Thinking Like an Economist
By Robert Frank

Microeconomics and Behavior (1991)

Scarcity and Choice

Microeconomics is the study of how people choose under conditions of scarcity. Hearing this definition for the first time, many people react that the subject is of little real relevance to most citizens of developed countries, for whom, after all, material scarcity is largely a thing of the past.

This reaction, however, takes too narrow a view of scarcity. Even when material resources are abundant, other important resources are certain not to be. At his death Aristotle Onassis was worth several billion dollars. He had more material resources than he could possibly spend, and used his money for such things as finely crafted whale ivory footrests for the barstools on his yacht. And yet, in an important sense, he confronted the problem of scarcity much more than most of us will ever have to. Onassis was the victim of myasthenia gravis, a debilitating and progressive neurological disease in which the body’s immune system turns against itself. For him, the search that mattered was not money but time, energy, and the physical skill needed to carry out ordinary activities.

Time is a scarce resource for everyone, not just the terminally ill. In deciding which movies to see, for example, it is time, not the price of admission, that constrains most of us. With only a few free nights available each month, seeing one movie means not being able to see another, or not being able to have dinner with friends.

Time and money are not the only important scarce resources. Consider the economic choice some confront when a friend brings you along as his guest to a buffet brunch. It is an all-you-can-eat affair, and you must decide how to fill your plate. Even if you are not rich, money would be no object, since you can eat as much as you want for free. Nor is time an obstacle, since you have all afternoon and would rather spend it in the company of your friend than be anywhere else. The important scarce resource here is the capacity of your stomach. An array of your favorite foods is staring you in the face, and you must decide which to eat and in what quantities. Eating another waffle necessarily means having less room for more scrambled eggs. The fact that no money changes hands here does not make your choice any less an economic one.

Every choice involves important elements of scarcity. Sometimes the most relevant scarcity will be of monetary resources, but in many of our most pressing decisions it will not. Coping with scarcity in one form or another is the essence of the human condition. Indeed, were it not for the problem of scarcity, life would be stripped of much of its intensity. For someone with an infinite lifetime and limitless material resources, hardly a single decision would ever matter.
The Economic Approach to Human Behavior
By Gary Becker

(1976)

The following essay[s] use[s] an “economic“ approach in seeking to understand human behavior in a variety of contexts and situations. Although few persons would dispute the distinctiveness of an economic approach, it is not easy to state exactly what distinguishes the economic approach from sociological, psychological, anthropological, political, or even genetic approaches. In this introductory essay I attempt to spell out the principal attributes of the economic approach.

Let us turn for guidance first to the definitions of different fields. At least three conflicting definitions of economics are still common. Economics is said to be the study of (1) the allocation of material goods to satisfy material wants, (2) the market sector, and (3) the allocation of scarce means to satisfy competing ends.

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I believe that what most distinguishes economics as a discipline from other disciplines in the social sciences is not its subject matter but its approach. Indeed, many kinds of behavior fall within the subject matter of several disciplines: for example, fertility behavior is considered part of sociology, anthropology, economics, history, and perhaps even politics. I contend that the economic approach is uniquely powerful because it can integrate a wide range of human behavior.

Everyone recognizes that the economic approach assumes maximizing behavior more explicitly and extensively than other approaches do, be it the utility or wealth function of the household, firm, union, or government bureau that is maximized. Moreover, the economic approach assumes the existence of markets that with varying degrees of efficiency coordinate the actions of different participants – individuals, firms, even nations – so that their behavior becomes mutually consistent. Since economists generally have had little to contribute, especially in recent times, to the understanding of how preferences are formed, preferences are assumed not to change substantially over time, nor to be very different between wealthy and poor persons, or even between persons in different societies and cultures.

Prices and other market instruments allocate the scarce resources within a society and thereby constrain the desires of participants and coordinate their actions. In the economic approach, these market instruments perform most, if not all, of the functions assigned to “structure“ in sociological theories.

The preferences that are assumed to be stable do not refer to market goods and services, like oranges, automobiles, or medical care, but to underlying objects of choice that are produced by each household using market goods and services, their own time, and other inputs. These underlying preferences are defined over fundamental aspects of
life, such as health, prestige, sensual pleasure, benevolence, or envy, that do not always bear a stable relation to market goods and services. The assumption of stable preferences provides a stable foundation for generating predictions about responses to various changes, and prevents the analyst from succumbing to the temptation of simply postulating the required shift in preferences to “explain” all apparent contradictions to his predictions.

The combined assumptions of maximizing behavior, market equilibrium, and stable preferences, used relentlessly and unflinchingly, form the heart of the economic approach as I see it. They are responsible for the many theorems associated with this approach. For example, that (1) a rise in price reduces quantity demanded, be it a rise in the market price of eggs reducing the demand for eggs, a rise in the “shadow” price of children reducing the demand for children, or a rise in the office waiting time for physicians, which is one component of the full price of physician services, reducing the demand for their services; (2) a rise in price increases the quantity supplied, be it a rise in the market price of beef increasing the number of cattle raised and slaughtered, a rise in the wage rate offered to married women increasing their labor force participation, or a reduction in “cruising” time raising the effective price received by taxicab drivers and thereby increasing the supply of taxicabs; (3) competitive markets satisfy consumer preferences more effectively than monopolistic markets, be it the market for aluminum or the market for ideas; or (4) a tax on the output of a market reduces that output, be it an excise tax on gasoline that reduces the use of gasoline, punishment of criminals (which is a “tax” on crime) that reduces the amount of crime, or a tax on wages that reduces the labor supplied to the market sector.

The economic approach is clearly not restricted to material goods and wants, nor even to the market sector. Prices, be they the money prices of the market sector or the “shadow” imputed prices of the nonmarket sector, measure the opportunity cost of using scarce resources, and the economic approach predicts the same kind of response to shadow prices as to market prices. Consider, for example, a person whose only scarce resource is his limited amount of time. This time is used to produce various commodities that enter his preference function, the aim being to maximize utility. Even without a market sector, either directly or indirectly, each commodity has a relevant marginal “shadow” price, namely, the time required to produce a unit change in that commodity; in equilibrium, the ratio of these prices must equal the ratio of the marginal utilities. Most importantly, an increase in the relative price of any commodity—i.e., an increase in the time required to produce a unit of that commodity—would tend to reduce the consumption of that commodity.

The economic approach does not assume that all participants in any market necessarily have complete information or engage in costless transactions. Incomplete information or costly transactions should, however, be confused with irrational or volatile behavior. The economic approach has developed a theory of the optimal or rational accumulation of costly information that implies, for example, greater investment in information when undertaking major than minor decisions—the purchase of a house or entrance into marriage versus the purchase of a sofa or bread. The assumption that
information is often seriously incomplete because it is costly to acquire is used in the economic approach to explain the same kind of behavior that is explained by irrational and volatile behavior, or traditional behavior, or “nonrational” behavior in other discussions.

When an apparently profitable opportunity to a firm, worker, or household is not exploited, the economic approach does not take refuge in assertions about irrationality, contentment with wealth already acquired, or convenient ad hoc shifts in values (i.e., preferences). Rather it postulates the existence of costs, monetary or psychic, of taking advantage of these opportunities that eliminate their profitability—costs that may not be easily “seen” by outside observers. Of course, postulating the existence of costs closes or “completes” the economic approach in the same, almost tautological, way that postulating the existence of (sometimes unobserved) uses of energy completes the energy system, and preserves the law of the conservation of energy. Systems of analysis in chemistry, genetics, and other fields are completed in a related manner. The critical question is whether a system is completed in a useful way; the important theorems derived from the economic approach indicate that it has been completed in a way that yields much more than a bundle of empty tautologies in good part because, as I indicated earlier, the assumption of stable preferences provides a foundation for predicting the responses to various changes.

Moreover, the economic approach does not assume that decision units are necessarily conscious of their efforts to maximize or can verbalize or otherwise describe in an informative way reasons for the systematic patterns in their behavior. Thus it is consistent with the emphasis on the subconscious in modern psychology and with the distinction between manifest and latent functions in sociology (Merton 1968). In addition, the economic approach does not draw conceptual distinctions between major and minor decisions, such as those involving life and death in contrast to the choice of a brand of coffee; or between decisions said to involve strong emotions and those with little emotional involvement, such as in choosing a mate or the number of children in contrast to buying paint; or between decisions by persons with different incomes, education, or family backgrounds.

Indeed, I have come to the position that the economic approach is a comprehensive one that is applicable to all human behavior, be it behavior involving money prices or imputed shadow prices, repeated or infrequent decisions, large or minor decisions, emotional or mechanical ends, rich or poor persons, men or women, adults or children, brilliant or stupid persons, patients or therapists, businessmen or politicians, teachers or students. The applications of the economic approach so conceived are as extensive as the scope of economics in the definition given earlier that emphasized scarce means and competing ends.

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To convey dramatically the flavor of the economic approach, I discuss briefly three of the more unusual and controversial applications.
Good health and a long life are important aims of most persons, but surely no more than a moment’s reflection is necessary to convince anyone that they are not the only aims: somewhat better health or a longer life may be sacrificed because they conflict with other aims. The economic approach implies that there is an “optimal” expected length of life, where the value in utility of an additional year is less than the utility foregone by spending time and other resources to obtain that year. Therefore, a person may be a heavy smoker or so committed to work as to omit all exercise, not necessarily because he is ignorant of the consequences or “incapable” of using the information he possesses, but because the lifespan forfeited is not worth the cost to him of quitting smoking or working less intensively. These would be unwise decisions if a long life were the only aim, but as long as other aims exist, they could be informed and in this sense “wise.”

According to the economic approach, therefore, most (if not all!) deaths are to some extent “suicides” in the sense that they could have been postponed if more resources had been invested in prolonging life. This not only has implications for the analysis of what are ordinarily called suicides, but also calls into question the common distinction between suicides and “natural” deaths. Once again the economic approach and modern psychology come to similar conclusions since the latter emphasizes that a “death wish” lies behind many “accidental” deaths and others allegedly due to “natural” causes.

The economic approach does not merely restate in language familiar to economists different behavior with regard to health, removing all possibility of error by a series of tautologies. The approach implies, for example, that both health and medical care would rise as a person’s wage rate rose, that aging would bring declining health although expenditures on medical care would rise, and that more education would induce an increase in health even though expenditures on medical care would fall. None of these or other implications are necessarily true, but all appear to be consistent with the available evidence.

According to the economic approach, a person decides to marry when the utility expected from marriage exceeds that expected from remaining single or from additional search for a more suitable mate. Similarly, a married person terminates his (or her) marriage when the utility anticipated from becoming single or marrying someone else exceeds the loss in utility from separation, including losses due to physical separation from one’s children, division of joint assets, legal fees, and so forth. Since many persons are looking for mates, a market in marriages can be said to exist: each person tries to do the best he can. A sorting of persons into different marriages is said to be an equilibrium sorting if persons not married to each other in this sorting could not marry and make each better off.

Again, the economic approach has numerous implications about behavior that could be falsified. For example, it implies that “likes” tend to marry each other, when measured by intelligence, education, race, family background, height, and many other variables, and that “unlikes” marry when measured by wage rates and some other variables. The implication that men with relatively high wage rates marry women with
relatively low wage rates (other variables being held constant) surprises many, but appears consistent with the available data when they are adjusted for the large fraction of married women who do not work. The economic approach also implies that higher-income persons marry younger and divorce less frequently than others, implications consistent with the available evidence but not with common beliefs. Still another implication is that an increase in the relative earnings of wives increases the likelihood of marital dissolution, which partly explains the greater dissolution rate among black than white families.

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Even those believing that the economic approach is applicable to all human behavior recognize that many noneconomic variables also significantly affect human behavior. Obviously, the laws of mathematics, chemistry, physics, and biology have a tremendous influence on behavior through their influence on preference and productions possibilities. That the human body ages, that the rate of population growth equals the birth rate plus the migration rate minus the death rate, that children of more intelligent parents tend to be more intelligent than children of less intelligent parents, that people need to breathe to live, that a hybrid plant has a particular yield under one set of environmental conditions and a very different yield under another set, that gold and oil are located only in certain parts of the world and cannot be made from wood, or that an assembly line operates according to certain physical laws—all these and more influence choices, the production of people and goods, and the evolution of societies.

To say this, however, is not the same as saying that, for example, the rate of population growth is itself “noneconomic” in the sense that birth, migration, and death rates cannot be illuminated by the economic approach, or that the rate of adoption of new hybrids is “noneconomic” because it cannot be explained by the economic approach. Indeed, useful implications about the number of children in different families have been obtained by assuming that families maximize their utility from stable preferences subject to a constraint on their resources and prices, with resources and prices partly determined by the gestation period for pregnancies, the abilities of children, and other noneconomic variables. Similarly, the rate of adoption of hybrid corn in different parts of the United States has been neatly explained by assuming that farmers maximize profits: new hybrids were more profitable, and thus adopted earlier, in some parts because weather, soil, and other physical conditions were more favorable.

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The heart of my argument is that human behavior is not compartmentalized, sometimes based on maximizing, sometimes not, sometimes motivated by stable preferences, sometimes by volatile ones, sometimes resulting in an optimal accumulation of information, sometimes not. Rather, all human behavior can be viewed as involving participants who maximize their utility from a stable set of preferences and accumulate an optimal amount of information and other inputs in a variety of markets.