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Gary S. Becker

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Accounting

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for Tastes  
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## Preface

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In writing this book I received help from several persons. I am especially indebted to Michael Grossman, Kevin M. Murphy, and George J. Stigler, co-authors of several previously published essays included in this collection. George came to me in the mid-1970s with a quotation from Alfred Marshall's *Principles of Economics* claiming that "good" music was not an exception to the law of diminishing marginal utility even though "the more good music a man hears, the stronger is his taste for it likely to become." This started me thinking about how to incorporate consumption capital into utility theory, which led eventually to our celebrated paper on *De Gustibus*.

But the behavioral dynamics in that paper were unsatisfactory, and Laurence R. Iannoccone in his dissertation on religion as habit (University of Chicago, 1984) worked out a much more satisfactory dynamical analysis of habitual behavior. His discussion stimulated Kevin Murphy and me to begin joint work on incorporating addiction into economic analysis. Thus began a long collaboration that has been one of the most rewarding experiences of my intellectual life. Kevin's ability to see problems quickly and to devise solutions shows genuine brilliance, and I have benefited enormously from working with him. This book uses four of our joint papers—two of them are also with Mike Grossman.

Michael Aronson, my editor at Harvard University Press, as usual has been very helpful. He provided valuable comments on an earlier draft of the introductory chapter, and suggested the title of the book after we struggled with several alternatives. Jamie Johnson provided excellent research assistance in proofreading, checking references, and many other tasks required to prepare a book for publication. Kate Schmit was a useful but not obtrusive editor, Roberto Marques skillfully drew the charts, and

Jodi Simpson constructed the index. Myrna Hieke, who has assisted me on several previous projects, was again invaluable in typing the manuscript and in many other tangible and intangible ways.

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To Judy, Cathy, Mike, Cyrus, and Fred—  
We helped account for their tastes

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PART I

# Personal Capital

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## 1. Introduction

Preferences or tastes play a crucial part in virtually all fields of study in economics and other social sciences, such as economic growth and capital accumulation, welfare analysis, effects of advertising, tax incidence, monopoly pricing, occupational choices, voting, peer pressure, and cultural influences. But with a few exceptions, economists and political scientists typically pay little attention to the structure of preferences, while sociologists and anthropologists do not embed their analyses of social forces and culture in a powerful analytical framework.

Much of modern economics still proceeds on the implicit assumption that the main determinants of preferences are the basic biological needs for food, drink, shelter, and some recreation. That may not be a bad approach for the very poorest countries, where families spend over half their incomes on food and another quarter on shelter, and where adult males manage only a few hours of true leisure each week. But even in these societies, culture and symbols usually have great influence over behavior.

It should be obvious that basic needs for food, shelter, and rest have little to do with the average person's choice of consumption and other activities in modern economies. The furniture people buy, the type of housing they want, much of the food they consume, especially in restaurants, the type of leisure activities they choose, all are determined by considerations that have almost nothing to do with basic biological needs. Rather, these choices depend on childhood and other experiences, social interactions, and cultural influences.

The economist's normal approach to analyzing consumption and leisure choices assumes that individuals maximize utility with preferences that depend at any moment only on the goods and services they consume



at that time. These preferences are assumed to be independent of both past and future consumption, and of the behavior of everyone else. This approach has proved to be a valuable simplification for addressing many economic questions, but a large number of choices in all societies depend very much on past experiences and social forces.

For example, whether a person smoked heavily or took drugs last month significantly affects whether he smokes and uses drugs this month. How a person votes depends very much on the way friends and others in the same peer group vote. Successful advertising for a product increases the desire for that product. The clothing people wear depends crucially on what others wear.

The challenge in extending the normal approach to preferences is to retain its power and most of its simplicity while expanding the analysis to deal with the effects of experiences and social forces. This book retains the assumption that individuals behave so as to maximize utility while extending the definition of individual preferences to include personal habits and addictions, peer pressure, parental influences on the tastes of children, advertising, love and sympathy, and other neglected behavior.

This extension of the utility-maximizing approach to include endogenous preferences is remarkably successful in unifying a wide class of behavior, including habitual, social, and political behavior. I do not believe that any alternative approach—be it founded on “cultural,” “biological,” or “psychological” forces—comes close to providing comparable insights and explanatory power. The goal of this book is to convince readers that these claims are much more than an author’s exaggerated sense of the importance of the work to which he has been committed for many years. This chapter sets out the general principles that provide the foundation for the analysis, and uses them to discuss many issues involved in explaining behavior and in evaluating public policies.

## 2. Extending Preferences

My approach incorporates experiences and social forces into preferences or tastes through two basic capital stocks. *Personal capital*,  $P$ , includes the relevant past consumption and other personal experiences that affect current and future utilities. *Social capital*,  $S$ , incorporates the influence of past actions by peers and others in an individual’s social network and control system.

A person’s personal and social capital form part of his total stock of human capital. Although the human capital literature has focused on edu-



cation, on-the-job training, and other activities that raise earnings, capital that directly influences consumption and utilities are sometimes even more important. Fortunately, the methodology that has been developed to study the effects of investments in human capital on earnings is applicable to investments in personal and social capital, although rates of return on such capital cannot be directly measured since utilities cannot be observed.

After incorporating these new types of (human) capital stocks, the utility function at any moment depends not only on the different goods consumed but also on the stock of personal and social capital at that moment. Utility at time  $t$  equals

$$(1.1) \quad u = u(x_t, y_t, z_t, P_t, S_t),$$

where  $x$ ,  $y$ , and  $z$  are different goods.

The utility function itself is independent of time, so that it is a stable function over time of the goods consumed and also of the capital stocks. However, the relevant class of goods includes not only ordinary goods, like apples and clothing, but also advertisements (see Chapter 10), education, and other determinants of preferences not ordinarily considered as “goods.”

If present choices affect future levels of personal and other capital, utility functions in the future do not change, but utility levels do change. Of course, to the extent that these capital stocks change over time, the subutility function that depends only on goods and services would be unstable since it would tend to shift whenever these capital stocks change. The extended utility function in equation (1.1) is stable only because it includes measures of past experiences and social forces. When extended utility functions are made the foundation of behavior, the study of preferences becomes a vital and exciting contributor to the understanding of economic and social life.

In a more fundamental approach, utility does not depend directly on goods and consumer capital stocks, but only on household-produced “commodities,” such as health, social standing and reputation, and pleasures of the senses. The production of these commodities in turn depends on goods, consumer capital, abilities, and other variables. The utility at any time is then only a function of commodities produced at the same time, and not of any commodities produced in the past. Nevertheless, the past, present, and future are still linked through the capital stocks that determine the productivity of commodity production. Present accumulation of personal and social capital changes household productivity in the future.



Current choices are made partly with an eye to their influence on future capital stocks, and hence on future utilities and choices. For example, in deciding whether to take children regularly to church, parents consider how churchgoing affects their own and their children's religiosity in the future. Or Mary may choose to date Tom rather than Bill—even though Bill is handsomer and smarter—because she believes Tom has better character and will make a better husband if they married later on.

The direct linkage between present and future utilities—not whether the utility functions are considered stable or unstable—is what distinguishes this analysis from the more conventional one. But the stability of extended utility functions does suggest that individuals may have different subutility functions only because they “inherit” different levels of personal and social capital. The influence of childhood and other experiences on choices can explain why rich and poor, whites and blacks, less and more educated persons, or persons who live in countries with totally different traditions have subutility functions that are often radically different. But their extended utility functions might be quite similar.

George Stigler and I in “De Gustibus Non Est Disputandum” (see Chapter 2) explicitly considered extended utility functions, not subutility functions, for the utility functions that remained the “same” over time and are the “same” for different individuals included addictive, social, and advertising capital as arguments.

Our assumption that extended preferences are stable was intended not as a philosophical or methodological “law,” but as a productive way to analyze and explain behavior. We were impressed by how little has been achieved by the many discussions in economics, sociology, history, and other fields that postulate almost arbitrary variations in preferences and values when confronted by puzzling behavior. We hoped that making these puzzles explicit would hasten the development of more rewarding approaches.

The examples in “De Gustibus” were chosen because they seemed to pose special challenges to the theory of choice. However, I now believe that personal and social capital are crucial not only for understanding addictions and the other behavior discussed there, but also for most other behavior in the modern world, and probably in the distant past as well.

Extended utility functions can also form a stable foundation for welfare analysis that uses Pareto-optimality and other criteria. Subutility functions of goods do not provide a stable foundation because these functions “shift” over time in response to advertising, addictions, and other behavior that changes personal and other capital. Whether particular public policies



and other actions raise or lower utilities may then crucially depend on how the changes in utility are evaluated. Does one use the subutility functions that exist before the actions or those produced by the actions (see the further discussion in Section 6 below and in Chapter 10)?

### 3. Personal Capital

Current behavior may raise future personal capital, or this capital may fall over time because of psychological and physiological “depreciation” of the effects of past behavior. The capital stock next period equals the formation of personal capital this period plus the undepreciated portion of the capital from this period.<sup>1</sup>

This formulation is sufficiently flexible to include many kinds of behavior. For example, investment may depend on smoking, attending church, or playing tennis because these types of consumption build up stocks of habitual capital. Childhood abuse and other experiences may influence teenage and adult choices through affecting the accumulation of capital from childhood. Divorce, unemployment, advertising, and other experiences may also help determine choices through affecting the accumulation of personal capital.

This book assumes that forward-looking persons recognize that their present choices and experiences affect personal capital in the future, and that future capital directly affects future utilities. Then current choices depend not only on how they affect current utility, but also on how they affect future utilities.

The demand for goods and experiences which increase future personal capital is stimulated when this capital raises utility, and it is depressed when personal capital lowers utility. For example, the evidence that smoking harms future health, which began to accumulate in the 1960s, caused a large reduction in the demand for smoking. Initial declines in smoking caused large further reductions because smoking is habitual, and because pressure to stop came from peers who were also smoking much less. Many people jog and participate in other exercise only because they believe that physical activity improves their capacities to enjoy life.

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1. Formally,

$$(1.2) \quad P_{t+1} = x_t + (1 - d_p)P_t$$

where  $d_p$  is a constant depreciation rate and  $x$  is the amount invested in personal capital.



Investments in personal capital raise the accumulation of personal capital, but changes in personal capital also affect the dynamic demand for activities that contribute to these investments. Greater personal capital stimulates the demand for investment activities if they are complements to personal capital in the extended utility function in equation (1.1). For then increases in personal capital raise the marginal utility from these activities (a full analysis is more complicated; see the formal treatment in Chapter 3).

These complementarities are especially important in understanding habitual and addictive activities. "Reinforcement," one of the defining characteristics of an addiction, means that an increase in current use of a drug or other good raises the demand for consumption of that good in the future. In the technical language of consumption theory, "reinforcement" means that past and present consumption are complements, which is the same as stating that addictive capital and consumption of addictive goods are complements.

Complementarities and reinforcement in habitual behavior help explain why, for example, the desire to smoke is greater when a person has been smoking heavily for a while, why eating corn flakes regularly for breakfast increases the future demand for this cereal, why telling lies and acting violently increases the tendency to lie and commit violence, why saving becomes habitual, even when people become old and have few years to spend their wealth, why growing up in a religious family greatly increases the likelihood that a person is religious as an adult, or why living with a wife for many years generates such strong dependencies that the husband may experience a mental and physical breakdown after she dies.

A very different example considers what is called in politics the "tyranny of the status quo"—that it is very difficult to eliminate regulations and other public policies which have been in effect for many years. The habits and other attitudes of beneficiaries and even of those harmed adjust to a policy, and after a while both sides may treat programs that have been around for a while as natural and morally justified. For this reason, reversals of policies that have survived for a long time usually are politically unpopular.

That human beings are creatures of habit has been noticed for thousands of years. Aristotle claimed that "Moral virtue . . . is formed by habit" (*Nicomachean Ethics*, 1962, II.I.33). Adam Smith partly explains the affection for family members by habit: "After himself, the members of his own family . . . are naturally the objects of his warmest affections . . . He is more habituated to sympathize with them" (Smith, 1976, VI.ii.12).



I believe the main reason habitual behavior permeates most aspects of life is that habits have an advantage in the biological evolution of human traits. For as long as habits are not too powerful they have social as well as personal advantages (see Becker and Madrigal, 1995). The importance of habitual behavior justifies the attention I give to the formation of habits and addictions in this book.

Individuals help guide their destinies by exercising control over future stocks of personal capital that determine future utilities and preferences. Therefore, individuals, in effect, help to choose their own preferences, if “preferences” are taken to mean not the extended preference function of goods *and* capital, but the (sub)utility function that depends only on goods, which is the function economists usually consider.

For example, a woman who fears and loathes men, perhaps because she was sexually abused as a child, may try to change her attitudes toward men by undergoing psychotherapy treatment and by taking other actions, or she may decide to accept these feelings and seek relations only with other women. In either case, she helps determine her future attitudes to men and women, conditional of course on the earlier sexual abuse and other childhood experiences.

Of course, individuals are not omnipotent, and they sometimes make mistakes while trying to influence their future preferences. The assumption of forward-looking behavior does not imply perfect foresight, or even accurate calculation of the probabilities of future events. Rather, it implies only that individuals try as best they can to anticipate the future consequences of their present choices. Therefore, they may be unhappy about who they are not only because of childhood and other experiences beyond their control, but also because of the effect of their own mistakes on their present “tastes.”

A young man may drink heavily because he does not anticipate that he will become addicted to alcohol (Orphanides and Zervos, 1995, provide a formal analysis of maximizing behavior when there is uncertainty about becoming addicted). Of course, if he turns out to be wrong and he does become addicted later on in life, he would wish he had not drunk so much as a young man. He might decide to fight his addiction by joining Alcoholics Anonymous and in other ways; on the other hand, continuing to drink heavily could be a way of maximizing utility if his preferences “shifted” greatly in favor of alcohol.

A woman may eventually regret that she went to a psychiatrist to help her overcome her hatred of men because she continues to dislike sexual and other relations with them. At some point, she may stop her



therapy and radically alter her behavior to seek the companionship of other women.

Uncertainty about the outcomes from their choices is just one reason why individuals only *partly* control their own destinies. Parents have enormous influence over the experiences of their children, especially during the formative early years, and these childhood experiences can greatly influence adult preferences and choices. For example, adults who had hard-working and caring parents tend to work harder and care more about their children than adults who had abusive parents, or parents who were addicted to drugs.

And from childhood on, other influences besides our parents also shape our preferences. Companies in the United States spend well over \$100 billion annually on advertisements that try to change preferences by influencing personal capital. Schools and the media affect values and other attitudes, and governments influence choices through their own advertising and “propaganda” (see, e.g., Lott, 1990). In particular, the sharp increase in labor force participation of women and other groups during World War II despite lower after-tax real wages may have been partly due to government appeals to patriotism (see Mulligan, 1995).

Of course, most people are not simply puppets who are manipulated by others. Even small children look “cute” and helpless, learn how to make parents feel guilty, and develop other expressions and behavior that can induce their parents to treat them better. Adults may avoid advertisements they strongly dislike, and they expose themselves to others that lower utility only if they receive compensation (see the discussion in Chapter 10). Residents of totalitarian states learn to ignore or minimize the impact of ubiquitous government propaganda.

#### DISCOUNTING THE FUTURE

The usual assumption in economics is that discount rates on future utilities are constant and fixed to each person, although they may differ between persons. This assumption is a good initial simplification, but it cannot explain *why* discount rates differ by age, income, education, and other personal characteristics, or why they change over time for the same individual, as when a person matures from being a child to being an adult.

The weight a person places on future utilities in determining present decisions is affected by how well she can imagine what future utilities will be like. The capacity to anticipate future utilities is *not rigidly fixed*, although it probably has a biological component (see the interesting analysis by Rogers, 1994). People change the weight they attach to future utilities



by spending more time, effort, and goods in creating personal capital that helps them to better imagine the future.

It has been claimed for hundreds of years by philosophers, economists, and many others that most people undervalue future utilities because they have difficulty in imagining the future. That may well be true, but people train themselves to reduce and sometimes more than fully overcome any tendency toward undervaluation. The analysis in this book allows people to maximize the discounted value of present and future utilities partly by spending time and other resources to produce “imagination” capital that helps them better appreciate future utilities (see Becker and Mulligan, 1994).

They may choose greater education in part because it tends to improve the appreciation of the future, and thereby reduces the discount on the future. Parents teach their children to be more aware of the future consequences of their choices (Akabayashi, 1995, studies the conflict between parents and children over the weight attached to the future). Addictions to drugs and alcohol reduce utility partly through decreasing the capacity to anticipate future consequences. Religion often increases the weight attached to future utilities, especially when it promises an attractive afterlife.

Imagination capital not only affects the discount on future utility, but it also alters preferences over goods by affecting present and future choices. Someone who places greater weight on the future consequences of current choices is more likely to engage in activities that raise future utilities, perhaps partly at the expense of current utility. Such a person is less likely to become addicted to harmful substances like drugs, alcohol, and cigarettes, and is more likely to develop a belief in the afterlife, and to acquire beneficial habits like exercise and coming to work on time. As a result, individuals who are more future-oriented develop habitual and other preferences that have more beneficial future consequences.

I assume that individuals choose their discount rates within a framework in which preferences are *consistent* over time. That is, the choices an individual *would like* to make in the future, if he knew now what would happen in the interim, are exactly the same as the choices he *will actually* make then. The assumption of consistent preferences is clearly not a literal description of much actual behavior, and is not necessary to develop an analysis of endogenous preferences, but it is an extremely useful simplification of behavior.

I believe that even extreme forms of addictive behavior, such as heavy smoking or drinking, involve forward-looking, consistent utility maximization (see Chapters 3 and 5), although some philosophers and econ-