

On methodology of the “economics of ...” literature

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One of the most common exercises in applied economics is the one that claims to offer the “economics of” some particular matter. Does the use of the label “economics of” imply some standardized methodology? In this review I will offer and explain a qualified affirmative answer to this question. An affirmative answer must be qualified because there are several flavors of the “economics of” methodology.

Whenever I see an article or book that has an “economics of ...” title, George Stigler’s famous 1961 article (“The economics of information”) immediately comes to mind. If Stigler’s article were to be used to define the standard methodology, then few if any recent “economics of” publications would qualify. Judging by the many “economics of” publications since 1961, it would be safe to say that, in contrast to Stigler’s article, something different is promised with the “economics of” title. The reason for the difference might be explained by noting differences in the intended audiences. For example, while Stigler was talking to economic theorists, most “economics of” books are directed at audiences that are less likely to have an economics training. One can observe the ordinary dichotomy between those publications that merely describe the economic aspects of something and those publications that try to explain the economic nature of something. Of course, one could give a neoclassical explanation or one could give a Marxist explanation. The only difference might be that the neoclassical explanation would focus on the decisions made by individuals in the pursuit of self-interest while a Marxist explanation would see the outcomes to be the consequence of decisions made in the pursuit of one’s class interest. Needless to say, Marxist explanations are now far less frequent than neoclassical explanations. So, I will focus on the standards of neoclassical “economics of” publications. I will first explain the methodology of Stigler’s type of “economics of” articles and then try to explain how some recent descriptive articles and chapters differ from those few that are explanatory.

Understanding Stigler’s “The economics of information”

In general, to follow Stigler’s methodology requires merely that one begin by identifying a quantitative aspect of the matter at hand, and in particular, an aspect that can be seen to be a matter of choice. Next one identifies a cost constraint such that the marginal cost of a unit increase in the object of choice can be compared with that unit’s marginal benefit. For Stigler, the question at issue is whether or not to obtain an additional unit of information. To illustrate, if one is looking for the lowest price for a product, say a specific camera, think of having to put coins in a pay telephone to call stores to determine their price. At some point in a sequence of calls, one notes a pattern such that the probability of finding a price that is lower than the lowest so far, and by more than the cost of the phone call, is too low to warrant making the call. Stigler’s version of this methodology focuses on the dispersion of prices as viewed by demanders and suppliers. To illustrate this, think of a standard market demand and supply diagram. On the vertical axis put the degree of dispersion and on the horizontal axis, put the quantity of search. Now think of the “supply” curve (i.e., the positively sloped curve) as representing the amount of the buyer’s minimum search chosen as a function of a given degree of dispersion (more dispersion leads to more search). And, the “demand” curve (i.e., the negatively sloped curve) will represent the seller’s maximum acceptable dispersion as a function of a given expected search by buyers (the more search expected, the less dispersion accepted). The equilibrium identifies the optimum amount of both search and dispersion. For Stigler this explains both why there would never be zero dispersion and why certainty will always be too expensive.

Of course, those of us who advocate Popper’s critical Socratic epistemology find Stigler’s effort to be a very clever example of conventionalism yet one completely irrelevant for any philosophy of knowledge considerations. But other methodologists might find it a worthy example of applied economics.

Typical “economics of” literature

Warren Samuels sent me two recent conference volumes¹ to review with an eye on applied methodology. One is about the economics of the internet and the other about the economics of a particular type of insurance. To differing degrees, both are directed at an audience more interested in descriptive facts than any clever modeling of economic events.

On the economics of the internet

The main economics question that dominates the economics of the internet is how to price internet services. This question often borders more on ideology than methodology. Typically, mainstream economists advocate a market determined price, the one found by charging marginal costs. But we learn from the descriptions of the mechanics of the internet² that the market approach might yield a zero price. Given this, some of the conference participants argued for a simple flat price.

There is little that a methodologist can contribute to understanding such applied economics except to analyze the process of descriptive economics. As I noted many years ago, description is distinguished from informative explanation not by the logic of explanation but by epistemological status of the premises. Specifically,

(a) an *informative explanation* is the “explanation of the known by the unknown” [Popper 1972, p. 191],

(b) a *description* is the explanation of the known by the known,

where “explanation” is the name given to the logical relation of the explican to the explicandum [Popper 1972, p. 192] and where “known” may be interpreted in the usual empirical sense (although it need not be restricted to that). One sense in which an explican will be an “unknown” is when (necessarily) it is a strictly universal statement (e.g., “all men are mortal”). Note that I am not equating “explanation” with a demonstrated necessarily true explanation.

With this distinction in mind, economic descriptions will use the categories implicit in economic theory. For example, neoclassical theories take as known that there are prices, markets (demand curves and supply curves), incentives, cost constraints (fixed costs vs. variable costs), revenues (gross, marginal and net), etc. All of these categories are used in the usual way in the internet economics volume to make clear that the usual market perspective has limitations. On the cost side, the provision of the backbone of the internet is such that there is major excess capacity and thus marginal cost of any additional user is effectively zero. On the demand side, since it is impossible to distinguish between bits and bytes on the basis of their use (business or pleasure), discriminatory pricing is impossible. Rarely in such descriptive exercises will any premise be open to dispute and thus, following Popper, no informative explanations are provided. A possible exception is the one application of so-called incomplete contract theory to evaluate different types of interconnection agreements.

It is apparent from most of the papers in the book on internet economics that sophisticated economics is not a requirement either for understanding the economics of the internet or for describing the technical constraints and cost structure of the internet. Needless to say, sophisticated methodology is not required, either.

On the economics of insurance

When opening the conference volume on “property-casualty” insurance I quickly discovered that it was published by the National Bureau of Economic Research (NBER). Immediately I was reminded of Robert Solow’s critical comments on such research:

¹ Specifically, Lee W. Wright and Joseph P. Bailey (eds.) *Internet Economics* (London: The MIT Press, 1997) and David F. Bradford (ed.) *The Economics of Property-Casualty Insurance* (Chicago: The University of Chicago Press, 1998).

² Particularly, the number of layers between the providers of the internet’s backbone and the final users.

The world in which I live is not one in which one feels oppressed by existence theorems or proofs of them or provers of them. ... If I feel oppressed by anything it is by the NBER and that flood of yellow-covered working papers. None of them contains an existence theorem. Most of them are empirical. They do indeed test hypotheses. The trouble is that so many of them are utterly unconvincing, utterly forgettable, utterly mechanical, and there is no way of knowing in advance which are and which are not. ...

The problem is that economics is not as cumulative as we would like in its quantitative understanding of the way the world works. Those yellow NBER papers are a symptom of that; they never settle anything. I think it is for a cluster of reasons that have to do with the way economics is done and with the very nature of its problems.

[Solow 1990, p. 30]

With Solow's observations influencing my expectations, I was not surprised by the first article which "test[s] the hypothesis that [characteristic periods of high prices and rationing followed by periods of expanding coverage and lower prices] are due to temporary capital shortages that reduce the industry's ability to back risk". And as expected, the results are not overwhelming. The second paper is an "investigation" of whether changes in tax law have an effect on variations in the average price of property-casualty insurance. Again, not much is learned other than if there is an effect it is small.

The third paper is about the auto insurance industry and in particular asks the question "Why has [this] industry emerged as a primary target for increased regulations?". The "goal of this paper is to try to answer this question by linking the possible sources and consequences of rate regulation". This paper begins with a depiction of the "economics of auto insurance for an unregulated industry". As would be appropriate, an economics basis will use well-known literature concerning asymmetric information concerning riskiness, moral hazard, adverse selection, etc. After all is done, one of the conclusions reached is that there is "evidence of a positive relationship between insurance premiums and the number of uninsured drivers". Amazing.

The fourth paper is also about auto insurance and it "investigates the hypothesis that rate regulation distorts the industrial structure of state automobile insurance markets". Most of the "investigation" here involves conclusions from regression analysis (that is, from assessments of statistical significance). And based on this investigation, the authors of this paper wanted to argue that restrictive regulation of insurance rates "will distort the industrial structure of the market through effects on insurers' entry and output decisions". But, they say they found evidence of only weak effects in most regulated states. However, they say the evidence is "consistent with our theory" in a subset of these states. To appreciate these conclusions, the audience would seem to have to be well versed in the catechism of regression analysis otherwise nothing much was accomplished.

The fifth paper is about the costs of insurance company failures and focuses on the economics of the state guarantee funds established to protect the insured. One economics question is, does the existence of such funds create perverse incentives? The goals of this paper are to estimate the total net costs of resolving insurance company failures and the time path of the guarantee payments, and to "examine" the determinants of the sizes of the losses associated with such failures. The authors conclude that the costs in question are "remarkably high" even higher than the costs associated with resolving failures of banks or savings and loan companies in the 1980s. Again, a commitment to the catechism of regression analysis is essential to be able to agree with the conclusions reached.

The sixth and last paper addresses one of the main issues motivating the volume, namely, the comparison of stock versus mutual financed insurance companies. This paper purports to "explore" how organizational form (stock versus mutuals) "affects a firm's response to different situations". The conclusions reached refer to differences in amounts and levels of premiums collected and the differences between how national and state business is conducted. Also explored are the differences in the levels of losses tolerated. This exploration found similarities when it came to responses to unprofitability. As with the previous papers, a heavy indoctrination in regression analysis catechism is essential to appreciate the conclusions reached.

Obviously, I found nothing in this volume that would cause me to doubt the veracity of Solow's observations. I would like to ask participants in NBER exercises, methodologically speaking, is there is a difference between "investigation", "examination" and "exploration"? What are they communicating when

they use one of these terms rather than one of the others? I do not recall regression analysis catechism making such distinctions.

Are there other types of “economics of” methodology?

While I think the three examples above represent all the possible ways to conduct “economics of” exercises, I thought I should investigate (or examine or explore) whether there are other ways. Neither of the conference volumes were examples of straightforward applications of economic theory. So, I took a random sample of books in my university’s library to see if I could find a different way. One book I looked at was about the economics of aging. Since aging is not a matter of choice, I suspect this was a title designed for marketing purposes. Of course, there are choices to be made by the children of the aged and similarly by governments administering benefits to the increasing proportion that are aged baby boomers. The methodology of this book fell in-between the two conference books discussed above. There was much description of circumstances leading to the increasing life span of the aging but one did not have to be a believer in regression analysis catechism to understand what is needed to address the policy issues confronting society.

Another book examined concerned the economics of the pulp and paper industry. Since this book happened to have its origins in a previous 1950s book, not surprisingly, it was a straightforward application of elementary economics. There was a chapter on the supply, that is, on the production costs. The next chapter was on demand focusing on the elasticity of demand. This was followed by chapters discussing externalities as well as international and interregional trade. Industrial organization was the subject of a couple chapters and another chapter dealt with labor relations. All rather elementary stuff when it comes to applied economics.

Two other books were explored. One was about the economics of advertising, the other about the economics of energy. Both were produced around 1980. Both were replete with diagrams that were common in intermediate textbooks of the 1970s. Not much is explained except to the extent that being able to use a textbook as a toolbox to describe an industry might be seen to be an explanation. From a Popperian perspective, not much of this is theoretically informative. Nevertheless, for policy makers, much of this type of literature is essential. For those interested in theory and methodological questions, Stigler’s approach is far more interesting despite its philosophical flaws.

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