” with Habermasian characteristics might put Coasean object-economics in a more favorable position than a Coasean free market for economic ideas. In such a quasi-Habermasian speech situation, entry and exit are relatively free just like in the standard economic picture of a free market. What distinguishes such a “market” from markets in the conventional economic sense is that participants are required to be reflective about what they are doing rather than merely to express their preferences; if challenged, they would have to argue for all of their choices in a scholarly conversation and be prepared to reconsider them. In such a conversation, Coase’s prescriptive methodological arguments would be at home rather than anomalous: rather than being regulationist violations of the spirit of the free market for ideas, they can be taken as arguments about the rules of the game, and such arguments are very much a legitimate part of a quasi-Habermasian “free market” conversation.²¹

It is likely that the signatories of The Petition interpreted the notion of a free market for ideas in a way which comprises these features of the Habermasian notion. Indeed, The Petition explicitly endorses “critical conversation and tolerant communication between different approaches” and declares that “an economics that requires itself to face all the arguments will be more, not a less rigorous science.” This may serve as a small piece of evidence in support of an important conjecture: *when economists talk about the “free market” for ideas, they do not use the expression in the sense in which it appears in their theories of the goods market.*

21. It is obvious that a full-fledged Habermasian version of “the free market for ideas” would be problematic to attribute to Coase and other economists, as this would imply, among other things, that market participants are assumed not to engage themselves in strategic action, that they try to persuade one another about the merits of their knowledge claims without thinking of whether the consequences of success in persuasion are beneficial to them; recall that in the Coasean picture, economists are supposed to pursue “respect and position.” If one were to endorse something like the Habermasian vision, it might be advisable to endorse it only partly and skip elements that have a purely transcendental status (see Mäki and Vromen 1998). For such reasons, I use the expression “quasi-Habermasian” in the text. Thanks to Steve Fuller for reminding me of the need to be explicit about the disanalogies.

What are the implications of this for the Consistency Supposition? Depending on the results of empirical inquiry and on the recognition of conceptual variety behind shared expressions, we may be able to consistently hold all four of the following positions:

- 1* Regulated market (of type R) for goods and regulated market (of type Q) for ideas ($R=Q$ or $R \neq Q$)
- 2* Free market (of type F or G) for goods and regulated market (of type R or Q) for ideas
- 3* Regulated market (of type R or Q) for goods and free market (of type F or G) for ideas
- 4* Free market (of type F) for goods and free market (of type G) for ideas ($F=G$ or $F \neq G$)

In short, the acknowledgement of ambiguity creates more space for consistency. At the same time, full self-referentiality will be dispensed with.

7. Conclusion

It is not surprising, nor is it suspicious as such, that philosophers, sociologists, and others active in science studies are adopting new concepts and insights from disciplines such as economics. After all, science is a complex and evolving epistemic institution with multiple facets, inexhaustible by any simple and fixed framework or theory. The acknowledgement of this fact very much sets the tone in contemporary science studies. In a situation like this, some people, acting as good intellectual entrepreneurs, start exploring previously unexplored (or only little explored, or unsuccessfully marketed) conceptual resources such as those available in economics. It is important to see that the degree of commitment to applying economic ideas is likely to vary from one commentator of science to another: it may range from some being fully convinced of the power of economic concepts to some others taking the exercise in a more playful fashion.

Whatever their initial degree of commitment, the above discussion should help convince analysts of science that some of the fundamental economic concepts applied to the study of science are in need of critical scrutiny. If economists themselves are not fully clear about these concepts, this should alert philosophers and sociologists considering their employment as well.²²

22. For a survey of themes in the economics of science with sensitivity to conceptual issues, see Dasgupta and David (1994).

*Announcement***A PLEA FOR A PLURALISTIC AND RIGOROUS ECONOMICS**

“We the undersigned are concerned with the threat to economic science posed by intellectual monopoly. Economists today enforce a monopoly of method or core assumptions, often defended on no better ground than that it constitutes the ‘mainstream’. Economists will advocate free competition, but will not practice it in the marketplace of ideas.”

“Consequently, we call for a new spirit of pluralism in economics, involving critical conversation and tolerant communication between different approaches. Such pluralism should not undermine the standards of rigor; an economics that requires itself to face all the arguments will be a more, not a less, rigorous science.”

“We believe that the new pluralism should be reflected in the character of scientific debate, in the range of contributions in its journals, and in the training and hiring of economists.”

These leading names have signed the above text:

Abramovitz, Moses	Galbraith, J.K.	Modigliani, Franco*
Arthur, W. Brian	Georgescu-Roegen, N.	Nelson, Richard
Axelrod, Robert	Goodwin, Richard	Olson, Mancur
Blaug, Mark	Granger, Clive W.J.	Pasinetti, Luigi
Boulding, Kenneth	Grandmont, Jean-Michel	Perlman, Mark
Cowling, Keith	Harcourt, Geoffrey	Rothschild, Kurt
Cyert, Richard M.	Heilbroner, Robert	Samuelson, Paul*
Davidson, Paul	Hirschman, Albert	Shubik, Martin
Day, Richard	Kindleberger, Charles	Simon, Herbert*
Deane, Phyllis	Kornai, Janos	Spanos, Aris
Denison, Edward	Laidler, David	Tinbergen, Jan*
Desai, Meghnad	Leibenstein, Harvey	Tsuru, Shigeto
Freeman, Christopher	Matthews, R.C.O.	Vickers, Douglas
Frey, Bruno	Mayer, Thomas	Weintraub, Roy
Furubotn, Eirik	Minsky, Hyman	[Nobel Laureates = *]

This appeal is organized by Geoffrey Hodgson (UK), Uskali Mäki (Finland) and Donald McCloskey (USA). It is hoped that it will stimulate discussion concerning the need for greater diversity and pluralism, both in theory and method, in economic science.

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