

# A fairer penalty shootout design in soccer

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## Abstract

A penalty shootout in soccer is known to be unfair ex-post: the team kicking first has a significant advantage as verified by theory and proved in practice. A so-called Catch-Up Rule has been suggested recently for making the shootout fairer. We show that it does not outperform the less complicated Alternating (ABBA) Rule. However, the slightly modified Alternating Catch-Up Rule, introduced here, performs better than both designs, while it remains straightforward to implement and is essentially strategy-proof.

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