

Master's Theses FSS 2024

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Topic S1: ESG Performance at a Major Financial Institution

Classification: Empirical topic

Advisors: Leah Zimmerer, Max Prehn and Simon Landmann (Deutsche Bank)

Finance research is divided on the question of whether ESG activities create firm value. The empirical evidence remains inconclusive, with studies presenting divergent findings, including negative effects (e.g., Krüger, 2015), positive effects (e.g., Flammer, 2015), and instances where outcomes are contingent upon additional factors (e.g., Servaes & Tamayo, 2013).

The relationship between ESG and performance strongly varies across the definition of ESG, different rating providers, and the considered time period. The concept of ESG is less straightforward than one might think. Berg, Kölbl, and Rigobon (2022) analyze how providers of ESG ratings measure ESG and show a notable lack of consensus, as evidenced by low correlations among ESG ratings across different providers.

A fundamental challenge in ESG financial research is the precise definition of ESG activities. Leveraging ESG metrics utilized within the financial industry could potentially enrich the ongoing academic discourse.

The first goal of the thesis is to provide a comprehensive survey of the academic literature on ESG and firm value. The second goal is to assess the ESG metrics adopted by a major financial institution (Deutsche Bank) and construct an ESG index for companies based on these measures. The third goal is to examine whether ESG has an impact on firm value and stock returns.

This thesis is written in cooperation with Deutsche Bank. It provides the opportunity to gain insight into ESG measurement at a major financial institution, to evaluate and adapt those measurements where necessary with the goal of relating ESG performance to financial performance (firm valuation and stock returns), according to state-of-the-art tools from the field of Finance. This thesis offers an exciting opportunity for students to tackle a key empirical challenge for ESG in financial market practice. The topic offers an opportunity for motivated students to excel. If you are looking for a simple topic that allows you to pass your thesis without too much effort, this topic will not be for you.

Requirements:

The empirical work requires the use of large databases, i.e. CRSP. The candidate should feel comfortable in the use of a statistical software program (such as STATA) and econometric methods. The candidate should be willing to visit Deutsche Bank in Frankfurt occasionally (once or twice) in the course of the thesis and potentially present his or her results in Frankfurt at the end.

Introductory Literature:

Berg, F., Kölbl, J. F., & Rigobon, R. (2022). Aggregate confusion: The divergence of ESG ratings. *Review of Finance*, 26(6), 1315-1344.

Fisman, R., Heal, G., & Nair, V. B. (2007). VA Model of Corporate Philanthropy. V Working Paper. Columbia University.

Flammer, C. (2015). Does corporate social responsibility lead to superior financial performance? A regression discontinuity approach. *Management Science* 61 (11), 2549-2568.

Krüger, P. (2015). Corporate goodness and shareholder wealth. *Journal of Financial Economics* 115 (2), 304-329.

Topic S2: Gender and Team Structure Influence on the Disposition Effect: Evidence from Mutual Funds

Classification: Empirical topic

Advisor: Leah Zimmerer

Managers of mutual funds are conventionally perceived as rational agents making informed decisions regarding mutual fund investments. However, empirical evidence suggests that mutual fund managers are also susceptible to behavioral biases. One widely documented behavioral bias influencing the behavior of investors is the disposition effect. The disposition effect refers to investors sell stocks trading at a gain too soon and hold stocks trading at a loss too long (Shefrin and Statman, 1985). Remarkably, the disposition effect has been observed among both retail (Odean, 1998; Grinblatt and Keloharju, 2001) and institutional investors (Grinblatt and Keloharju, 2001; Frazzini, 2006). Understanding the causes and effects of the disposition effect is crucial due to its potential negative impact on investor performance.

Loss aversion significantly impacts the disposition effect. Individuals with higher risk aversion tendencies may be less inclined to realize capital losses, thus exhibiting a greater disposition effect. Women, in particular, have been noted to exhibit higher levels of loss aversion compared to men. Rau (2014) demonstrates through experimental evidence that women tend to realize fewer capital losses, thus exhibiting a higher disposition effect compared to men.

The first goal of the thesis is to provide a comprehensive survey of the academic literature on institutional investors and disposition effect. The second goal is to replicate the main findings of Frazzini (2006) and to analyze whether there still exists a disposition effect for mutual funds. The third goal is to explore whether the gender composition and team structure of mutual funds have an influence on the disposition effect.

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

Introductory Literature:

Grinblatt, M., & Keloharju, M. (2001). What makes investors trade?. *The Journal of Finance*, 56(2), 589-616.

Frazzini, A. (2006). The disposition effect and underreaction to news. *The Journal of Finance*, 61(4), 2017-2046.

Odean, T. (1998). Are investors reluctant to realize their losses?. *The Journal of Finance*, 53(5), 1775-1798.

Rau, H. A. (2014). The disposition effect and loss aversion: Do gender differences matter?. *Economics Letters*, 123(1), 33-36.

Shefrin, H., & Statman, M. (1985). The disposition to sell winners too early and ride losers too long: Theory and evidence. *The Journal of Finance*, 40(3), 777-790.

Topic S3: Media Exposure, Investor Attention, and Mutual Fund Flows: Evidence from ChatGPT

Classification: Empirical Topic

Advisor: Sabrina Yufang Sun

Attention is a scarce cognitive resource (Kahneman (1973)). In an information-rich world, investors have limited attention. A growing body of research finds that investor attention influences stock prices and trading volumes (Barber and Odean (2008), Da, Engelberg, and Gao (2011)). However, it remains an open question how investor attention influences the purchase of mutual funds, and what drives mutual fund investors' attention.

In this master thesis, the student will empirically investigate the determinants and consequences of investor attention in the context of mutual fund investments. In particular, students will learn to use ChatGPT (OpenAI API) to process textual information.

Specific tasks:

- (1) Conduct a thorough literature review on the determinants of mutual fund flow
- (2) Construct and collect measures of mutual fund investor attention based on media exposure, manager characteristics, and regulatory reports.
- (3) Empirically investigate the determinants and consequences of investor attention. In particular, how does investor attention influence fund flows? How does investor attention change around mutual fund mergers?
- (4) Use ChatGPT to investigate the narratives in the media exposure to examine the drivers of investor attention.

Requirements:

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

The student does not need any prior experience with ChatGPT or OpenAI API. I will provide detailed guidance on how to use generative AI to conduct textual analysis.

Related Literature:

Kahneman, D. (2003). Maps of bounded rationality: Psychology for behavioral economics. *American Economic Review*, 93(5), 1449-1475.

Barber, B. M., & Odean, T. (2008). All that glitters: The effect of attention and news on the buying behavior of individual and institutional investors. *The Review of Financial Studies*, 21(2), 785-818.

Da, Z., Engelberg, J., & Gao, P. (2011). In search of attention. *The Journal of Finance*, 66(5), 1461-1499.

Topic S4: The Social Impact of M&A Transactions

Classification: Empirical topic

Advisor: Sabrina Yufang Sun

Over the past ten years, there has been a significant rise in the M&A transactions in the care industry, including healthcare senior care, and childcare. Institutional investors are increasingly drawn to these sectors because of their long-term growth potential and the critical need for innovative solutions to address complex social challenges.

An important open question is whether these M&A transactions in the care industry lead to positive social impact. While proponents cite the potential efficiency gain and innovation, critics argue that the focus on financial returns in these sectors can lead to a lack of attention to the needs of vulnerable populations and the quality of care provided, potentially undermining the social impact. The Master thesis will contribute to this debate by empirically investigating the impact of M&A transactions in the care industry. Specifically, do M&A transactions in the care industry lead to negative social consequences, including lower quality services, disadvantages to employees and vulnerable populations? Alternatively, do these transactions generate positive social impact, such as improved service quality or reduced gender pay gap?

Specific tasks:

- (1) Conduct a thorough review on the relevant literature
- (2) Empirically investigate the social impact of M&A transactions focusing on the US childcare sectors
- (3) Empirically investigate the channels through which M&A deals generate social impact

Requirement:

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

Introductory Literature:

Gupta, A., Howell, S. T., Yannelis, C., & Gupta, A. (2021). Does private equity investment in healthcare benefit patients? Evidence from nursing homes. *NBER Working Paper* (No. w28474).

Kassirer, J. P. (1996). Mergers and acquisitions—who benefits? Who loses?. *New England Journal of Medicine*, 334(11), 722-724.

Pradhan, R., Weech-Maldonado, R., Harman, J. S., & Hyer, K. (2014). Private equity ownership of nursing homes: implications for quality. *Journal of Health Care Finance*, 42(2).

Topic S5: Portfolio pumping of mutual funds: The role of investor attrition

Classification: Empirical topic

Advisor: Annabelle Bröstl

The relationship between mutual fund performance and investor flows has been extensively studied in the literature (see Christoffersen, Musto & Wermers, 2014). Prior literature suggests that the relationship between investor flows and past performance is not linear. In particular, Sirri & Tufano (1998) provide evidence that investor flows are strongly sensitive to performance only for the best-performing funds. This might give managers of mutual funds with slightly lower-than-best performance an incentive to inflate quarter-end performance.

Carhart et al. (2002) document that mutual fund returns indeed exhibit seasonality. They find that 80 percent of funds beat the S&P on the last day of the fourth quarter, whereas only 37 percent of funds beat the S&P the next day. Consistent with managers aiming to cross the threshold to top-performing funds, they provide evidence that the funds with the best year-to-date performance as of the second-to-last day of the year have the greatest price inflation on the last day of the quarter.

The first goal of the thesis is to replicate the main findings of Carhart et al. (2002) including more recent years.

In a more recent paper, Christoffersen & Xu (2017) show that mutual fund investors differ with respect to how sensitive they are to past performance. If portfolio pumping by mutual funds is motivated by investor flows, this should give mutual fund managers with less sensitive investors fewer incentives to inflate performance.

To explore this conjecture, the thesis should, second, investigate whether the findings are different for funds with less performance-sensitive investor flows.

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.

Introductory Literature:

Carhart, M. M., Kaniel, R., Musto, D. K., & Reed, A. V. (2002). Leaning for the tape: Evidence of gaming behavior in equity mutual funds. *The Journal of Finance*, 57(2), 661-693.

Christoffersen, S. E., Musto, D. K., & Wermers, R. (2014). Investor flows to asset managers: Causes and consequences. *Annu. Rev. Financ. Econ.*, 6(1), 289-310.

Christoffersen, S. E., & Xu, H. (2017). Investor attrition and fund flows in mutual funds. *Journal of Financial and Quantitative Analysis*, 52(3), 867-893.

Patel, S., & Sarkissian, S. (2021). Portfolio pumping and managerial structure. *The Review of Financial Studies*, 34(1), 194-226.

Topic S6: Carbon transition risk and stock returns

Classification: Empirical topic

Advisor: Annabelle Bröstl

Mitigating climate change has become one of the most pressing challenges of our time. Although the study of how climate change and climate policies will affect the economy is not a new field of inquiry, it is only recently that financial economists have begun to study the relationship between the risks of climate change and asset prices. The risks associated with climate change are typically divided into two categories: physical and transition risks. The physical risks are risks resulting from climatic events, such as wildfires, storms, and floods, whereas transition risks result from policy action taken to transition the economy away from fossil fuels.

In their seminal paper, Bolton & Kacperczyk (2021) find that firms with high transition risk, as proxied by carbon emissions, have higher stock returns. These results are consistent with investors demanding a compensation for holding stocks with a larger exposure to climate policies. The first goal of this thesis is to summarize the literature on the carbon premium and to replicate the main findings of Bolton & Kacperczyk (2021) using emissions data from LSEG (former Refinitiv) and the US Environmental Protection Agency's Greenhouse Gas Reporting Program (GHGRP).

Transition risk encompasses, amongst others, the risk of reputational damages, technological change and changing climate policies. Gavriilidis (2021) provides evidence that the uncertainty related to which and when climate policies are being implemented varies over time. He proposes an index that measures this uncertainty. The second goal of this thesis is to investigate the time-series of the carbon risk premium and whether it is related to time variations in climate policy uncertainty.

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.

Introductory Literature:

- Aswani, J., Raghunandan, A., & Rajgopal, S. (2024). Are carbon emissions associated with stock returns?. *Review of Finance*, 28(1), 75-106.
- Ardia, D., Bluteau, K., Boudt, K., & Inghelbrecht, K. (2023). Climate change concerns and the performance of green vs. brown stocks. *Management Science*, 69(12), 7607-7632.
- Bolton, P., & Kacperczyk, M. (2021). Do investors care about carbon risk?. *Journal of Financial Economics*, 142(2), 517-549.
- Gavriilidis, K. (2021). Measuring climate policy uncertainty. Available at SSRN 3847388.
- Giglio, S., Kelly, B., & Stroebel, J. (2021). Climate finance. *Annual Review of Financial Economics*, 13, 15-36.
- Hsu, P. H., Li, K., & Tsou, C. Y. (2023). The pollution premium. *The Journal of Finance*, 78(3), 1343-1392.
- Pástor, L., Stambaugh, R. F., & Taylor, L. A. (2022). Dissecting green returns. *Journal of Financial Economics*, 146(2), 403-424.
- Sautner, Z., Van Lent, L., Vilkov, G., & Zhang, R. (2023). Firm-level climate change exposure. *The Journal of Finance*, 78(3), 1449-1498.