

Peer Review

Review of: "Ratio Versus Difference Optimisation in Human Behaviour"

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The manuscript presents a promising and relevant contribution, offering a conceptually original framework with wide-ranging applications. Its central proposition—distinguishing between ratio and difference models of optimization in human behavior—is not only innovative but also holds substantial potential to inspire further discussion across multiple disciplines, including behavioral economics, evolutionary theory, and policy design.

Nevertheless, some revisions would enhance the clarity and rigor of the paper. Firstly, the mathematical equations should be more seamlessly integrated into the flow of the text. As they currently stand, they appear somewhat disjointed and interrupt the narrative. Specifically, equations (1), (2), and (3) are missing appropriate punctuation (full stops) at the end, which is important for maintaining syntactic and stylistic consistency. Additionally, in the paragraph introducing equation (1), the phrase "For $c \geq c_0$ " is awkwardly placed and should be repositioned for better readability.

There are also minor typographical issues, such as the misspelling of "Concorde" (written as "Concord") in two instances. These should be corrected to maintain terminological precision.

The introduction provides a solid conceptual background, but it would benefit from the inclusion of more recent examples or references, particularly from contemporary behavioral or decision theory literature, to further reinforce the relevance of the discussion.

Regarding the illustrative examples, the first one—on the Concorde Fallacy—is thought-provoking and well-chosen. However, the argument would be strengthened by incorporating new references, if available. This would ground the conceptual model in empirical reality.

In Example 3, which compares optimization strategies in agriculture versus livestock keeping, it would be valuable to cite relevant empirical studies or case-based literature where possible. This would help

substantiate the claims and offer the reader a clearer sense of how the theory manifests in real-world contexts.

Finally, the concluding section suggests that people possess innate knowledge of the appropriate optimization model (ratio or difference) for each context. While this is an intriguing hypothesis, it would benefit from the inclusion of new references. Without such backing, the claim risks appearing speculative.

In summary, this is an engaging and intellectually stimulating paper that offers a compelling theoretical lens through which to view human decision-making. I commend the authors for their insightful work and encourage them to continue developing this important line of research.

Declarations

Potential competing interests: No potential competing interests to declare.