

# The Paradox of Choice: With an Application to Free Will Versus Predestination

By Douglas W. Allen\*

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## ABSTRACT

This note is intended to provide a provocative application for the teaching of consumer theory. The note is in two parts. The first points out the paradox that neoclassical models of choice are deterministic, and therefore, grind against the popular notion of freewill. The second applies this concept to the age old theological debate of predestination. The note ends with a discussion of accountability and the importance of the distinction between the “ability” and “willingness” to do something.

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\* Simon Fraser University.

## 1. The Paradox of Choice

Virtually every microeconomic theory course begins with the theory of consumer choice. The most fundamental aspect of this model is that choices are motivated by maximization — everything is done because it makes the consumer better off. Choices, however, depend on more than motivation. Choices, are *constrained* by various things, some of which are observable like: income, prices, institutions, laws, mores, and customs; and others which are unobservable: summarized as our tastes or preferences.<sup>1</sup> Because tastes are unobservable, economists make assumptions over the nature of preferences in order to generate statements that are potentially testable. The actual assumptions are not important for the purposes of this note, but the result of these constraints and preferences are shown in the standard utility graph in panel (a) of Figure 1, where the only choice is between the amount of apples and oranges a consumer is to have.

The linear budget constraint and a well defined utility function in panel (a) graphically represents a problem famous to everyone who has ever taken an introductory economics class. In the language of Economics 101, we say that the consumer “chooses” bundle ‘b’ since this bundle maximized his utility subject to the constraint. In other words, the bundle ‘b’ allowed for a utility level of 10, while any other *possible* bundle provides less utility.

In the classroom it is common at this point to move on to changes in prices and income to generate comparative static results. However, it may be useful to pause a moment and consider the model more deeply and ask: did the consumer really

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<sup>1</sup> Silberberg makes this distinction:

We assert that for a wide range of problems, individual choice can be conceived to be determined by the interaction of two distinct classifications of phenomena:

1) Tastes, or preferences; 2) Opportunities, or constraints.

[p. 4, 1990]

choose anything? Upon reflection, we see that given all of the assumptions (maximization, utility, budget constraint) the solution is determined quite mechanically — there literally is no “choice” in the sense of “free choice”. Maximization problems such as these are easy to program in computer programs like *Maple*. In the same way the program has no choice but to reach its optimum, so to the consumer in a neoclassical model.<sup>2</sup> Although consumer theory is often called the “theory of choice”, a better title might be the theory of slavery! Given the constraints and preferences, the consumer really had *no choice* but to consume at point ‘b’ — he is a slave to his preferences and constraints. Given these exogenous preferences, the outcome ‘b’ is predetermined — despite the possible perception by the consumer that he exercised a choice between apples and oranges. This is the paradox of choice: what is the meaning of freewill, when choice is determined by preferences, constraints, and motivation?

## 2. An Application

This paradox of choice is no idle contemplation since it strikes at the very core of how we think about human behavior: are we machines or accountable humans? Should Hitler be held accountable for WWII atrocities, or, as the politically correct dictionary puts it, “did he just happen to kill six million Jews”? How do we reconcile the commonplace notion of accountability found in the law and everyday customs, with the paradox of choice?

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<sup>2</sup> Boland puts the dilemma this way:

No matter what decisions individuals made in the process of reaching an equilibrium, there might be only one set of determined values for the set of exogenous givens. ... Does this mean that the givens are the ‘causes’ of the determined values and thus that our explanation of prices denies ‘freewill’? Unfortunately, it is difficult to see how the answer is not affirmative whenever the givens are considered unalterable by any individual involved.

[p.13, 1987]

Simply raising the paradox of choice in the classroom is sufficient to raise the level of discourse about preferences and get students thinking about the fundamental economic approach to problems. However, a number of applications arise that demonstrate the importance of appreciating the issue. The remainder of this note applies the paradox of choice to the oldest of these applications: does man determine his final resting place by freely choosing between good and evil, or does God determine and choose beforehand those who will go to Heaven, and therefore, those who will go to Hell? If God chooses, and as individuals we act out the play set before us, how can we be held responsible for our actions? Other applications of the paradox abound and can be adapted to the classroom, but students appreciate the historical importance of this famous theological question. Furthermore, the detailed description of preferences found in the Bible make it easy to draw the relevant graphs.<sup>3</sup>

The logical structure of the application is trivial. There are basic economic principles: maximization, substitution, diminishing marginal values, and the like, that are either true or false. For the sake of argument, assume they are true. Likewise there is the Bible, and for the sake of argument, assume that everything in it is also true. Given two sets of true statements, it must be the case that they cannot be inconsistent with one another. Under these assumptions, we can use the paradox of choice to aid the freewill/predestination debate.

### 2.1. The Natural Man

Regarding the decision to accept God or reject Him, the Bible tells us what our preferences and observable constraints are. In terms of the budget constraint we are told that salvation is a gift of God, it is free, and therefore we can have all of it or nothing — with nothing coming out of our pocket either way. The alternative, a life of sin, is not free. Sin requires time, effort, and often money. For convenience, define “sin” as a composite good with a composite price “ $P_s$ ”. Furthermore, we are

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<sup>3</sup> By “Bible” I refer to both the Old and New Testament.

told that the choice is mutually exclusive — you cannot choose both.<sup>4</sup> This leads to the discontinuous budget constraint of panel (b) in Figure 1 — the choice for God is an all-or-nothing one. Depending on the individual's preferences, the choice is either point 'a' (salvation) or anywhere along the vertical axis to point  $M/P_s$ , where the individual has as much sin as he can afford.

The Bible also describes the preferences of two types of people: the natural man, and the righteous man. We are told of our natural state that “There is none righteous, not even one ... There is none who seeks for God ... There is none who does good. There is not even one” [Romans 3:10-12]. Later we read “the mind set on the flesh is hostile toward God; for it does not subject itself to the law of God, for it is not even able to do so.” [Romans 8:7]. Hence in our natural state we not only prefer sin, we *only* prefer sin.<sup>5</sup> The pursuit or acceptance of God provides no utility at all for the natural man. These preferences, as drawn in panel (c), are completely horizontal, and a maximizing sinner, in an effort to maximize his level of well being chooses the largest amount of sin that he can afford, point 'b' in panel (c).

Note well, given the constraints and the principle of maximization, there is no “choice”, no “freedom of will” to exercise in the layman's sense of the word. The natural man has a certain amount of money ( $M$ ), faces certain prices ( $P_s$ ), has a desire to only sin, and the result is outcome 'b'. This provides the economic meaning to the Biblical phrase “slave to sin” (e.g. Romans 6:6). The natural man, can choose between different types of sin, but as to the choice for God, he just doesn't have the taste for it.

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<sup>4</sup> “He who is not with me is against me; and he who does not gather with Me scatters” Mt. 12:30. This is not to say that believers cannot sin, rather it means that *ex ante* a person must choose one type of life or the other.

<sup>5</sup> Sin in the sense of “not according to God's purpose”. Even “good” works by human standards are considered sin in the eyes of God when they are done out of self-interest. “All our righteous deeds are like a filthy garment.” (Isaiah 64:6).

## 2.2. The Righteous Man

What would be required in order for a natural man “to choose” God over sin? Quite obviously his preferences must be altered.<sup>6</sup> The Bible says that “No one can come to Me, unless the Father who sent Me draws him” [John 6:44], and that “as many as received Him, to them He gave the right to become children of God ... who were born not of blood, nor of the will of the flesh, nor of the will of man, *but of God*” [John 1: 12-13, emphasis added]. Further we read we are to “work out your salvation with fear and trembling; for it is God who is at work in you, both to will and to work for His good pleasure” [Philippians 2:12-13]. It must be the case, since in our natural state we are slaves to panel (c), that our preferences are converted (an economic meaning to “born again”) to those in panel (d). Again, acting out of greed, the righteous man now chooses God because it maximizes his well being.<sup>7</sup> In the case of the natural man, he never rejects God but “wants” salvation; that is, no one chooses sin but at the same time has a preference for God. Likewise, in the case of the righteous man, he never chooses God “kicking and screaming” because his preferences were for sin. The choice is made voluntarily, and with a physical act of receiving that reflects the new reality of the new preferences.

As in the case of the natural man, given the constraint and new preferences, the meaning to the statement “I now choose God” is seen in a different light, since individuals are always slaves to preferences. Or, as the Bible puts it, “you are slaves of the one whom you obey, either of sin ... or of obedience ... ” [Romans 6:16].

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<sup>6</sup> One might argue that this is indeed the case, but that the natural man alters his own preferences. Yet this implies a “preference” for a new set of preferences, and Romans 3:10 claims that no one has this desire. At issue is the terminal set of preferences. Just as the will is the manifestation of preferences and constraints, if a choice of choice sets is possible, we need to ask where this more fundamental set comes from, and presumably it must obey what the Bible tells us of our preferences as well.

<sup>7</sup> Some may object to the use of the terms “selfish” and “greedy” to describe the motivations of the righteous man. However, here it simply means maximizing utility. It has no negative moral connotation in its economic meaning.

### 2.3. Accountability

Given the above argument, it may appear that man is not accountable for his actions. A man only chooses to sin because he wants to, and he wants to because he was i) created that way, and ii) God has not altered his preferences. Yet the Bible clearly teaches that everyone will be held accountable for their actions.<sup>8</sup> But once again, economic ideas are useful in sorting matters.

Here it is useful to distinguish between willingness and ability. When I say “I am unable to purchase the Empire State Building”, I am correct — I simply don’t have the resources to do so. However, when I say “I can’t afford a new tennis racquet” what I really mean is that I am unwilling to make the sacrifices in the other areas of my life to purchase the racquet. I can literally afford a new tennis racquet. In panel (a) the consumer is literally *able* to purchase any bundle on or below the constraint. He is unable to purchase above the constraint. He is willing to purchase only point ‘b’.

In panel (c) the natural man is willing to consume at point ‘b’, but he is still able to accept God and move to point ‘a’. God does not ask for something that is physically impossible. If he did, man would have a claim that he is not accountable. Accountability comes from being able but unwilling to do something.

The distinction between ability and willingness is what separates humans from computer programs and other forms of artificial intelligence. A computer algorithm takes the same form as the model of choice above. Some type of function is optimized subject to a set of constraints. For a computer program there is also no choice. It has a task and it accomplishes it. However, for a computer program there is no distinction between what it is able and willing to do — they are the same thing. A computer program set to optimize a function, is no more able to find a sub-optimal

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<sup>8</sup> “[O]n the day when, according to my gospel, God will judge the secrets of men through Christ Jesus” Rom 2:16. “For we know Him who said, ‘Vengeance is Mine, I will repay.’ And again, ‘The Lord will judge His people.’ It is a terrifying thing to fall into the hands of the living God.” Heb. 10: 30-31.

solution than we are able to jump to the moon. In this context it is verging on silly to suggest that a program is “willing” to do anything, and just as silly to suggest that a computer program could be held accountable.

### **3. Conclusion**

In his poem “The Road Not Taken” Robert Frost concludes with the following: “I shall be telling this with a sigh/ Somewhere ages and ages hence:/ Two roads diverged in a wood, and I —/ I took the one less traveled by,/ And that has made all the difference.” Frost didn’t have to take the road less traveled, but given his preferences and the appearance of each road, he took the optimal path. There was no freewill involved: there was choice, just not free choice.

Likewise with the application of this note. God does not violate the free moral agency of man, because there is no “freedom” of choice. To be free of one set of preferences is simply to be slaves of another. Given our preferences and our maximizing nature, we are predestined one way or the other. This is so, despite the fact that in selecting fruit or deciding one way or the other for God, our actions produce the appearance of free choice.

### **References**

- Boland, L. *Methodology for a New Microeconomics: The Critical Foundations* (Allen and Unwin, London: 1987).
- Silberberg, E. *The Structure of Economics: A Mathematical Analysis* (New York, McGraw-Hill, 1990).



Figure 1

