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# Do We Do Everything to Maximize Our Own Utility?

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***ABSTRACT :*** *This paper discusses whether or not we as humans are naturally wired to behave in ways that maximize our own utility. Utilitarianism has long been defined by philosophers and classical economists alike, with the utility maximization rule stating that the last dollar spent on each product yields the same amount of extra marginal utility. In this paper, human actors are shown not to maximize their own utility, especially within the rising field of behavioral economics; in turn, the concept of utility maximization is proven to not be an irrefutable law but rather a mere theoretical framework.*

***KEYWORDS:*** *maximization, marginal utility, economics, budget constraint*

## I. INTRODUCTION

Utility maximization is a key element in many theoretical approaches to explaining human behavior in classical economics. Developed from the utilitarian philosophers Jeremy Bentham and John Stuart Mill and incorporated by early economist Alfred Marshall, the utility maximization rule states that "consumers decide to allocate their money incomes so that the last dollar spent on each product yields the same amount of extra marginal utility" (Fullerton College). In other words, an assumption in classical economics is that the price consumers are willing to pay for a good is reflective of the utility they receive from the good. As such, a consumer will achieve utility maximization by consuming a good to the point where marginal utility is greater than or equal to the price (Pettinger). However, the core theory of utility maximization does not specify the meaning of the utility function (Simon, 1987). Without a concrete definition for utility, the theory's relevance does not uphold in real situations of human behavior, especially with the rise of behavioral economics. In this essay, I will demonstrate that we as human actors do not do everything to maximize our own utility – in fact, we often make choices that are inconsistent with any utility function and stray away from the principles of classical economics.

## II. CARDINAL AND ORDINAL UTILITY

The concepts of cardinal and ordinal utility further extends the argument that because utility is not clearly defined, humans cannot adhere to the utility maximization rule when functioning on a day-to-day basis. When utility was first introduced as a concept in the early 1870s, logicians William Stanley Jevons, Carl Menger and Leon Walras believed that utility could be measured cardinally. "Cardinal utility" means that a specific value or util could be attached to the consumption of a quantity of good – the way one's height and weight could be measured (Salvatore, 2009). In contrast, the concept of ordinal utility, later developed by Pareto in 1906, states that it is difficult to give exact values of utility. Instead, it is significant only to ask which option is better, but not by how much. Ordinal utility ranks the utility received from consuming goods and takes into account an individual's preferences; for example, an individual who consumes a good like an apple gains utility – or satisfaction – but it cannot be measured using metrics like its sugar level or calorie count (Wicksteed & Pareto, 1906). Rather, one can order an apple's utility by preference – e.g. one prefers apples to oranges. Thus, the concept of ordinal utility is a limitation of the utility maximization principle in classical economics. Under ordinal utility, we as humans cannot make interpersonal comparisons of utility. When we perform utility maximization, do we maximize according to utility values that are objective or individual? Say there exists $1,000 to hand out – does a rich person value that $1,000 more or less than a poorer person? While some could argue that the poorer person presumably has unmet needs and therefore would be more satisfied or achieve higher cardinal utility with the dollar, if viewed from the lens of ordinal utility, the answer depends on that individual's preferences. As such, the poorer individual may prefer to live a simplistic life and place a lower

value, or ordinal utility, on having that $1,000, compared to a rich person who values money. Thus, depending on the perspective and the conflicting definitions of utility, in decision-making, humans may not always be able to achieve utility maximization in one way or another.

## III. THE BUDGET CONSTRAINT

The idea of the budget constraint is that a consumer's optimal consumption choices are subject to whatever his or her spending limits are. Items in the modern day have prices, and consumers only have so much money to allocate towards a good or resource. Depending on our desired definition of utility, the budget constraint could prevent us from achieving full utility maximization when it comes to restrictions on spending. Take the below total utility graph for example (Economics Concepts). Imagine it represents an individual, named X; according to the graph, X achieves total maximum utility when he consumes 14 apples per day. However, suppose X only has $10 in his budget for apples, and each apple costs $2 to purchase. To achieve the maximum total utility in this case, X would have to exceed his budget – this constraint on his spending makes it so that he does not achieve utility maximization in the cardinal sense. Additionally, budget constraints are not always about money; other examples include a fixed number of hours in a day to perform certain activities, or a limited amount of space in one's home to purchase more goods. The budget constraint could confound the definition of utility maximization, as it is not merely about achieving one's greatest total utility, but rather by doing so within one's confines. At times, the point of satiety on the total utility graph does not represent what one would truly do in that given scenario.

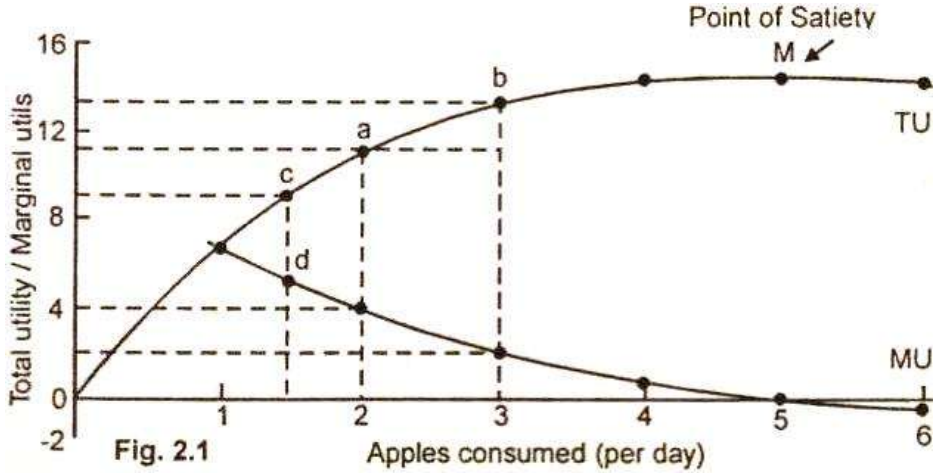


Fig. 2.1

## IV. BEHAVIORAL ECONOMICS AND REAL-WORLD SITUATIONS

With the rise of behavioral economics as a field and new utility measures that follow, it further begs the question of whether the traditional assumptions that utility is always maximized can be upheld. An example of a new utility measure that confounds one's utility maximization in the classical sense is social utility seen in game theory – where players do not only always act out of self-interest, but also demonstrate concerns about fairness and other players (Camerer, 1997). In a 1982 study on the Ultimatum Game, one player (the allocator) was given a sum of money and told to split it between himself and an anonymous player (the recipient). The recipient could either reject or accept the proposal, in which case both players received nothing. From a traditional point of view, the allocator should only offer a token amount, and the recipient should accept any offer given. Results from the study, however, demonstrated that many allocators went as far as offering a 50/50 split, and many recipients also declined their offers when faced with an unfair split (Carnevale & Thorisdottir, 2005). Thus, this is a prime example of how real human behavior is inconsistent with utility maximization and theories of rational behavior in neoclassical economic models.

As economic actors are assumed to be self-interested and "rational," individuals are faced with a slew of other factors that could affect their ability to seek utility maximizing behaviors. One factor is compulsive behavior – resulting in one purchasing goods which are later regretted. According to a study, about 6% of Americans were found to be "compulsive shoppers," who seek instant gratification and later face the troublesome consequences of running up debt (Goodwin, 2019).

Additionally, the classical and neoclassical paradigms of utility maximization have been found to be unable to accommodate morality-governed behavior as well. An optimal consumption plan, which could be compatible with a certain utility maximization model, might also be against a rule which prohibits one from taking that action (for example, let's say that consuming an optimal amount of calories via definition of cardinal utility conflicts with one's religion inhibiting oneself from consuming meat) (Isaac, 1997). Essentially, an empirical investigation of the methods and standards we use for making decisions in the real world deems models of traditional utility maximization difficult to accommodate all of the facets of human behavior.

## V. CONCLUSION

By taking into account traditional theories operating on the basis of utility's quantifiable nature, as well as more modern definitions of utility, I argue that this elusive concept becomes evidently difficult to maximize in a way that satisfies all existing interpretations. At different times, people might behave adhering to one definition, whilst failing to satisfy another. Thus, we need not take the concept of utility maximization as an irrefutable law explaining and predicting human behavior, but rather as a theoretical framework to assist in our collective understanding.

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