

Report on Bachelor Thesis

Institute of Economic Studies, Faculty of Social Sciences, Charles University

Student:	Jaroslav Máca
Advisor:	PhDr. Jiří Kukačka, Ph.D.
Title of the thesis:	Herd Behaviour in Financial Markets: Evidence from the Technology Sector

OVERALL ASSESSMENT (provided in English, Czech, or Slovak):

Short summary

The bachelor thesis by Jaroslav Máca analyzes one of the most significant manifestations of the bounded rationality of the stock market participants studied within the field of Behavioral Finance, herding behavior. The study focuses on the U.S. technology sector represented by the NASDAQ-100 index and the last decade affected by the boom of technology stocks in the year before 2020, accompanied by discussions about a potential technology bubble followed by the Covid crash followed by a speedy recovery. Moreover, the thesis goes deeper into the topic. It differentiates between “standard” technology stocks and the influence of so-called “Big Tech Giants” (Alphabet (Google), Amazon, Apple, and Meta (Facebook), Netflix) for which it innovatively applies the methodology standardly used for analyzing the impact of the global financial markets on local herding behavior. It also studies specifically the COVID-19 pandemic year 2020 when the NASDAQ-100 first dropped by 26%, but it recovered extremely fast, and finally, it increased by 46%.

Although Jaroslav worked gradually on the thesis and we had regular consultations over the whole period of the works, the thesis was finalized at the last minute during the Christmas holidays, which unfortunately prevented the final corrections and control on my part.

Contribution

Aside from the contribution already described in the previous section, another significant contribution can be observed at the personal level as Jaroslav mastered a specific scientific approach. He covered and processed extensive literature well and learned to work efficiently with large empirical datasets. As seen in a summary of the evaluation of research hypotheses on page 39, the expected contribution might have been higher than finally delivered. On the other hand, it is essential to avoid the temptation not to publish counter-intuitive and negative results. Still, Jaroslav was able to interpret the challenging results reasonably, especially the “remarkable contagion from the Big Tech to the rest of the US market” that likely indicates a close interconnection between the giant corporation and the rest of the market makes perfect sense.

Methods

The thesis covers a range of standard herding-detection methods surpassing the bachelor-level IES curriculum. First, Jaroslav demonstrates a good understanding of the theoretical framework based on the Cross-sectional absolute deviance (CSAD) metrics and the related set of regression models (upgraded versions based on extreme market volatility, extreme trading volumes, and an external factor) capturing potential nonlinear functional relationship wrt market returns. Second, the research hypotheses were correctly defined (pg. 3) and the regression results correctly interpreted. Various robustness checks complement the main result in the Appendix. Unfortunately, the time constraints did not allow for appropriately detailed elaboration of standard econometric tests of important OLS assumptions, but Newey-West robust standard errors are correctly applied by default. Third, Jaroslav proves his ability to work with publicly available databases of empirical financial data (Yahoo! Finance).

Literature

The literature section is relatively comprehensive and divided into four topical areas. The first two are devoted to the traditional financial paradigm and the field of behavioral finance; the other two focus on the literature on herding behavior in financial markets in general and specific empirical applications of

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the CSAD methodology. All in all, Jaroslav clearly demonstrates that he is familiar with the current literature on the analyzed topic. Finally, citations are appropriately done using a standard style for economic papers.

Manuscript form

The thesis is written in reasonable English, standardly structured, and typeset in LaTeX. Most formatting comments from my side seem considered in the final version. The bibliography section is complete and well-formatted. Moreover, referencing tables and figures is done correctly in the text; the tables are well labeled and described.

Overall evaluation and suggested questions for the discussion during the defense

In my opinion, the assessed thesis fulfills the IES, Faculty of Social Sciences, Charles University bachelor level standards. **Thus I can recommend it for the defense and suggest grade B.**

The results of the Urkund analysis do not indicate significant text similarity with other available sources.

Additional topics for the discussion:

- While the CSAD methodology is still a standard approach to detecting herding in financial markets, some more advanced techniques have been suggested in the literature. Can you briefly elaborate on these methodologies and stress the potential advantages and disadvantages of these approaches?
- What other standard econometric tests could have been elaborated aside from the heteroskedasticity and autocorrelation testing to support the results of the OLS regressions?

SUMMARY OF POINTS AWARDED (for details, see below):

CATEGORY	POINTS
<i>Contribution</i> (max. 30 points)	21
<i>Methods</i> (max. 30 points)	24
<i>Literature</i> (max. 20 points)	19
<i>Manuscript Form</i> (max. 20 points)	19
TOTAL POINTS (max. 100 points)	83
GRADE (A – B – C – D – E – F)	B

NAME OF THE REFEREE: Jiří Kukačka

DATE OF EVALUATION: 16. 2. 2022

Referee Signature

EXPLANATION OF CATEGORIES AND SCALE:

CONTRIBUTION: *The author presents original ideas on the topic demonstrating critical thinking and ability to draw conclusions based on the knowledge of relevant theory and empirics. There is a distinct value added of the thesis.*

METHODS: *The tools used are relevant to the research question being investigated, and adequate to the author's level of studies. The thesis topic is comprehensively analyzed.*

LITERATURE REVIEW: *The thesis demonstrates author's full understanding and command of recent literature. The author quotes relevant literature in a proper way.*

MANUSCRIPT FORM: *The thesis is well structured. The student uses appropriate language and style, including academic format for graphs and tables. The text effectively refers to graphs and tables and disposes with a complete bibliography.*

Overall grading:

TOTAL	GRADE
91 – 100	A
81 - 90	B
71 - 80	C
61 – 70	D
51 – 60	E
0 – 50	F