

# Review of: "The Big M Game"

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Potential competing interests: No potential competing interests to declare.

I think the article is very interesting, and the authors were able to convey many ideas and concepts in a concise and elegant way.

I think it is a good initiative towards deeper research.

However...

As you both know, payoffs define NEs of a given game, and I totally agree with the co-author, Prof. Knut - if you swap the payoffs relative to {Press the button, Press the button} and {Do nothing, Do nothing} in a symmetric way, the equilibrium will be the same, but the payoffs will be (10,10) and not (-9,-9), confirming the adequacy of NE as a solution concept, at least in this case.

This is so because a true enemy would like to maximize the suffering of the opponent and, in the described context, that surely means to extend the lifetime.

So, I believe that to improve the model for the problem at hand and draw the proper conclusions, a different payoff configuration is needed, as suggested above.

In order to reinforce the statement about payoffs, below you can find 2 links to papers that illustrate the enormous unexplored power of mechanism design using automatic payoff tuning and NEs.

<https://www.degruyter.com/document/doi/10.1515/jbnst-2020-0040/html>

( or preprint <https://www.preprints.org/manuscript/201911.0148/v2> )

<https://www.qeios.com/read/YQJ272>