THE ARGUMENT FOR BETTING ON GOD AND THE POSSIBILITY OF INFINITE SUFFERING

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1. Introduction

The argument for Betting on God says that you should believe in God, regardless of other evidence, purely out of rational self-interest. In this paper, I challenge this argument by assessing the premise that believing in a particular God always guarantees the greatest expected utility.

The author's argument for belief in God on [1, p. 38] goes as follows:

The Argument for Betting on God

(BG1) One should always choose the option with the greatest expected utility.

(BG2) Believing in God has a greater expected utility than not believing in God.

(BG3) So, you should believe in God.

BG1 should be uncontroversial. If you expect that an action will bring you the most utility (i.e. be the most useful), it's rational to choose to do it.

To justify BG2, the author uses a so-called "decision matrix" to compute the expected utility of either belief or disbelief in God. Both possible actions are placed on the first column, and the possible outcomes (God existing or God not existing) are placed on the first row. The last column of the matrix represents the expected utility of the action in its corresponding row. At each intersection of action and outcome, we write the utility gained from that action-outcome combination.

Here is the decision matrix the author proposes on [1, p. 38] which gives the expected utilities for believing or not believing in God.

	God exists (50%)	**God doesn't exist** (50%)	**Expected utility**
Believe in God	∞	2	∞
Don't believe in God	1	3	2

Table 1. Author's decision matrix

Note that utility doesn't provide an empirical measure of "usefulness" or "happiness," and should be viewed as a relative measurement.

[1]Figure computed programmatically during document compilation. Discounts content in tables and the AI contribution statement.

We assign each action-outcome combination utilities as we see fit, based on how much each scenario benefits us. You'll see shortly that the exact values we set for the finite utilities don't matter when infinite utility is introduced.

In the specific case where God does exist, and you believed in God, you are rewarded with an eternal afterlife of bliss and pleasure in heaven. This reward is infinitely greater than any possible reward on earth, so it has a utility of ∞.

To calculate the expected utility of a given action, we first multiply the utility gained from each action-outcome combination in the action's row by the probability of the corresponding outcome occurring. We then sum up all of these values to obtain the final expected utility.

So, the expected utility for disbelief is $0.5 \times 1 + 0.5 \times 3 = 2$, and the expected utility for belief is $0.5 \times \infty + 0.5 \times 2 = \infty$. If, according to BG1, you should pick the option with greatest expected utility, you should clearly choose to believe in God, because the expected utility is ∞.

Also, as the author points out on [1, p. 40], the exact probabilities don't matter either since multiplying even the smallest percentage by ∞ still results in the expected utility of ∞.

I will show that the Argument for Betting on God fails because BG2 fails. In section 2, I argue you cannot determine whether or not believing in God has the greatest expected utility because the decision matrix approach fails when possible outcomes involving infinitely negative utilities are introduced. In section 3, I address a few possible responses to this objection.

2. Possibility of Infinite Suffering

I propose that there is the possibility of more gods than just the Christian one that sends you to an eternal afterlife for believing. The author partially addresses this concern on [1, pp. 43-44], using the example of Zeus. Zeus will only reward those who believe in him specifically with an eternal afterlife. So, if you believe in the wrong god, you don't go to the afterlife. The author concludes believing in either Zeus or the Christian God still result in expected utilities of ∞, while being an atheist always has a finite expected utility. Therefore, you should always believe in *some* god that could grant you an eternal afterlife, although no argument is made for *which* god.

However, this leaves out the possibility of a god who instead punishes you for eternity. For instance, suppose there exists an *Evil God* who sends any theist to hell for eternity, and does nothing to atheists. That is, the Evil God will punish anyone who believes in *any* god, including those who believe in the Evil God themselves.

Let us modify our decision matrix to model an outcome where the Evil God exists.

	Correct god exists (33.3%)	**No god or wrong god** (33.3%)	**Evil God exists** (33.3%)	**E.U.**
Believe in some God	∞	1	$-\infty$	?
Don't believe in any God	2	3	4	4.5

TABLE 2. Possibility of an Evil God

We've added the new option to our matrix. For the sake of argument, let's say each option has an equally likely outcome. Again, the exact probabilities don't really matter when we're multiplying them by infinity.

The utilities are mostly the same as before. However, the theist now faces the possibility of the worst case of all: eternal punishment if the Evil God exists. If eternal bliss in heaven has a utility of ∞, then it follows that we should represent eternal punishment in hell with a utility of $-\infty$.

Let us attempt to calculate the expected utility of believing in god using our usual method. We have $0.333 \times \infty + 0.333 \times 1 + 0.333 \times -\infty$. What is $\infty - \infty$? A naive answer might be 0, but infinity is not a number in the traditional sense. It makes no sense to add or subtract infinite values. For instance, try and subtract the total amount of integers (∞) from the total amount of real numbers (also ∞)[2]. Clearly, this notion is meaningless and we cannot obtain a solution. So, we consider $\infty - \infty$ an *indeterminate form*. So, the expected utility is now *undefined*.

Consider the following Indeterminate Utilities argument:

THE INDETERMINATE UTILITIES ARGUMENT

(IU1) If the expected utility of believing in god is undefined, then we cannot compare the expected utilities of believing in god and not believing in god.

(IU2) The expected utility of believing in god is undefined.

(IU3) So, we cannot compare the expected utilities of believing in god and not believing in god.

(IU4) If we cannot compare the expected utilities of believing in god and not believing in god, then we cannot determine if believing in god has a higher expected utility than not believing in god.

(IU5) So, we cannot determine if believing in god has a higher expected utility than not believing in god.

[2]Minor digression: famously, the infinity of $\mathbb{R}$ is "larger" than the infinity of $\mathbb{Z}$ in the sense of cardinality, where $\mathfrak{c} > \aleph_0$ (G. Cantor). However, our familiar algebraic operations of $+$ and $-$ are still not defined on them. Perhaps we could pursue a line of reasoning to rigorously define algebra with infinity using the hyperreals ${}^*\mathbb{R}$, but that is out of the scope of this paper.

We just showed why the premise IU2 is true, and the conclusion IU5 is in direct contradiction with BG2. So, if IU5 holds, then BG2 must fail.

It's important to note that the Indeterminate Utilities argument doesn't say that the *opposite* of BG2 is true. It doesn't argue that the expected utility of being an atheist is greater. In fact, it doesn't say anything about the expected utilities, except that they cannot be compared. If they can't be compared, then we can't say for certain which option has the higher expected utility. Since BG2 claims that believing in god must have the higher expected utility, it is a false premise.

3. Addressing Objections

3.1. **The Evil God is not plausible.**

One might argue that it is not plausible there is an Evil God who punishes all theists, including their own believers. Many religions present a god that rewards believers and at most punishes disbelievers, yet none of the major world religions propose an Evil God who punishes all believers indiscriminately. It's much more likely that a benevolent god exists than an evil one.

Notice that it doesn't actually matter how plausible the Evil God is. If a rational atheist should concede there is at least a non-zero chance some god exists, then there must also be a non-zero chance the Evil God exists. After all, can you say for sure that the Evil God doesn't exist? All it takes is that non-zero chance, no matter how small, because multiplying it by $-\infty$ still results in the undefined expected utility.

3.2. **Finite utilities.**

One might argue that we can avoid using ∞ to ensure that all expected utility calculations are defined. Instead, suppose the utility of going to heaven is just an immensely large finite number. The utility of going to hell is likewise a very negative number. All of our expected utility calculations will be defined, since infinity is not used. Given sufficiently large utilities, we should be able to make a similar argument for believing in god.

The problem with this argument is that infinity has a special property the argument relies on that no finite numbers have. Namely, any number multiplied by ∞ is still ∞, so the exact probabilities we set for the existence of God don't matter. This is important for defending against the objection that the probabilities are possibly incorrect which the author mentions on [1, p. 40]. If the exact numbers don't matter due to ∞, it doesn't matter if they might be wrong (as long as they are non-zero).

If, instead, only finite utilities were used, the concern that the probabilities in the matrix are wrong cannot be resolved with the same argument as before. There could conceivably exist a matrix with probabilities for a benevolent god and an Evil God such that the expected utility of atheism is actually higher. The issue is we cannot say for sure what the probabilities of the benevolent god and the Evil God existing are. If we cannot know what the actual probabilities are, then we cannot know the final outcome of our matrix. So, without knowing the final outcome of the matrix, we still cannot determine whether or not believing in god has greater expected utility, and BG2 still fails.

4. AI Contribution Statement

"I did not use AI whatsoever in the writing of this paper."

References

1. Korman, D. Z.: Learning From Arguments: An Introduction to Philosophy. The PhilPapers Foundation (2022)