Performance Assessment of Sumo Wrestlers as Incomplete Pairwise Comparison

TSUNESHI OBATA[1]   SHUNSUKE SHIRAISHI[2]

ABSTRACT.

In most competitive sports, one of the main interests of the audience is to know who is truly strong. Various tournaments are held to determine the strongest champions, but the winners depend on the tournament regulations to no small degree. The outcome of a competitive sports match—which wins—can be analogous to a pairwise comparison in decision-making. Using a method that handles incomplete pairwise comparisons, this paper proposes a method for obtaining the values representing the actual performance of teams/players from the results of a semi-round-robin tournament in which not all combinations fight each other, as in the Japanese professional sumo league, Ozumo. An application to the actual data of Ozumo is also provided, and it is shown that the best-performing player does not necessarily become the champion.