

Master's Thesis Topics HWS 2019

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Topic S1: Team-Managed Mutual Funds and the Disposition Effect

Classification: Empirical Topic

Advisor: Frederik Horn

The disposition effect has been introduced by Shefrin and Statman (1985) and describes the tendency of investors to sell 'winner stocks' too early and to hold on to 'losers' for too long. The disposition effect is often explained on the basis of prospect theory preferences which capture that losses have a stronger emotional impact than gains. In a more recent paper, Frazzini (2006) finds that the disposition effect is not only present among unsophisticated, individual investors, but also among mutual fund managers.

In another strand of the mutual fund literature, Bär et al. (2010) find that team managed mutual funds follow less extreme investment strategies, manage funds with lower overall risk, and their holdings are less concentrated in particular industries. If team management also reduces the likelihood of being subject to behavioral biases, team managed funds may be less likely to exhibit the disposition effect.

The goal of this thesis is to replicate the findings of Frazzini (2006) regarding the disposition effect among mutual fund managers and extend the author's analysis to cover more recent years. In a second step, the student should explore how the composition of a fund's management team affects the susceptibility to fall prey to the disposition effect. Do teams mitigate the disposition effect? How does it affect a fund's performance?

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 with the use of a statistical software program (such as STATA) and econometric methods.

Introductory Literature:

- Shefrin, Hersh, and Meir Statman, 1985, The disposition to sell winners too early and ride losers too long: Theory and evidence, *Journal of Finance* 40, 777-790.
- Frazzini, Andrea, 2006, The disposition effect and underreaction to news, *Journal of Finance* 61, 2017-2046.
- Bär, Michaela, Alexander Kempf, and Stefan Ruenzi, 2010, Is a team different from the sum of its parts? Evidence from mutual fund managers, *Review of Finance* 15, 359-396.

Topic S2: Investor Sentiment, FEARS, and Investor Demand

Classification: Empirical Topic

Advisor: Frederik Horn

In their seminal paper, Baker and Wurgler (2006) construct an investor sentiment index and find that the demand for young, small, and volatile stocks is high in times of high investor sentiment and low in times of low investor sentiment. It was long assumed that this demand arises from irrational, individual investor trading. In contrast to this traditional view, DeVault et al. (2019) argue in a recent paper that it is institutional investors, not retail investors, that engage in sentiment trading. This would suggest that institutional investors drive sentiment induced mispricing.

With respect to measuring sentiment, Da et al. (2014) construct a novel measure of investor sentiment by aggregating Google searches for recession related terms. They argue that Google searches represent a more direct measure of individual investor sentiment as they capture the aggregated, economic concerns of all households in the US economy. Hence, it should better capture individual investor sentiment than the Baker and Wurgler sentiment index.

The goal of this thesis is to first replicate the main findings of DeVault et al. (2019) and to extend the sample period to include more recent years. Second, the student should replicate the FEARS index by Da et al. (2014) and explore whether the results of DeVault et al. (2019) also hold for this more direct measure of individual investor sentiment.

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 with the use of a statistical software program (such as STATA) and econometric methods.

Introductory Literature:

- Baker, Malcolm, and Jeffrey Wurgler, 2006, Investor sentiment and the cross-section of stock returns, *Journal of Finance* 61, 1645-1680.
- Da, Zhi, Joseph Engelberg, and Pengjie Gao, 2014, The sum of all FEARS: Investor sentiment and asset prices, *Review of Financial Studies* 28, 1-32.
- DeVault, Luke, Richard Sias, and Laura Starks, 2019, Sentiment metrics and investor demand, *Journal of Finance* 74, 985-1024.

Topic S3: Mutual Funds, Religious Beliefs and Gambling Attitudes

Classification: Empirical topic

Advisor: Leah Zimmerer

Kumar, Page, and Spalt (2011) show that peoples' religious beliefs can be used as an indicator for their gambling propensity. Specifically, Catholics are more prone towards gambling than Protestants. Therefore, the variation in the ratio of Catholics to Protestants (CPRATIO) across U.S. counties can be used to identify geographical variation of gambling behavior. Kumar et al. (2011) find that "institutions located in high CPRATIO regions assign larger weights to stocks with lottery features and simultaneously under-weight non-lottery-type stocks".

The first step of this thesis is to replicate the findings of Kumar et al. (2011) for mutual funds for the period 2000-2018, i.e., to examine whether mutual funds buy more lottery stocks in regions with high CPRATIO (for a definition of lottery stocks see Kumar (2009)).

Next, the analysis should be extended based on the findings of Hong and Kacperczyk (2009) who show that there is an impact of social norms on the market. Institutions that are norm-constrained hold less so-called "sin" stocks. Building on this evidence, the student should analyze whether funds in high CPRATIO regions hold more stocks of the gaming or alcohol industry. Additionally, variation in the ratio of people affiliated with a church to atheists (CARATIO) across U.S. counties can be used to examine whether social norms are driven by religious beliefs and thus whether mutual funds which are located in states with a higher CARATIO hold less "sin" stocks.

Requirements:

The empirical work requires the use of large databases, i.e. CRSP and/or COMPUSTAT. The databases are readily accessible for affiliates of the University of Mannheim. Additionally, "Churches and Church Membership" files can be downloaded from the American Religion Data Archive (ARDA). The candidate should feel comfortable in the use of a statistical software program (such as STATA) and econometric methods.

Introductory Literature:

- Hong, Harrison, and Marcin Kacperczyk, 2009, The price of sin: The effects of social norms on markets, *Journal of Financial Economics* 93, 15-36.
- Kumar, Alok, 2009, Who gambles in the stock market?, *Journal of Finance* 64, 1889-1933.
- Kumar, Alok, Jeremy K. Page, and Oliver Spalt, 2011, Religious beliefs, gambling attitudes, and financial market outcomes, *Journal of Financial Economics* 102, 671-708.

Topic S4: Mutual Funds and Technical Analysis

Classification: Empirical topic

Advisor: Leah Zimmerer

Technical analysis can be defined as a set of tools that allows to predict future returns of financial assets based on past market data. Dating back to Fama (1970), weak form market efficiency implies that information about past prices and returns is incorporated in current prices. Hence, chart and technical analysis should not allow investors to earn economic rents. Thus, it is sometimes classified as “voodoo finance.” However, some papers in the literature find evidence that technical indicators are able to forecast stock returns. For example, Lo et al. (2000) state that technical analysis provides incremental information to value a stock. Technical trading rules are widely implemented in practice and are believed to be profitable by at least some practitioners. According to Menkhoff (2010), a large portion of mutual fund managers use technical analysis in their daily work. The aim of this thesis is to answer the question whether US fund managers use technical analysis to make buy or sell decisions and to analyze the fund performance.

The research question should be addressed in three steps. First, the student has to get familiar with technical indicators and examine the CRSP stock database to determine which stocks should be bought or sold based on a range of technical indicators at a given date. Second, this information should be used to analyze fund portfolio holdings. Are some fund managers more likely to buy or sell those stocks? Third, the performance and characteristics of funds which rely more on technical indicators should be analyzed.

Requirements:

The empirical work requires the use of large databases, i.e. CRSP and/or 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.

Introductory Literature:

- Menkhoff, Lukas, 2010, The use of technical analysis by fund managers: International evidence, *Journal of Banking & Finance* 34, 2573-2586.
- Fama, Eugene F., 1970, Efficient capital markets: A review of theory and empirical work, *Journal of Finance* 25, 383-417.
- Nazário, Rodolfo T. F., Jéssica L. e Silva, Vinicius A. Sobreiro, and Herbert Kimura, 2017, A literature review of technical analysis on stock markets, *Quarterly Review of Economics and Finance* 66, 115-126.
- Lo, Andrew W., Harry Mamaysky, and Jiang Wang, 2000, Foundations of technical analysis: Computational algorithms, statistical inference, and empirical implementation, *Journal of Finance* 55, 1705-1765.

Topic S5: Criminals in Suits - The Public Perception of Financial Crime

Classification: Empirical topic

Advisor: Alison Schultz

In the largest tax fraud of German history, about €32 billions of tax-payers' money were lost through cum-ex and cum-cum deals during the last years. Given a federal budget of about €350 billions per year, this sum is impressive. However, public outrage was very limited, especially when compared with other concurrent political events.¹

One possible explanation for the relatively low and short-lasting public interest in cum-ex, cum-cum and other financial crime scandals (e.g. Panama papers or Paradise papers) is that the public perceives financial crime to be less severe than other types of crime (Holtfreter et al. (2008)). For instance, Compin (2015, p.432) notes that "tax fraud and evasion are socially acceptable and even seen as a national sport in certain countries".

This thesis should investigate if this hypothesis is true. To do so, the candidate should set up a survey experiment to assess **if respondents' moral judgment about a person committing a crime differs depending on the crime being of financial or non-financial nature (and/or on the criminal being a financial or a non-financial actor)**. The survey experiment should be programmed in an online survey tool (soscisurvey.com) and distributed among students of the University of Mannheim. Subsequently, the gathered data should be analyzed with simple statistical methods.

Requirements:

The candidate should be willing to design an experiment. To do so, s/he should be ready to read methodological literature on experiments. Supported by the advisor, s/he will need to implement the experiment in the online survey tool and distribute the survey through social media. The candidate should be able to perform basic statistical tasks in Excel, preferably in Stata, R or Matlab.

Introductory Literature:

- Box, George E. P., J. Stuart Hunter, and William G. Hunter, 2005, *Statistics for experimenters: Design, innovation and discovery*, New York: Wiley.
- Compin, Frederic, 2015, Tax fraud: A socially acceptable financial crime in France?, *Journal of Financial Crime* 22, 432-446.
- Holtfreter, Kristy, Shanna Van Slyke, Jason Bratton, and Marc Gertz, 2008, Public perceptions of white-collar crime and punishment, *Journal of Criminal Justice* 36, 50-60.
- Simpson, Sally S. 2013, White-collar crime: A review of recent developments and promising directions for future research, *Annual Review of Sociology* 10, 132-139.

¹ For example, federal expenses related to flight and asylum amounted to about 13 billion euros per year (including federal payments to states and cities, excluding expenses to fight causes of flight). Debates about the costs for refugees have however been much more present both in the media and in political discussions.

Topic S6: Does Institutional Divestment from Fossil Fuels Affect the Stock Price of Coal Companies?

Classification: Empirical topic

Advisor: Alison Schultz

Under the slogan ‘Not a Penny More for Dirty Energy’, the [fossil fuel divestment campaign](#) demands to ‘cut off the social license and financing for fossil fuels’ by divesting from the biggest oil, gas, and coal companies. As by summer 2019, 1116 institutions have stopped their investments in fossil fuel companies. Financial assets of about US\$ 9.94 trillion have been declared as ‘fossil free’, ‘coal free’ or ‘free of tar sands’.

While, initially, educational and faith-based organizations and philanthropic foundations divested due to moral reasons, an increasing number of financially motivated actors has recently joined them. These insurance companies, pension funds, and banking institutions justify their divestment with the financial and fiduciary risks associated with investment in a sector that relies on a business model which proves incompatible with the globally declared goal of keeping global warming below 2°C.

Consistent with Fossil Free activists’ focus on the societal, cultural and political, rather than the financial, impact of divestment, empirical research on the fossil fuel campaign has highlighted its role as a lever for social and political change (e.g. Ayling and Gunningham (2015), Bratman (2016)). Fossil fuel divestment’s *financial impact*, on the other hand, has received little attention.

Theoretically, divestment’s potential to hurt firms financially is controversial: On the one hand, the mere selling of stocks will not change future cash flows. If the *efficient market hypothesis* holds, divestment should thus not have any impact (Fama (1970), Hunt et al. (2016)). On the other hand, following Harris and Gurel’s (1986) *price pressure hypothesis*, the stock price could be pressured downwards, at least for a short time. According to Scholes’ (1972) *imperfect substitutes hypothesis*, this drop could even sustain. Which of these hypotheses proves most relevant for the fossil fuel divestment campaign is an open empirical question.

This thesis should contribute to filling this gap. Focusing on the largest divesting institution, i.e. Norway’s government pension fund, the **impact of fossil fuel divestment on the stock price of affected companies** should be analyzed. In an event study, the candidate should assess the stock price reaction of firms from which the fund divested, both around the fund’s announcement to divest, and around the days when specific shares were sold.

Requirements:

The candidate should have a high interest in the topic, be willing to read a broad range of literature, and be comfortable with econometric methods and a statistical program (Stata, R, or Matlab). Divestment data will be provided. Stock market and other data should be downloaded from the university’s databases.

Introductory literature:

- Ayling, Julie, and Neil Gunningham, 2015, Non-state governance and climate policy: The fossil fuel divestment movement, *Climate Policy* 17, 131-149.
- Bratman, Eve, Kate Brunette, Deirdre C. Shelly, and Simon Nicholson, 2016, Justice is the goal: Divestment as climate change resistance, *Journal of Environmental Studies and Sciences* 6, 677-690.

- Fama, Eugene F., 1970, Efficient capital markets: A review of theory and empirical work, *Journal of Finance* 25, 383-417.
- Hunt, Chelsie, Olaf Weber, and Truzaar Dordi, 2016, A comparative analysis of the anti-Apartheid and fossil fuel divestment campaigns, *Journal of Sustainable Finance & Investment* 7, 64-81.
- Harris, Lawrence, and Eitan Gurel, 1986, Price and volume effects associated with changes in the S&P 500 list: New evidence for the existence of price pressures, *Journal of Finance* 41, 815-829.
- Scholes, Myron S., 1972, The market for securities: Substitution versus price pressure and the effects of information on share prices, *Journal of Business* 45, 179-211.

Other sources to start reading about the topic:

- <https://www.theguardian.com/environment/2015/feb/05/worlds-biggest-sovereign-wealth-fund-dumps-dozens-of-coal-companies>
- <https://gofossilfree.org/>

Topic S7: Mutual Fund Manager Experience and Skill

Classification: Empirical Topic

Advisor: Frederik Horn

A vast literature in Finance has explored the skill of mutual fund managers focusing on the performance of these fund managers. Many of the early studies find no evidence for fund manager skill (e.g. Carhart, 1997). However, Kasperczyk et al. (2014) argue that there are two components to fund manager skill, namely stock-picking skill and market-timing ability. They find that fund managers exhibit stock picking skill in good markets and market timing ability in bad market states. These skills subsequently translate into substantial outperformance of these funds.

However, it remains unclear where this skill comes from. Somehow counterintuitively, they discover that more experienced managers display lower stock picking abilities. They measure experience based on years of tenure. In a recent working paper, Kempf et al. (2017) develop a novel measure of mutual fund manager experience based on investing activity in a particular industry. They argue that investors learn more about an industry in bad times than in good times and discover that fund managers experienced in a particular industry significantly outperform their counterparts in these industries.

The student should replicate the main findings of Kasperczyk et al. (2014). As a possible extension, the student could construct the experience measure of Kempf et al. (2017) and explore whether the more advanced measure of fund manager experience increases fund managers' overall skill or whether it only affects a particular aspect of skill (stock picking or market timing).

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 with the use of a statistical software program (such as STATA) and econometric methods.

Introductory Literature:

Carhart, M. M. (1997). On persistence in mutual fund performance. *The Journal of Finance*, 52(1), 57-82.

Kasperczyk, M., Nieuwerburgh, S. V., & Veldkamp, L. (2014). Time-varying fund manager skill. *The Journal of Finance*, 69(4), 1455-1484.

Kempf, E., Manconi, A., & Spalt, O. G. (2017). Learning by doing: The value of experience and the origins of skill for mutual fund managers. *Available at SSRN 2124896*.

Topic S8: The Gold Platinum Ratio and the Cross-Section of Stock Returns

Classification: Empirical Topic

Advisor: Leah Zimmerer

The intertemporal CAPM (ICAPM) introduced by Merton (1973) suggests that rational investors do not only consider the uncertainty of future payoffs of their assets, but also try to smooth their consumption. Therefore, they care about the covariance between states of the world and stock returns in these states of the world. Stocks whose returns are historically negatively correlated with economic uncertainty are bought by loss averse investors in order to hedge against potential market downturns. However, it is impossible to directly observe economic uncertainty, which makes it necessary to rely on proxies for measuring it. The question how to measure the economic state has been widely discussed in research. Bali et al. (2017) use the economic uncertainty index of Jurado et al. (2015) to construct an uncertainty beta. They show that in times of high economic uncertainty, investors preferably invest into stocks that historically performed well during periods of higher economic uncertainty.

Huang and Kilic (2019) propose the ratio of gold to platinum prices as a proxy for an economic state variable. They argue that gold and platinum are both used for consumption, but only gold is valuable in times of severe distress. Thus, the GP ratio captures countercyclical variation in uncertainty. Huang and Kilic (2019) show that the GP ratio is a strong predictor of future stock returns.

The goal of the thesis is to first replicate the main findings of Huang and Kilic (2019) and extend the sample period to include more recent years. Second, the student should analyze if the GP ratio is priced in the cross-section of stock returns. Third, it should be examined how the “GP factor” varies over time and how it relates to other factors.

Requirements:

The empirical work requires the use of large databases, i.e. CRSP and/or 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

Introductory Literature:

Merton, R. C. (1973). An intertemporal capital asset pricing model. *Econometrica: Journal of the Econometric Society*, 867-887.

Jurado, K., Ludvigson, S. C., & Nagel, S. (2015). Measuring uncertainty. *American Economic Review*, 105 (3), 1177-1216.

Bali, T. G., Brown, S. J., & Tang, Y. (2017). Is economic uncertainty priced in the cross-section of stock returns? *Journal of Financial Economics*, 126 (3), 471-489.

Huang, D., & Kilic, M. (2019). Gold, platinum, and expected stock returns. *Journal of Financial Economics*, 132(3), 50-75.

Topic S9: Identity in Finance and Economics

Classification: Literature review

Advisor: Alison Schultz

Identity matters. Recently, this has been most obvious in the political sphere with the rise of populist parties and identity-based political arguments. Concomitantly, there is a large body of literature analyzing the connection between social identities and political behavior, mostly voting behavior (e.g. Shayo (2009)).

Identity should not only matter in politics, however. It should likewise be relevant for human behavior in all other social contexts, including economics and finance. For example, customers of Islamic banking institutions or ESG investors are likely driven by identity. However, so far, there is little research on how identity shapes financial and economic decisions². Moreover, no comprehensive overview of the existing work in this field exists.

The aim of this master thesis is to fill this gap. The candidate should review existing theoretical and empirical research linking identity with finance, in particular, and with economics, in general. In addition, s/he should assess which insights from other social sciences (in particular from psychology, sociology and political science) could be applied to finance and economics.

Requirements:

The candidate should have very strong analytical skills. S/he should be highly interested in the topic and willing to read literature from economics and finance, but also from other social sciences.

Introductory Literature:

- Akerlof, George, and Rachel Kranton, 2000, Economics and identity, *Quarterly Journal of Economics* 115, 715-753.
- Bénabou, Roland, and Jean Tirole, 2011, Identity, morals, and taboos: Beliefs as assets, *Quarterly Journal of Economics* 126, 805-855.
- Costa-Font, Jean, and Frank Cowell, 2015, Social identity and redistributive preferences: A survey, *Journal of Economic Surveys* 29, 357-374.
- Shayo, Moses, 2009, A model of social identity with an application to political economy: Nation, class, and redistribution, *American Political Science Review* 103, 147-174.
- Thompson, Scott, and Loveland, James, 2015, Integrating identity and consumption: An identity investment theory, *Journal of Marketing Theory and Practice* 23, 235-253.

² One exception is the marketing literature. In marketing, the effect of identity on consumption behavior has received considerable attention. See, for instance, Thompson and Loveland (2015).