The Impossibility of Consistent Preferences: Methodological Implications

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Introduction

The orthodox definition of economics is that it is the study of allocation of scarce resources among competing ends. Individuals are assumed to carry out that allocation by finding the best possible way of using their endowment to satisfy their wants or preferences. Hardly any economic analysis can be done without assuming that those preferences are stable.

There has been an extensive debate in the literature on whether social beings can have preferences which are not influenced by society’s evolving norms and customs. The purpose of this paper is twofold. First, it argues that even if individual preferences are formed separately of collective customs it does not follow that they also remain stable in environments where new products and information become available. In dynamic environments preferences are not necessarily exogenous. Second, the paper considers the methodological implications of that conclusion. If preferences exhibit distinct and identifiable variation then economists need to be aware of professional practice, rhetoric and even dogma which may prevent them from acknowledging those variations.

Preferences are generally supposed to be beyond the scope of economic analysis. But, the results of analysis are invariably determined by what is assumed to be the nature of individuals’ preferences. The neoclassical assumption is that the preferences of consumers are well-defined and exogenous. In practice, however, the political process and the market often ignore the supposed exogeneity of consumers’ tastes and explicitly attempt to influence them. Their exogeneity has also been disputed in the literature (see the excellent treatment by Elster, 1979, 1983). There have been several experiments which have shown that preference rankings, for example, are not transitive (see Tversky and Kahneman, 1981). But can preferences even in principle be well-defined, uniquely and consistently ranked? Alternatively, what are the requirements that would satisfy that assumption?

The arguments in this paper are developed by considering how individuals process information. The idea that individuals process information only imperfectly is not new. Herbert Simon and other members of the behavioralist school have extensively explored the implications of imperfect decision-making in their models of satisfying behavior (see, for example, Simon, 1976, 1978; March, 1978). This paper draws on behaviorist ideas to examine the relationship between the concept of choice and preference.

The Status of Preferences

Most of the critical treatment of the neoclassical view of preferences has been directed at the following three aspects which are all based on empirical observation:

(a) Preferences may be partly determined by society’s customs or influenced by external factors such as advertising. Hence, they are not exogenous (see Mermelstein, 1970).

(b) Preferences are not stable. They change over time (see Georgescu-Roegen, 1971, Hollis, 1987 and Schelling, 1980, 1984).

(c) Preferences are not consistent (intransitive) (see Elster, 1983).

As Blaug (1980) has eloquently explained, empirical observations have not been very successful in displacing core neoclassical assumptions. Moreover, critics have not adequately dealt with the neoclassical response which has been put in the form of a methodological dictum and a counter-question. The dictum has been that preferences are merely assumed to be exogenous, stable and consistent. They may be immoral, unrealistic or false but there can be no quarrel with an assumption. The counter-question has been most effectively posed by Stigler and Becker (1977). They have argued that preferences may change over time,
but if individuals are purposeful beings something must guide their decisions and actions. Should it not be inferred, therefore, that preference changes are guided by other inner or more elementary preferences?

Any criticism of the neoclassical view of preferences must deal with these two defensive arguments. There is no need, however, to return to the trenches of the old debate on whether or not assumptions need to be realistic (see Caldwell, 1982, 1984, for an extensive review of that debate). Nor is the argument in this paper based on a rejection of the instrumentalist view that theories need not have realistic assumptions. Indeed, for the purpose of this paper it can be conceded that there can be no quarrel with the ‘as if’ nature of an assumption.

But, one can still legitimately examine the logical and hidden implications of assumptions. Even instrumentalisists would require assumptions to be logically consistent with each other and with other aspects and implications of their theories and models. For example, one may make the totally unrealistic assumptions that men can fly. The logical implication that follows is that their clothes must be tailored in such a way as to accommodate their wings. One cannot assume simultaneously that men have wings and can fly and also that they wear normal clothes.

The economist who is interested in building general equilibrium models, especially in a world of a fixed number of goods, may insist that it is unnecessary to know how people arrived at their preferences. For the purpose of model-building it is sufficient to assume that their preferences are well-defined. Why, then, should we bother to examine preferences?

The answer is that, unlike other assumptions about the state of the external world, assumptions about preferences refer to decision-making human beings. The formation and expression of preferences are also elements of conscious behavior which, as argued later, are inextricably related to rational choice. The instrumentalisist who refuses to examine the relationship between preferences and other aspects of rational choice in fact asserts that economic agents make conscious decisions about some aspects of their activity while for some other aspects they respond uncritically to instinctive urges called preferences. The instrumentalisist would, therefore, have to admit to a dualistic approach to the study of economic behavior. As explained in Nicolaides (1988), the evolution of neoclassical economics has been characterised by an attempt to eliminate dualities which have always been interpreted as an indication of defective theorizing.

The argument in favor of examining what it means to express a preference becomes stronger when considering the circumstances in which the formation of preferences can be ignored. When the number of goods and their characteristics are constant and known, a model which seeks to determine the results of maximising behavior only needs to assume that these goods can be unambiguously ranked by individuals. One may still ask how such rankings are achieved but this question is peripheral to the objectives of that model. A more severe criticism which is, however, beyond the scope of this paper, is that a world of given goods and services is thoroughly uninteresting. See Georgescu-Roegen (1971, ch. 11) who has argued at length in favor of studying dynamic rather than static relationships.

Within the neoclassical school there is no explicit account of the relationship between preferences and goods (or, other available options) when the number of goods and their characteristics vary and when the individuals are observed to modify their tastes. Stigler and Becker (1977) have explained such modifications as an expression of other, deeper or more fundamental, preferences. Now, the neoclassical instrumentalisist cannot deny that finding a deeper set of preferences is a conscious act of choice. Stigler and Becker are correct in pointing out that purposeful actions must be guided by something. Otherwise purposeless actions are random events which can be studied only to the extent that they give rise to statistical regularities. But, even if statistical regularities existed, individuals who behave randomly cannot be expected to respond to economic stimuli.

In a world where preferences change more than once, the useful assumption that the inner or more elementary preferences are well-defined avoids the fundamental question of how individuals adopt preferences which they may abandon later. How do they know where to stop seeking the ever deeper preferences? Stigler and Becker have presumed that preferences change as a result of new information becoming available. But, if individuals are imperfectly informed, under what circumstances can they be expected to arrive at well-defined preferences? In order to answer all these questions consider first what the act of choice consists of:
The Nature of Choice

Before an individual makes a decision he must first identify and assess his options. They need to be ranked according to their quantifiable characteristics. For example, when one considers whether to buy a house, he ‘breaks down’ the composite or bundle into its quantifiable parts: 3 bedrooms, 1 kitchen, 2 bathrooms, etc. Now preferences have two functions. First, it is usually presumed that more of something is preferred to or deemed better than less of the same thing. This very basic function is feasible only for identical options or for those which have the same quantifiable characteristics.

The second and more important function of preferences is to provide a ranking of those options which are not comparable either because their characteristics are non-quantifiable or because they have different characteristics. For example, how can one choose between a house with 3 bedrooms and 2 bathrooms and one with 4 bedrooms, 1 bathroom and a garage (assuming everything else being equal)? It becomes necessary to compare bathrooms with bedrooms and since they are different entities they do not have comparable characteristics. Hence, the primary purpose of preferences is to enable the ranking of dissimilar or incomparable options.

It is in this sense that preferences cannot be objectively criticised. The ranking they impart is not done on the basis of objectively quantifiable and, thus, measurable criteria (see also Georgescu-Roegen, 1971, pp. 73-78, on the difficulty of comparing similar qualities). This function of preferences implies that there is no knowledge, no real understanding of why given options are ranked in a particular way. People often provide explanations of their motives and rationale. These explanations, however, simply move the ranking of incomparables a stage further back.

In economic analysis preferences are among those variables which are taken to be exogenous. But they also denote the limits of both objective and subjective knowledge. Preferences emerge at the level where no more explanatory motives can be found. Otherwise, if any can be found, decisions must be made on the basis of deeper, more elementary motives. Preferences provide the arbitrary limit to the reasoning process which makes decision-making feasible (see Nicolaides, 1988, for a more detailed discussion of the nature of decision making). Decisions are possible only if there is no infinite search for ever deeper explanations or characteristics of available options. Hence, the salient feature of preferences is that they are arbitrary.

To recapitulate so far, the process of choice requires that available options are decomposed into their constituent characteristics at a level on which they are incomparable. They are then ranked according to the prevailing preferences. Individuals would be expected to make decisions which are compatible with a unique and stable set of preferences only if they could always discover the primary characteristics of their options. But if they err or ignore relevant information they cannot be expected to make decisions which relate to unique and consistent preferences. Even if in principle they have such preferences they may not be able to utilise them because of all the difficulties associated with reasoning (identification, measurement, assessment). For an extensive treatment of what such reasoning problems imply for economic theory see Simon (1976), March (1978), Hollis (1987) and Pesaran (1987).

It should be emphasised that the reference to imperfect information is not an argument which can be dismissed because a wrong decision could be ex post rectified by provision of the correct information. Every instance of making a choice inextricably comprises a search for the primary characteristics of available options. To the extent that people can never be perfectly informed some decisions inevitably reveal contradictory preferences. Such contradictions are even more prevalent in a world where goods and services are increasing in number and variety. The question whether unique and consistent preferences can even in theory exist has not been answered yet. The following section examines the logical implications of assuming that such a set of preferences exists when the number of goods and their characteristics vary.

The Impossibility of Unique Preferences

To appreciate the impossibility of unique preferences consider what it means to have such preferences. They will be shown to be impossible because of the contradictions they give rise to. Preferences are the exogenous variables that provide ‘closure’ to a model and to any decision-making exercise. People cannot go on forever trying to find and measure the components of the components and so on of their available options. At some point they must
stop and arbitrarily impose a ranking. Otherwise, if they keep analyzing the various components into ever finer detail they would never be able to make any decisions at all. Thus, having preferences directly implies imperfect knowledge.

To express it differently, preferences reveal the limit of each individual’s knowledge. And, as argued above, imperfect knowledge in turn implies making decisions which are not always the product of consistent preferences. Heiner (1983) has also demonstrated that individuals cope with imperfect information and uncertainty by adopting simple decision-making rules. Predictable patterns of behavior appear at the limit of individuals’ capacity to maximise.

Unique and consistent preferences which remain unaffected by new information require perfect knowledge of both existing and possible future information. The person who has such preferences must be able to analyze any conceivable present and future option down to its simplest components. These components would have to be the primary elements of all knowledge ever attainable. This implies that individuals with assumed consistent preferences know everything that there is to be known.

This conclusion, however, exposes a contradiction in the method of neoclassical economics. On the one hand, the postulate of consistent preferences, which require unattainable perfect knowledge, obviates the need for examining any economic problems. What meaning do economic ‘problems’ have when individuals are assumed to have perfect knowledge? On the other hand, if we admit that the study of economics seeks to reveal previously unknown information how can it be held that at the same time individuals already know everything that there is to be known, given that they have consistent preferences?

One may retort that they are perfectly informed about goods and services without having the computational capability that would enable them to know the solutions to various economic problems. This, however, cannot be a solution to that contradiction. Where are the boundaries of the imperfect computational capability? For example, the transmission of knowledge is a marketable service (e.g. teaching). How can all of its components be known while individuals are also assumed to make errors in acquiring or computing such components?

The inevitable conclusion is that having preferences is tantamount to having imperfect knowledge. Some of the most prominent neoclassical economists have attempted to rehabilitate the paradigm of homo economics by arguing that individuals try to do the best they can under constraints of incomplete information. But, they have not recognized that if individuals do indeed have imperfect knowledge then they cannot be assumed to have unique, consistent and stable preferences. The reason is that in different circumstances and with different bundles of options available they may not be able to identify the various components of those options. The argument here is not that individuals will always make mistakes. Rather, they cannot be expected not to make any.

Methodological Implications

To reiterate, having preferences is a consequence of having imperfect knowledge and, in turn, imperfect knowledge implies making decisions which need not be the outcome of consistent preferences. This creates a problem for the testing of economic theories. Changes in economic decisions can be measured only if it is assumed that underlying preferences remain stable. But if that assumption cannot be made how can economic analysis and testing be conducted without having to resort to arbitrary calibrations of models?

There is no unambiguous answer to this question. What one person believes to be an objective recognition of shifts in preferences may be construed by another person to be merely an expression of subjectivity. A way of resolving such differences is by discussing them openly so at least they can be identified. At present this kind of discussions hardly take place within the economics profession because methodological orthodoxy holds that preferences are invariant.

Recognition of the possibility of change in preferences does not imply that economics will have to abandon the rigor of analyzing decisions as solutions to constrained maximisation problems. Rather, it highlights the need for having models that apply to different broad areas of economic decision-making. Preferences may then be more safely assumed to be constant only within each of those areas. Given that there is no objective method for defining the boundaries of those areas it is important to
discuss the limits of model assumptions within
the profession.
For one thing, open discussion will
hopefully demonstrate that if economics is to be
a socially useful discipline theorising needs to be
complemented with observation. Even highly
sophisticated models are bound to lose their
predictive/explanatory capability at some point.
For another, practitioners do adjust and
calibrate models to fit particular circumstances
irrespective of what theorists preach. Because
this practice is not sanctioned by the
methodological orthodoxy it is hardly the issue
that receives significant professional attention.
Again, instead of ignoring these things it is
better to have views expressed out in the open so
that they can be debated.
Ultimately, the profession will have to
recognize and live with the paradox that while
economics, as a disciplined method of inquiry,
expands by assuming invariant preferences and
objectives, individuals cope with the complexity
of the world by compartmentalising it in
comprehensible segments. Behavioral patterns
and underlying preferences need not be the same
in each of those segments.

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