

Master's Theses, FSS 2025

Topic R1: The Relation Between Fund Flows and Fund Performance

Advisor: Kai Mäckle

Topic R2: (ESG) Skill in the Mutual Fund Industry

Advisor: Kai Mäckle

Topic R3: Cashflow Timing and Discount-Rate Timing in Mutual Funds

Advisor: Qi Zhang

Topic R4: Information Asymmetries and Fire Sales

Advisor: Qi Zhang

Topic R5: The timing of returns around the publication of anomaly trading signals

Advisor: Paul Seidel

Topic R6: AI and Asset Pricing

Advisor: Paul Seidel

Topic R7: Coauthorship Networks and Gender Gaps in Academic Finance

Advisor: Paul Seidel

Requirements:

All topics offered require empirical, statistical analyses and the use of large databases. The databases are readily accessible for affiliates of the University of Mannheim. The candidate should feel comfortable with the use of a statistical software program (such as STATA) and econometric methods.

Topic R1: The Relation Between Fund Flows and Fund Performance

Classification: Empirical Topic

Advisor: Kai Mäcke

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). Moreover, positive returns asymmetrically attract more flows than those lost due to negative returns (e.g., Chevalier and Ellison, 1997). Other contributions reach well beyond the simple flow-return relation. Factors that have been identified to influence fund flows comprise, among many others, 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. In a recent contribution, 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 the excess market return. This thesis is going to investigate the flow-performance sensitivity in greater detail.

The goal of this thesis is as follows: first, the student should broadly replicate the main findings of Franzoni and Schmalz (2017). Is the flow-performance sensitivity a hump-shaped function of the excess market return? Second, the student could explore whether the results are stable when using more recent data. Third, the student might analyze how the flow-performance sensitivity of mutual fund flows correlates with the Baker and Wurgler (2006) sentiment index. Moreover, the student might also study whether fund flows associated with past returns are predictive for future fund performance? This question might be addressed using a research design along the lines of Song (2020).

Requirements:

The empirical work requires the use of large databases, e.g., the CRSP Survivor Bias-Free Mutual Fund Database. The databases are readily accessible to affiliates of the University of Mannheim. The candidate should feel comfortable with the use of a statistical software program (such as STATA) and econometric methods.

Introductory Literature:

- Sirri, E. R., & Tufano, P. (1998). Costly search and mutual fund flows. *The Journal of Finance*, 53(5), 1589-1622.
- Franzoni, F., & Schmalz, M. C. (2017). Fund flows and market states. *The Review of Financial Studies*, 30(8), 2621-2673.
- Chevalier, J., & Ellison, G. (1997). Risk taking by mutual funds as a response to incentives. *Journal of Political Economy*, 105(6), 1167-1200.
- Baker, M., & Wurgler, J. (2006). Investor sentiment and the cross-section of stock returns. *The Journal of Finance*, 61(4), 1645-1680.
- Song, Y. (2020). The mismatch between mutual fund scale and skill. *The Journal of Finance*, 75(5), 2555-2589.

Topic R2: (ESG) Skill in the Mutual Fund Industry

Classification: Empirical Topic

Advisor: Kai Mäcke

Environmental, social, and governance (ESG) factors are increasingly considered by both institutional and retail investors in their decision-making processes. Ceccarelli, Evans, Glossner, Homanen & Luu (2024) propose a way to measure fund managers' ESG investing skill, i.e., the ability of managers to generate private ESG information that allows them to pick stocks whose ESG ratings will improve in the future and avoid investing in companies with negative future ESG impacts. Specifically, they identify *proactive* ESG fund managers, i.e., managers whose trades predict changes in ESG scores, *reactive* ESG fund managers, i.e., managers whose trades follow changes in ESG scores, and *non-ESG* fund managers.

The goal of this thesis is two-fold. First, the student is expected to carefully replicate the main findings of Ceccarelli, Evans, Glossner, Homanen & Luu (2024) using ESGs rating and incident data from MSCI (IVA) and Sustainalytics. How do managers' trading decisions correlate with changes in the ESG scores of their portfolio holdings? Do their trades predict future changes in ESG scores? Second, the student should extend the results by investigating the relationship between ESG skill and traditional measures of fund manager skill (Berk and van Binsbergen, 2015). Do managers with high (low) ESG skill display high or low levels of value-based skill measures?

Requirements: Mutual fund data can be obtained from the CRSP Survivor Bias-Free Mutual Fund Database and Morningstar. Holdings information and firm-level accounting data can be downloaded from Thomson Reuters and Compustat, respectively. The databases are readily accessible to affiliates of the University of Mannheim. ESG ratings from MSCI will be made available by the supervisor. The candidate should feel comfortable with the use of a statistical software program (such as STATA) and econometric methods.

Introductory Literature:

- Berk, J. B., & Van Binsbergen, J. H. (2015). Measuring skill in the mutual fund industry. *Journal of Financial Economics*, 118(1), 1-20.
- Ceccarelli, M., Evans, R. B., Glossner, S., Homanen, M., & Luu, E. (2024). ESG skill of mutual fund managers. SSRN Working Paper.
- Ceccarelli, M., Glossner, S., & Homanen, M. (2023). Catering through transparency: Voluntary ESG disclosure by asset managers and fund flows. SSRN Working Paper.
- Ceccarelli, M., Ramelli, S., & Wagner, A. F. (2024). Low carbon mutual funds. *Review of Finance*, 28(1), 45-74.
- Parise, G., & Rubin, M. (2023). Green Window Dressing. SSRN Working Paper

Topic R3: Cashflow Timing and Discount-Rate Timing in Mutual Funds

Classification: Empirical topic

Advisor: Qi Zhang

Market timing in mutual funds is known as one of the most common strategies for mutual fund managers. Busse et al. (2019) show that the most active quintile of institutional investors in the ANcerno database executes an average of 1.66 trades per stock per day. Active fund managers may recognize cashflow expectation changes and discount-rate changes as different drivers of price variability and, accordingly, may differentially exploit their cashflow and discount-rate information.

In more recent studies, Lan and Wermers (2024) measure the ability of professional investment managers in timing cashflow versus discount-rate news. They find that equity mutual fund managers possess significant market-timing skills attributable to shifting portfolio exposures to aggregate cashflows, but not to discount rates. Furthermore, they also show that cashflow-timing skills, but not discount-rate timing skills, strongly persist over future quarters.

The aim of this thesis is as follows: first, the student is expected to replicate the main findings of Lan and Wermers (2024). What is more important to the fund managers' market timing skills, cashflow timing or discount-rate timing? Second, the student should extend the analysis to also cover the most recent years.

Requirements: The empirical work requires the use of large databases, e.g., CRSP/IBES. The databases are readily accessible to affiliates of the University of Mannheim. The candidate should feel comfortable with the use of a statistical software program (such as STATA) and econometric methods.

Introductory Literature:

- Busse, J. A., Tong, L., Tong, Q., & Zhang, Z. (2019). Trading regularity and fund performance. *The Review of Financial Studies*, 32(1), 374-422.
- Lan, C., & Wermers, R. (2024). Cashflow timing vs. discount-rate timing: An examination of mutual fund market-timing skills. *Management Science*, 70(2), 694-713.

Topic R4: Information Asymmetries and Fire Sales

Classification: Empirical topic

Advisor: Qi Zhang

Fire sales are defined as situations when stocks have to be quickly sold by mutual funds due to outflows the fund faces. This can lead to those stocks trading well below market value and make stock prices remain depressed for prolonged periods of time following fire sales. However, there is relatively little empirical evidence on the determinants of fire sale discounts.

In a more recent study, Dow and Han (2018) propose an information-based model using a noisy rational expectation equilibrium framework to interpret fire sale discounts. They argue that if fund managers know more about the fundamental value of their holdings than other investors, then potential buyers may be reluctant to purchase these assets even when the fund manager is forced to sell some of them. As a result, asset prices must fall for the market to clear.

Subsequent work by Huang et al. (2023) provides empirical evidence for the influence of information asymmetries on asset prices following fire sales. They use short interest and future earnings surprises as proxy variables for managers' unobservable negative signals and decompose fund manager trades into expected and discretionary components. They show that discretionary trades contain more negative information than expected trades. Discretionary trades are correlated with large price drops, and these prices remain low for several years. By contrast, expected trades experience much smaller price drops that quickly reverse.

The aim of this thesis is as follows: first, the student is expected to replicate the main findings of Huang et al. (2023). Can the price pressure following fire sales be explained by negative information? Are the discretionary trades of mutual fund managers associated with significant price drops? Second, the student should extend the analysis to also cover the most recent years.

Requirements: The empirical work requires the use of large databases, e.g., Compustat/CRSP. The databases are readily accessible to affiliates of the University of Mannheim. The candidate should feel comfortable with the use of a statistical software program (such as STATA) and econometric methods.

Introductory Literature:

- Dow, J., & Han, J. (2018). The paradox of financial fire sales: The role of arbitrage capital in determining liquidity. *The Journal of Finance*, 73(1), 229-274.
- Huang, S., Ringgenberg, M. C., & Zhang, Z. (2023). The information in asset fire sales. *Management Science*, 69(9), 5066-5086.

Topic R5: The timing of returns around the publication of anomaly trading signals

Classification: Empirical topic

Advisor: Paul Seidel

Recent research by Bowles, Reed, Ringgenberg, and Thornock (2024) highlights that academic studies often form portfolios at fixed annual dates (e.g., every June) and therefore rely on stale information. They show that many accounting-based anomalies actually yield *higher* and *more concentrated* abnormal returns in the *immediate* weeks following the precise release of relevant firm information (e.g., 10-K filings). The findings suggest that we systematically underestimate anomaly returns if we ignore the real-time arrival of public financial data.

The goal of this thesis is two-fold. First, the student should broadly replicate the main findings of Bowles et al. (2024). Do accounting anomalies generate abnormally high returns soon after new financial information is released? Are these returns substantially weaker if portfolios are formed at a delayed annual date (à la Fama and French)? This includes the self-construction of a selected set of market anomalies using standard Fama and French procedures, obtaining and incorporating point in time data and developing a framework for rebalancing. Second, the student might extend the analysis by incorporating (1) other accounting anomalies or (2) selected non-accounting anomalies to test whether the same time-concentration of returns holds for these strategies. An extension may involve measuring transaction costs when portfolios are updated frequently.

Requirements: The empirical work requires the use of large databases (e.g., CRSP, Compustat, EDGAR). These databases are readily accessible to affiliates of the University of Mannheim. The candidate should feel comfortable using a statistical software program (such as Python or STATA) and econometric methods.

Introductory Literature:

- Bowles, B., Reed, A. V., Ringgenberg, M. C., & Thornock, J. R. (2024). Anomaly Time. *The Journal of Finance*, 79(5), 3543–3580.
- Fama, E. F., & French, K. R. (1992). The cross-section of expected stock returns. *The Journal of Finance*, 47(2), 427–465.
- McLean, R. D., & Pontiff, J. (2016). Does academic research destroy stock return predictability? *The Journal of Finance*, 71(1), 5–32.
- Chen, A. Y., & Zimmermann, T. (2020). Publication bias and the cross-section of stock returns. *Review of Asset Pricing Studies*, 10(2), 249–289.

Topic R6: AI and Asset Pricing

Classification: Empirical topic

Advisor: Paul Seidel

Recent work by Novy-Marx and Velikov (2025) demonstrates how Large Language Models (LLMs) can automate the generation of new return predictors and fabricate convincing theoretical rationales—a process that greatly amplifies “HARKing” (Hypothesizing After Results are Known). In the same paper, the authors outline a rigorous “assaying anomalies” protocol to help differentiate genuinely robust factors from spurious data-mined signals.

The goal of this thesis is two-fold. First, the student should replicate selected parts of Novy-Marx and Velikov’s (2025) empirical pipeline using CRSP and Compustat data. This will involve mining potential accounting- or market-based signals and applying the authors’ systematic filters (e.g., sorting procedures, factor model controls) to identify which signals survive. Second, the student will shift to a theory-first approach: by prompting an LLM to generate ex-ante economic hypotheses (rather than ex-post rationalizations) about which firm characteristics should predict returns. The student will then implement an automated validation step that tests these AI-proposed hypotheses out-of-sample—adhering to the “assaying anomalies” framework—to investigate whether LLM-derived ideas can yield robust anomalies when the AI is not allowed to “peek” at the data beforehand.

In conducting this project, the student will develop expertise in advanced database handling (CRSP/Compustat), portfolio sorts, factor regressions, and LLM-based prompt engineering. The broader aim is to assess the viability of an AI-driven, theory-first pipeline that could accelerate discovery of legitimate new return predictors while minimizing spurious or data-mined results.

Requirements: The databases (CRSP, Compustat) are readily accessible to affiliates of the University of Mannheim. The candidate should feel comfortable with a statistical software program (e.g. Python) and econometric methods. Familiarity with (or a willingness to learn) LLM APIs/prompt engineering is beneficial.

Introductory Literature:

- Novy-Marx, R., & Velikov, M. (2025). *AI-Powered (Finance) Scholarship*. Working Paper.
- Harvey, C. R., Liu, Y., & Zhu, H. (2016). ...and the cross-section of expected returns. *Review of Financial Studies*, 29(1), 5–68.
- Chen, A. Y., & Zimmermann, T. (2020). Publication bias and the cross-section of stock returns. *Review of Asset Pricing Studies*, 10(2), 249–289.

Topic R7: Coauthorship Networks and Gender Gaps in Academic Finance

Classification: Empirical topic

Advisor: Paul Seidel

Recent evidence underscores that female representation among finance scholars remains disproportionately low, even controlling for a range of productivity measures. One possible explanation is that women's opportunities to collaborate shape these disparities. While datasets on publication records and university rosters capture basic outputs, they often overlook the underlying social structure of who works with whom.

Coauthorship-network data make it possible to study these collaboration patterns in greater detail. By mapping which authors write together, how often, and over what timescales, these datasets can reveal whether female researchers appear clustered in smaller or less influential teams, or face barriers to joining the core "hubs" of active collaboration. Such network insights can also shed light on how repeated coauthorship, team sizes, or subfield affiliations differ for women and men—and whether these differences help explain observed gaps in promotion or placement (Sherman and Tookes, 2021).

Analyzing coauthorship networks can also highlight dynamic trends: do newer female academics form broad coauthor links as easily as men, and does that advantage (or disadvantage) persist over time? Understanding the specific pathways by which women gain or lose collaborative momentum could be pivotal for shaping interventions—such as mentoring, targeted funding, or conference-based matching—that aim to broaden and equalize opportunity in academic finance.

The student will be provided with a co-authorship dataset, which I have constructed. It contains a scraped raw dataset, consisting of a large sample of publications from finance journals and can be used to build a coauthorship-network dataset.

As a baseline of this master thesis, the student can replicate core empirical findings from Sherman and Tookes (2021). However, this topic is very open to extending the analysis. Together with me new ideas can be developed. Therefore, the network-dataset should be exploited to gain new findings on publication structures and biases in the academic finance profession.

Requirements: Familiarity with a programming environment (e.g. Python) is required. Moreover, interest in new research on publication biases or gender biases is highly recommended. Additionally, knowing or having the willingness to learn the basic concepts of the course IS 622 (Network Science) is necessary. If you have questions, please feel free to contact me: paul.seidel@uni-mannheim.de.

Introductory Literature:

- Getmansky Sherman, M., Tookes, H. (2021). Female Representation in the Academic Finance Profession. *Journal of Finance*, 77(1), 317-365.