

Selecting an Optimal Figure Skating Judging System

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This research treats judged performance sports as a principal-agent contract. I model the factors that influence optimal points systems for judged performance sports such as figure skating. This model yields two distinct effects. The desirability effect indicates that elements that are more beneficial for the sporting federation's output of interest should be given more points. The difficulty effect indicates that more difficult skills should be given fewer points. These effects can work in opposite directions and federations may have to determine which dominates. These results suggest that if a points system is suboptimal, it could be improved by reducing the points allocated to difficult elements. It could also be improved by giving more points to more desirable elements or conversely increasing the deductions applied to undesirable elements.

Secondly, I analyze figure skating performances before and after a change from a ranking system to an additive points system to determine the effect of the change on performances. This analysis suggests the current figure skating judging system may be suboptimal and could be improved according to my model.