

# Risk-Aversion and Misperceived Winning Probabilities in Discriminatory Share Auctions.\*

Samuel Häfner<sup>†</sup>

March 27, 2018

## Abstract

This paper introduces risk-aversion into a model of a discriminatory share auction in which bidders submit non-increasing step functions with a bounded number of steps. For any given coefficient of constant absolute risk aversion, the bidders' marginal valuations are set-identified. Further, I show that the optimality conditions provide necessary conditions for best-response behavior, which in turn allows for an estimator of the risk preferences. For a novel data set from Swiss meat import quota auctions, I provide evidence that bidders are moderately risk averse. I also show that a tendency to overestimate the competition in the auctions provides a complementary explanation for the observed behavior. My approach allows me to quantify the error in ex-post rent estimates that occurs when these two deviations from risk-neutral Nash-equilibrium play are not appropriately accounted for.

*Keywords:* Discriminatory share auctions, estimation, risk aversion, misperceived winning probabilities, best-response violations

*JEL-Classifications:* D44, C57

---

\*This paper has evolved from the third part of my dissertation at the University of Basel, and supersedes my earlier working paper “Value Bounds and Best Response Violations in Discriminatory Share Auctions”. I am indebted to my supervisor Yvan Lengwiler for ongoing support, and to Georg Nöldeke for many helpful comments. I also benefited from discussions with Allan Collard-Wexler, Marek Pycia, James Roberts, and Kyle Woodward.

<sup>†</sup>University of Basel, Faculty of Business and Economics, Peter Merian-Weg 6, CH-4002 Basel, Email: samuel.haefner@unibas.ch