Chair of International Finance

Master's Theses – FSS2021

Prof. Dr. Stefan Ruenzi, Kai Mäckle, Fabian Gamm and Santanu Kundu

Organization

- All necessary information (including topic descriptions) can be found on our chair's website https://www.bwl.uni-mannheim.de/en/ruenzi/teaching/master-courses/masters-theses/
- General information on the allocation procedure can be found on the website of the finance area https://www.bwl.uni-mannheim.de/en/finance/teaching/master/masters-theses/
- Contact details for general questions: Kai Mäckle, maeckle[at]bwl.uni-mannheim.de
- These slides will also be uploaded on the first website (chair website)
- Advisors:
  - Fabian Gamm: gamm[at]bwl.uni-mannheim.de
  - Santanu Kundu: kundu[at]bwl.uni-mannheim.de
  - Kai Mäckle: maeckle[at]bwl.uni-mannheim.de

What are the prerequisites?

- You are a master student within the MMM program.
- You have successfully **completed at least one seminar** at one of the finance chairs (FIN 7XX) or are just about to complete it.
- Some knowledge of statistics and econometrics is useful and participants should be motivated to undertake empirical work. Knowledge acquired in the courses CC502 Applied Econometrics and Stata in Finance might be particularly useful.
- You are available in the time period from April to July.

Upcoming Schedule

- 08.03.2021 – 16.03.2021: Submission of Priority Lists (Ilias, link on finance area website)
- 23.03.2021: Topics Allocation Announcement (finance area website)
- 23.03.2021 – 30.03.2021: Registration Period
- 30.03.2021: Starting Date
- 30.07.2021, 12 pm: Submission of Master's Thesis

Please pay attention to the deadlines! Make sure you have sufficient time to write your paper!

Colloquia

- There will be **two block seminars**. The (preliminary!) dates for these seminars are
  - May 6, 2021
  - June 10, 2021
- The block seminars provide a platform to discuss the structure of your thesis, present (first) empirical results, raise questions, and to further stimulate your research.
- Participation in the block seminars is **mandatory** for all students.
- The colloquia are not graded.

How to apply?

- **Submit your priority list and transcript online** by the deadline (link to Ilias on the finance area website).
- You can combine topics from different chairs.
  - E.g. First preference: "3rd Topic, Chair of Prof. Ruenzi";
  - Second preference: "5th Topic, Chair of Prof. Spalt";
  - Third preference: "4th Topic, Chair of Prof. Theissen"
- Please only choose topics you are really willing to work on.
- The allocation of topics is generally based on the grade of the finance seminar (FIN 7XX).
- The allocation is competitive and the assignment of a topic cannot be guaranteed.

How do we grade?

- Supervision of the thesis by Prof. Ruenzi and the assigned advisor.
- Grading:
  - 100% - Paper
- Own (empirical) contribution will be rewarded.
- Plagiarism: No excuse policy
- If you do not pass or do not hand in your thesis, you must(!) write your thesis at our chair **the next semester**. This is a rule by the examinations' office.
- Formal requirements:
  - 50 pages (±10%) (without appendix)
  - Language: English
  - Detailed formal requirements: See the guidelines provided on our website.

General remarks on the topics

- We will be offering a total of nine topics.
- All topics are **empirical topics** (as are almost all Master‘s theses in the Finance Area).
- Most topics have a common structure: replication and extention.
- How do I get the **data**?
  - Accessible databases at the University of Mannheim
  - Data provided
  - Open source data from the internet / other researchers
- Which **software** should I use?
  - We recommend the use of Stata (due to features and support)
  - A license can be provided for the writing period
  - Other software can also be used upon agreement with your advisor (but you have to manage this all by yourself)

R1: Predicting Intraday and Overnight Stock Returns with Retail Investor Attention

Advisor: Fabian Gamm

Classification: Empirical Topic

Motivation:

- Investor attention is limited: They do not always process information about every stock that exists.
- Since retail investors only own a few stocks and rarely short-sell, a sudden increase in attention towards a stock on aggregate leads to net-buying pressure
- Da et al. (2011) use Google search volume for tickers as a direct measure of retail investor attention
  - High attention stocks initially have high returns that are reversed over the following weeks
- Lou et al. (2019): Retail investors usually place their orders in the evening after the close → reflected in overnight returns
- Institutional investors prefer to trade intraday (higher liquidity) → reflected in intraday returns

Tasks

- Replication: Do high attention stocks underperform subsequently since they are overpriced? (Da et al., 2011)
- Examine whether the initial positive price pressure (caused by retail investors) is reflected in overnight returns whereas the following correction (caused by sophisticated investors) is reflected in intraday returns
- Use a proxy for retail investor trading (Boehmer et al., 2020) in order to test the net-buying hypothesis

Data

- CRSP, Compustat
- Attention data (e.g. Google search volume) and retail trading data will be provided

R2: Retail Investor Attention, the Disposition Effect and Stock Returns

Advisor: Fabian Gamm

Classification: Empirical Topic

Motivation:

- Baseline: Attention-grabbing events can lead to net-buying pressure of investors (see Topic R1)
- Another established fact about retail investors trading is the disposition effect
  - Selling winner stocks too early and keeping on to loser stocks too long
- Yuan (2015): Attention-grabbing events can be an important trigger for the disposition effect
  - Investors have to be aware of the fact that they are holding a stock at a gain/loss
  - On high attention days, net-buying of „new“ investors and the disposition effect of „old“ investors might go in opposite direction (i.e. when old investors hold the stock at a gain → selling)

Tasks

- Replication: Do high attention stocks underperform subsequently since they are overpriced? (Da et al. 2011)
- Examine whether the price impact of retail investor attention is moderated by the disposition effect of “old” investors.
  - Use an market-based measure of the disposition effect as proposed by Grinblatt and Han (2005)

Data

- CRSP, Compustat, Thompson Reuters 13f Institutional Holdings
- Attention data (e.g. Google search volume) will be provided

R3: Extreme Herding and Stock Returns: Evidence from Robinhood

Advisor: Fabian Gamm

Classification: Empirical Topic

Motivation:

- Baseline: Attention-grabbing events can lead to net-buying pressure of investors (see Topic R1)
- Recently, there is an increasing number of first-time retail investors who use online or mobile brokerages (e.g. Robinhood)
- Barber et al. (2020): Attention-induced episodes of intense buying ("extreme herding") of Robinhood investors negatively predict future stock returns
    - Robinhood buying behavior is positively related to indirect proxies of investor attention, e.g. trading volume

Tasks

- Replication: Do stocks that are heavily bought by Robinhood investors underperform? (Barber et al., 2020)
- Test whether extreme herding of Robinhood investors is related to more direct measures of retail investor attention like Google search volume
- Extend the sample by using a proxy for retail investor trading that has been recently proposed by Boehmer et al. (2020) and that is available for a much longer time period.

Data

- CRSP, Compustat
- Robinhood trading data and attention data (e.g. Google search volume) will be provided

R4: Carbon Emissions and Tail Risk

Advisor: Santanu Kundu

Classification: Empirical Topic

Motivation:

- The threat of climate change imposes significant tail risk on all firms in the economy. However, some firms are more exposed to such tail risk as compared to the others.
- Ilhan, et. al (2020) show that options market price in significant tail risk for more carbon-intensive industries.
- However, there is little evidence on the broader equity markets.

Tasks

- Replication: Replicate the relevant findings of Kelly and Jiang (2014). Do you find evidence that the tail risk is mispriced in the cross-section of stock returns?
- Extension: Explore to what extent the tail risk exposure for particular stocks is dependent on its direct carbon emissions? Do you see that the firms with higher carbon emissions have higher tail risk exposures?

Data

- CRSP, Compustat
- Emissions data will be provided

R5: Valuation of Green Innovation

Advisor: Santanu Kundu

Classification: Empirical Topic

Motivation:

- Innovation plays a central role in mitigating climate change. Without new technologies in place, we would not be able to transition to a net-zero economy by 2050
- However, little is known about the response of financial market participants to such green innovation.
- Cohen, Gurun, & Nguyen (2020) document that Green innovation might not always be rewarded by investors

Tasks

- Replication: Replicate the relevant findings of Cohen, Gurun, & Nguyen (2020). Do you find that there is a disconnect between ESG scores and production of green patents?
- Extension: Explore to the market values green innovation following the methodology by Kogan, Papanikolaou, Seru, & Stoffman (2017). Does the stock market value innovation of companies with a larger stock of green patent more?

Data

- CRSP, Compustat
- Patent data will be provided. It is also publicly available.

R6: Does Stock Market Concentration Increase Income Inequality?

Advisor: Santanu Kundu

Classification: Empirical Topic

Motivation:

- One of the major societal problems is the seemingly large divide between the income of the top one percent of the wage earners as compared to the bottom fifty or ninety percent.
- While these facts are safely established, the potential reasons for such rise in inequality is yet to be fully understood.
- Recent literature (e.g. Bae, Bailey, & Kang (2020)) highlight that stock market concentration is bad for the economy
    - It lowers per-capital GDP primarily by regulatory capture, crowding out financing from more innovative firms and inhibiting competition.

Tasks

- Replication: Replicate the main findings of Bae, Bailey, & Kang (2020). Do you also find that stock market concentration is bad for future GDP per capita?
- Extension: Explore if there is any correlation between income inequality and stock market concentration. Is there also a correlation between unemployment and stock market concentration?

Data

- Datastream
- All other datasets are publicly available.

R7: Fund Flows, Investor Sentiment, and Fund Performance

Advisor: Kai Mäckle

Classification: Empirical Topic

Motivation:

- Mutual funds are an important financial intermediary and steer huge amounts of investment capital
- A large literature on fund flows shows that mutual fund investors chase past returns, i.e., mutual fund flows are highest for those funds which had the largest returns in the preceding period (e.g., Sirri and Tufano, 1998, Franzoni and Schmalz, 2017)
- Other contributions reach well beyond the simple flow-return relation:
  - Total risk as measured by a fund's monthly standard deviation of returns, the precision of alpha estimates, down-market beta, benchmark picking, and name changes
- Recently, Franzoni and Schmalz (2017) establish a novel and robust stylized fact: the flow-performance sensitivity of mutual fund flows appears to be a hump-shaped function of market return realizations

Tasks:

- Replication: first, the student should broadly replicate the main findings of Franzoni and Schmalz (2017). Is the flow-performance sensitivity a hump-shaped function of aggregate risk?
- Extension:
  - Stability check using a time-series extension
  - How does the flow-performance sensitivity of mutual fund flows correlate with the Baker and Wurgler (2006) sentiment index?
  - Are fund flows associated with past returns predictive for future fund performance?

Data:

- CRSP

R8: Prescription Opioids, Regulation, and Local Economic Conditions

Advisor: Kai Mäckle

Classification: Empirical Topic

Motivation:

- The opioid epidemic has claimed the lives of more than 450,000 people between 1999 and 2018
- Given its tremendous death toll, unsurprisingly, the opioid epidemic has caught the attention of major news outlets as well as academic research
- Opioid (ab)use might have various consequences for local economic conditions
  - Negative effects: e.g., opioids might have severe side effects
  - Positive effects: e.g., worker might be able to re-enter labor force more quickly after injuries
- Other direction: recent academic papers argue that declining economic conditions create demand for opioids
- Hence, there might be a bi-directional causal relationship between local economic conditions and demand for opioids

Tasks:

- Replication: broadly replicate the major findings of Musse (2020). How do employment changes affect demand for opioids?
- Extension: explore the channel running from opioid use to local economic conditions
  - Examine whether there is a connection between the 2010 reformulation of OxyContin and economic activity
  - Analyze the efficacy of various state-level prescription drug legislations

Data:

- Data will be provided or is publicly available

R9: E-Ratings, Emissions, and the Cost of Capital

Advisor: Kai Mäckle

Classification: Empirical Topic

Motivation:

- Environmental reputation is becoming increasingly important for companies because institutional investors like Blackrock follow more and more environmental criteria in choosing their preferred investment assets
- Changes in investors' preferences can impact expected returns of firms and if investors prefer more sustainable firms, then one can expect to see a decrease in the cost of equity for such firms compared to other firms in the economy
- Using a sample of U.S. firms, Chava (2014) provides evidence that firms having higher environmental performance scores are associated with lower cost of equity and debt
- Complementary evidence by Delis et al. (2019) shows that the cost of debt has increased for firms having higher fossil fuel reserves after the Paris Agreement of 2015

Tasks

- Replication: broadly replicate the findings of Chava (2014). How are environmental performance scores and financing conditions related?
- Potential areas of further investigation:
  - Investigate the sensitivity of the results with respect to using ESG scores from different data providers
  - Examine the relationship of carbon emissions and financing costs
  - Does the Paris Agreement of 2015 matter for financing costs?

Data

- CRSP/Compustat, ESG Scores from MSCI KLD and EIKON
- Data on loans are provided
- Data on carbon emissions might be provided and additional data might be downloaded from Bloomberg

Final Remarks

- Visit our website

  https://www.bwl.uni-mannheim.de/en/ruenzi/teaching/master-courses/masters-theses/

- There you will find a detailed description of every topic.
  - To make an informed choice briefly look at the most important parts of the most important paper of the respective topic (e.g. Introduction, main figure, main table)
- Pay attention to the deadlines (application via Ilias).