Pascal's Wager

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Pascal's Pragmatic Argument for God

Pascal argues that we are rationally required to believe in God. This is known as **Pascal's Wager.** He says:

> "God is, or He is not." But to which side shall we incline? . . . [Y]ou must wager. . . . Let us weigh the gain and the loss in wagering that God is. Let us estimate these two chances. If you gain, you gain all; if you lose, you lose nothing. Wager, then, without hesitation that He is. . . . [T]here is here an infinity of an infinitely happy life to gain, a chance of gain against a finite number of chances of loss, and what you stake is finite. It is all divided; wherever the infinite is and there is not an infinity of chances of loss against that of gain, there is no time to hesitate, you must give all . . .

There seem to be a couple arguments in the text, but let's take a closer look at Pascal's *expected value argument*.

Note: it doesn't purport to give us *epistemic* reason for believing in God; rather, it gives us a *pragmatic* reason.

X is an *epistemic* reason for believing that p if X speaks in favor of p being true.

X is a *pragmatic* reason for believing that p if X gives us a reason for thinking that it is in our interest to believe that p.

Expected Value Argument

Pascal argues that believing in God has higher *expected value* than not believing; and so, because you should maximize expected value ('. . . the uncertainty of the gain is proportioned to the certainty of the stake according to the proportion of the chances of gain and loss"), you should choose to believe.

But can we really *choose* what to believe? Pascal anticipates this objection ("[I] am so made that I cannot believe. What, then, would you have me do?"), and recommends: "acting as if they believed, taking the holy water, having masses said, etc."

Pascal's Wager (Expected Value)

	God Is	*God Isn't*
B	∞	f_2
$\neg$**B**	f_1	f_3

Expected Value of Believing:

$$EV(\mathbf{B}) = c(\text{God Is}) \cdot \infty + c(\text{God Isn't}) \cdot f_2 = \infty$$

Expected Value of Not Believing:

$$EV(\neg\mathbf{B}) = c(\text{God Is}) \cdot f_1 + c(\text{God Isn't}) \cdot f_3 = \text{finite}$$

Because ∞ is larger than any finite value, if you assign positive probability to *God Is*, $EV(\mathbf{B}) > EV(\neg\mathbf{B})$.

Pascal's *Expected Value Argument* has three premises. Let's look at each in turn.

Pascal's Expected Value Argument

P1 Rationality requires you to assign positive probability to *God Is*.

P2 If you assign positive probability to *God Is*, then **B** has higher expected value than $\neg$**B**.

P3 Rationality requires you to maximize expected value.

C Rationality requires you to **B** (i.e., you should believe in God).

Problem of Mixed Strategies

This argument is too quick. We have more options than just **B** and $\neg$**B**. We could employ a *mixed strategy:* e.g., flip a coin, and believe if Heads, disbelieve if Tails.

But *anything* you might choose to do could be consider a mixed strategy between the two, so *everything* has ∞ value! So it's permissible to do anything!

Hájek argues that, because all of these mixed strategies also have infinite expected value, Pascal's *Expected Value Argument* is invalid: its conclusion (that you are rationally required to believe in God) doesn't follow from its premises.

COIN BET

	Heads	*Tails*
Sure-Thing	∞	∞
Bet on Heads	∞	0

Intuitively, **Sure-Thing** is better than **Bet on Heads**, but they have the same expected value.

Reformulating the Wager

Hájek thinks that any adequate reformulation of the Wager must meet the following two requirements:

> *Requirement of Overriding Utility.* The value of salvation must override any of the other utilities that enter into the expected utility calculations (so that it doesn't matter the exact probability one assigns to God's existence).

> *Requirement of Distinguishable Expectations.* The smaller the probability of winding up wagering for God, the smaller should be the expectation.

Hájek presents several reformulations (e.g., surreal utility, vector-valued values, salvation has high but finite utility, etc.), but argues that the Wager face a dilemma: Either it' invalid, or salvation is very far from being the best possible thing.

Hájek thinks that, in order to capture Pascal's reasoning, we indeed must add a stronger requirement:

> ∞ *reflexivity under addition:* The value of salvation cannot be increased. For all $x \geq 0$,
>
> $$\infty + x = \infty$$

This requirement requires rejecting:

> ∞ *reflexivity under multiplcation:* For all $x > 0$,
>
> $$\infty \cdot x = \infty$$

Here's a proposal that Hájek doesn't consider, though. Rather than look for a different way to represent the value of salvation, revise expected utility theory to better handle outcomes with infinite value.

> **Proposal for Infinite Value:** Replace each occurrence of '∞' with a variable N. If there is some $n = N$, such that, for all $n* \geq n$, $EV_N(\phi) > EV_N(\psi)$, for all available options ψ, then you are rationally required to choose ϕ.

Many Gods Objection

Here's a different problem. Pascal argues that we are rationally required to believe in God. The argument assumes something about God's nature: He is a *Rewarding God* (He rewards all and only those who believe in Him). And, while Pascal might be right that we should have some credence in that being so, shouldn't we also put some credence in God having a different nature?

MANY GODS WAGER

	Generous God	*Rewarding God*	*Weird God*	*No God*
B	∞	∞	f_2	f_2
$\neg$**B**	∞	f_1	∞	f_3

Does **B** still have higher expected value than $\neg$**B**?

$$EV(\mathbf{B}) = c(\text{GG}) \cdot \infty + c(\text{RG}) \cdot \infty + c(\text{WG}) \cdot f_2 + c(\text{God Isn't}) \cdot f_2$$

$$EV(\neg\mathbf{B}) = c(\text{GG}) \cdot \infty + c(\text{RG}) \cdot f_1 + c(\text{WG}) \cdot \infty + c(\text{God Isn't}) \cdot f_3$$

There is some $n = N$, such that, for all $n^* \geq N$, $EV_N(\mathbf{B}) > EV_N(\neg\mathbf{B})$ *only if* $c(RG) > c(WG)$. Is this good news for Pascal's argument?