

Competitiveness and Speculative Behavior



Christoph Huber

WU Vienna University of Economics
and Business

September 27, 2022
ANZWEE, Sydney



- Financial markets are inherently *competitive*
 - traders compete against each other
 - competitive business culture
 - tournament incentives

- Financial markets are inherently *competitive*
 - traders compete against each other
 - competitive business culture
 - tournament incentives
- Financial professionals are particularly *competitive*
(e.g., survey evidence by Kirchler et al., 2018)

- Financial markets are inherently *competitive*
 - traders compete against each other
 - competitive business culture
 - tournament incentives
 - Financial professionals are particularly *competitive*
(e.g., survey evidence by Kirchler et al., 2018)
- ... but they are also particularly *smart*

- Financial markets are inherently *competitive*
 - traders compete against each other
 - competitive business culture
 - tournament incentives
- Financial professionals are particularly *competitive*
(e.g., survey evidence by Kirchler et al., 2018)

... but they are also particularly *smart*

- Are these characteristics conducive for speculation?
- Can common knowledge about all competitors having these same characteristics lead to more/less speculation?

- What is *competitiveness*?

- What is *competitiveness*?
 - Willingness to compete (under tournament incentives)

- What is *competitiveness*?
 - Willingness to compete (under tournament incentives)
- Competitiveness related to risk seeking
(e.g., Niederle/Vesterlund, 2007; Gillen et al., 2019)
- Competitiveness related to being male
(e.g., Niederle/Vesterlund, 2007; Balafoutas et al., 2018)

- What is *competitiveness*?
 - Willingness to compete (under tournament incentives)
- Competitiveness related to risk seeking
(e.g., Niederle/Vesterlund, 2007; Gillen et al., 2019)
- Competitiveness related to being male
(e.g., Niederle/Vesterlund, 2007; Balafoutas et al., 2018)
- Competitiveness related to financial professionals
(Kirchler et al., 2018)

- What is *competitiveness*?
 - Willingness to compete (under tournament incentives)
- Competitiveness related to risk seeking
(e.g., Niederle/Vesterlund, 2007; Gillen et al., 2019)
- Competitiveness related to being male
(e.g., Niederle/Vesterlund, 2007; Balafoutas et al., 2018)
 - → more speculation / more bubbles?
(e.g., Fellner/Maciejovsky, 2007; Breaban/Noussair, 2015; Eckel/Füllbrunn, 2015; Holt et al., 2017)
- Competitiveness related to financial professionals
(Kirchler et al., 2018)

- What is *competitiveness*?
 - Willingness to compete (under tournament incentives)

- Competitiveness related to risk seeking
(e.g., Niederle/Vesterlund, 2007; Gillen et al., 2019)
- Competitiveness related to being male
(e.g., Niederle/Vesterlund, 2007; Balafoutas et al., 2018)
 - → more speculation / more bubbles?
(e.g., Fellner/Maciejovsky, 2007; Breaban/Noussair, 2015; Eckel/Füllbrunn, 2015; Holt et al., 2017)
- Competitiveness related to financial professionals
(Kirchler et al., 2018)
 - → less speculation / fewer bubbles?
(e.g., Weitzel et al., 2020; Cipriani et al., 2020 (Huber et al., 2021, 2022))

- ... but they are also particularly *smart*

- ... but they are also particularly *smart*
 - Cognitive sophistication related to market efficiency (fewer bubbles) and trading success (Bosch-Rosa et al., 2018; Corgnet et al. 2018)
 - Common knowledge about subjects' rationality is able to eliminate bubbles (Cheung et al., 2014)

Hypothesis 1

Subjects' propensity to speculate increases with their individual willingness to compete.

Hypothesis 1

Subjects' propensity to speculate increases with their individual willingness to compete.

Hypothesis 2

Subjects' propensity to speculate is higher with common knowledge about being in a high-competitiveness group than with common knowledge about being in a low-competitiveness group.

Hypothesis 1

Subjects' propensity to speculate increases with their individual willingness to compete.

Hypothesis 2

Subjects' propensity to speculate is higher with common knowledge about being in a high-competitiveness group than with common knowledge about being in a low-competitiveness group.

Hypothesis 3

Subjects' propensity to speculate is lower with common knowledge about being in a high-cognitive-sophistication group than with common knowledge about being in a low-cognitive-sophistication group.

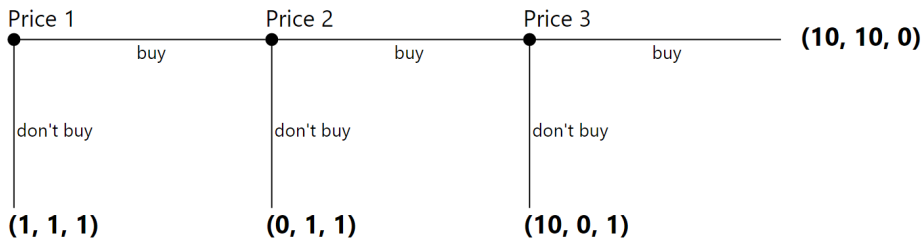
1. Elicit subjects' individual willingness to compete / cognitive sophistication:
 - Task: add as many two-digits numbers as possible within 2 minutes

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)

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%

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

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

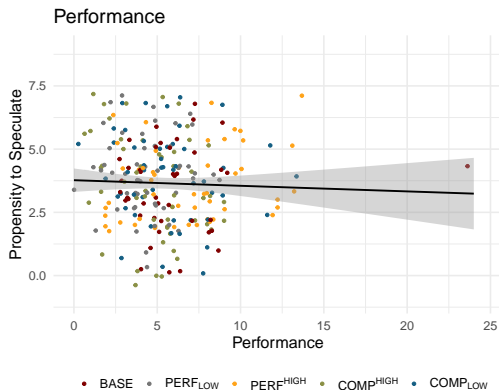
	Information level		
	none	LOW-group	HIGH-group
Information about others' willingness to compete	BASE	PERF _{LOW}	PERF ^{HIGH}
Information about others' performance		COMP _{LOW}	COMP ^{HIGH}

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

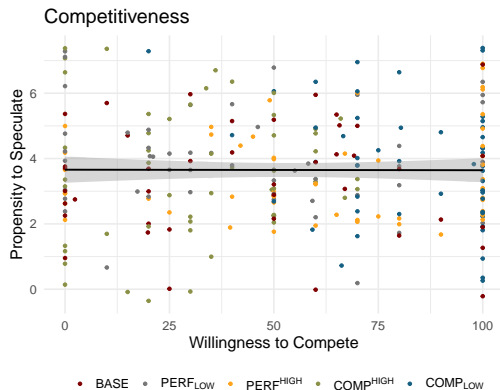
- 246 **male** participants (so far; preregistered: 480, i.e., 96/treatment)
- Student participants, avg. age: 22.8 - 24.7
- Since March 2022, data collection still ongoing in several labs: WU Vienna, Innsbruck, Graz, Brno

Results

Results



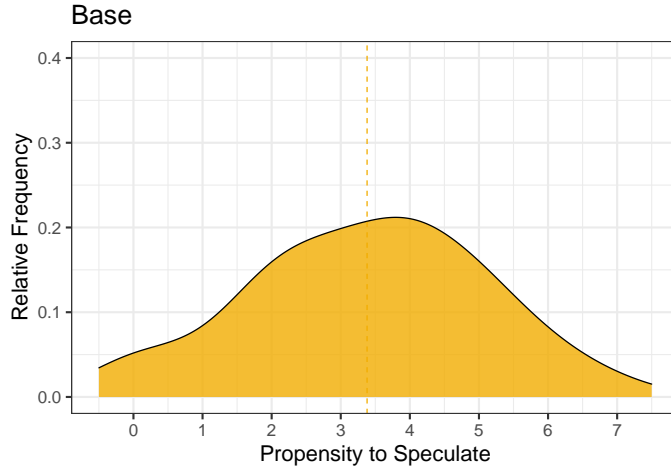
BASE: $\rho = 0.060$
 PERF: $\rho = 0.081$
 COMP: $\rho = -0.184$



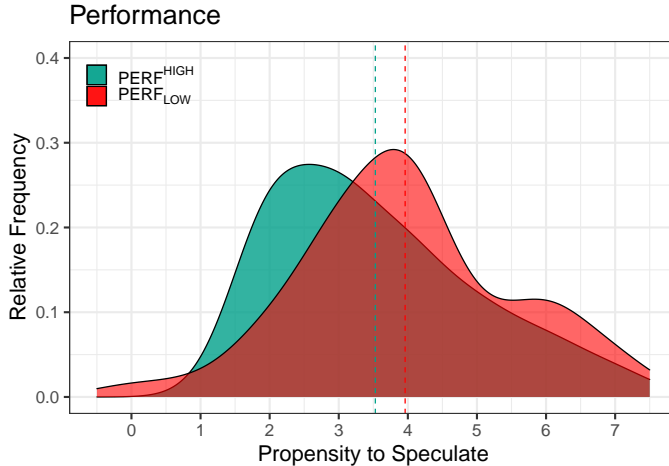
$\rho = -0.035$
 $\rho = -0.017$
 $\rho = 0.004$

Propensity to speculate across treatments

Treatment	Mean	S.d.
BASE	3.381	(1.696)
PERF ^{HIGH}	3.529	(1.433)
PERF _{LOW}	3.961	(1.523)
COMP ^{HIGH}	3.824	(1.786)
COMP _{LOW}	3.510	(2.014)

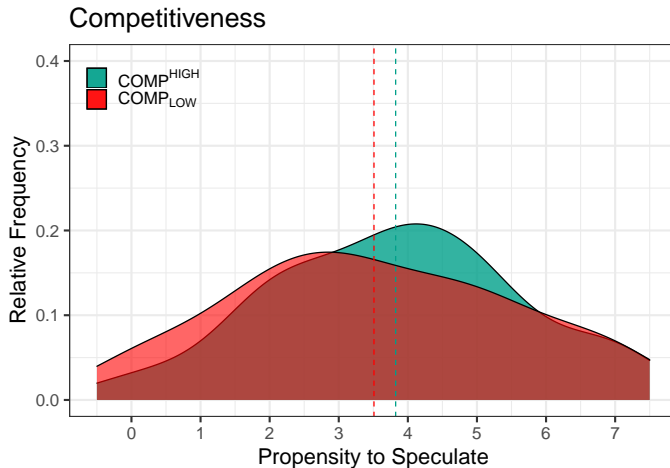


Results



t -test: $p = 0.144$

Wilcoxon ranksum test: $p = 0.075$



t -test: $p = 0.407$

Wilcoxon ranksum test: $p = 0.401$

Beliefs about *others'* cognitive soph. / competitiveness across treatments

Treatment	Spec.	Beliefs(Cog. Soph.)	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* per se is able to predict speculation

(Preliminary) Conclusion

- Neither *Individual competitiveness* nor *Cognitive sophistication* per se is able to predict speculation
- What (seems to) matter:
 - Common knowledge about *others'* cognitive sophistication

(Preliminary) Conclusion

- Neither *Individual competitiveness* nor *Cognitive sophistication* per se is able to predict speculation
- What (seems to) matter:
 - Common knowledge about *others'* cognitive sophistication
 - Beliefs about *others'* cognitive sophistication

(Preliminary) Conclusion

- Neither *Individual competitiveness* nor *Cognitive sophistication* per se is able to predict speculation
- What (seems to) matter:
 - Common knowledge about *others'* cognitive sophistication
 - Beliefs about *others'* cognitive sophistication
- ... more data needed



VIENNA UNIVERSITY OF
ECONOMICS AND BUSINESS

Christoph Huber
WU Vienna University of Economics
and Business

christoph.huber@wu.ac.at

chr-huber.com

Thanks!

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