

# **Behavioural Economics**

**Herbert A. Simon**

Carnegie Mellon University

## **Behavioural Economics**

**Herbert A. Simon**  
**Carnegie Mellon University**

As the topic of economics is human behaviour in economic affairs, the phrase "behavioural economics" might be thought redundant. Nevertheless, "behavioural" must somehow be distinguished from "neoclassical" economics because the latter generally eschews a detailed empirical study of human choice in favor of deducing the behaviour logically from axioms of perfect rationality. The neoclassical axioms postulate a consistent utility function which the economic actor uses to choose the action that maximizes utility (or, under uncertainty, maximizes expected utility).

### **Contrast Between Behavioural and Neoclassical Theory**

Empirically, actual choice behaviour commonly departs widely from the behaviour predicted by the axioms of perfect rationality (see Kahneman, Slovic and Tversky, 1982). Moreover, decision making within business firms is heavily concerned with the discovery of choice alternatives (e.g., Cyert and March, 1963 [1993]), and frequently seeks satisfactory rather than optimal choices; whereas in neoclassical theory, alternatives are generally assumed to be given in advance (but see Stigler, 1961) and the goal is the optimum.

In response to these and other major discrepancies between neoclassical assumptions and actual behaviour, neoclassical theorists seldom defend the literal correctness of the axioms, but prefer to argue (1) that departures from the behaviour called for by the axioms are not sufficiently large to have significant consequences for markets or the whole economy, and (2) that actors may behave "as if" they were maximizing utility without actually carrying out the implied calculations. The best-known defense of neoclassical theory along these lines is Milton Friedman's (1953).

With respect to (1) behavioural economists would reply that changes in behavioural assumptions do, in fact, have major macroeconomic implications: for instance, the differences between Keynesian and neoclassical predictions all stem from departures of the Keynesian model from the assumptions of perfect rationality, Keynes' appeal to "animal spirits" and to money illusion being two of the most obvious examples. The classical theory also cannot usually arrive at definite predictions about the economic effects of economic policies without making

numerous auxiliary assumptions. For example, economic analyses commonly assume that people equate utility with wealth, and that altruism is absent from their economic calculations. But both of these are empirical assumptions, and the evidence indicates that they are false. Current practice in neoclassical economics is highly tolerant of ad hoc empirical assumptions of these kinds without requiring empirical support for them.

With respect to (2) behavioural economists regard discovering the actual mechanisms underlying economic decisions as a major goal of economic science. Just as molecular biology seeks to explain life processes in terms of chemistry and physics, positive economics seeks to explain the behaviour of firms and individuals in terms of psychological laws. "As if" assumptions that ignore the computational and knowledge limits of human actors cannot provide a basis for understanding economic choice behaviour.

Hence, on the critical side, behavioural economics is concerned with altering those core and auxiliary assumptions of neoclassical theory that are empirically unsound, and with challenging conclusions drawn from theory that depend on these assumptions. On the positive side, behavioural economics is concerned with building an empirically founded theory of human decision making.

### **Behavioural Theories**

Behavioural theory in economics resembles theory in biology more than theory in physics. There are not just a few central phenomena to be explained, but a large number, which interact to produce the behaviour of economic systems. These phenomena are not produced by a few underlying processes, but by numerous interdependent mechanisms. In particular, the theory is much more inductive than deductive, emerging out of empirical investigation. Today there is a substantial body of theory about human economic behaviour, supported by extensive data.

One part of the behavioural theory explains phenomena that don't depend at all on assumptions of rationality (Simon, 1979). For example, the observed average relation of executive salary to size of firm (salaries are proportional to logarithm of firm size) is explainable in terms of the relative constancy of span of control (number of immediate subordinates per executive) and a social norm for the ratio of salaries at adjacent organizational levels. Neoclassical theory had explained this relation only by making strong, ad hoc untested assumptions about the distribution of executives by ability. Similarly, the observed logarithmic rank-size distribution of business firms is explainable on the assumption that average growth

rates of firms are independent of present size. The neoclassical literature "explains" this distribution by contrary-to-fact assumptions about the change of cost of production with company size.

Another part of behavioural theory seeks to establish the human motivations that underlie economic decision making, and the circumstances under which particular motives display themselves. Of particular importance is evidence that people sometimes behave altruistically, especially by identifying with particular social groups, ranging from the family and business organizations to ethnic and national groups. As a consequence, the "I" becomes a "we," which evaluates alternatives by their consequences for the relevant group instead of the self.

A third part of behavioural theory explains the operation of business firms and the choice between firms and markets. Here, organizational identification gives firms a comparative advantage over markets. A second important mechanism accounting for the efficiency of firms is the employment contract, which shifts from employees to employers the management of uncertainty in matters where decisions have much larger consequences for the firm than for the employee. Today, particular attention is being paid to the information flows, in addition to information about prices, that are required for the conduct of economic affairs. These flows also have strong impact on the choice between organizational and market arrangements. At a more abstract level, and drawing upon both the behavioural and neoclassical viewpoints, the "new institutional economics" (Williamson, 1975), explains the choice between intrafirm and interfirm arrangements in terms of transaction costs and opportunism (unenforceability of contract conditions).

A fourth part of behavioural theory explains rationality in decision making in the face of people's limited information and limited capabilities for computing consequences ("bounded rationality"). It studies the focus of attention (the small part of the decision context that is actually considered); how problems that reach the agenda are represented and structured; the processes for generating potential problem solutions (design processes); and how design and problem-solving processes are organized in business firms.

New concepts have emerged from this fourth component of the theory and have been investigated empirically, including: the respective roles of satisficing (looking for good-enough solutions) and maximizing in making decisions; the formation of aspiration levels that determine what is "good enough"; the development of individual and organizational expertise by acquiring

large knowledge bases and "indexes" that give access to the knowledge; the routinization of organizational decision making by using the knowledge bases to recognize decision situations and handle them on a rule-governed basis, and many more.

### Research Methods

Because of the empirical emphasis of the behavioural theory, much attention has been paid to methods of inquiry. Neoclassical economics, when undertaking empirical verification of its theories, has mostly relied on econometric methods applied to aggregated data. Most often, the data were originally assembled with other purposes than economic analysis in mind.

While not ignoring such data, behavioural economists have sought more direct ways to observe actual decision making in organizations, as well as the behaviour of consumers. Survey research aimed at collecting data about expectations, provided much of the early information about departures of actual behavior from perfect rationality. Techniques have gradually developed for direct observation of decision making in individual business firms; but better methods are needed for aggregating individual case studies into evidence for general theories. Computer simulation of individual and organizational problem solving and decision making has become an important way of stating theories in rigorous and testable form. Finally, there has been a recent vigorous development of experimental economics, especially the laboratory study of markets. All of these improved and new techniques facilitate progress in our understanding of human decision making, and as a consequence, our understanding of human bounded rationality in the operation of business firms, markets and the economy.

### References

Cyert, R.M. and J. G. March (1963/1993). *A Behavioral Theory of the Firm* Englewood Cliffs, NJ: Prentice-Hall.

Friedman, M. (1953). *Essays in Positive Economics*. Chicago: IL: University of Chicago Press.

Kahneman, D., Slovic, P. and Tversky, A. (Eds.) (1982). *Judgment under Uncertainty*. Cambridge, ENG: Cambridge University Press.

Simon, H.A. (1979). ON parsimonious explanations of production relations. *Scandinavian Journal of Economics* 81:459-474.

Simon, H.A. (1983). *Reason in Human Affairs*. Stanford, CA: Stanford University Press.

Stigler, G.J. (1961). The economics of information. *Journal of Political Economy*

69:213-215.

Williamson, O.E. (1975). *Markets and Hierarchies*. New York, NY: The Free Press.