

ECONOMICS AS A SOCIAL SCIENCE: PAST PRESENT AND FUTURE

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Economics is a social science in evolution; the bar showing the level of unrealistic assumptions allowed to underlie economic theory constantly being raised. Psychological understanding of human behaviour can provide stimulus to push economics forward into new territories. Robbie Semple explores the discipline of economics, where it has come from and where it is going.

Introduction

Economics is one of a family of subjects that has come to be classed as a social science. Whilst certainly adding to our stock of knowledge of the world, the fact that it is confined to a domain populated by thinking feeling people rather than inert particles means it lacks the objectivity of its natural cousins. Economics' desire to become more rigidly scientific in its outlook is certainly understandable, however, the sacrifice for formalising models is that the postulates originally used to represent reality have been made less real (Graham, 1999). Indeed many of the assumptions underlying the most basic models may be understood as outdated in light of recent findings in other fields, notably psychology. Though criticism of these assumptions is by no means new to the field, the economic fraternity as a whole have been traditionally resistant to more behaviourally focused models. This essay will begin with a review of the fundamental question: "What is economics?" before looking at how our understanding of this question has evolved over time. Some of the findings in psychology that pose serious problems to economic assumptions will be examined before the psychological explanations to these findings are explored. The points central to this essay will be the need for a review of the basic aims of economic research and policy, and the need to broaden the scope of economic study and look outside the field for theories that will move the discipline forward.

Economics in the Broader Social Scientific Domain

To start from first principles, the fundamental question that must be asked is what is economics? What is being attempted to be understood and predicted and accordingly, what does the study of the area encompass? Where does psychology begin and economics end? Where do politics and sociology fit into the jigsaw? The answer is more complex than first appears. Perhaps the most insightful comment comes from Kahneman and Tversky (1974: 1124) when they assert that “it is our task as social scientists to discover and explain the decision process.” Whilst this is coming from a psychological background, their emphasis on the broader social scientific community is pertinent, and is taken up in economic terms by Cyert & Simon who claim that “the emphasis (in economics) should be on understanding processes of decision making, as opposed to making simple assumptions of motivation and proceeding to develop models with reference to their empirical validity.” (1983: 106). The area of behaviour can thus be understood to transcend many of the fictive borders in the social scientific domain. Moving the argument forward, it can be suggested that these borders are entirely arbitrary. To take Robbins’ definition of economics as “the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses.” (1962: 16).

Hirshleifer (1985: 53) points out that “such ends may include reputation, adventure, sex, status, eternal salvation, the meaning of life and a good night’s sleep, the means for achieving each of these all too often being notably scarce.” Burling (1962: 811) goes further stating that “there are no specifically economic techniques or economic goals.” Such an assertion may seem nihilistic, yet is borne out by the use of essentially the same methodology in econometrics and political science; the study of the impact of names on job prospects (Freyer and Levitt, 2004) or the location of a “missing” comet (Strathern, 2001). The point of this is not to propagate an identity crisis for economics, rather to highlight the soft boundaries between social scientific areas, and how sensible, even necessary cross-disciplinary study is.

Evolution of the Subject

Economics may generally be divided into two major sub sets: positive, or the way things are, and normative, or the way things should be. Though both streams of thought have been around since the birth of the subject, with Adam Smith’s cold analysis of how the world works and Jeremy Bentham’s

introduction of utility as a proposed test of policy in the late eighteenth century, the desire to be scientific has seen normative notions take a back seat. “Under constant suspicion as a science, defensive attempts to force economic theory into rigid scientific forms have frustrated its application to the facts of life”(Graham, 1999: 2). Indeed, the obsession with formal scientific methods has seen such a change in attitudes that it is now the commonly held view that “the primary concern is not with relation of the postulated model to the real world, but with the accuracy of the answers to well defined questions” (Arrow and Hahn, 1971: vii).

Economics is a deductive science, in which conclusions are drawn based on initial assumptions. Perhaps the two most central of these assumptions are wealth being equivalent to utility, and self interest being the primary motivator in the market. Bentham himself proposed income as a proxy for happiness, calling “money the most accurate measure of the quantity of pain or pleasure a man may be made to receive” (Lane, 2000: 33). In the eighteenth century, where absolute poverty was still rife, this was a fair assumption. Likewise Sen (1977: 1) cites Edgeworth in his central essay: “The first principle of economics is that every agent is actuated only by self-interest.” It must be remembered however that Edgeworth only applied his “economical calculus” to two situations; war and trade. The assumption seems far more sensible in this light. It was from this work that the notion of a core in trade, and the shrinking of this core to a series of equilibria as agents are added to the model emerged. From there, it was Arrow who brought forward the proof that general competitive equilibria may exist in the market place – a theory that still stands firm today.

Whilst the appeal of this latter theory is obvious, the logic sublime and its ability to predict answers to well defined questions undeniable, the more fundamental issue of which questions are being answered must be addressed.

What happens when the assumptions the model are based on are questioned. Are all people truly selfish? Is maximisation of income their underlying goal? If this is not the case, then the predictions made by Arrow’s and other economic models while still correct within the framework of the model they are based in are equally not necessarily relevant to people’s lives and thus policy. This is the danger of placing all normative goals outside the realm of the subject. It is not enough to make predictions about how things will work when the potential is there to bring greater happiness to a greater number. “Men must pursue rather than expect happiness” (Graham, 1999: 1). If economics is not part of the means to this end, what is?

It must be said the models of general equilibrium do not provide optimal outcomes in terms of human happiness. Sen (1977) is quick to point out that for an individual with little or no initial endowments, being in the

core is no great achievement. While outcome is improved, it can not be greatly improved as nobody else can be worse off, leaving him still with little or no endowments. I will later suggest why such an inequitable society, though efficient is not necessarily happy.

Behavioural Beginnings

Even besides the normative problems with classical theory, there are a minority who became disenchanted with the positive shortcomings of the classical model. Such individuals argue that predictive power is not enough; that economics should attempt to understand how the decision making process works. Leibenstein (1979) points out that while sciences have tended to move toward the study of smaller and smaller phenomena (witness quantum physics and molecular biology) such a movement has been absent in economics. Indeed, while such a movement, in the guise of behavioural economics was not missing from the field, it was certainly not incorporated into classical theory with any speed or enthusiasm. The reason for this possibly lies in the aggressive tendencies of the subject. Behavioural economists see the field not as a sub category that should be married with classical theory, but as a new paradigm that is incompatible with conventional models (Earl 1988: 11). Behavioural economics dates back to the 1940's when Herbert Simon proposed an alternative to the perfect rationality assumption in economics. "Bounded rationality" is based on the idea of "satisficing," describing the process of choosing a satisfactory outcome in limited time with limited information, rather than an optimal one. This theory has since gathered great support from cognitive studies in psychology.

Satisficing does not sit well with classical theory however. If it is assumed that humans satisfice, then maximisation, of utility or profit is not a valid assumption. Leibenstein (1979) suggests that maximised returns are in fact a subset of satisfied returns. Moreover, if individuals are constantly looking for improved returns, then behaviour will constantly be changed based on success or failure in previous situations. In the face of such constantly fluctuating behaviour, no stable equilibrium can ever be reached (Earl, 1988). Behavioural economics thus undermines both maximisation and equilibrium assumptions; two of the most central concepts to classical theory. It is no wonder accordingly that the two schools have been slow to warm to each other. The relative youth of behaviourism and the corresponding disparate streams of thinking it encompasses have kept it sidelined. Caldwell (1986:14-15) suggests: "(The area) needs an Alfred Marshall to bring together compatible strands of thought into an integrated

whole and a Paul Samuelson to write a popularising textbook". Meanwhile, classical theory has continued to dominate the area with its deductive reasoning based on simple assumptions about behaviour.

Signs of Trouble

Such assumptions are now however grossly outdated. Whilst wealth is undoubtedly one of the major determinants of human happiness, it is not the sole influence. Indeed, once absolute poverty is avoided, income becomes quite a poor predictor of well-being. Layard (2005) is one of many to point out that though average real income has more than doubled in the United States and Britain in the last fifty years, self-ratings of happiness have remained constant. Likewise, an American born after 1955 is three times more likely to suffer from serious depression in their lifetime than someone in their grandparents' generation (Lane, 2000). If wealth is always so central to human utility in all situations, some sort of increase in happiness would be expected, yet if anything, the opposite has manifested itself.

The entire economic model is dependent on the perfectly sensible assumption that individual agents will compete in the marketplace to maximise personal utility. This assumption is stretched, yet still intuitive when income is substituted for utility. Rilling, Gutman, Zeh, Pagnoni, Berns, Kilts (2002), had subjects participate in the prisoner's dilemma game whilst undergoing a brain scan. Activation of dopamine circuits in the nucleus accumbens, associated with positive rewarding feeling were noted, not when subjects competed and took the maximum reward, but when they co-operated and took a lesser personal reward for mutual gain. How is this altruistic behaviour reconciled with the purely selfish, competitive homo economicus?

The ultimatum game is not dissimilar in set up to the prisoner's dilemma. Two players must divide a sum of money between them. The first player makes an offer as to how the money should be split. The second player may then accept, in which case the prize is divided as suggested or reject in which case neither player gets anything. An economically rational player two would accept any offer, as some money, no matter how little, gives more utility than no money. A rational player one would recognise this and make small offers to player two to maximise his own income. Yet when this game is played in real life, offers of less than 25% of the total are rarely made and rejected with a high degree of probability (Fehr and Fishbauer, 2003).

Psychological Solutions

The above findings may be highly unexpected in economic circles; however they fit extremely comfortably with psychological theory. In particular the results would be expected in the field of evolutionary psychology. This discipline attempts to apply Darwinian natural selection theories to psychological phenomena (Buss, 2004): For example, it has long been accepted that our ability to work in groups and co-operate has aided our survival and success as a species. The theory of reciprocal altruism proposes that, although helping someone else in need may cost us resources, if that person helps us in turn when we are in need, both parties receive more in return than it costs to deliver the benefit (Cosmides & Tooby, 1992). Those that were able to co-operate in the distant past thus had a better chance of survival and sexual success than those that refused such social action. This truth is not localised to humans (see DeWaal (1982) for an example of the importance of social interaction in sexual success among chimpanzees). The genes that support altruism were therefore more likely to be successful than those that did not. Accordingly, finding a neurological mechanism that rewards co-operation is not simply intuitive, but highly sensible.

Evolutionary theory has an equally plausible explanation for the ultimatum game phenomenon. Whilst cooperation has obvious advantages, working in a group also opens up the possibility of the “free rider” problem. That is, it is very easy for an individual not to pull their weight in a group situation and reap the rewards of everyone else’s labour. If everyone took this attitude, the society as a whole would collapse due to lack of production. Accordingly, it was highly important for humans to develop a keen cheating detection mechanism, and a sense of social right and wrong (Buss 2004). There is experimental evidence that such a mechanism exists. Wason (1966) produced an experiment to test subject’s basic abstract reasoning capabilities. Most preformed extremely poorly. Cosmides and Tooby (1992) took the same test, but tested social rather than abstract reasoning. From fewer than 25% correctly completing Wason’s abstract task, over 75% were correct in the same test applied to social circumstances. The hypothesis Tooby and Cosmides were testing was that, though abstract rationality is quite poor in most people, we have developed a sharp intelligence in social circumstances to detect and punish cheaters.

Exactly such a mechanism would be activated in the ultimatum game. A player 2 receiving a perceived “unfair” offer would be motivated to reject and “punish” player 1 for their social injustice. As regards the lack of correlation between increasing wealth and happiness, economics itself offers an explanation in what is a conveniently ignored dichotomy. The law of diminishing marginal utility is as applicable to income as it is to any other

economic good. A dollar is worth a great deal more to somebody living on a dollar a day than it is to somebody earning a hundred thousand dollars in the same time period. In the West, absolute scarcity has been abolished and whilst much research has demonstrated the importance of relative wealth, (Solnick and Hemenway, 1998) income is bound to take on less significance in such circumstances.

Conclusions

Deriving utility from other people's well-being and choosing to punish a perceived wrong-doer over maximising own income may thus be understood not as anomalies, but as highly rational behaviour. Their incorporation into economic models would not prove overly difficult. Likewise, if it is accepted that people make decisions based on schemas and heuristics, satisficing as it were further behavioural parameters may be drawn in to the model. It is the nature of such mental models that they are consistent across people and situations, making them highly suitable for inclusion in economic models.

Incorporating such information will further economics cause, both positively, as our understanding of the decisions in the market place will be better informed and normatively as the new framework explains the cleavage between expected and observed levels of happiness over the past half century. This is a powerful demonstration of the advantages of interdisciplinary research in the social sciences. The results produced by Rilling et al. (2002) are but a taste of the potential in the area of neuro-economics. If we as economists are serious about a search for knowledge, both for knowledge's own sake and for the improvement of the lot of all in our society, then it is imperative that we swallow our pride and take seriously the picture of humanity painted by the other social sciences.

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