

Master Thesis Topics HWS 2022

Chair of Finance – Prof. Dr. Erik Theissen



Presentation is downloadable on our website.



Chair of Finance

- **Address:**
 - L 9, 1-2
 - Secretary: third floor (“3. OG”)
 - Assistants: second, fourth, and fifth floor
- **Office hours:**
 - By appointment
 - General questions: please visit our homepage first
 - Questions with regard to master theses: please contact Mr. Can Yilanci
- **Research at the Chair of Finance**
 - a) Market Microstructure
 - b) Empirical Asset Pricing
 - c) Blockchain & Cryptocurrency

Topic Allocation

- **Prerequisite:** You must have successfully completed one seminar of the area "Banking, Finance, and Insurance" (Prof. Albrecht, Prof. Maug, Prof. Niessen-Ruenzi, Prof. Ruenzi, Prof. Spalt, Prof. Theissen).
- The assignment of topics is carried out jointly by the finance area.
- Assignment to the topics will be based on your priority list and the grade in the respective seminar.

Time Schedule

- **Application period:** Thursday, 08.09.2022 – Friday, 16.09.2022
- **Topics Allocation Announcement:** Thursday, 22.09.2022
- **Registration Period:** Thursday, 22.09.2022 – Tuesday, 27.09.2022
- **Starting Date:** Tuesday, 27.09.2022
- **Colloquium:** Friday, 25.11.2022 (in-person)
- **Submission Deadline:** Friday, 27.01.2023

Guide to Scientific Writing

- **An information sheet on writing a seminar paper or a master thesis is provided on our website.**
- **Most important rules:**
 - Your thesis should be 45 pages (+/- 10%).
 - 50 pages is the absolute maximum.
 - Tables and figures have to be included in the text (and count towards the page restriction).
 - Only supplementary material that is not needed to read and understand the thesis may be collected in an appendix.
 - Please only include literature that is either in English or German.

Important Remarks

- **Plagiarism policy:**
 - Your master thesis will be analyzed by plagiarism detection software (Turnitin).
 - Our chair has a **zero-tolerance policy** regarding plagiarism.
 - Students who submit plagiarized work will be graded with 5.0.

- **Language quality:**
 - Grading of your master thesis takes also into account the language quality.
 - Linguistic shortcomings negatively impact your final grade.
 - The master thesis can be either written in English or German.

- **Some topics look more difficult than others. Why should I choose a rather difficult topic?**

We take the difficulty of the topic into account when grading your thesis.

- **Can I do an internship during the writing process?**

We generally advise against doing an internship during the writing process.

- **My computer crashed and I lost all my progress on the thesis. Can I get an extension of the deadline?**

No, you are responsible to make enough backups of your work.

- **Can I submit earlier?**

Yes.

Other Questions?

T1. Shrinking Stock Markets?

Erik Theissen

Topic Description

- In recent years the number of listed corporations has declined. This phenomenon is best documented for the US but is also observable (though to different degrees) in other countries. In this context, the task of this Master thesis is
 - to survey the literature on declining listings,
 - to discuss explanations for and implications of (is it good or bad? why?) the phenomenon of declining listings,
 - to compile a data set on the number of listed firms (and other variables) covering a long sample period (30+ years) and a broad cross-section of countries,
 - to formulate and empirically test hypotheses on the determinants of the number of listed firms - are there (macroeconomic or other) variables that help to explain the changes in the number of listed firms over time and/or across countries?
- The empirical analysis requires Stata literacy and the ability to compile and handle panel data sets.

T1. Shrinking Stock Markets?

Erik Theissen

Starting References

- Doidge, C., A. Karolyi and R. Stulz (2017): The U.S. Listing Gap. *Journal of Financial Economics* 123, 464-487.
- McDonald, M. (2022): The Shrinking Stock Market. *Journal of Financial Markets* 58, 100664.
- Schlingemann, F. and R. Stulz (2022): Have Exchange-Listed Firms Become Less Important for the Economy? *Journal of Financial Economics* 143, 927-958.

T2. Tokenized Stocks

Stefan Scharnowski

Topic Description

- While cryptocurrencies are currently the most prominent application of blockchains in finance, there are many other use cases. One example is the tokenization of financial assets. Bringing conventional assets such as stocks on a blockchain may have advantages when it comes to trading these assets. For example, even tiny fractions of a stock may be traded at relatively low costs.
- While the market for these tokens is still young and relatively small, some exchanges have started to list tokenized stocks. This is typically achieved by issuing tokens that are backed by stocks held in custody. In principle, the tokens are redeemable for the underlying shares.
- The aim of this thesis is to empirically study the trading behavior in tokenized stocks. To this end, a dataset on trades in tokenized stocks from a leading cryptocurrency exchange will be provided. Potentially interesting research questions are how the prices of tokenized stocks differ from the underlying assets and how market quality (for example as given by volatility or liquidity) evolves when regular stock exchanges are closed.

Requirements

The empirical work requires the use of large datasets. The candidate should feel comfortable in the use of a statistical software program (such as Stata) and econometric methods.

T2. Tokenized Stocks

Stefan Scharnowski

Starting References

- FTX Tokenized Stocks <https://help.ftx.com/hc/en-us/articles/360051229472-Tokenized-Stocks>
- Benedetti, Hugo E and Rodríguez-Garnica, Gabriel, Tokenized Assets and Securities (December 15, 2021). Available at SSRN: <https://ssrn.com/abstract=4069119> or <http://dx.doi.org/10.2139/ssrn.4069119>
- Swinkels, L. (2021). Empirical evidence on the ownership and liquidity of real estate tokens. *SSRN Electronic Journal*, 1–28. <https://doi.org/10.2139/ssrn.3968235>
- Chiu, J., & Koepl, T. V. (2019). Blockchain-based settlement for asset trading. *The Review of Financial Studies*, 32(5), 1716-1753. <https://doi.org/10.1093/rfs/hhy122>
- Arslanian, H., & Fischer, F. (2019). A High-Level Taxonomy of Crypto-assets. In *The Future of Finance* (pp. 139-156). Palgrave Macmillan, Cham. https://link.springer.com/chapter/10.1007/978-3-030-14533-0_12
- Momtaz, Paul P., Security Tokens (June 11, 2021). Available at SSRN: <https://ssrn.com/abstract=3865233> or <http://dx.doi.org/10.2139/ssrn.3865233>

T3. Cryptocurrency Performance and Attention

Yanghua Shi

Topic Description

- Cryptocurrency has attracted a lot of attention.
- Cryptocurrency performance and investor attention towards them significantly influence each other.
- Many studies have already verified this. Many of them use Granger causality.
- The purpose of this thesis is to replicate the result from Lin (2021) using daily data (instead of weekly, as done in the paper) with other suitable modification and extension.

Requirements

The empirical work requires the use of large databases on cryptocurrency market data. The candidate should feel comfortable in the use of a statistical software program (such as STATA) and econometric methods.

T3. Cryptocurrency Performance and Attention

Yanghua Shi

Starting References

- Alexander, Carol, and Michael Dakos. "A critical investigation of cryptocurrency data and analysis." Quantitative Finance 20.2 (2020): 173-188.
- Lin, Zih-Ying. "Investor attention and cryptocurrency performance." Finance Research Letters 40 (2021): 101702.
- Zhang, Wei, and Pengfei Wang. "Investor attention and the pricing of cryptocurrency market." Evolutionary and Institutional Economics Review 17.2 (2020): 445-468.
- Subramaniam, Sowmya, and Madhumita Chakraborty. "Investor attention and cryptocurrency returns: Evidence from quantile causality approach." Journal of Behavioral Finance 21.1 (2020): 103-115.
- Dastgir, Shabbir, et al. "The causal relationship between Bitcoin attention and Bitcoin returns: Evidence from the Copula-based Granger causality test." Finance Research Letters 28 (2019): 160-164.
- Philippas, Dionisis, et al. "Media attention and Bitcoin prices." Finance Research Letters 30 (2019): 37-43.
- Urquhart, Andrew. "What causes the attention of Bitcoin?." Economics Letters 166 (2018): 40-44.
- <https://www.analyticsvidhya.com/blog/2021/08/granger-causality-in-time-series-explained-using-chicken-and-egg-problem>
- <https://www.aptech.com/blog/introduction-to-granger-causality/>

T4. Replicating Anomalies: Transaction Costs and Trading Frictions

Can Yilanci

Topic Description

- Hou et al. (2020) report that 65% of 452 replicated anomalies fail to clear the single test hurdle of the absolute t-value of 1.96. In other words, they show that most anomalies in the area of empirical asset pricing are likely false.
- But what about the other 35% (158) of anomalies? Are they only statistically significant or are they also economically significant? The student's task is to analyze how much of the anomalies' gross return is due to transaction costs, infrequent trading, or short sale constraints. For instance, the student can have a look at the methodology of Patton and Weller (2020) to estimate implementation costs.
- Data on the 158 anomalies can be downloaded from the website of Kewei Hou (global-q.org).

Requirements

The empirical work requires the use of large datasets. The candidate should feel comfortable in the use of a statistical software program (such as Stata) and econometric methods.

T4. Replicating Anomalies: Transaction Costs and Trading Frictions Can Yilanci

Starting References

- Hou, K., Xue, C., & Zhang, L. (2018). Replicating Anomalies. In *The Review of Financial Studies* (Vol. 33, Issue 5, pp. 2019–2133).
- Patton, A. J., & Weller, B. M. (2020). What you see is not what you get: The costs of trading market anomalies. In *Journal of Financial Economics* (Vol. 137, Issue 2, pp. 515–549).

T5. More than a Fluke? Investment Strategies of the Robinhood Crowd Can Yilanci

Topic Description

- Welch(2022) analyzes the trading behavior of the Robinhood Crowd during the 2020 Covid bear market. Surprisingly, the behavior of the Robinhood crowd shows no signs of collective panic. Rather, the Robinhood investors showed both good timing and good alpha. What other patterns does the trading behavior of the Robinhood crowd reveal?
- The task of the student is to analyze the aggregate trading behavior of the Robinhood investors. The student might want to have a look at dividends, earnings announcements, or M&A. Do the Robinhood investors increase or decrease their holdings before the aforementioned corporate events? In addition, the student might want to have a look at behavioral biases. For instance, the student might want to analyze whether the Robinhood investors show a disposition effect.
- Data for Robinhood investors will be provided.

Requirements

The empirical work requires the use of large datasets. The candidate should feel comfortable in the use of a statistical software program (such as Stata) and econometric methods.

T5. More than a Fluke? Investment Strategies of the Robinhood Crowd Can Yilanci

Starting References

- Welch, I. (2022). The Wisdom of the Robinhood Crowd. In The Journal of Finance (Vol. 77, Issue 3, pp. 1489–1527).

T6. Is Dividend Juicing A Problem in Passive Funds?

Chen Lin

Topic Description

- Harris, Hartzmark and Solomon (2015) find mutual funds cater for investor dividend preference by purchasing stocks right before they pay out dividends but selling them shortly after, and thus artificially inflating fund dividend payout. Since 'Juicing', as how they name this phenomenon, incurs additional trades, investors are worse off.
- Passive funds such as exchange tradable funds (ETFs) are designed to follow a pre-defined mechanism, which in principle leaves fund managers little room for 'Juicing'. Still, leeway exists. For example, fund managers have the discretion in choosing how to replicate the index. Even indices themselves frequently update their indexing methodologies. Moreover, some ETFs follow indices that are proprietary (Akey, Robertson & Simutin, 2021), which cast doubts on whether they are passive or active. Therefore, it is unclear if dividend juicing is still a problem in ETFs, or to what extent is the problem mitigated in ETFs compared to in mutual funds.
- This master thesis aims to investigate this issue empirically. The student is expected to replicate as a first step the analysis of Harris et al (2015) on mutual funds but with updated data. Then the student shall extend the analysis to ETFs and compare the results to these on mutual funds. It will be plus if the student can make use of the technical differences between ETFs and mutual funds to improve the identification strategy of Harris et al (2015).

Requirements

The empirical work requires the use of large databases (i.e. <CRSP>). The databases are readily accessible for affiliates of the University of Mannheim. The candidate should feel comfortable in the use of a statistical software program (such as STATA) and econometric methods.

T6. Is Dividend Juicing A Problem in Passive Funds?

Chen Lin

Starting References

- Lawrence E. Harris, Samuel M. Hartzmark, David H. Solomon, Juicing the dividend yield: Mutual funds and the demand for dividends, *Journal of Financial Economics*, Volume 116, Issue 3, 2015, Pages 433-451, <https://doi.org/10.1016/j.jfineco.2015.04.001>
- Ben-David, Itzhak and Franzoni, Francesco A. and Kim, Byungwook and Moussawi, Rabih, Competition for Attention in the ETF Space (December 30, 2021). Available at SSRN: <http://dx.doi.org/10.2139/ssrn.3765063>
- Brogaard, Jonathan and Heath, Davidson and Huang, Da, The Heterogeneous Effects of ETFs on Asset Markets (July 28, 2022). Available at SSRN: <http://dx.doi.org/10.2139/ssrn.3510359>
- S&P U.S. Indices Methodology, S&P Dow Jones Indices, <https://www.spglobal.com/spdji/en/documents/methodologies/methodology-sp-us-indices.pdf>
- Akey, Pat and Robertson, Adriana and Simutin, Mikhail, Closet Active Management of Passive Funds (March 1, 2021). Rotman School of Management Working Paper No. 3874582, Available at SSRN: <http://dx.doi.org/10.2139/ssrn.3874582>
- Itzhak Ben-David, Jiacui Li, Andrea Rossi, Yang Song, What Do Mutual Fund Investors Really Care About?, *The Review of Financial Studies*, Volume 35, Issue 4, April 2022, Pages 1723–1774, <https://doi.org/10.1093/rfs/hhab081>

T7. How do academic research affect investment performance?

Hongting Jiang

Topic Description

- In the asset pricing area, finance literature findings can have real impacts on the asset market. Sometimes, the academic findings can diminish the predictable anomalies (McLean and Pontiff, 2016). Sometimes, the publications can nourish anomalies unintendedly.
- CAPM, as one of the most influential models in the asset pricing area, has become the Class 101 of finance students and vast investors shortly after its publication. In a recent paper, A. Horenstein(2021) shows how the publication of CAPM can affect the stock markets. The author finds that the low CAPM-alpha stocks outperformed their high CAPM-alpha peers, but this finding only appeared after the publications of the CAPM model in the 1960s. This is consistent with the intuitions for chasing the high alpha from the widespread and universally applied CAPM model.
- In this thesis, the student will be asked to study the publication-inducing anomaly in a broader context. First, the student should largely replicate the findings in Horenstein(2021). Second, the student should extend the analyses for the international dissemination of or for other important academic research.

Requirements

The empirical work requires the use of large databases (i.e. CRSP, COMPUSTAT). The databases are readily accessible for affiliates of the University of Mannheim. The candidate should feel comfortable in the use of a statistical software program (such as STATA) and econometric methods.

T7. How do Academic Research Affect Investment Performance?

Hongting Jiang



Starting References

- Horenstein, A. R. (2020). The unintended impact of academic research on asset returns: The CAPM alpha. *University of Miami Business School Research Paper*, (18-5).
- Frazzini, A., & Pedersen, L. H. (2014). Betting against beta. *Journal of financial economics*, 111(1), 1-25.
- McLean, R. D., & Pontiff, J. (2016). Does academic research destroy stock return predictability?. *The Journal of Finance*, 71(1), 5-32.
- Barillas, F., & Shanken, J. (2017). Which alpha?. *The Review of Financial Studies*, 30(4), 1316-1338.

T8. Revisit the Russell reconstitution effect

Mengnan Wu

Topic Description

- The Russell reconstitution leads to an exogenous demand shock and an increase in index investing to the stocks at the rank-1000 cutoff. Based on the mechanical rule of Russell indexes, small changes in the capitalizations of firms ranked near 1000 move them between Russell 1000 and 2000 indexes. Since the indexes are value-weighted, more funds track the large stocks in the Russell 2000 than the small ones in the Russell 1000.
- Previous literature finds significant returns associated with the annual reconstitution of the Russell equity indexes and quantifies the extent to which demand curves for stocks slope downward.
- The task of the thesis is
 - to predict assignment of stocks into Russell indexes and to test the price and volume effect around the Russell reconstitution with a fuzzy regression discontinuity design following Chang et al. (2015)
 - to examine the effects of index investing on the markets for individual index stocks with DID approach following Coles et al. (2022)
 - to compare the different research design employed
 - as extension, to look at other outcome variables, i.e. institutional ownership, information production measurements and price informativeness measurements
- The empirical work requires the use of large databases (i.e. CRSP and Compustat). The candidate should feel comfortable in the use of Stata, Python and econometric methods.

T8. Revisit the Russell reconstitution effect

Mengnan Wu

Starting References

- Chang, Y. C., Hong, H., & Liskovich, I. (2015). Regression discontinuity and the price effects of stock market indexing. *The Review of Financial Studies*, 28(1), 212-246.
- Coles, J. L., Heath, D., & Ringgenberg, M. C. (2022). On index investing. *Journal of Financial Economics*, 145(3), 665-683.
- Ben-David, I., Franzoni, F., & Moussawi, R. (2019). An improved method to predict assignment of stocks into Russell indexes (No. w26370). *National Bureau of Economic Research*.
- Wei, W., & Young, A. (2021). Selection Bias or Treatment Effect? A Re-Examination of Russell 1000/2000 Index Reconstitution. *Critical Finance Review*, forthcoming.
- Madhavan, A. (2003). The Russell reconstitution effect. *Financial Analysts Journal*, 59(4), 51-64.