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The “Subtle Processes of Economic Reasoning”:

Marshall, Becker, and Theorizing about Economic Man and Other-Regarding Behavior

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“Economics is a science of human motives ...”

Alfred Marshall (1885/1925, p. 171)

“There is scarcely any limit to the developments of economic theory which are possible: but of those which are possible only a small part are useful in having a direct relation to practical issues”

Alfred Marshall (1885/1925, p. 162)

Introduction

The post-World War II history of Chicago price theory has many distinguishing facets, one of which is its identification and self-identification as “Marshallian,” as against the Walrasian general equilibrium, Samuelsonian, and game-theoretic tides that swept over economics during the second half of the twentieth century. A second important piece of this history is the application of rational choice analysis in areas to which economics had not, to that point, pretended to speak and where individual actions were said to be governed by motives apart from those considered by economists in their studies of the “economic” portion of the social sphere. These facets of the history of Chicago price theory come together on several fronts, and we shall consider one of these—altruism, or other-regarding behavior—here.

The question of whether, and to what extent, Chicago price theory is Marshallian is a large

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one, with many aspects. The theory of individual behavior is one of these, and the treatment of altruism, or, more generally, other-regarding behavior, falls within this domain. The centrality of self-interest—in various forms and with various degrees of attendant enlightenment—has ruled the analysis of economic phenomena virtually unchallenged for more than two millennia,² not as a goal, but as a seemingly unshakable force driving individual actions, at least when dealing with activities related to the marketplace. As Henry Sidgwick put it in his *Principles of Political Economy*, self-interest works “powerfully and continually,” and its utility in the economic sphere is such that “the difficulty of finding any adequate substitute for it, either as an impulsive or as a regulating force, is an almost invincible obstacle in the way of reconstructing society on any but its present individualistic basis” (Sidgwick 1901, p. 402). That individual behavior had an other-regarding aspect was widely acknowledged, but this was seen as more or less irrelevant to the economic realm, and the analysis of such behavior was thought to be outside of the province of political economy. The recent (and controversial) move to incorporate altruism into the modeling process of economists, including by Gary Becker and others in the Chicago price theory community, thus represents a significant departure from previous practice.³ The self-consciously Marshallian nature of Chicago price theory, in turn, leads us to examine the relationship of this altruistic turn to the work of Marshall, particularly in his *Principles*.

One of the things that unites Marshall's work in the *Principles* and important parts of the history of Chicago price theory is the refusal to ground economic analysis in a particular model of human behavior. For example, while Marshall hoped to link up economics and psychology and Milton Friedman was trying to maintain a strict separation, neither went so far as to ground the theory of demand within a well-developed theory of the individual. All of this changed with the

2 See Medema (2009) for a discussion.

3 See Fontaine (2007) for a discussion of the attempts by economists to treat altruistic behavior in the post-WWII period. The present paper is somewhat complementary to Fontaine's discussion of Becker's work on altruism.

adoption of the rational actor model in the post-war period. The idea that rational choice offered a unified theory of behavior applicable across the realm of individual choices presented the prospect of a vastly expanded scope for economic analysis. Other-regarding behavior was one example of this. Is such behavior separate from the rational pursuit of self-interest, a force that is weighed against self-interest with greater or lesser motive force, depending on the context? Is such behavior the *outcome* of a choice process? Or is it a part of the choice process, but one that is done rationally, though not self-interestedly? Or is it something else all together? As we shall see, we find rather different answers to this question in Marshall and in the Chicago price theory literature. At the same time, however, Marshall offers some hints that the expansion of the scope of economics in directions such as this does not necessarily take the economist outside of the legitimate scope of his inquiry. Indeed, Gary Becker's work on social interactions in general and altruism in particular can be seen as a response to certain of the issues raised by Marshall when he discussed the limits of economic analysis.

Marshall and Man

When Alfred Marshall defined economics as “a study of mankind in the ordinary business of life” (1920, p. 1),⁴ he was forced to confront the issue of the scope of life that is relevant for economics—that is, to define what makes up “the ordinary business of life.” For Marshall, this extended to those parts of life which are “most closely connected with the attainment and with the use of the material requisites of wellbeing” (1920, p. 1). When the political economists of the nineteenth century developed their theories, says Marshall, they assumed an essential homogeneity among the population and did so based on their own understanding of society. This, however, was informed by their position in the world, and a problem arose from the fact that “The people whom they knew were

4 All references to Marshall (1920) refer to the Variorum edition, edited by C.W. Guillebaud (1961).

basically city men; and they took it for granted tacitly that other Englishmen were very much like those they knew in the city” (1885, p. 155). It was this view of man that, for Marshall, motivated the classical understanding of the workings of supply and demand. But by not recognizing that “the point of view of the workman” is different from that of the city man, and by not “allowing for his [the workman's] human passions, his instincts and habits, his sympathies and antipathies, his class jealousies and class adhesiveness, his want of knowledge and of the opportunities for free and vigorous action,” the classical economists bestowed on supply and demand “a much more mechanical and regular action than they actually have” (1885, p. 155).

Marshall's statement that “Economics is a science of motives,” quoted at the start of this paper, informs his conception of economic theory. He believed that “the true philosophic *raison d'etre* of [economic] theory is that it supplies a machinery to aid us in reasoning about those motives of human behavior which are measurable.” (1885, p. 158). Marshall said that economics focuses on those motives which guide individual action in the business realm, the central motivating force here being “the desire for pay” (1920, p. 14). Marshall saw in the motive force of money a means to make economics scientific in a manner beyond other forms of social study. Money, he said, offered a means by which “the force of a person's motives—*not* the motives themselves, since economics is not about measuring motives, but their effects—can be approximately measured (1920, p. 15); in fact, he labeled it “the most obvious . . . and also the best, in terms of ease of measurability” (1885, p. 158).

For Marshall, it was *measurability*, rather than money, that was the key. Thus we find him citing “honours” as another measurable motive to which the economist can pay attention in their work. What matters, says Marshall, is that the honors take measurable form and can be transferred from one individual to another. More generally, Marshall goes on to say that

It seems well to insist on this; for a misleading association has grown up in people's minds between that measurement of motives, which is the chief task of economic science, and an exclusive regard for material wealth, to the neglect of other and higher objects of desire. The only condition required for a measure for economic purposes is that it should be something definite and transferable. Its taking a material form is practical and convenient in this world, but is not essential (1885, p. 159).

In fact, argues Marshall, it is possible to envision “a treatise on economic theory” very similar to those extant in the 1880s, but in which there is “very little mention ... of material things, and no mention at all of money” (1885, p. 159).

The evolving importance of business life contributed to the utility of a monetary measure, according to Marshall, both by making the desire for pay a primary motivating force and by influencing the development of man's habits of thought. Those habits of thought attending modern business life, said Marshall, are self-reliance, forethought, and “deliberate and free choice,” all of which have increased, he says, with the development of industrial and business life in the modern age (1920, p. 10). Within this, Marshall particularly highlights deliberateness, arguing that it is this, and not selfishness (as many were claiming in that age) that is “the characteristic of the modern age” (1920, p. 6).

While allowing that it may be best to keep economics “chiefly focused with those motives to which a money price can be directly or indirectly assigned” (1885, p. 161), Marshall does not subscribe to the view that this forces economics into limiting its view of man to that of a purely self-interested agent. “Whenever we get a glimpse of the economic man he is not selfish,” Marshall says. “On the contrary he is generally hard at work saving capital chiefly for the benefit of others. The fact is that the desire to make provision for one's family acts in a very regular way and is eminently

capable of being reduced to law: it is prominent in all economic reasoning, because, though unselfish, it is measurable” (1885, p. 160). Given this, says Marshall, selfish or self-regarding motives “have no claim to more consideration than others except in so far as they may be more easily measurable and may more easily have a money price assigned to them” (1885, p. 161).

Marshall insists that the attempts to consider “economic man” apart from ethics—that is, to contemplate individuals who “pursue gain ... mechanically and selfishly”—have not been successful. For example, he says, man attempts to provide for his family, and does so from altruistic motives. But if altruism is active here, why not also in other areas? It exhibits to sort of general uniformities that self-interest does—that is, both self-interest and altruism are motives to action. The “Principle of Continuity,” says Marshall, implies “a continuous gradation from the action of 'city men,' which are based on deliberate and far-reaching calculations, and are executed with vigour and ability, to those of ordinary people who have neither the power nor the will to conduct their affairs in a business-like way” (1920, pp. vi-vii). Economists, he says,

deal with man as he is: not with an abstract or 'economic' man; but a man of flesh and blood. They deal with a man who is largely influenced by egoistic motives in his business life to a great extent with reference to them; but who is also neither above vanity and recklessness, nor below delight in doing his work well for its own sake, or in sacrificing himself for the good of his family, his neighbors, or his country; a man who is not below the love of a virtuous life for its own sake. They deal with man as he is: but being concerned chiefly with those aspects of life in which the action of motive is so regular that it can be predicted, and the estimate of the motor-forces can be verified by results, they have established their work on a scientific basis (1920, pp. 26-27).

Within these groups, says Marshall, there are regularities of behavior, both self-interested and

altruistic, that make “the theory of normal value ... applicable to the actions of the unbusiness-like classes in the same way, though not with the same precision of detail, as to those of the merchant or banker” (1920, p. vii).

Marshall notes that both self-interested and other-regarding behavior present a problem for economic analysis in that both types of motives operate indirectly. There is a series of steps between one's demand for consumer goods and their ultimate provision; likewise, there are “many steps between the sacrifice of a parent, who sends his son to an expensive school, and the ultimate production of a carpet from the designs of that son when he is grown up” (1885, p. 161). This complicates the process of economic analysis: “So difficult is this analysis, so subtle are the processes of economic reasoning involved in it, so many are the different factors and forces mutually modifying one another of which account must be taken, so numerous are the wheels within wheels in the reasoning involved, that up to the present day the task is but half-mastered” (1885, p. 161).

But this this problem put to one side, Marshall notes that in considering behavior that is self-interested or other-regarding, the economist is not concerned about higher and lower motives per se; his interest is in looking at their effects and their incentives to action (1920, p. 16). Both self-interest and altruism can be deliberate or not, but the economist is concerned with the deliberate side of each (1920, pp. 20-21).

Marshall's reading of history suggested to him that altruism did not function well at an aggregate level for any considerable period of time, save for in religious orders. At the family level, though, he found altruism quite prevalent. For example, he says, some are motivate by the desire to accumulate wealth for themselves (pure self-interest), but many others are motivated by a desire to care for their family and leave a generous bequest to their children. To bolster his case that “men labour and save chiefly for the sake of their families and not for themselves,” Marshall points to the

strong tendency of individuals to consume only out of the income from their savings during their retirement, leaving the principal untouched, along with the propensity to invest in life insurance policies (1920, p. 228).

Man may do something for the benefit of others out of self-interest or out of a more pure altruism. The latter characterizes affections within the family. This includes gifts to family members, investment in education or training for one's children, and the decision to leave a bequest (1920, p. 24). The problem, he notes, is that it is difficult to measure these altruistic motives. While certain form of altruism are measurable—he cites aggregate charitable giving—and can be reduced to law-like form, and the demand for and supply of missionaries, clergy, nurses, and the like can be well-described using the tools of demand and supply, it will “probably always be true that the greater part of these actions, which are due to a feeling of duty and love of one's neighbour, cannot be classed, reduced to law and measured; and it is for this reason, and not because they are not based on self-interest, that the machinery of economics cannot be brought to bear on them” (1920, p. 24).

Even allowing for the range of possible motives, Marshall says that economists take as their subject the realm of distribution, exchange, industry, ...—that is, the economy—and his definition of the scope of economics as dealing “with that part of individual and social action which is most closely connected with the attainment and with the use of the material requisites of wellbeing” (1920, p. 1) would seem to confine the work of economists within the boundaries of the economic system. This view is in some measure confirmed, but with qualifications, in his comments on “The Scope and Method of Economics” in Appendix C of the *Principles*. Here, Marshall cites Comte's assertion that “a unified and all-embracing social science” is necessitated by the interconnectedness of all aspects of social life (1920, p. 770). Against this, Marshall contends for specialization, on the ground that “the whole range of man's actions in society is too wide and too various to be analyzed and explained

by a single intellectual effort” (1920, p. 770). As for economics,

The economic organon brings to bear the accumulated strength of much of the best genius of many generations of men. It shows how to analyse the motives at work, how to group them, how to trace their mutual relations. And thus by introducing systematic and organized methods of reasoning, it enables us to deal with this one side of the problem with greater force and certainty than almost any other side; although it would have probably been the most unmanageable side of all without such aid. (1885, p. 164)

He illustrates this point by reference to the natural science, where, he says, real progress in understanding the forces of nature was only made with the division of scientific inquiry into several branches. Such progress as has been made in exposing the essential unity of nature's forces, he says, is the result of “persistent specialized study” rather than the use of or quest for an over-arching unified science. This same approach, he says, will be necessary to uncover forces operative across the social realm.

That said, Marshall does not insist on a rigid separation between the social sciences. Rather, he says, “it is the duty of those who are giving their chief work to a limited field, to keep up close and constant correspondence with those who are engaged in neighbouring fields.” This allows for a form of gains from exchange, in that “Specialists who never look beyond their own domain are apt to see things out of true proportion; much of the knowledge they get together is of comparatively little use; they work away at the details of old problems with have lost most of their significance and have been supplanted by new questions rising out of new points of view; and they fail to gain that large illumination which the progress of every science throws by comparison and analogy on those around it” (1920, pp. 770-71).

With this in mind, then, it is perhaps not surprising that we find Marshall hesitant about the

expansion of the boundaries of economics but at the same time not willing to foreclose the possibility of others fruitfully tilling this soil in the future. He suggest that economics “has made greater advances than any other branch of the social sciences because it is more definite and exact than any other” (1920, p. 780). But this, he says, is a direct result of having confined the scope of economics to economic phenomena which are measurable. To move beyond this involves some risk, according to Marshall, in that “every widening of its scope involves some loss of this scientific precision” (1920, p. 780). The question then becomes “whether that loss is greater or less than the gain resulting from its greater breadth of outlook,” and this, he says, “is not to be decided by any hard and fast rule” (1920, p. 780).

Interlude: Marshall and Chicago—An Overview

From its origins in the price theory courses taught by Frank Knight and Jacob Viner in the 1920s, Chicago price theory has been overtly Marshallian—that is, it is rooted in the economics of Alfred Marshall, as laid out in his *Principles of Economics* (1890/1920). Marshall’s *Principles* has been on the reading list for the basic Ph.D. course in Price Theory at Chicago (Econ. 301) since the 1920s and remains there to this day. The Marshallian tradition at Chicago is rooted in the price theory courses taught by Jacob Viner from the 1920s through the mid-1940s, when he departed for Princeton. Student notes from Viner’s course demonstrate that his lectures were a virtual a walking tour through Marshall’s *Principles*. Friedman, who took center stage from the mid-1940s until the early 1960s, repeatedly referred to the Marshallian nature of his approach and vociferously defended his interpretation of Marshall’s demand theory (Friedman 1949)—demand theory being at the heart of Chicago price theory at least until the ascendancy of Becker and the rational choice approach.

In spite of the tendency to speak in terms of a homogeneous, monolithic “Chicago school,”

Chicago price theory, like Chicago economics generally, is both heterogeneous and has evolved over time, retaining some measure of continuity, but also changing in significant ways (Reder 1982).

Knight (who was not a Marshallian) differed from Viner, Viner from Friedman, Friedman from Stigler, Stigler from Becker, and Coase from all of them.⁵ Even allowing for this heterogeneity, there is a significant distinction to be drawn between the earlier and later generations of Chicago price theory—that is, between Knight, Viner, and Friedman on the one hand and the generation from Becker onward on the other (with Stigler having a foot in each camp).

As noted above, early Chicago price theory was grounded in demand theory. There was an underlying idea of utility maximization, but only in an “as if” sense. With Stigler and Becker, we see price theory placed on a rational choice footing: individuals are deemed to be rational maximizers, not necessarily of utility, but of whatever their chosen ends may be. It is an approach to economics that was much more influenced by the axiomatic turn in the profession during the 1950s and 60s. Demand theory was sufficient to explain *prices*; a more refined behavioral grounding was necessary to explain *choices*. This distinction is of tremendous import, as Chicago price theory increasingly came to define economics as the analysis of choice rather than as the study of the economic organization. In doing so, it moved from a subject-matter definition of economics to an analytical one, and from a focus on the market to a focus on individual behavior as, at least, the starting point for economic analysis. This approach offered an account of a far greater variety of behaviors than did earlier approaches to consumer behavior.

With the exception of Knight, each of the key figures in the Chicago price theory tradition overtly grounded his work in Marshall and claimed Marshallian heritage for it and for Chicago price theory in general. Understanding Chicago price theory and its evolution, then, requires us to get at in

⁵ The distinction between Coase on the one hand, and Stigler and Becker on the other, is significant and has been remarked upon by Coase himself and by Posner. See, for example, Coase (1977, 1993), Posner (1993), and the discussion in Medema (1994).

what respects Chicago price theory is Marshallian—and in what respects it is not. There are two significant points of intersection. First, the Chicago tradition employs partial equilibrium rather than general equilibrium analysis. That is, Chicago price theory is Marshallian as opposed to Walrasian, and it remained steadfastly (and distinctively) wedded to a form of Marshallianism through a long period during which the rest of the profession was immersed in Walrasian analysis.⁶ Second, the Chicago approach follows Marshall in the melding of theoretical and empirical work, and, like Marshall, considers both to be necessary for doing good economics and each as incomplete absent the other. The empirical strand solidified the Marshallian tendencies of Chicago as against the Walrasian approach, and the theoretical strand was a Marshallian counterpart to the perceived atheoretical empirical work of the institutional tradition in the first half of the twentieth century. This does not imply, however, that the methodology of Chicago price theory has a thoroughgoing consistency with Marshall's method, and to see this we need to look back at Marshall.

To get a sense for the relationship between Marshall's system and Chicago price theory, consider the case of consumer behavior. Marshall's view was that economists "deal with man as he is: not with an abstract or 'economic' man; but a man of flesh and blood" (1920, p. 22). Now Marshall was convinced that there is much to be learned from using a conception of man that is grounded in utility maximization, as when he noted that "the side of life with which economics is specially concerned is that in which man's conduct is most deliberate, and in which he most often reckons up the advantages and disadvantages of any particular action before he enters on it" (1920, p. 17).⁷ However, Marshall also took pains to point out that this is not the whole of the story. There are

6 It is important to be clear that we are talking about price theory and microeconomics here. The last two decades of Chicago macroeconomics evidence a significant Walrasian component. It also bears noting that Chicago price theory has resisted the game-theoretic turn of economics, which explains why Nobel Laureate Roger Myerson is a University of Chicago microeconomist but not one who is identified with the Chicago tradition in price theory or affiliated with the Becker Center on Chicago Price Theory.

7 See more generally Marshall (1920, Chapter 2).

times, he said, when man's actions are guided by "habit and custom," and here man "proceeds for the moment without calculation." In cases where we are dealing with business-related affairs, Marshall contended that those habits and customs likely evolved out of "a close and careful watching the advantages and disadvantages of different courses of conduct." And of course, these advantages and disadvantages may be material or non-material, with the latter including factors such as whether a particular course of action is fair, or whether it "feels" right to do things this way rather than that (1920, p. 17).

Marshall's sense that calculation does not govern all areas of life, or even particular areas in all circumstances, made him something less than fully confident in the conclusions drawn from economic theorizing. In adopting this stance, Marshall very clearly demarcated economics from natural sciences such as physics, pointing out that the results of economics are *not* like the laws of gravitation where, subject to a few *ceteris paribus* qualifications, we can state our expectations very concretely. For Marshall, economic theories are tendency statements, and of a somewhat weak sort. The further we move away from economic affairs proper within the social realm, the weaker he thought those tendencies became (1920, p. 27). There is, he said, "a continuous gradation from social laws concerned almost exclusively with motives that can be measured by price, to social laws in which such motives have little place." The latter, he went on to argue, are "generally much less precise and exact than economic laws," just as economic laws are much less exact and precise than those of physical sciences (1920, p. 27).

The Chicago approach to individual behavior both has elements in common with and is distinct from the approach laid out by Marshall in his *Principles*. In Friedman, for example, we see the individual described as one who behaves *as if* he maximized expected utility. This "as if" approach was part of an attempt by Friedman to loose economics from reliance an any particular

psychological presuppositions—as against Marshall’s desire to put economics on a more firm psychological footing—and was intended not as a description of individual behavior but as part of a model that would generate testable predictions (Friedman 1953). In this, then, Friedman’s approach departed significantly from Marshall’s attempt to “treat man as he is.” Stigler and Becker took a different tack, positing rational choice as a descriptor of individual behavior and departures from this as outliers. In doing so, they brought psychology back into economics, although in a manner different from Marshall. The rational choice approach embodied a more narrow conception of the agent than is found in Marshall, but in the hands of Stigler and Becker, this model, like Marshall’s, was intended to be a reasonably accurate depiction of individual behavior. In light of this, it is perhaps no surprise that Becker and others attempted to extend the boundaries of economic analysis to the explanation of a wider range of behaviors that economists had previously countenanced.

Modeling the “Other”: Becker, Chicago, and Other-Regarding Behavior

It is tempting to view Becker's work on altruism—first laid out fully in his 1974 paper, “A Theory of Social Interactions,” as simply another iteration in a longer-term program of economics imperialism. By this time, Becker had already published books and articles dealign with topics such as discrimination, human capital, the allocation of time, crime and punishment (1968), fertility, and marriage (1973, 1974). Yet, Becker's work on altruism began already in 1960, and the 1974 paper was in draft form as early as 1969. Tracing the lineage of the 1974 paper reveals that the story behind the development of Becker's work on other-regarding behavior is somewhat more complex than a simplistic economics imperialism story might suggest.

In fact, Becker grounds his analysis of other-regarding behavior not in the need to explain something that psychologists, anthropologists, and sociologists have not explained adequately, but in

the preoccupations of economic thinkers of the nineteenth century. He traces the social interactions issue back to the economics literature prior to the marginal revolution, pointing to references by Jeremy Bentham to reputation effects and the pleasures or pains that others might receive from one's benevolent or malevolent acts, and he also highlights references to the desire for distinction that can be found in the writings of Nassau Senior and Alfred Marshall. Some may find it ironic, given the technical nature of much of Becker's work in this vein, to find Becker arguing that the increasing formalization of economics that began with the marginal revolution worked to push factors such as reputation and benevolence out of economic analysis, as economics came to define the choice process as derived from utility functions whose arguments were own consumption of good and services (1974a, pp. 1064-65). As Becker notes, "Probably the main explanation for the neglect of social interactions by economists is neither analytical intractability nor a preoccupation with more important concepts, but excessive attention to formal developments during the last 70 years. As a consequence, even concepts considered to be important by earlier economists, such as social interactions, have been shunted aside" (1974a, p. 1091).

The question, then, was whether it was possible to deal with this concern via modern, formal analytical methods. As we have seen, this question had also concerned Marshall, who both wondered about the ability to deal with broad ranges of human behavior within the analytical framework available to the economist and expressed hesitation about the explanatory power of economic analysis as one moved further away from the traditional market turf of the economist. The ability to undertake the analysis of other-regarding behavior within the increasingly formal environment of post-WWII economics required the development of a modeling strategy (or set of strategies) that would allow for the incorporation of these other-regarding factors within the individual's decision process. But Becker did not consider it sufficient simply to develop a mathematically sophisticated

notion of other-regarding behavior. Reflecting the influence of Marshall and Friedman on Becker, there was a further requirement: “The basic goal of the analysis,” he said, “is to find measures [of economic variables] which facilitate the development of empirical implications” (1974a, p. 496).

Other-regarding utility: the analysis of discrimination

An examination of Becker's work in the two decades following the completion of his graduate training at Chicago suggests that the roots of his analysis of altruism lie in his dissertation work on discrimination. Becker himself has said virtually as much, noting in 1974 that his interest in analyzing social interactions “can probably be traced to” his work on discrimination (1957), the analysis of which incorporated factors including “the race, religion, sex, or other personal characteristics of employees, fellow workers, customers, dealers, neighbors, etc., into utility functions” (1974a, p. 1065). It was not long thereafter that Becker (1961) tackled the subject of philanthropy in a paper for the National Bureau of Economic research project on the economics of philanthropy.⁸ Here, says Becker, he extended the discrimination model by incorporating “the standard of living of 'poorer' persons into the utility function of 'richer' ones. (1974a, p. 1065). This, he says, eventually led him to realize the need for a much more general treatment of social interactions (1974a, p. 1065).

The Economics of Discrimination is important here for two reasons. The first, and most obvious, is that Becker developed a model in which attributes of others were incorporated into the individual's decision function. This was done by positing a “taste for discrimination,” which involves elements of prejudice (a preference) and/or ignorance (e.g., underestimating productivity), the effect of which was that employing, working with, purchasing from, or selling to a member of a particular group would reduce the utility of the decision maker and thereby influence perceptions of the wage or price that was paid or received. That is, *The Economics of Discrimination* captured social

⁸ Becker has not been able to locate this paper, “Notes on an Economic Analysis of Philanthropy,” in his files.

interaction by integrating the effect of someone else's attributes (race, religion, sex, etc.) into individual willingness to pay.⁹

The second important theoretical moment here was the move to model non-pecuniary motivation in pecuniary form, which would make the resulting model capable of generating empirical implications. When raising the issue as to why economists have neglected to analyze something as important as discrimination, Becker offers an answer that parallels the measurement issues pointed to by Marshall. While allowing that one can only speculate on the reasons for this neglect, Becker suggests that “The inability of economists to deal in a quantitative way with non-pecuniary motives” (1957, p. 2) may well be the explanation, given the centrality of non-pecuniary motivation in the discrimination process. But Becker suggests a way around this, drawing on Friedman's (1953) methodological position in the process:

Money, commonly used as a measuring rod, will also serve as a measure of discrimination. If an individual has a 'taste for discrimination,' he must act *as if* he were willing to pay something, either directly or in the form of a reduced income, to be associated with some persons instead of others. When actual discrimination occurs, he must, in fact, either pay or forfeit income for this privilege” (1957, p. 6).

The discrimination coefficient that emerges here measures the value that the individual places on these non-monetary costs, being the difference between the money price and the net price. But as he points out, this analysis is not limited to “negative” discrimination: love is simply the converse of hatred, which means that this same framework can be used to show the benefits that one gets from engaging in activities with one whom you love. Here, then, we find the seed of an examination of

9 For example, an employer who is prejudiced against individuals from group x will act as if he faces a wage of $w_x = w(1 + d_x)$ to hire a person from group x , where w is the market wage and d_x is his discrimination coefficient against this factor. Likewise, a consumer who is prejudiced against individuals from group x will act as if she faces a price of $p_x = p(1 + d_j)$ when purchasing a product from group x , where p is the market price of that product and d_x is his discrimination coefficient against this factor.

altruistic behavior.

Though this work put motives for discrimination into an economic framework, in taking on this subject Becker did not set out to offer a substitute for the analyses of discrimination within other social science disciplines. Instead, he says that his goal was to develop

a theory of discrimination that *supplements* the psychologists' and sociologists' analysis of causes with an analysis of economic consequences. While even the causes are not well understood, the absence of adequate discussions of consequences is probably the most serious lacuna in the literature on this subject. This theory can be applied to “discrimination” and “nepotism” in all their diverse forms, whether the discrimination be against Negroes, Jews, women, or persons with “unpleasant” personalities or whether the nepotism be in favor of blood relatives, countrymen, or classmates, since they have in common the use of non-monetary considerations in deciding whether to hire, work with, or buy from an individual or group (1957, p. 3, emphasis added).

Becker harkens forward to what is to come when he says, at the close of the book, that this work on discrimination “can be viewed as a case study in the quantitative analysis of non-pecuniary variables,” and that, given the emphasis on non-pecuniary factors in the choice of things such as occupation and working conditions, the development of such a general framework may be “the most useful by-product” of his work on discrimination.

It is also important to note the general approach taken by Becker in *The Economics of Discrimination* and its relationship to Chicago price theory as it stood in the late 1950s. As in both Marshall and Friedman, the theory of individual choice occupies a relatively minor place in the analysis, the focus instead being on the prices that individuals are willing to pay or accept and how this both feeds into and is impacted by the operation of market processes. Objective functions and

concepts such as maximization (rarely mentioned) and rationality (unmentioned) play no overt role in the analysis—even in the mathematical appendices spread through the book. While one can easily see how the equilibrium conditions presented in the appendices are the outcomes of a maximization process, the actual form and nature of this process are not considered sufficiently important to merit attention. This stands in stark contrast to later work by Becker, where the rational choice concept features prominently in the analysis, and almost certainly reflects the influence of Friedman, whom Becker thanks in the introduction not just for his comments on the manuscript, but “for training in economic analysis and for continually emphasizing that economic analysis can be used for the solution of important social problems” (1957, p. 4).

Full income and the household production function

Perhaps the most significant moment on the road to the theory of social interactions, and thus altruism, was the publication by Becker, in 1965, of his “A Theory of the Allocation of Time.” The paper begins with what Becker calls “A Revised Theory of Choice,” (p. 495), which broke away from the received theory in three ways. First, it posited the household, rather than the individual, as the basic unit of analysis. Second, it incorporated both working and non-working time into the model. Finally, the model assumed that households produce the commodities that enter their utility function using a combination of time and market goods. In formulation the notion that households are producers as well as consumers, Becker invokes Alec Cairncross's 1958 reference to the household as “a small factory” that “combines capital goods, raw materials and labour to clean, feed, procreate and otherwise produce useful commodities.” (1965, p. 496, quoting Cairncross 1958). Becker's model of household and individual behavior consciously draws on the theory of the firm, with utility functions maximized with respect to both income-related variables and production functions that posit a relationship between utility-generating commodities and the resources devoted

to their production by the individual. Here, then, households “are both producing units and utility maximizers” (p. 495).

According to this new theory of choice, households are said to maximize a utility function of the form:

$$U = U(Z_1, \dots, Z_m),$$

where the Z 's are conceptualized not as basic commodities (bread, meat, books, ...) but as larger categories of goods—meals, health, ...—that are produced at the household level. These goods are said to be the products of a household production function of the form,

$$Z_i = f_i(x_i, T_i),$$

where x_i is a vector of market goods and T_i is a vector of time inputs used in the production of the i th commodity. Utility is maximized subject to budget and time constraints, which combine to generate an expression for what Becker labels “full income.”¹⁰ Full income, S , is given by,

$$S \equiv V + Tw,$$

where w is a vector of earnings associated with the various units of time and V is other income and represents the maximum amount of money that is achievable by the household if all time were devoted to working in the market (earning income). The budget constraint thus becomes:

$$\sum p_i x_i + \sum w t_i = wT + V = S,$$

which says that full income is spent on a combination of goods and foregone earnings necessary for household production.

For Becker, the utility of this new approach lies in its generality:

¹⁰ Becker (1965, p. 497) says that this term “emerged from a conversation with Milton Friedman.”

the full income approach provides a meaningful resource constraint and one firmly based on the fact that goods and time can be combined into a single overall constraint because time can be converted into goods through money income. It also incorporates a unified treatment of all substitutions of non-pecuniary for pecuniary income, regardless of their nature or whether they occur on the job or in the household (p. 498).

The import of this for our purposes comes from the last, and most brief (one paragraph) of the applications offered by Becker—the division of labor within families. Families not only allocate time across commodities, but also allocate this time across family members. The full income model suggests that family members who are more efficient at market activities will devote more of their time to such activities, and less time to consumption activities, than will other family members. Similarly, if one family member's market efficiency increases relative to the others, that family member will devote an increased amount of time to market activities and other family members will correspondingly devote more time to consumption activities. In this way, then, Becker begins to capture other-regarding behavior, in that the choices made by each member of the family are a function of the situations of other family members.

The move to model full income and the household production function was the first of two key theoretical moves on the road from discrimination to altruism. The second came from the extension of the household production function to include what Becker calls “environmental variables,” such as age, education, climate, and ability. This expanded version of the model was incorporated into Becker's graduate price theory lectures at Columbia in the late 1960s and written up in a draft paper under the title “Consumption Theory: Some Criticisms and a Suggested Approach” in 1968.¹¹ The first published appearance of the expanded theory was in Becker's graduate price theory

¹¹ This paper was never published, but it formed the basis for Michael and Becker (1973), which is discussed below.

text, *Economic Theory*, which was published in 1971 and was itself derived from the tape-recorded lectures of his price theory course at Columbia in 1967-68. One of the advantages of this new approach to consume behavior is that it allows for the introduction of these “environmental” variables through the household production function rather than through tastes and preferences. Changes in these variables affect the cost of producing the good in question: for example, a more educated parent can give his or her child a given amount of education at lower monetary cost than a parent who is less well-educated by virtue of what they themselves can provide for the child. These variables enter the demand function not through the influence of tastes, but because “they change the efficiency of household production.” The effects on demand can be described statistically and can also be predicted. This is an important advance, since as Becker sees it, “By reducing the reliance on ad hoc shifts in tastes, this method of handling environmental variables is a powerful too for greatly expanding the predictive content of economic theory” (1971, p. 48).

When Michael and Becker fleshed out this “new” theory for publication in the *Swedish Journal of Economics* in 1973, they emphasized the tastes issue in justifying this new approach, the issue being the inadequacy of the treatment of tastes in the then-dominant model of consumer behavior:

For economists to rest a large part of their theory of choice on differences in tastes is disturbing since they admittedly have no useful theory of the formation of tastes, nor can they rely on a well-developed theory of tastes from any other discipline in the social sciences, since none exists. Put differently, the theory which the empirical researcher utilizes is unable to assist him in choosing the appropriate taste proxies on a prior grounds or in formulating predictions about the effects of these variables on behavior. The weakness in the received theory of choice, then, is the extent to which it relies on differences in tastes to “explain”

behavior when it can neither explain how tastes are formed nor predict their effects (1973, p. 380).

Another problem here, according to Michael and Becker (1973, pp. 380-81) is that the received theory is based on “money prices and money income,” which makes it useful for the market sector but much less so for non-market activities that involve “the allocation of scarce resources among competing ends.” They maintained that this focus on things that are measurable with money has “considerably limited” the appeal of economic theory among other social scientists because these other scientists' concerns are largely with behavior in the non-monetary realm. As such, they are not inclined to consider using economists' methods in their work. This is not surprising, argue Michael and Becker, given that a theory which relies on money prices is forced to explain “so much of observed behavior” by reference to “unexplained variations in tastes.” For Michael and Becker, their new theory was the key to providing a framework for a more broad-based analysis of social phenomena, one that they believed was “capable of explaining a wide range of important phenomena with which the traditional theory does not cope.”

The model of household choice was framed in a manner virtually identical to that in Becker's paper on the allocation of time. The consumer is assumed to maximize a utility function of the form,

$$U = U(Z_1, \dots, Z_m),$$

where the Z 's are the outcome of a household production function given by,

$$Z_i = f_i(x_i, t_i; E).^{12}$$

Here, E denotes the environmental variables, and they impact the amounts of x and t necessary to

12 Here we see a further link to the theory of production: The redefinition of the commodities that generate utility from basic goods, such as meat, vegetables, and drink, to goods, such as meals that the consumer produces himself by combining the basic goods purchased in the market with household time and environmental variables makes the demand for market goods a derived demand analogous to the derived demand for factor inputs (1973, p. 381).

produce a given commodity, Z_i . If households are able to affect the environment in which they live, they will substitute toward those things which enhance household productivity. For example, the households can “produce” higher education by attending school, better health by exercising, more favorable weather by moving to a better climate, or greater political stability by voting (1973, p. 393). As we shall see, this extends in straightforward fashion to altruism: people can produce greater welfare for others by undertaking actions that improve others' wellbeing.

Within this model, the first-order conditions for household utility maximization take the form,

$$\frac{MU_{Z_i}}{MU_{Z_j}} = \frac{MC_{Z_i}}{MC_{Z_j}}.$$

The ratio of marginal utilities derived from additional units of Z_i and Z_j will be equal to the marginal costs of producing these goods. With the incorporation of the household production function into the analysis of consumption, households respond to changes in commodities prices and real income through efforts to minimize costs of production and maximize utility (1973, p. 386). Within this, changes in the values of the environmental variables impact marginal cost by changing factor prices and input coefficients.

Michael and Becker point out that the household production function reflects an attempt to develop a theory of consumer choice that is consistent with Marshall's statement from their paper's epigraph: “Much that is of chief interest in the science of wants, is borrowed from the science of efforts and activities” (Michael and Becker 1973, p. 378). They contend that the household production function model with environmental variables built in is operationally more useful and is not merely an attempt to camouflage taste differences. Instead of attributing behavioral differences to differences in tastes it focuses on income and price effects, so that differences in behavior are the

result of differences in prices and incomes that result from differences in production processes. The result is that “some guidance about these [behavioral responses] can be obtained” from the new theory (1973, p. 391). It is, they say, “a powerful tool of analysis” (1973, p. 394) which relies on changes in prices and quantities rather than changes in tastes to explain behavior and so does not require “heroic ingenuity or ad hoc theorizing.” Becker (Treatise on the Family, p. 5) later calls this a “more complicated and more realistic version of the theory” of individual behavior than one finds in the standard utility theory approach.¹³

From environmental variables to other-regarding behavior

The process of incorporating other-regarding behavior into the household production function culminates in Becker's 1974 paper, “A Theory of Social Interactions,” Here, the “new theory of consumer behavior” becomes “the modern (and very old!) theory of household behavior,” (1974a, p. 1066), using the theory of basic wants, which he links to Bentham, Senior, and Marshall, along with the production function for producing the goods which satisfy those wants. Becker brings in social interactions by explicitly assuming that utility is a function not only of the environmental variables posited in his earlier formulations of household behavior but also of an additional (but distinct) environmental variable: the “characteristics of other persons that affect [the decision maker's] output of commodities” (1974a, p. 1066) within the household production function. Here, then, the decision problem is based on utility and production functions of the form,

$$U_i = U_i(Z_1, \dots, Z_m)$$

$$Z_j = f_j^i(x_j, t_j, E, R_j^l, \dots, R_j^r),$$

where the R_j are the characteristics of the other person. If the R_j are allowed to vary under the

¹³ Some may still object to the grounding of all of this in rational choice, but Michael and Becker argue that “it is difficult to distinguish operationally between irrational choices and poorly informed ones,” and this approach easily incorporates the costs of information acquisition and investments in it (1973, p. 392).

influence of the person doing the choosing, one can get at interactions between persons or between persons and other social entities (1974a, p. 1066). For example, if distinction is the goal, as Senior and Marshall suggest that it may be, the individual can “produce” distinction by doing things like giving to charities.

Following Becker, assume that individual i 's objective is to maximize the esteem in which he is held by others, so that the “good” in question, Z , is esteem and the utility function takes the form,

$$U_i = Z(x, R).$$

Suppose further that R is a function of i 's efforts to gain esteem, h , and of factors independent of i 's efforts, D_i . (D_i is i 's social environment.) Then R can be expressed as,

$$R = D_i + h.$$

The budget constraint faced by i is then given by,

$$p_x x + p_R h = I_i,$$

where I_i is money income, $p_R h$ is the amount spent on h , and p_R is the price of a unit of R . Since

$$h = R - D_i,$$

$$p_x x + p_R R = I_i + p_R D_i = S_i,$$

where S_i is social income, the sum of money income and the value to i of his social environment. The first-order conditions thus give,

$$\frac{(\partial U_i / \partial x_i)}{(\partial U_i / \partial R)} = \frac{p_x}{p_R},$$

which is equivalent to the marginal benefit = marginal cost condition from Michael and Becker (1973) shown above.

The social environment thus contributes to social income, and the more it does so, the more the individual's welfare is determined by “the attitudes and behavior of others rather than by his own income” (1974a, p. 1070), and the relative importance of the social environment can be empirically estimated using data on expenditures motivated by these social interactions (1974a, p. 1071). The fact that the individual can change the social environment through his or her actions or expenditures is key here in terms of modeling other-regarding behavior.

The first application developed by Becker is here is the allocation of resources within the family: i and j are assumed to be married and i 's utility depends on j 's welfare. Again, following Becker, assume that i 's utility is determined by the amount of x that i and j consume, so that

$$U_i = U_i(x_i, x_j) = U_i(x_i, R_i),$$

where x_j is a function of j 's income, I_j and any transfers that i makes to j . Then x_j can be written as,

$$x_j = \frac{(I_j + h_{ij})}{p_x} = R_i,$$

where h_{ij} denotes the contributions from i to j . The social income of i can thus be written (assuming no transaction costs of transferring resources to j) as,

$$S_i = I_i + \frac{(p_R I_j)}{p_x} = p_x x_i + p_R R_i.$$

If transaction costs are zero, $p_R = p_x$, since i is transferring x to j . This implies that i 's social income is given by

$$S_i = p_x x_i + p_x x_j = I_i + I_j.$$

The resulting first-order conditions are:

$$\frac{(\partial U_i / \partial x_i)}{(\partial U_i / \partial x_j)} = \frac{(\partial U_i / \partial x_i)}{(\partial U_i / \partial R_i)} = \frac{p_x}{p_R} = 1.$$

That is, the social income of i is equal to the combined incomes of i and j , and i receives equal marginal utility from his own consumption and from j 's consumption (1974a, pp. 1074-75). Given this, a change in the distribution of family income between i and j has no impact on i 's welfare (1974a, p. 1076).

The same basic result holds if we extend the analysis to the family as a whole: if the head of the household cares about all members of the family, the change in the distribution of income among members of the household will not affect the consumption or welfare of any of them so long as the head of the household continues to contribute to all household members.

This result has several implications. First, given that the head of household maximizes utility subject to a household budget constraint, anything that increases family income will increase the utility of the head, which means that he will “forfeit his own income if the incomes of other family members were increased even more” and conversely. Thus, he will fund a child's education or help set him up in a business if the net impact on family income is positive. In essence, the head “automatically internalizes the 'external' effects of his actions on other family members” (1974a, p. 1077). In fact, he fully internalizes these externalities if his objective is to maximize family income.¹⁴ As such, the head would take an action that impacted the consumption of a member of the family only when the value of the increase in consumption of the member who gains is greater than the value of the decrease in consumption to the member(s) whose consumption is diminished.

¹⁴ Becker notes the link to the Coase theorem here (1974a, p. 1077 n. 26), but there is a more significant link to the larger argument in “The Problem of Social Cost.” Coase showed that a single firm that controlled both the externality-generating activity and the activity upon which the externality imposed costs would operate efficiently. Becker's model accomplishes the same thing within the household through the agency of the head by virtue of his effort to model the household as, in some respects, a firm.

Second, when the head's utility increases, other members of the family are also better off, even if the increase in the head's utility comes at the expense of other members of the family, since the head will then undertake to transfer resources to other family members in order to more than offset their losses. For example, if the head's preference for smoking cigars negatively impacts his wife and children, he will undertake other acts whose benefit to the wife and children offset these costs to them. (1974a, p. 1078)

Third, the family utility function is identical with that of the head because the head's concern for all members integrates the utility functions of all household members in to “one consistent 'family' utility function” (1974a, p. 1079). This is not about dictatorial powers that reside in the head but about a head “who cares sufficiently about all other members to transfer resources voluntarily to them” (1974a, p. 1079).¹⁵ This gives rise to the “rotten kid theorem”: “*other members also are motivated to maximize family income and consumption, even if their welfare depends on their consumption alone*” (1974a, p. 1080): that is, even if k's utility was a function solely of his own consumption, he would undertake sacrifices that benefitted the rest of the family if he knew that the head would more than compensate him for these sacrifices. As a result, “sufficient 'love' by one member [the head] guarantees that all members act as if they loved other members as much as themselves” (1974a, p. 1080),¹⁶ and they will attempt to maximize both their own income and family income (1974a, p. 1091).

Fourth, this same theory can explain interactions across the generations. For example, increases in government debt to fund current government programs or projects function as taxes on future generations. But, says Becker, this will result in increases in bequests, which will offset both

¹⁵ It is also not about patriarchy; Becker is explicit about the possibility of the head being either male or female (1974a, p 1079).

¹⁶ Becker goes on to note that this economizes on the amount of love required in a family, since “sufficient 'love' by one member leads all other members by 'an invisible hand' to act as if they too loved everyone” (p. 1080)

the tax on future generations and the gain to the present generation from the goods that the tax on future generations was said to finance (1974a, p. 1077).¹⁷

Another implication of the head's concern for other family members is that it serves as a form of self-insurance for each member of the family. For example, if k 's income falls, i would attempt to offset this to some extent by transferring resources to k . This transfer to k would reduce i 's consumption but keep his utility constant (ex post—that is, allowing for the impact on social income of the reduction in income originally suffered by k). Each member of the household thus shares in k 's setback by consuming less as the head transfers more resources to k to help offset the income reduction (1974a, p. 1076).

From family to philanthropy

The issue of other-regarding behavior beyond the household, which includes philanthropy or charitable giving, represents a relatively simple extension of the model of interaction within the household and, Becker argues, provides a framework for analysis with much more robust implications than a standard utility theory model of charitable giving. The latter, he argues, would maximize a utility function of the form:

$$U_i = U_i(x_i, h),$$

where h is the amount of charitable giving. Such a model implies that i 's utility increases as h increases, but it tells us nothing about the relationship of h to i 's income or how an increase in the incomes of the recipients of charity would impact i 's charitable giving. The social interaction model, says Becker, avoids these problems and pushes to one side the issue of motivation for charitable giving, allowing for the possibility that it is motivated either by the desire to improve the welfare of

¹⁷ See also Becker's further discussion of bequests on pp. 1081-82.

others (the *Random House Dictionary* definition of charity cited here by Becker) or in order to receive social acclaim (p. 1083).

While charitable giving may be motivated by multiple factors, including reputation or the desire to improve the welfare of others, Becker assumes that charitable giving is motivated by the latter. Formalizing this involves a simple extension of the household model is to define the “family as being made up of i and all those who are the recipients of i 's charity. We then obtain a string of parallel results:

- losses to one member of this “family are offset by i 's reallocation of his charitable giving;
- all “members” try to maximize family consumption rather than just their own consumption;
- charity becomes a form of self-insurance—if one member suffers a loss, other members will increase giving to him—and this in effect substitutes for government transfer programs and private insurance;
- as i 's income increases, his charitable giving increase by a greater percentage than does the increase in the welfare of the recipients due to the magnitude of the relevant elasticities.

A further and what Becker labels “crucial” implication of the theory is that an increase in the income of recipients reduces charitable giving; given this, when the incomes of recipients and givers increase, giving will increase by less than if the incomes of givers alone increase (p. 1084). Of course, this implies that welfare payments reduce charitable giving.

Becker says that his theory of social interactions “uses the *simple tools* of economic theory to analyze interactions between the behavior of some persons and different characteristics of other persons” (p. 1090, emphasis added). In doing so, Becker was able to not only attempt to get at a set of issues deemed important by people like Bentham, Senior, and Marshall, but also to show the

broader applicability of the economic approach—that is, “to show how another relation considered important in the sociological and anthropological literature can be usefully analyzed when incorporated into the framework provide by economic theory” (p. 1091).

Conclusion

In what ways, then, is Becker's treatment of other-regarding behavior Marshallian? The most obvious question is how far Marshall would have thought it legitimate to extend the boundaries of economic analysis and whether Marshall would have considered it appropriate to build other-regarding behavior into the utility analysis that underpins his demand theory. Marshall offers no clear answer here. As he noted in the *Principles*,

There is a large and debatable ground in which economic considerations are of considerable but not dominant importance; and each economist may reasonably decide for himself how far he will extend his labours over that ground. He will be able to speak with less and less confidence the further he gets away from his central stronghold, and the more he concerns himself with the conditions of life and with the motives of action which cannot be brought to some extent at least within the grasp of scientific method. Whenever he occupies himself largely with conditions and motives, the manifestations of which are not reducible to any definite standard, he must forgo nearly all aid and support from the observations and the thought of others at home and abroad, in this and earlier generations; he must depend mainly on his own instincts and conjectures; he must speak with all the diffidence that belongs to an individual judgment. But if when straying far into less known and less knowable regions of social study he does his work carefully, and with a full consciousness of its limitations, he

will have done excellent service. (1920, p. 780)

Some would undoubtedly argue that Becker's analysis here represents a form of Marshall abuse, but there is a case to be made that Becker is doing nothing more than exploring the possibilities that Marshall alludes to in the above paragraph. If we are to grant, for the sake of argument, the possibility that the extension of economic analysis to other-regarding behavior is at least potentially in concert with Marshall's view of the scope of economics, the next question that arises is in what respects the analysis of other-regarding behavior, as evidenced in Becker's work, is Marshallian in nature.

One can point to at least two aspects of Becker's analysis that consciously draw on Marshall. First, Marshall had argued that human motivation has many facets and that regard for others was both among these and was an important motive for certain types of economic behavior, including that pertaining to the family. Yet, he saw economic theory, with its utility-maximizing approach, as ill-equipped to deal with these forms of behavior. That said, he was open to the prospect of the expansion of economics to account for a wider range of activity or phenomena than that discussed in the *Principles* or, indeed, in economics at large at the time of his writing.¹⁸

It would be easy to argue that Becker's general approach to economic analysis, though described by Becker himself as Marshallian in nature, really had nothing to do with Marshall. After all, Becker's rational choice theory and his emphasis on grounding economic analysis in the theory of individual behavior represent a significant departure from the theorizing evidenced in Marshall's *Principles*. But such a stance is too simplistic. Becker's early work on discrimination was very much in the mold of Chicago Marshallianism, rooted in demand theory, a loose model of utility maximization, market-oriented, and tackling an important social-economic problem. The issue

¹⁸ Note that Wicksteed (1910/1933) is an exception to this.

faced by Becker here and in much of his subsequent work was to devise a modeling strategy that could incorporate the characteristics of others within the Chicago Marshallian framework. The “taste for discrimination” accomplished exactly this—controversially, yes¹⁹—and in a manner that was measurable and generated empirically testable implications. The framework here did not rely on advances made on the theoretical front in the time since Marshall's writing; it was straight-forward utility theory of the sort found in Jevons and Marshall and a set of demand and supply price equations that modified willingness to pay or offer for sale to account for discriminatory tastes.

Becker's work on the allocation of time accomplished the same thing, but this time by utilizing features on the budget constraint and household production function fronts. By combining the standard consumer budget constraint and the constraint of labor economics, Becker was able to arrive at his equation for full income of the household. This, in turn, allowed him to explore behavior at a level beyond that of the individual, through which he could analyze labor market interactions between husband and wife. It was only a short step from here to the analysis of other types of household interactions, a process that was facilitated by the incorporation of environmental variables the levels of which are a function of the decision-maker's own actions. And it was just a further short step to make the “others” individuals outside of the household—any individuals whose wellbeing enters the utility function of the individual/household decision maker. In sum, the theoretical system employed by Becker was not terribly far removed from that used by Marshall to underpin his demand theory. What was innovative here was the mechanism for modeling the “taste” factors that lead individuals to consider others in making behavioral choices.

Second, all of Becker's was done with measurability and empirical implications as necessary outcomes of the analysis, something that, as the above discussion of Marshall makes clear, was

19 See Fontaine (2007).

central to Marshall's approach to theorizing. The concern for measurability and empirical testing is evidenced already in Becker's analysis of discrimination, and it is explicitly carried through subsequent work on the “new” approach to consumer behavior and its extensions. In the case of other-regarding behavior, the concept of social income plays a central role, being the sum of the individual's own income and the *monetary value* to him of the characteristics of others that are relevant for the problem at hand (Becker's “social environment”). The ability to monetize these aspects of behavior gives rise to straightforward empirical implications and facilitates the empirical testing that has been a hallmark of Chicago price theory since the mid-1940s.²⁰

Also interesting here is that Becker is picking up on some of the less obvious bits of Marshall—trying to model things which Marshall referred to but which are not obvious parts of his analytical system. That is, against the traditional economics imperialism story, the development of the model of social interactions suggests that Becker is not just Marshall + rational choice + imperialism. Support for this can be found in Becker's own comments in the mid-1970s, when, after stating pointedly that he had “come to the position that the economic approach is a comprehensive one that is applicable to all human behavior,” he goes on to say that,

For whatever it is worth in evaluating this conclusion, let me indicate that I did not arrive at it quickly. In college I was attracted by the problems studied by sociologists and by the analytical techniques used by economists. These interests began to merge in my doctoral study, which used economic analysis to understand racial discrimination ... Subsequently, I applied the economic approach to fertility, education, the uses of time, crime, marriage, social interactions, and other “sociological,” “legal,” and “political” problems. Only after long

20 A related issue here is that of “as if” theorizing vs. theories that purport to describe human behavior. In a 1974 commentary on this new economics of the family, Becker says that “economic theory is very relevant in *understanding* and predicting significant aspects of human behavior” (1974b, p. 317). “Understanding” would seem to imply description rather than “as if” theorizing.

reflection on this work and the rapidly growing body of related work by others did I conclude that the economic approach was applicable to all human behavior” (1976b, p. 8).

This would seem to take us well beyond Marshall, but the path to this point has a significant Marshallian heritage.

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