# IS THE STABLE PREFERENCE-BASED UTILITY MAXIMIZATION A GOOD ACCOUNT OF RATIONALITY?

By

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## Introduction

### Motivation Behind the Project

It is commonplace for economists to use the model of utility maximization to describe consumer behaviors. It is a big part of economic modeling, included in most undergraduate economics courses. The model is constructed by making a certain set of assumptions about preferences, assigning ordinal utility to the preferences with such assumptions, and thereby modeling agents mathematically as maximizing utility. I call the constructed model a stable preference-based utility maximization.

Economists often call the agents described under stable preference-based utility maximization rational because they take the assumptions about preferences to be assumptions of rationality. Calling the model, a model of rational agents, leads to implicit normative claims in economics about what a good society is. For example, it allows them to claim that the maximization of welfare, calculable using the individual utility maximization model, captures what is important to do as a society. In other words, by assuming that agents are rational, they could insist that we have reasons to support markets if they help rational agents. This makes economics at least partially normative, despite the claimed descriptive nature of the field.

Unfortunately, we do not see much literature about this exact topic. Surely, many have challenged the rationality assumption in one way or another. Behavioral economists alike claim that we do not always act as the model predicts because we are not "perfectly rational" as the model suggests (e.g., Kahneman 2003). Authors like Sen (1990) point out that it seems wrong to say that one is rational only when one is pursuing their self-interest "to the exclusion of everything else" (15). He is also concerned about a corollary of this way of thinking – a view that rights only have instrumental value in serving whatever transactions humans have for the pursuit of self-interest (65-70). I agree with him, but this is not the entire picture.

Overall, I find these discussions inadequate since they do not tackle the problem head-on. Aside from Simon's initial challenge to the rationality assumption through a proposal of satisficing as bounded rationality (e.g., 1978, 1986), behavioral economists have focused on investigating how we act irrationally, taking the economic account of "rationality" for granted. Although authors like Hausman and McPherson (2006) or Sen come closer to a philosophical challenge to this account, they do not address the ultimate question: whether stable preference-based utility maximization is a good account of rationality. This is the question I take up.

Intended Contribution to the Literature

This paper focuses on stable preference-based utility maximization without tying it to other economic concepts like welfare. Further, this paper will draw from action theory literature in philosophy, an area rarely discussed together with economics, despite its contribution to our understanding of rationality. One may think that only philosophers are concerned with the precise use of the term rationality. However, as stated earlier, stable preference-based utility maximization has implications for the normativity of economic thinking and related economic policies. If this is right, then this investigation has some value in clarifying how we should think about rationality beyond philosophy classrooms.

Clarifications

Before jumping into my main project, I will clarify a few things. Firstly, the scope of this paper is over what philosophers call practical rationality, as opposed to theoretical or epistemic rationality. Roughly, the former is over what is rational to do, and the latter is over what is rational to believe. The interaction between the two is undoubtedly present in our day-to-day life, and how to think of such interaction or the similarity between the two is still widely debated. However, for the sake of simplicity, I will focus on the practical and assume that all agents

discussed in this paper are not making grave mistakes on the side of the theoretical. This should not be controversial as economic models typically discuss actions/ choices, not beliefs.

Secondly, my project does not aim to delegitimize stable preference-based utility maximization as an economic model. Economic models could be useful in making predictions about an aggregate or average human behavior, and how accurate the prediction is, is a separate empirical question. My preoccupation is rather over whether the set of assumptions about preferences captures "rationality."

Thirdly, I will only address agents as human individuals in this paper. Even though economists also talk about firms or other groups, the discussion of collective or group agency requires a further philosophical discussion over the metaphysics of their agential nature. Such an investigation is beyond my intended purpose, and I will focus on individuals as the first step.

General Methodology and Argument Overview

The methodology of this paper is philosophical; a thesis is defended through logical arguments. My thesis is that stable preference-based utility maximization is not a good account of practical rationality, and a philosophical alternative is better. I structured the rest of the paper into four sections to defend the thesis. The first outlines the two accounts of practical rationality I will consider later. One account is the economic, understood as stable preference-based utility maximization. The other is what I call a philosophical account, extracted by myself from philosophical literature as a roughly agreed view on rationality despite disagreements beyond this view. The second section takes up a negative argument against the economic account, consisting of three separate sub-arguments. The third section will lay out how a philosophical account might overcome the economic account's difficulties and be a potentially better one. The last section will briefly consider potential counterarguments. I also note, for the audience not in philosophy, that the use of first personal pronouns are regarded as acceptable in philosophy.

**Two Accounts of Rationality — the Economic and the Philosophical from the Relevant Literature**

This section provides an overview of the economic account and philosophical account of rationality in question. The economic one is the stable preference-based utility maximization, briefly discussed in the introduction. The philosophical account is drawn mainly from the action theory literature in philosophy. In discussing both accounts, I will also give a brief historical overview of their origins to illuminate why two different accounts of rationality emerged in the Western history of thought.

The Economic Account

The following historical overview shows a change in ideas of practical rationality from ancient to modern times; the scope of practical rationality became limited over time with an increasingly popular idea of psychological or ethical egoism – that we do or should act for self-interests and not for other goals.

Early ideas of economics are already in Plato (e.g., Republic).[1] Although the idea of rationality was only in its infancy, its importance concerning virtues is emphasized throughout his ethical/ political work. Aristotle then starts emphasizing prudence or *phronesis*, akin to contemporary practical rationality, an ability to discern good and determine ways to get good (e.g., *Nicomachean Ethics* ). At this point, practical rationality encompassed the "ends" or reasons beyond self-interests.

To see where the economic thoughts start diverging from the philosophical, we need to fast forward to around the 16th century, when economics was just about to be separated from philosophy and politics. Around this time, human beings as discrete individuals got emphasized, and the "utilitarian" thought was in initiation. Even outside "economics," Hobbes' *Leviathan*

[1] For example, he laid out the benefits of what we nowadays call "specialization" based on ability.

(1651), for example, diverges from the earlier ancient thought as he thought of mankind as discrete individuals who are ultimately striving for power (Chapter XI).[2]

Mill further developed Bentham's account of humans as utility-maximizing agents and connected it to rationality.[3] In thinking about economics, he simplified the end-seeking behavior of human beings as coming "solely from the desire of wealth". He thought that economics should consider individuals without presupposing "as a necessary condition, the existence of other individuals" and only with "all the laws of the mere intellect, and those of the purely self-regarding desires" (Mill 2017, Essay V (no page number available)). Notably, Mill did not necessarily equate his conception of the economic man as the totality of (practical) rationality. He just distinguished the "mere intellect" for self-regarding desires from those including others and attributed the former to the object of economics and the latter to ethics.

In a similar vein, Adam Smith, of course, is famous for arguing how a public good could be achieved through transactions between self-interested individuals. However, just like Mill, it seems like he did not think of it as exhaustive of the ends humans can rationally pursue. He merely observed that in specific settings of economic transactions, humans could do the public good by pursuing self-interests. Hunt and Lautzenheiser (2015) note that "Smith assumed that selfish, acquisitive motives characterized all economic behavior (despite his admission that in noneconomic behavior, people had other motives, including those considered altruistic)" (57). Sen (1990) presses on this point by arguing that while Smith thought that we can often have mutually advantageous trade out of self-love alone, he neither thought of it as the only virtue of a (rational) person nor the sole source of goodness in economic or noneconomic activities (23-24).

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[2] Also see Chapter XIII where he says "men have no pleasure…in keeping company where there is no power able to overawe them all".

[3] The details of differences between Bentham and Mill, such as the well-known distinction between the higher and lower pleasure in Mill, are irrelevant to this paper. See Hunt and Lautzenheiser (2015) for discussions on Bentham.

From this overview, we can see that economics slowly affiliated itself with thinking about rationality as mere self-interested utility maximization by simplifying human motivations. It was a change of the concept of rationality since Aristotle, dropping the discernment of good "ends" from the concept and focusing on the faculty which figures out how to pursue the self-interested "ends" humans supposedly possess by nature. Authors like Mill and Smith try to reconcile this with their moral ideal. However, economics has diverged itself from these other virtues while retaining the elements of the modified conception of rationality.

More recent and formal definitions of rationality as utility maximization come from decision theory. Neumann and Morgenstern (1944) formalized the notion by specifying the axioms the agents must fulfill to be modeled as utility-maximizing (27-8). "[I]t made formal, axiomatic analysis fashionable in economics and psychology, and it invited laboratory experimentation to test the descriptive validity of the axioms" (McFadden 1999, 74).[4] This has strengthened the move from experienced utility to decision utility that Kahneman and Thaler (2006) note (221-2). Considering this axiomatization, the assumption about preferences from here on can be interpreted as the assumption that preferences fulfill the set of specified axioms.

Reflecting developments by researchers like Neumann and Morgenstern, economists now think about rational agents roughly as follows. Hausman and McPherson state that under utility maximization, preferences need to be complete (either one is indifferent about preferences of A and B or prefers one over the other) and transitive (if one prefers A over B and B over C, then one needs to prefer A over C) (46-7). A typical textbook of economics also adds to this a monotonicity ("more of a good thing [or a preferred thing] is better than less of it") and

[4] This explicitly changed experienced utility maximization to expected utility maximization that takes into account probability. Another move was to drop utility's "self-interested" nature and consider utility a pure representation of preferences.

irreflexivity ("given two identical bundles, you should never prefer one to the other") (Vohra 2020, chapter 5)[5]. To fulfill these conditions, we must also have stable preferences[6], and they are also generally taken to be revealed in choices, as choices are something economists can observe.

Further, the current economists typically deal with utility as representing solely the order of preferences (ordinal) (Hausman and McPherson 2006, 48) and not the magnitude of preferences (cardinal). Cardinal utility is still used in decision theory and game theoretical contexts (53), but I will omit the explanation since it is not my focus. In essence, the models assign utilities with whatever magnitudes to ordered preferences, such that the utilities assigned represent the preferences by higher utility, indicating that the object is more preferred.

Reflecting on this, I will consider the following formal account as economic rationality.

> **Economic Account (stable preference-based utility maximization)**:
> An agent is rational in so far as they could be treated as maximizing their utility based on their preferences, which are revealed in choices, fulfilling all of the following conditions: stability, completeness, transitivity, monotonicity, and irreflexivity.

It is true, of course, that the above definition of "rationality" is not the sole definition proposed in economics, with another notable candidate being the notion of bounded rationality famously started with Simon's satisficing. However, there is an ambiguity around the use of the term bounded rationality among behavioral economists; behavioral economists seem to have interpreted the term bounded rationality in two ways.

The first way is the one used by Simon. He used the term bounded rationality to talk about human rationality under the constraints of reality. His models represent rational choices.[7]

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[5] Hausman and McPherson (2006) also add that the original theory claimed that continuity is another condition for representing preferences in utility (48), but it is not mentioned in the textbook. For the sake of simplicity, I will take the economic textbook as representing a typical view of rationality.

[6] i.e., not changing, at least for the time the economic model covers.

[7] Not only does he think that utility maximization lacks an empirical grounding (Simon 1986), but also he thinks that we make normatively "good" or rational decisions sometimes without maximizing, as represented especially in management sciences. He calls his view of rationality, including the settlement of satisfactory options in the

On the other hand, other researchers use the term bounded rationality more broadly to talk about any limitations in choices and how they deviate from the classical economic models. Kahneman (2003) and Conlisk (1996) both present empirical evidence to think of human rationality as "bounded" and argue for the benefit of thinking about it that way in economic situations.[8]

Those two state different things, as one states that we can be rational without utility maximizing, while the other states that we are not rational because we deviate from utility maximization. The most plausible interpretation of this is that utility maximization is not all there is to human rationality. In some cases, we are rational without maximizing utility, just like Simon identifies, while in other cases, we are not utility maximizing and indeed being irrational. It is crucial, then, for any account of rationality to explain this difference. I will consider whether the philosophical account manages this in a later section (Argument 2).

The Philosophical Account

Not surprisingly, the current philosophical account of practical rationality can also be traced back to Aristotle. However, the current literature on action theory reflects more of Aristotle's original account rather than the account modified by modern philosophers who focused on the egoistic nature of human ends. This is due to the influence of two philosophers in the 20th century who revived a philosophical investigation of human actions. These two are Anscombe and Davidson, and both drew mainly from the original Aristotelian thought.

Anscombe's seminal work, *Intention* (1957), and Davidson's influential paper, "Actions, reasons, and Causes" (1963), laid the foundation for contemporary action theory. Although the

complex world, satisficing. He also believes that we often rationally settle on subgoals without any overarching goal (Simon 1978).

[8] Rabin (2004) also points out that what he calls "second-wave behavioral economics" improves economic models by adding parameters and assumptions or changing them (658). Kahneman and Tversky added a slight modification to the classical utility maximization model based on their prospect theory by using most of the model but adjusting it so that the model weighs losses more than gains (Kersting and Obst 2016).

two authors seem to disagree on several points, particularly on the importance of agential non-observational knowledge in intentional actions (which Anscombe affirms) and the role of reasons as causes behind agent's actions (which Davidson affirms), there are several agreements we could draw from. Firstly, they both emphasize that we need to pay attention to the specific description of an action and the reasons behind actions in thinking about intentional actions. Secondly, they both talk about reasons as rationalizers behind intentional actions, at least when made intelligible. These reasons need to have some desirability characteristics as broadly understood. Thirdly, they both drew upon Aristotle in thinking that the connection between the specific action (means) and the rationalizing reason (end) can be connected via a practical syllogism or valid means-end reasoning.

Since the time of Anscombe and Davidson, action theory has flourished and is still attracting many new thinkers. The thoughts over practical rationality, the primary concern of this paper, have also developed in various ways. There are many points of disagreement (which I will discuss later briefly for those unfamiliar with this literature in philosophy). However, they seem to agree on the following general account regarding Anscombe and Davidson.

**Philosophical Account:**

An agent is rational when they take (or do not) an action supported as the best, in light of all relevant reasons.[9]

When the above is true, the reasons are called normative, as opposed to merely motivational reasons that could motivate an agent to do an action despite not being the best. The normative reasons are also taken to justify the actions, where appropriate, in a sense akin to the "rationalization" Davidson developed. Further, many think the "relevant reasons" involve both

[9] I must admit that there are difficult cases when one is uncertain about whether something is a good normative reason. The problem lies at the intersection of theoretical and practical rationality, and I will not discuss it here for simplicity's sake.

subjective and objective elements. However, theorists disagree over to what extent it needs to be subjective or how exactly objective reasons can enter an agent's reasoning.[10]

Another point of disagreement seems to be over how strict the requirements over the exact means-end or reason-action relationship need to be (instrumental rationality), as well as how consistent one needs to be in their pursuit. Philosophers, of course, do admit that sometimes it is practically impossible to perform for two conflicting reasons at the same time, and we are compelled to choose. However, outside of that, there are disagreements about the requirement of instrumental rationality and consistency.[11] In light of this, the "supported the best" above should be read as excluding the pursuit of obvious conflicting reasons as a part of rationality, but it is open to interpretation how many more constraints to bring into in consideration of "the best" course of action/ inaction. Lastly, there also remains a disagreement about how rationality relates to intention, agency, autonomy, and other important philosophical topics.[12]

These are not exhaustive of all disagreements, and it is not my intention here to develop a survey of all the accounts of practical rationality that have so far been proposed. Rather, I meant to shed light on the things philosophers seem to at least agree with, despite the continuing

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[10] For example, Smith (1995) believes that reasons are generally subjective and rooted in desires, but agents can get to objective or shared reasons by examining what an ideally rational agent would desire in the specific circumstance; Korsgaard (1996; 2009) insists that the agent's self-identification with their rationality and humanity itself supports the objective grounding for fundamental moral laws, and Nagel (1970) claims that subjective or agent-relative reasons need to be tied to corresponding objective or agent-neutral reasons. Others like Harman (1976) and Frankfurt (1992) focus more on the subjective aspects, or agents' own desires, as being the core of reasons.

[11] For example, Raz (2011) claims that the important part is substantive rationality and that instrumental rationality is rather a "myth," and Lord (2018) also takes substantive rationality to be important, but it can also explain the requirements of instrumental rationality and consistency, Morton and Paul (2020) contrasts these views with other "dominant" views valuing the instrumental rationality as principles all rational agents follow, and propose their own ecological account, which places the instrumental requirements in a wider environmental context and seeks its justification in its overall usefulness for us in seeking our "ends," given our cognitive limitations and psychological makeups.

[12] For example, Bratman (1987) explains intentions in terms of its connection to rationality. Raz (2002) thinks rationality is importantly connected to an agent's being active, and Velleman (1996) thinks it is motivated by autonomy or a motive for self-understanding.

discussions around the exact details of the account. A rough sketch of the agreement suffices for my purpose. I will use the philosophical account as defined above in later sections.

Before moving on, here are some clarifications on terminology. The economists' preferences seem only vaguely defined, but here, I generally understand it to be not so far from our ordinary understanding; roughly, what it means to prefer x over y is to see x as, everything considered, more desirable than y. Because economists generally think of preferences as revealed in choices, they track the first-order desires, or the preferences directly represented as choice-outcomes. For example, if I choose to take philosophy and not physics classes during the course selection period, the action of such a course choice is understood as revealing an underlying preference for philosophy over physics, where the former is more desirable for me than the latter.

On the other hand, we have been discussing reasons in conjunction with actions under the philosophical account. Although the definition of reasons differs slightly for each philosopher, they generally are underlying things that can explain the specific action. In philosophers' jargon, they involve a cognitive part, belief, and a conative part, pro-attitudes, or general propensity for preferring one thing over another, *prima facie*.[13] In some parts above, I referred to reasons sometimes as "ends" since "ends" are what Aristotle uses to describe the reasons underlying actions, and they can be interchangeable.[14] For the rest of the paper, I will use the word reason, but we can think of them as representing agents' ends as well.

**Argument 1: Negative Argument Against the Economic Account**

This section takes the economic account explained in the last section and puts forward an argument against counting it as a good account of practical rationality. The argument consists of three sub-arguments, covering overinclusiveness, underinclusiveness, and context dependency.

[13] See Davidson (1963) for his initial discussion of pro-attitudes and its relationship to reasons.
[14] For example, Nagel (1970)'s definition of reason seems to directly track the "ends" in Aristotle.

First Argument: The Charge of Being Too Broad

The first argument is about the economic account's overinclusiveness. If an account is too broad (overinclusive), that is to say, if it applies to cases where the concept is not supposed to apply, then the account is not a good one. This should not be controversial since it just is absurd to regard an account as a good one when it is overinclusive. For example, suppose that someone suggests the definition of a soup as a "liquid that counts as a part of a meal." This would count as things like milk because dairy is a part of a meal, according to the US Department of Agriculture, MyPlate. We surely want to reject the definition on the basis of its being too broad.

Now, it is on me to show that the economic account ends up being overinclusive. For this, I consider incontinence, which we generally deem irrational, not only when other people show it but also when people themselves do it; commonly, we say "I was acting irrationally," when they feel like they have lost their mind and they have acted based on anger, temptation, etc.

I believe that the economic account ends up calling an incontinent person "rational," thereby being overinclusive. Suppose an overweight individual, who has a goal of losing weight for their health, and who wants to make it a priority. However, every time the person goes to the supermarket, the person succumbs to the temptation of the snack shelves, and despite their desire not to take the action, the person puts a bunch of snacks into the cart and goes to the register. Because they had already filled up the cart and had so much money, they could not buy what they wanted and planned to buy — healthy fruits and vegetables (which they prefer less to fruits, but they know they need). They manage to put a couple of fruits in the cart but no vegetables. Later, the person regrets "I know I shouldn't, but I cannot help it. I cannot be rational."

The economic account interprets such a person as being rational, or at least we can formulate the case in a way that the economic account deems the person rational no matter how much they say they are irrational. Their choice reveals a stable preference over buying snacks,

that is complete (clear preference), transitive (snacks over fruits over vegetables, translating to snacks over vegetables), and monotonic (more of snacks, fruits, and vegetables are better than less, in a sense that it can be a part of the case that had the budget grown, the person could be preferring buying more of all of them). Irreflexivity is not manifested, but we can reasonably suppose that it holds. That is to say, we can easily think that the person was really indifferent between one bag of chips and another from the same brand, manufactured on the same date, etc.

One might want to say they actually have an underlying preference for snacks, and that is what economists capture. It is true that they have a certain propensity towards snacks. However, then, why is it that we have to associate such an underlying psychological propensity with what matters when we are considering rationality? Of course, capturing such an underlying propensity could be what is important if we are just trying to describe someone's psychology. However, even though that may be what economists are interested in, the empirical description of someone's mind is different from rationality. In thinking about rationality, it seems more reasonable to say that what matters is what the person says they prefer and what they (and probably others too) think is "rational." This proves my point that economists *can* use their model if they are proven to be empirically accurate, but they should not call the set of assumptions underlying the model "rationality."

Second Argument: The Charge of Being Too Narrow

Despite the economic account being overinclusive for some cases, as the last example showed, I believe it is underinclusive for other cases. Similarly to overinclusiveness, underinclusiveness is also a problem because we want to hold that if an account is too narrow or underinclusive, that is to say, it does not apply to cases where the concept is supposed to apply, then it is not a good account. For example, think of someone suggesting the definition of a dress

as "white clothes in which the top is attached to a skirt." This surely includes the wedding dress but not other kinds. We want to reject the definition on the basis of its being too narrow.

Now, again, I need to show that the economic account is also underinclusive in some cases. For this, think about a Zen monk. For them, they have an overarching goal of just living with what they minimally need and no more than what they minimally need. Let's say they hold up a value that they do not waste anything and only possess what they need. Beyond necessity, their desirability of goods disappears. They live in a small house, with a minimal amount of modest clothes, balanced food that is "just enough," with nothing extravagant in life.

This clearly violates the monotonicity, but we may not necessarily accuse them of irrationality. We can think they are rational, but they are just "minimalist." There is nothing irrational about being a minimalist as long as that is what they want and they are also not depriving themselves to an unreasonable extent. One may reply that they do not see what they possess as a "good thing," so the monotonicity should not be applied. However, the minimalists do think of what they possess as a good thing, just only to the extent that they need them.

One may wonder, too, whether economists really are making such a strict interpretation of "monotonicity." I think they are. The point of monotonicity that more of a good thing is always better can be interpreted further as the marginal utility assigned ordinally to that thing considered as "good" in preference which never goes down to zero for a rational person. The Buddhist monk, however, is a case where such a marginal utility really does go down to zero beyond the point of having the good at a necessary amount. The assumption of monotonicity may not present a problem to the model if the model is just being constructed to capture the tendency of human behaviors at a certain aggregate level. We are not all Buddhist monks.

Nonetheless, the example does show that including monotonicity as a condition of preference ordering that is considered rational is philosophically untenable.

Third Argument: The Charge of Being Highly Context-Dependent

My last argument is about the economic account's context dependency. It is slightly more complex than the previous two, but it should highlight why exactly the economists end up making the mistake of equating stable preference-based utility maximization with rationality. Before I start, we should first accept that if an account of a concept is highly context-dependent, then it is not a good account. This is because a context-dependent account captures not the essence of what the thing in question is but rather the superficial factors about the thing in question that gets shaped as so by the question. Suppose that someone suggests the account of a laptop as "what college students use to code in computer science class in 2023". Surely this is an extension of a laptop, but this is too context-dependent to count as an account. It is absurd to think that we do not call what we typically consider as laptops if they are not used by college students to code in computer science class in 2023. There are many more of what we want to call laptops. We should surely reject the definition on the basis of its being too context-dependent.

I believe that the economic account is, on top of being overinclusive and underinclusive, highly context-dependent. That is to say, the features of the assumptions about preferences are more guarded by the specific structure of the market economy we live in rather than by the essence of what it means to be rational. In other words, the strict set of assumptions about the preference ordering is context-dependent in the sense that it captures not the concept of "rationality" but, rather, the general tendency of rational behavior in a specific context. Such an account, however, breaks down outside the context because the account captures what the local context demands of rational persons instead of how the rational person behaves globally.

For example, the completeness and transitivity, as well as the subsequent ordinal assignment of utility, assume that preferences are unidimensionally measurable. The monotonicity further adds to this that the preferences are over quantifiable goods or bundles of goods. However, this applies not globally to human preferences but specifically to human preferences concerning the things being traded in the market. In other words, the preference axioms seem to be undergirded by the preference of money. We trade things via money when we think money is a good proxy of value for the thing being considered, but what we exchange for money is not exhaustive of things that we seek out in rational actions.

For example, we think having families and friends are both desirable things, towards which we can have a general preference. However, not everyone's actions in no way reveal a consistent preference of family over friends, or vice versa. We may, in fact, value them equally, and depending on the context, we act like preferring friends over family and vice versa. Or, it could be that their values are incommensurable or "on a par," where neither is better or worse than the other. The values of friends and family are most likely not also translatable to money and in no way comparable on a unidimensional account with things like a KitKat. How can I describe the value of my dear friend in how many KitKats they would be equivalent to?

There is another thing that reveals the economic account's context dependency: the fact that economists themselves modify their account of rationality depending on the context. For example, as we have been discussing, the stable preference-based utility maximization is commonly used for descriptions of consumer behaviors. However, when economists start talking about politicians, they replace "utilities" assigned to "preferences" with "political support", which is assumed to be the most and only preferred thing in the realm of politics (e.g., see the Peltzman model for the economic regulation in Viscusi, Harrington, and Vernon 2005, Chapter

10). Further, it would be odd for economists to retain both Simon's satisficing and stable preference-based utility maximization as "rationality" since their accounts are quite different.

The three sub-arguments covered in this section, the overinclusiveness, the underinclusiveness, and the context-dependency, show that the economic account may not be getting to the heart of what it means to be rational. The next section will examine whether the philosophical alternative fairs better.

**Argument 2: Positive Argument for the Philosophical Account**

In this section, I will consider the philosophical account as an alternative. In particular, to see whether it could be a better account, I will examine whether the philosophical account fairs better in the three problems we found about the economic account in the last section. It seems relatively uncontroversial to hold that if an alternative account solves the problem that the other account encountered, then it could be a better one. The superiority of the philosophical account should hold true unless we find another dimension in which the economic does better.

First Argument: Solving the Too Broad Problem

The first challenge for the philosophical account is to successfully explain the case of incontinence. If we just consider the given definition, this is simple, as we could claim that the case of incontinence does not reflect the agent's best action, all-things-considered, which is required for rationality. However, philosophers, too, sometimes encounter a further problem if we start pressing them on the proof that the choice of snack was indeed not the "all-things-considered" judgment supported by normative reasons. There are several solutions, and we do not need to subscribe to any one of them, but here is an example.

One solution is from Davidson. He encounters the problem of having to show why an incontinent person is not behaving rationally because he generally believes that reasons have causal power in guiding actions, and it is not clear at first sight that the incontinent person's

revealed preference for a snack (i.e., the motivational reason behind the action), is different from the all-things-considered best judgment. He solves this by separating the normative reasons, behind all-things-considered judgment, from the motivational reason and claiming that in the case of incontinence, the normative reasons include a causal reason and more, directing the agent towards another action, yet the agent ends up acting solely on the causal reason (Davidson 2001). The point is to say that the action-prompting reason may not always be the all-things-considered (or just "more-things-considered") reason. The action-prompting reason can come apart from the overall best judgment, that is rational to follow in most cases, and when the two come apart, the agent acts incontinently. The reason or the urge for the snacks caused the person to get snacks, even though their all-things-considered reason supported the purchase of fruits and vegetables.[15]

Second Argument: Solving the Too Narrow Problem

The next challenge on the table is to explain the minimalist case. Here, we want to see whether the philosophical account successfully says that the minimalist is rational. This is not a big task for the philosophical account, as it seems very clear that the minimalist is acting in accord with their all-things-considered reason to live a minimalist life. We can say that all actions fall under the overarching goal of the simple life, and they successfully refrain from the actions that do not fit their all-things-considered important reason for a simple life (e.g., buying an extra unit of clothes that they do not need).

The problem for the economic account seems to be that the economic choices take "revealed preferences" as the preferences that matter for rationality, even when they come apart

[15] Alternatively, Holton (2009) conceptualizes incontinence as an unreasonable revision of reasons. If we take this approach, we could say that the all-things-considered judgment at the time of the purchase may have been in support of the purchase of snacks, but nonetheless, they are invalid because it involved an unreasonable revision of the all-things-considered judgment. In other words, the person seemed to have unreasonably redid the deliberation (unconsciously) in support of purchasing the snacks when they should not have done. This could invalidate the rationality of the purchase of the snack and explain the irrationality of incontinence in another way.

from the preferences that the agent identifies them as so. Recall that the first part of the economic account said, "an agent is rational in so far as they could be treated as maximizing their utility, on the basis of their preferences, which are revealed in choices." This, together with the strict monotonicity, makes someone like a Buddhist monk "irrational" under their account.

On the contrary, the philosophical account does not have this problem because the reason that matters for rationality does not need to be revealed in choices. The revealed preferences may matter for the empirical purpose of measuring preferences, but that is a separate important fact in empirical research and not in considering rationality. Further, something like monotonicity does not seem to be a good condition to place for rational preferences either, for it assumes that the rational preferences and reasons should be applied on matters whose maximization brings values; in fact, there seems to be many things where a satisfaction at a certain level is merely sufficient as a rational goal. For example, health for most people is something to be maintained at a certain functional level and not something that needs to be always maximized. Rationality does not seem to require that the preferences be revealed or monotonic, and the philosophical account, which does not have these strict constraints, does better in talking about the case.

Of course, they can be irrational under the philosophical accounts if the all-things-considered judgment stops supporting the minimal life, like, for example, the reason for living the simple life is outweighed by another important consideration. However, such should not be assumed in this case since we said in the example that they had an overarching goal of living such a life, under which all the other reasons could be subsumed.

Third Argument: Solving the Highly Context-Dependent Problem

Lastly, and perhaps most importantly, there remains the challenge of explaining the context-dependent features of the economic account. I would like to discuss, assuming the philosophical account, why, in certain market transactions, we appear to be rational when we

exhibit the stable-preference-based utility maximization and why we look rational under another economic account like the political support maximization or satisficing in other cases.

Let me start with the stable-preference-based utility maximization. A rational agent, under the philosophical definition, can fulfill the preference requirement and act as if they are utility maximizing when the following conditions are met. However, these conditions are contingent on matters unrelated to rationality. The specific conditions are not the main points of my argument and may require some further tweaking. The point is that, under certain conditions unrelated to the definition of rationality, rational agents may manifest themselves as acting as if they are utility maximizing with certain preference characteristics.

Condition 1: when the action is a choice over a set of things whose desirability can be reasonably approximated in monetary terms from the agent's point of view. When violated, the agent will use their rationality in a non-utility-maximizing way. For example, one may rationally adopt a reason of "social justice", and work incessantly towards it rationally. Most people following such are, though they deem desirable, not trying to measure its value in money. It also is likely not the case that their choices indicate a stable preference for a "just" state over an "unjust" state since they may be constrained by other realistic considerations.

Condition 2: when the agent has good information about the desirability of the thing in question, undergirding the reason to prefer them. Similarly to above, when violated, the agent seems to use their rationality in a non-utility maximizing way. For example, we may engage in a debate about whether one can rationally adopt one’s own death as a desirable thing (therefore a reason to pursue) under certain extreme conditions (for example, think about Socrates' claims in apology), but the rationality is manifested in a non-utility maximizing way because the content of death is unknown. Of course, the agent may have certain beliefs about death based on which

one may argue for / against the adoption of the end, but that is, nonetheless, wholly different from having stable preferences about it. The point here is that the nature of death is unknown, and this is an extreme case of choice under uncertainty that does not even let us make a reasonable "guess." There is no probability-based function to determine its desirability.

Condition 3: when the agent deems it desirable that one engages in choice-making over all the considered set of things (e.g., the bundles of goods in the market). This, too, when violated, the agent will use their rationality in a non-utility maximizing way. For example, a Marxist may rationally refuse to make any consumption choice in the market because they do not have as their end that they engage in such choices over a set of things.

Of course, the market of many things that we trade and the agents who engage in them fulfill the above conditions. I believe this is the reason why the agents seem to behave as if they are utility maximizing. In other words, we may not have found the economic account of rationality in market situations problematic at first sight because the external context of the market makes it such that the rational agents should act in a way that appears to be utility maximizing. It does not seem to be that the preferences of rational agents fulfill the conditions specified by economists because rationality entails the fulfillment of these conditions. Rather, it seems to be that rational agents happen to fulfill these conditions about preferences because the market transactions set up the environment that enables the fulfillment of these conditions.

Analogously, we can think of conditions under which the rationality under philosophical account would appear as the maximization of political support as economists talk about it. Again, the case was that the economists model politicians as having functions maximizing political support. For here, I will be briefer than the last one as it should be more obvious. Condition 1: when we have a system of governance in which the political support can be more or less

quantified over one dimension; Condition 2: when the politicians see a desirability in pursuing political support over other related things in politics (when the politicians involved understand the general electoral system and locate getting political support as an important mean to whatever ends they hope to achieve through the engagement with politics (or, alternatively, they like the political game of getting more political support and see it as an end in itself, or both)); Condition 3: when the politicians deem it as desirable that they engage in such a political game.

Thirdly, I believe we can explain how satisficing occurs under other conditions while following the philosophical account. Let me examine Simon's original paper and revisit where the idea of satisficing as a bounded rationality came from. From my understanding, this was meant not to say that we are "irrational" by diverging from the neoclassical economists' rationality assumption, but we should come up with a definition of rationality that better suits our cognitive limitations. If we want to admit at least some of what he was up to is true, then a good concept of human rationality needs to be able to explain his "satisficing" concept. (Simon, 1955). This means that the philosophical account should be able to explain the satisficing behavior under certain conditions. I believe the required condition for this case is one and simple. Condition: we have "ends" (and thereby reasons to take actions to pursue the end) whose pursuit has an endpoint or threshold with which the agent can be content with and case the pursuit.[16]

An example that fulfills the satisficing condition seems to be health. At least for many people, health is an end that needs to be sustained at a certain level (unless they have maximum health as their life goal or are extremely risk averse) so that they can stay functional in pursuing

[16] Note that whether one end described in the same way may have an endpoint for one agent and not for others, as we see different standards for different ends as they interact with other ends, and we also ascribe different constitutions to the same description of the end. Our linguistic description of the end is not the only component characterizing what the pursuit of the entails specifically for the agent.

other things that their other considerations support. All things considered, it is rational to sustain health above a threshold level and not to do much more than required.

Lastly, though not required, I feel indebted to explain how the philosophical account may interact with other findings of behavioral economics. I believe that the philosophical account would take different behavioral evidence and judge some to be rational and others to be irrational (and quite rightfully so – in a way that corresponds to our intuitive judgment of rationality). Here, as an example, I will consider the use of heuristics. To start with, the philosophical account does admit the use of heuristics as long as they serve the all-things-considered judgment supported by compelling reasons.[17] A conscious deliberation, though helpful, is not required for rationality. We are irrational under philosophical definition only when the agent fails to act in accordance with the all-things-considered best judgment supported by reasons. Let me show you what kind of heuristic counts as rational and what kind counts as irrational, and how they map onto our intuitive judgment about their rationality/ irrationality.

We can observe a rational heuristic when it is serving the all-things-considered end, supported by reasons, that the agent can access and reflect on as connected, at least retrospectively upon inspection or introspection. Let us take the availability heuristics and when it goes right. Suppose that there is an agent who knows what exactly they want as the most important goal in their life (let's say, a career), supported by a variety of reasons (e.g., desire to keep pursuing their passion), and is very indifferent about minor everyday matters (let's say, which brand of toothpaste to use). There are two brands of the same toothpaste with the same cost, but one just has a bigger promotion on the shelf. The person picks it up and buys it. Is it irrational? Not necessarily. Simon's heuristic itself, though, does not capture the actual

[17] For a philosophical account that explicitly talks about heuristics as a positive feature of human rationality, in contrast to conscious deliberation, see Morton and Paul (2020).

"rationality" behind it. Rather, he states that we use heuristics as rational agents. An account of rationality needs to explain why this case is a case of rationality, and philosophers can do that by appealing to an action's relationship to all-things-considered judgment and supporting reasons.

On the other hand, heuristics cannot be rational when it does not serve the all-things-considered best choice, and it is rightly so. Think, instead, of another agent who actually has a very strong end for whitening their teeth. They come to the store, and see two brands of toothpaste at the same price; one has a bigger promotion, "whiter teeth." Suppose that the agent was also not in a hurry and had time to consider their choice, but they just picked up the toothpaste. They later find out that the other toothpaste has a greater amount of active ingredients and regret the choice as too hasty and irrational. This is a heuristic going wrong, and under philosophers' account, this is indeed irrational because the action was not what the agent would have thought of as the best course of action, given all the reasons (with the whitening of the teeth being the very important one at the moment!).

**Counterarguments**

In this section, I will briefly address two potential counterarguments. One is the accusation that the proposed philosophical account is not specific enough. The other is the proposal that the concept can be considered under multiple accounts, and thereby arguing that we should accept both the philosophical and the economic account.

Counterargument 1

The first counterargument is the accusation that the philosophical account I have been working with is not specific enough. It is true that I intentionally constructed the philosophical account as a very general one to capture what philosophers agree on instead of what they disagree on. One may think that I am leaving too much room for disagreements in thinking about rationality, and that could potentially make it worse than the economic account.

It is true that philosophers still disagree on the specifics of practical rationality, and I made my account such that I capture the minimal agreement among them instead of siding with any specific philosophers on matters that they disagree about. Disagreements can be confusing, and if we think only about applying an account to further discussions, this could be a downside of an account. However, I actually think this is an advantage in this discussion of rationality because I think disagreements are signs that philosophers are attending to the complexity behind the concept of rationality instead of quickly assuming something about it.

For example, the debate over how objective or subjective reasons have to be (in philosophers' terms, internal or external to the agent's mind), which I briefly mentioned earlier, provides us with insight into the discussion around the justifiability of (benevolent) paternalism. For, paternalism is often criticized as an imposition of an action over a rational agent based on reasons that the agent does not appear to possess in their psychology, at least *prima facie*. However, if the reasons rational agents need to respond turn out to be inherently objective, then, to the extent that we can find objective reasons the agent ought to respond to, the paternalism based on reasons may be justified as an aid over rationality. When we do attend to such a complexity, we are able to take a step back from urges to accuse someone of irrationality or justify our positions with a strong belief that we are rational and the others are not. It may be uncomfortable, but it allows for a more careful and humble discussion.

Counterargument 2

The second objection may come from another angle. One may suppose that a concept can have multiple accounts. They may ask, both the philosophical and the economic account have appealed, so why do not we accept both?

However, I think such a thought is mistaken. It is true that a word can have multiple definitions or accounts expressing it, but a concept is a single idea underlying a word. I take

practical rationality to be describing one concept, undergirding what we deem as rational in our actions. I do not think there can be multiple accounts for this concept because it really has a single domain of application: the human action and related activities, and we do not want to disagree (in principle) on whether one action (or related activities) is practically rational or not.

If we want to accept both the economic and philosophical accounts, then I think the most plausible way is to think of the economic account as working with a wholly different concept. Perhaps it is a very context-dependent narrow concept of rationality, and if this is the case, the economic account could potentially be established as an "economic rationality." I do not object to it if we understand we are dealing with a very context-dependent and limited concept of rationality when using the economic account. This is to return to the idea somewhat similar to Mills and Hobbes, that deals with economic rationality as not capturing the whole of human rationality of actions, but rather when dealing with certain specific cases of human transactions. However, if this is the way one wants to go, we should call the economic account as "economic rationality" or the rationality of *homo economicus* par Mill to indicate its limitedness. My paper should have shown that the economic account is not really capturing the general rationality.

**Conclusion**

In this paper, I offered a philosophical analysis of the economic account of rationality and argued that it does not capture the concept of (practical) rationality. We find cases where it fails to call a person irrational when they appear to be (overinclusive), and also where it mistakenly calls a person irrational when in fact they appear to be (underinclusive). I also offered an analysis of the account in terms of the context dependency and how the features of the economic account of rationality are rooted in the contexts in which the account is used rather than in what rationality essentially is. I put forward a generalized philosophical account as an alternative, which seems to fare well, at least on the three points we can criticize the economic account for.

If my argument above is correct, then we should be cautious about using the term "rationality" to describe their assumptions. They should drop the term "rationality" or, as explored in the last section, at least call them a *homo economicus* or economic rationality assumption. I think this is to their advantage, too, because they will have easier time separating their empirical project from the normative implications that come with general rationality.

One implication of divorcing the term rationality from economic assumptions and models and simultaneously moving on to a more philosophical one is that we can conceive our choices as having a complex structure of reasons, as opposed to a unidimensional preferences. The conceptual move is an acknowledgment that reasons that go into the "best judgment" behind our choices interact with each other in complex manners and that mapping them onto a simplified mathematical relationship, though appealing, does not always capture the entire picture.

That is a very abstract way of expressing the implication, so let me give you an example in our policy discussions to emphasize the significance of this move. For example, in the complex discussion over health insurance policies, I often observe people talking past each other. On the one hand, we also have others, mostly in health economics or management, focusing on how exactly the market fails in the goods and services surrounding healthcare[18], or how individuals may make microeconomic choices when presented with various insurance plans[19]. On the other hand, we have others, predominantly in the space of international laws and development, advocating strongly for the enhancement of the right to health[20]. I would not say

[18] A very common view as far as I know from health economics classes, with the roots of the thinking dating back to an influential paper in the 1960s by Arrow (2001) (reprint).
[19] E.g., the models following Rothschild and Stiglitz (1976).
[20] For example, see Zuniga et al. (2013) or Sturchio et al. (ed.) (2019).

that they never talk together, but at the same time, this kind of division seems to undergird the political polarization we see, for example, in discussing the optimal health insurance policy[21].

There could be various ways of interpreting the divide, but one way is to observe it through how people have used the term rationality. The divide, to me, seems as follows. The economists make implicit normative claims about the inherent goodness of a perfect market and, thereby the goodness of just correcting market failures, *at least as far as they think agents are rational in their sense*. Other scholars, who feel the need to go beyond the analysis of the market but have no solid ground to challenge the legitimacy of freely made rational choices, are compelled to appeal to a strong deontic notion of rights as a way to counter the normative force we tend to see in something that is categorized as a rational choice.

The implication of this paper is not that economists are wrong in focusing on markets. Rather, it is that when we separate rationality from stable preference-based utility maximization, we can have a debate about something like health insurance policy on the basis of what we, as individuals in the country, should rationally choose. That debate is not going to be an easy one. We probably have to grapple with questions like whether rights, when conceived as a reason for one policy or another, can be given some gradable weight when two or more rights happen to conflict. We need to think about whether we have shared reasons for something that appears to be universal goods, like health, in this case. We have to then also ask whether furthering some shared reasons requires us to involve the (imperfect) market or to turn to the government as a central actor. A question like that would then have to be considered in light of all the other duties the government appears to have and how much weight we need to give to the goods of health or healthcare. At the individual level, too, we can turn back to whether individuals making their

[21] For exact statistics about polarization, see Jones (2020).

individual choices rationally, all-things-considered, or such a specific choice falls short of being a rational one given the broader context of life that individuals are embedded in.

These questions are in no way exhaustive of what needs to be discussed, but I believe it could be a fruitful one if we desire to have dialogues beyond the seeming ideological division that we face in public discourse. I do not mean to build another argument that we must have these dialogues, and this just is one implication of my paper, not the main thesis. Nonetheless, together with the main points, I hope I have shown enough to provoke further interest in the reader to explore the philosophical literature on this topic.

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