Competitiveness and Speculative Behavior

Christoph Huber

WU Vienna University of Economics and Business

WU WIRTSCHAFTS UNIVERSITÄT WIEN VIENNA UNIVERSITY OF ECONOMICS AND BUSINESS

September 1, 2022
ESA 2022 European Meeting, Bologna

Motivation

- Financial markets are inherently *competitive*
  - traders compete against each other
  - competitive business culture
  - tournament incentives
    (e.g., Brown et al. 1996)

Motivation

- Financial markets are inherently *competitive*
  - traders compete against each other
  - competitive business culture
  - tournament incentives
    (e.g., Brown et al. 1996)

- Financial professionals are particularly *competitive*
    (e.g., survey evidence by Kirchler et al, 2018)

Motivation

- Financial markets are inherently *competitive*
  - traders compete against each other
  - competitive business culture
  - tournament incentives
    (e.g., Brown et al. 1996)

- Financial professionals are particularly *competitive*
  (e.g., survey evidence by Kirchler et al, 2018)

  and particularly *smart*

Motivation

- Financial markets are inherently *competitive*
  - traders compete against each other
  - competitive business culture
  - tournament incentives
    (e.g., Brown et al. 1996)

- Financial professionals are particularly *competitive*
  (e.g., survey evidence by Kirchler et al, 2018)
  and particularly *smart*

→ Are these characteristics conducive for speculation?

→ Can common knowledge about all competitors having these same characteristics lead to less speculation?

Experiment

1. Elicit subjects' individual willingness to compete / cognitive sophistication:
   - Task: add as many two-digits numbers as possible within 2 minutes

Experiment

1. Elicit subjects' individual willingness to compete / cognitive sophistication:
   - Task: add as many two-digits numbers as possible within 2 minutes
   - Competitiveness: 'invest' proportion in *tournament incentive scheme* (Saccardo et al., 2018)

Experiment

1. Elicit subjects' individual willingness to compete / cognitive sophistication:
   - Task: add as many two-digits numbers as possible within 2 minutes
   - Competitiveness: 'invest' proportion in *tournament incentive scheme* (Saccardo et al., 2018)

2. Sort subjects into groups of three according to competitiveness level or according to their performance: LOWest 50%, HIGHest 50%

Experiment

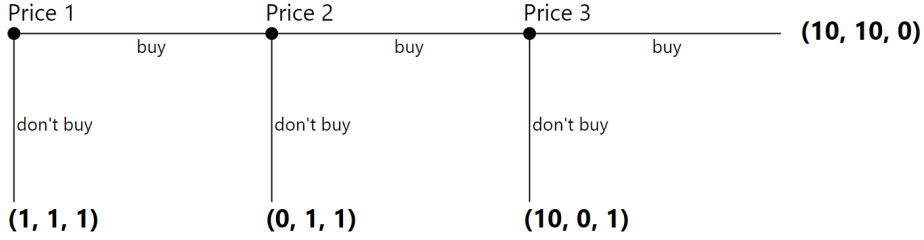
1. Elicit subjects' individual willingness to compete / cognitive sophistication:
   - Task: add as many two-digits numbers as possible within 2 minutes
   - Competitiveness: 'invest' proportion in *tournament incentive scheme* (Saccardo et al., 2018)

2. Sort subjects into groups of three according to competitiveness level or according to their performance: LOWest 50%, HIGHest 50%

3. 'Bubble Game' (Moinas/Pouget, 2013) within these groups of three

Experiment

3. 'Bubble Game' (Moinas/Pouget, 2013) within these groups of three:
   $P_i \in \{1, 10, 100, 1.000, 10.000, 100.000, 1.000.000\}$



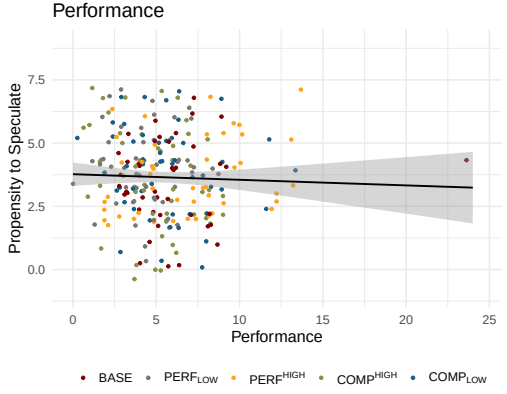
- strategy method
- → individual measure for propensity to speculate (Janssen et al., 2019)

Experiment

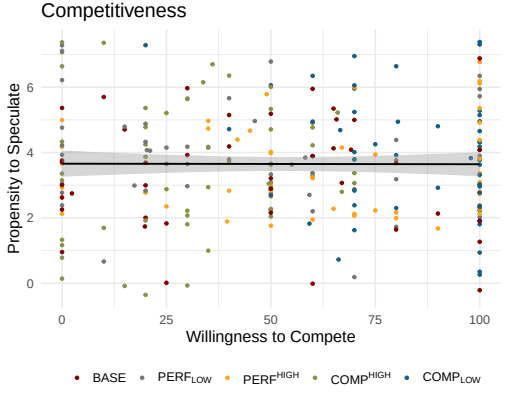
	Information level		
	none	LOW-group	HIGH-group
Information about others' willingness to compete	BASE	$PERF_{LOW}$	$PERF^{HIGH}$
Information about others' performance		$COMP_{LOW}$	$COMP^{HIGH}$

- 246 **male** participants (so far; preregistered: 480, i.e., 96/treatment)
- Student participants, avg. age: 22.8 - 24.7
- Since March 2022, data collection still ongoing in several labs: WU Vienna, Innsbruck, Graz, Brno

Results

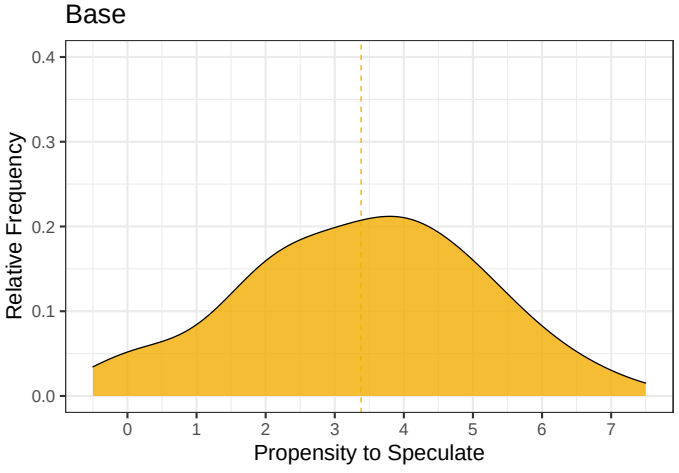


BASE: $\rho = 0.060$
PERF: $\rho = 0.081$
COMP: $\rho = -0.184$

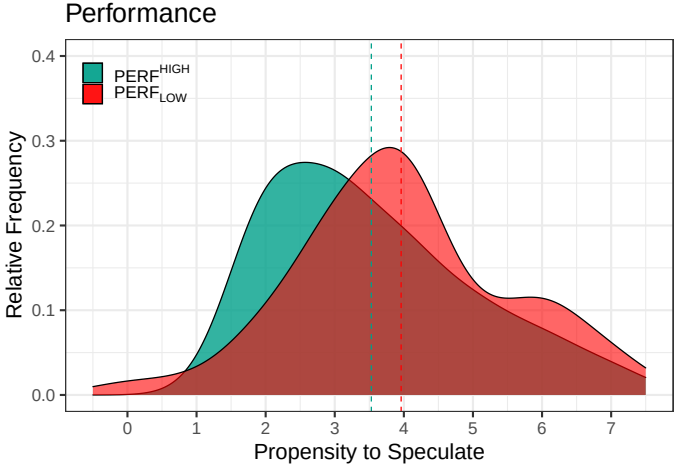


$\rho = -0.035$
$\rho = -0.017$
$\rho = 0.004$

Results


Base
Relative Frequency
0.0
0.1
0.2
0.3
0.4
0
1
2
3
4
5
6
7
Propensity to Speculate

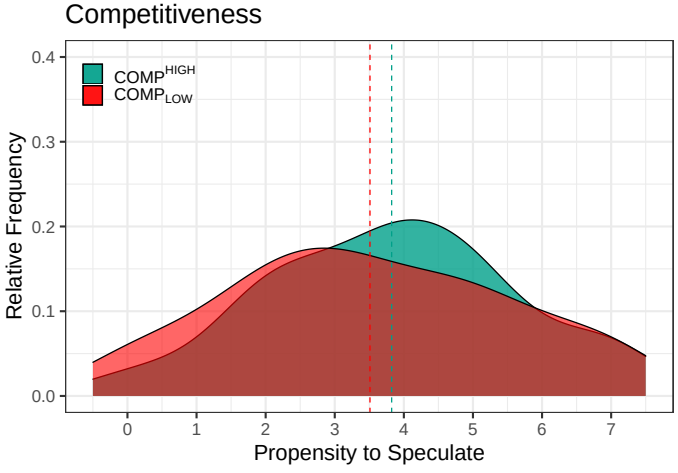
Results



t-test: $p = 0.144$

Wilcoxon ranksum test: $p = 0.075$

Results



t-test: $p = 0.407$

Wilcoxon ranksum test: $p = 0.401$

Results

Beliefs about *others'* performance/competitiveness across treatments

Treatment	Spec.	Beliefs(Performance)	Beliefs(Competitiveness)
BASE	3.381	4.738	4.476
$PERF^{HIGH}$	3.529	4.667	4.708
$PERF_{LOW}$	3.961	4.167	4.292
$COMP^{HIGH}$	3.824	4.267	5.000
$COMP_{LOW}$	3.510	4.800	4.533

(Preliminary) Conclusion

- Neither *Individual competitiveness* nor *Cognitive sophistication* drives speculation

(Preliminary) Conclusion

- Neither *Individual competitiveness* nor *Cognitive sophistication* drives speculation

- BUT: Beliefs about one's competitors' cognitive sophistication seem to matter

(Preliminary) Conclusion

- Neither *Individual competitiveness* nor *Cognitive sophistication* drives speculation
- BUT: Beliefs about one's competitors' cognitive sophistication seem to matter
- ... more data needed

VIENNA UNIVERSITY OF ECONOMICS AND BUSINESS

Christoph Huber
WU Vienna Universit of Economics and Business

christoph.huber@wu.ac.at

chr-huber.com

Thanks!

Funding by GfeW (Reinhard Selten-Stipendum).
Experiments conducted at WULABS (WU Vienna), Innsbruck EconLab, Max-Jung Lab Graz, MUEEL Brno.