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Manipulation in Conditional Decision Markets

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Group Decision and Negotiation

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Abstract:	<p>Conditional decision markets concurrently predict the future and decide on it. These markets price the impact of decisions, conditional on them being executed. After the markets close, a principal decides which decisions are executed based on the prices in the markets. As some decisions are not executed, the respective outcome cannot be observed, and the markets predicting the impact of non-executed decisions are void. This allows ex-post costless manipulation of such markets. We conduct two versions of an online experiment to explore scenarios in which a principal runs conditional decision markets to inform her choice among a set of a risky alternatives. We find that the level of manipulation depends on the simplicity of the market setting. When a trader is alone, has the power to move prices far enough, and the decision is deterministically tied to market prices or a very high correlation between prices and decision is implied, only then manipulation occurs. As soon as another trader is present to add risk to manipulation, manipulation is eliminated. Our results contrast theoretical work on conditional decision markets in two ways: First, our results suggest that manipulation is not a meaningful issue. Second, probabilistic decision rules are used to add risk to manipulation; if manipulation is not a meaningful issue, deterministic decisions provide the better decision with less noise. To the best of our knowledge, this is the first experimental analysis isolating the effects of the conditional nature of decision markets.</p>