

# LEVEL-k AUCTIONS: CAN A NONEQUILIBRIUM MODEL OF STRATEGIC THINKING EXPLAIN THE WINNER'S CURSE AND OVERBIDDING IN PRIVATE-VALUE AUCTIONS?

Kei Ikegami

January 12, 2017

# Index

# Purpose

# Precedents

# What's new

# Result

# General Model



# Classification of Auctions





# First Price Auction



# Second Price Auction



# Points



# First Price Auction



# Second Price Auction



# Points



# Random L1 in First Price Auction



# Random L1 in Second Price Auction





# Random L2 in First Price Auction



# Random L2 in Second Price Auction



# Truthful L1 in First Price Auction



# Truthful L1 in Second Price Auction



# Truthful L2 in First Price Auction



# Truthful L2 in Second Price Auction



# Summary Table

- ▶ Table 1 を挿入

# Equilibrium vs Cursed Equilibrium in First Price Auction

- ▶ i.p.v
- ▶ c.v.



# Equilibrium vs Cursed Equilibrium in Second Price Auction

- ▶ i.p.v
- ▶ c.v

# Equilibrium vs Random Level-k in First Price Auction

- ▶ i.p.v
- ▶ c.v

# Equilibrium vs Random Level-k in Second Price Auction

- ▶ i.p.v
- ▶ c.v

# Equilibrium vs Truthful Level-k in First Price Auction

- ▶ i.p.v
- ▶ c.v

# Equilibrium vs Truthful Level-k in Second Price Auction

- ▶ i.p.v
- ▶ c.v

# Cursed Equilibrium vs Random Level-k in First Price Auction

- ▶ i.p.v
- ▶ c.v

# Cursed Equilibrium vs Random Level-k in Second Price Auction

- ▶ i.p.v
- ▶ c.v

# Cursed Equilibrium vs Truthful Level-k in First Price Auction

- ▶ i.p.v
- ▶ c.v



# Cursed Equilibrium vs Truthful Level-k in Second Price Auction

- ▶ i.p.v
- ▶ c.v

# Summary: Where Level-k Model Can Improve?



# Auction Examples: KL



# Auction Examples: AK



# Auction Examples: GHP



# Preparation for Comparing



# How to Compare



# Table3a





# Table3c



# Table3d



## Table3b

- ▶ 他と比率が違う理由もかく

# Summary: Could Level-k Model really Improve?



# Summary



# Implication

