

January 25th, 2016

KAP 414

2:00 P.M. – 3:00 P.M.

Professor Sang Hu

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“Casino Gambling Problem under Probability Weighting”

Abstract: Barberis (2012) was the first to employ the cumulative prospect theory (CPT) of Tversky and Kahneman (1992) to model and study casino gambling problem. He et al. (2015) then show path- dependent strategies or randomized strategies can outperform the path-independent strategies computed in Barberis (2012), as a result of lacking quasi-convexity of CPT preferences. We employ the casino gambling model in He et al. (2015) to study the strategies of a pre-committed gambler, who commits her future selves to the strategy she sets up today, and of a naive gambler, who fails to do so and thus keeps changing plans at every time. We identify conditions under which the pre-committed gambler, asymptotically, adopts a stop-loss strategy, exhibits the behavior of disposition effect, or does not exit. For a specific parameter setting when the utility function is piece-wise power and the probability weighting functions are concave power, we derive the optimal strategy of the pre-committed gambler in closed- form whenever it exists. Finally, we study the actual behavior of the naive gambler and highlight its marked differences from that of the pre-committed gambler.