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Master Thesis Topics HWS 2013

TOPIC R3: **Textual Analysis of Analyst Recommendations – Evidence from Germany**
Advisor: Alexander Hillert

TOPIC R4: **An Empirical Analysis of Mutual Fund Expenses and 12b-1 Fees in the US**
Advisor: Alexander Hillert

TOPIC R5: **Portfolio Optimization via Covariance Forecasts**
Advisor: Michael Ungeheuer

TOPIC R6: **Flow-Induced Predictability of Stock-Liquidity and Activity**
Advisor: Michael Ungeheuer

TOPIC R7: **Systematic Fund Flows and Fund Managers' Liquidity Management**
Advisor: Michael Ungeheuer

TOPIC R8: **Investor Attention and IPOs in Germany and the U.S.**
Advisor: Paris Tsotsonos

TOPIC R3: Textual Analysis of Analyst Recommendations – Evidence from Germany

Classification: Empirical topic
Advisor: Alexander Hillert

Research on financial analysts has shown that markets react to their stock recommendations (e.g. Womack (1996), Brav and Lehavy (2003)). There is a large literature on how quantitative factors of the recommendation influence market reactions, e.g. target prices and forecasts of elements of financial statements. However, surveys of the Institutional Investors magazine reveal that investors consistently consider written reports as more important than simple earnings estimates (cf. "What Investors Really Want" Institutional Investors 1998-2011). But there are only several papers which focus on the qualitative information of the report:
Huang et al. (2013) analyze more than 360,000 analyst reports on S&P 500 companies over the period from 1995 to 2008. They employ a naïve Bayes machine learning approach which assigns a report to one of three categories (negative, neutral, and positive) using a maximum likelihood procedure. They show that the tone of the report helps to explain the cumulative abnormal return around the publication of the report even when controlling for quantitative measures (e.g. target prices or earnings forecasts). Furthermore, they find that investors react more strongly to negative comments than to positive ones.
Twedt and Rees (2012) analyze about 2,000 analyst initiation reports issued in 2006 and find a positive reaction to the tone of the report. In contrast to regular analyst recommendations initiation reports are issued when an analyst decides to cover a company and they are longer and more favorable. Therefore, it is questionable whether the results might be generalized to regular analyst reports.
Asquith et al. (2005) manually analyze 1,126 analyst reports and construct a variable called "strength of the argument" by subtracting the number of categories with negative remarks from the number of categories with positive remarks. They find the unintuitive result that markets react negatively to the strength of the argument. However, this finding might be driven by the small sample and/or by their focus on top-ranked "All-American First Team" analysts.
The aim of this thesis is to provide evidence whether the textual tone of analyst reports matters in Germany. In the first step the student should provide a literature overview on studies about market reactions to analyst recommendations. In doing so the student should identify quantitative and qualitative factors that can explain market reactions to reports. In the next step the student should conduct a textual analysis of analyst reports about German companies. This can be done by using a standard word counting approach (e.g. based on the word list of Loughran and McDonald (2011)) or by using a Bayes machine learning approach. Finally the student should test whether the tone of the report helps to explain the stock market reaction to the report when controlling for quantitative factors.
All relevant databases are accessible at the University of Mannheim. A raw dataset of the analyst recommendations will be provided. However, some editing of the texts is required (e.g. removing some parts of the text like disclosures required by regulators or descriptions of the brokerage firm). Access to the linguistic software LIWC and Antconc is provided at the Chair of International Finance.

Requirements:

A sound knowledge in textual analysis is needed for this topic. Therefore students with an expertise in textual analysis (e.g. participants of the FIN 780 seminar "Finance and Linguistics") will be preferred in the allocation process. Furthermore, basic knowledge (or ability/willingness to acquire basic knowledge) in econometrics and STATA is required.

Introductory Literature:

Asquith, P., M. Mikhail and A. S. Au, 2005. Information Content of Equity Analyst Reports, Journal of Financial Economics, 75, 245-282.

Brav, A. and R. Lehavy, 2003. An Empirical Analysis of Analysts' Target Prices: Short-term Informativeness and Long-Term Dynamics, Journal of Finance, 58, 1933-1968.

Huang, A., A. Zang, and R. Zheng (2013), Large-sample Evidence on the Informativeness of Text in Analyst Reports, Working Paper.

Loughran, T., and B. McDonald (2011), When is a Liability not a Liability? Textual Analysis, Dictionaries, and 10-Ks, Journal of Finance, 66, 35-65.

Twedt, B. and L. Rees, 2012. Reading between the Lines: An Empirical Examination of Qualitative Attributes of Financial Analysts' Reports, Journal of Accounting and Public Policy, 31, 1-21.

Womack, K. L., 1996. Do Brokerage Analysts' Recommendations Have Investment Value?, Journal of Finance, 51, 137-167.

TOPIC R4: An Empirical Analysis of Mutual Fund Expenses and 12b-1 Fees in the US

Classification: Empirical topic
Advisor: Alexander Hillert

According to rule 12b-1 of the Investment Company Act of 1940 mutual funds are allowed to make payments from the fund's assets for the marketing and the distribution of the fund's shares. The main argument for the introduction of this rule in the 1970s was that the existing shareholders of the fund would benefit from attracting new investors by economies of scale. For example, fixed costs like legal expenses would be smaller (on a per share basis) when a fund gets larger. However, 12b-1 plans might also create conflicts of interest since the compensation of fund advisers is based on assets under management and therefore fund advisers have an incentive to use the fund's assets to grow the fund to get a higher compensation. Although there is a large literature about fees, fund performance and conflicts of interest (e.g. Carhart (1997). Dukes et al. (2006), Ferris and Chance (1987), Tufano and Sevick (1997)), there is room for further analysis using detailed data on fees and expenses from the funds' filings with the SEC. Mutual funds are required to submit semi-annually form NSAR filings. These filings contain information about what the 12b-1 fees are used for (e.g. advertising, payments to brokers or dealers, direct payments to sales personnel, etc.) and about the expenses of the fund (e.g. auditing fees, legal fees, registration fees, etc.). This information is more detailed than the information available in commonly used databases like the CRSP mutual fund database. Therefore, a dataset based on SEC filings allows to better address research questions about mutual funds' expenses and fees.
In the first step the student should provide a literature review about mutual fund fees, expenses, and performance. Second, the student should analyze how mutual fund fees and especially 12b-1 fees have evolved over time and what they are used for. Furthermore, she should test whether funds with 12b-1 fees grow faster than funds without 12b-1 fees. Third, she should check whether there are economies of scale and whether a fund's shareholders profit from 12b-1 fees through lower expenses.
All relevant databases (CRSP, Compustat, MFLinks) are accessible at the University of Mannheim. A raw dataset of NSAR reports obtained from EDGAR will be provided. Nevertheless some data preparation, e.g. merge between a fund's SEC identifier and its CRSP mutual fund identifier, is required.

Requirements:

Basic knowledge (or ability/willingness to acquire basic knowledge) in econometrics and STATA is required.

Introductory Literature:

Carhart, M.M. (1997), On Persistence in Mutual Fund Performance, Journal of Finance, 52, 57-82.

Dukes, W.P., P.C. English II, and S.M. Davis (2006), Mutual Fund Mortality, 12b-1 fees, and the net expense ratio, Journal of Financial Research, 29, 235-252.

Ferris, S.P., and D.M. Chance (1987), The Effect of 12b-1 Plans on Mutual Fund Expense Ratios: A Note, Journal of Finance, 42, 1077-1082.

Tufano, P., and M. Sevick (1997), Board structure and fee-setting in the U.S. mutual fund industry, Journal of Financial Economics, 46, 321-355.

TOPIC R5: Portfolio Optimization via Covariance Forecasts

Classification: Empirical topic
Advisor: Michael Ungeheuer

Markowitz's (1952) portfolio optimization procedure requires two categories of inputs which have to be estimated: expected returns and (co-)variances of returns. It is well-known that – relative to (co-)variances – expected returns are hard to estimate precisely based on historical data. Furthermore, Markowitz's optimal portfolio weights are very sensitive to small changes in these expected return estimates. This estimation problem can lead to 'unreasonable' portfolio-weights (e.g. Chopra/Ziemba, 1993) and discourages portfolio managers from using mean-variance optimization. In the words of Michaud (1989): 'The unintuitive character of many "optimized" portfolios can be traced to the fact that [mean-variance] optimizers are […] "estimation-error maximizers".' One solution is to ignore expected returns and simply minimize portfolio variance, i.e. to find the global minimum variance portfolio. Of course, this leaves the portfolio manager with the problem of (co-)variance estimation.

The goal for this master thesis is to analyze the performance of different (co-)variance estimation procedures in building optimal minimum-variance portfolios. In addition to the minimization of portfolio return variance, you are expected to analyze the minimization of tracking error variance, i.e. the variance of portfolio returns minus benchmark returns. This is motivated by the common evaluation of portfolio managers' performance *relative to their benchmark*. Particularly, you are expected to replicate and extend Chan et al's (1999) study. The extension should include the usage of several new factor models and more recent data from CRSP's U.S. stock database.

Requirements:

The empirical work for this topic requires the use of statistical software (e.g. Stata and possibly MATLAB), manipulation of data, the application of econometric methods and implementation of portfolio optimization (e.g. the calculation of optimal portfolio weights using matrices). Some experience in this area would be helpful.

Introductory Literature:

Markowitz, H.M. (1952): Portfolio Selection, Journal of Finance, 7, pp. 77-91.

Michaud, R.O. (1989): The Markowitz Optimization Enigma: Is 'Optimized' Optimal?, Financial Analysts Journal, 45, pp. 31-42.

Chopra, V.K., Ziemba, W.T. (1993): The Effect of Errors in Means, Variances and Covariances on Optimal Portfolio Choice, Journal of Portfolio Management, 19, pp. 6-11.

Chan, L.K.C., Karceski, J., Lakonishok, J. (1999): On Portfolio Optimization: Forecasting Covariances and Choosing the Risk Model, Review of Financial Studies, 12(5), pp. 937-974.

DeMiguel, V.L., Garlappi, F.J., Uppal, R. (2009): Optimal versus Naïve Diversification: How Inefficient is the 1/N Portfolio Strategy?, 22(5), pp. 1915-1953.

TOPIC R6: Flow-Induced Predictability of Stock-Liquidity and Activity

Classification: Empirical topic
Advisor: Michael Ungeheuer

When retail investors sell mutual fund shares, fund managers are forced to liquidate assets. Similarly, purchases of fund shares lead to purchases of assets by fund managers. Empirically, fund managers react to fund outflows (inflows) – i.e. sales (purchases) of investors – by scaling down (up) their positions. And these trades have been found to impact market prices temporarily (Coval and Stafford, 2007). Furthermore, fund flows are predictable based on past performance and past flows (e.g. Sirri and Tufano, 1998). This has led researchers to analyze the predictability of stock returns based on *expected* fund flows. As an illustration: If many funds holding loser stocks – i.e. stocks that have performed badly over the past year – are expected to have high outflows during the next months, one might predict that the loser stocks will be sold by these funds, causing further negative returns due to price impact. Hence, fund flows might explain (parts of) the momentum anomaly. Lou (2012) finds evidence for this hypothesis.

The task for this master thesis is to analyze the predictability of stock *liquidity and activity* based on expected fund flows. The temporary impact of fund-flow induced trading on market prices indicates that the affected stocks are illiquid. Specifically, fund flows might cause liquidity demand by fund managers, which is not immediately met by increased liquidity supply. You are expected to use several liquidity-measures (e.g. the Amihud illiquidity ratio) and activity-measures (e.g. turnover).

Requirements:

The empirical work for this topic requires the use of statistical software (e.g. Stata), elementary manipulation of data (e.g. the calculation of Amihud's illiquidity ratio from return, price and volume data) and the application of econometric/statistical methods. Some experience in this area would be helpful. I will provide you with a well-prepared fund dataset (flows and holdings).

Introductory Literature:

Sirri, E.R., Tufano, R., 1998, Costly Search and Mutual Fund Flow, Journal of Finance 53, 1589-1622.

Coval, J., E. Stafford (2007): Asset Fire Sales (and Purchases) in Equity Markets, Journal of Financial Economics, 86, pp. 479-512.

Lou, D. 2012, A Flow-Based Explanation for Return Predictability, Review of Financial Studies 25, 3457-3489.

Koch, A., S. Ruenzi, L. Starks (2010): Commonality in Liquidity: A Demand-Side Explanation, Working Paper.

Goyenko, R.Y., C.W. Holden, C.A. Trzcinka (2009): Do liquidity measures measure liquidity?, Journal of Financial Economics, 92(2), pp. 153-181.

TOPIC R7: Systematic Fund Flows and Fund Managers' Liquidity Management

Classification: Empirical topic
Advisor: Michael Ungeheuer

Sales (purchases) of mutual fund shares lead to trading activity by mutual fund managers (see last topic). This trading activity can be very costly for mutual funds if stock prices are impacted by their trades, i.e. if stocks become illiquid (Coval and Stafford, 2007). Single funds should particularly expect flow-induced trading to cause liquidity costs, if flows are 'systematic', i.e. if many funds holding similar assets are affected. This could be the case if the entire equity mutual fund industry experiences out- or inflows. It could also be the case if investors reallocate funds systematically within the industry, e.g. from value- to growth-funds. As an illustration: If many funds that hold Apple-stocks experience outflows simultaneously, the demand for liquidity in Apple increases and a temporarily lower price (or higher spread) of Apple might be caused, leading to lower fund-returns. Thus fund managers should be interested in actively managing portfolio liquidity, so that they are not forced to pay these liquidity costs in case of outflows or inflows. As fund flows are predictable (e.g. Sirri and Tufano, 1998), fund managers generally have the possibility of predicting systematic fund flows, the impact on their portfolio and thus anticipate flows by increasing liquidity.

The task for this master thesis is to analyze whether (how) mutual fund managers subject to (expected) systematic fund flows actively manage liquidity. You are expected to use several liquidity-measures (e.g. the Amihud illiquidity ratio).

Requirements:

The empirical work for this topic requires the use of statistical software (e.g. Stata), elementary manipulation of data (e.g. the calculation of Amihud's illiquidity ratio from return, price and volume data, see Goyenko et al. for measures) and the application of econometric/statistical methods. Some experience in this area would be helpful. I will provide you with a well-prepared fund dataset (flows and holdings).

Introductory Literature:

Sirri, E.R., Tufano, R., 1998, Costly Search and Mutual Fund Flow, Journal of Finance 53, 1589-1622.

Coval, J., E. Stafford (2007): Asset Fire Sales (and Purchases) in Equity Markets, Journal of Financial Economics, 86, pp. 479-512.

Koch, A., S. Ruenzi, L. Starks (2010): Commonality in Liquidity: A Demand-Side Explanation, Working Paper.

Goyenko, R.Y., C.W. Holden, C.A. Trzcinka (2009): Do liquidity measures measure liquidity?, Journal of Financial Economics, 92(2), pp. 153-181.

TOPIC R8: Investor Attention and IPOs in Germany and the U.S.

Classification: Empirical topic
Advisor: Paris Tsotsonos

Traditional asset pricing models assume that information, once it arrives, is incorporated instantaneously into security prices. In reality however, attention is a scarce cognitive resource, especially for individual (retail) investors, who have small resources and limited tools for information production. Theoretical and empirical studies have shown that limited attention may affect asset prices. For instance, Barber and Odean (2008) show that retail investors are net-buyers of attention-grabbing stocks, since they only consider stocks that have previously caught their attention when making their portfolio decisions. The authors measure attention indirectly, using extreme returns, trading volume and news as proxies.
In a recent study, Da, Engelberg and Gao (2011) use the Google search volume index (SVI) as a direct measure of attention to examine the effect on publicly traded stocks and IPOs. SVI measures the trend in Google searches for a given company. They find that an increase in SVI predicts higher stock prices in the short-run. For IPOs, they find that increased attention leads to higher initial IPO returns, followed by an eventual return reversal in the long-run. These results are consistent with SVI being related with attention-induced buying behavior as in Barber and Odean (2008).
The goal of this thesis is to (1) review and illustrate the existing relevant literature on the effect of (limited) attention on asset prices, and (2) conduct an own empirical study on the effect of attention on IPO pricing and returns in Germany and the United States. As a start, the study of Da, Engelberg and Gao (2011) should be (partly) replicated. Then, the study should be extended to include German IPOs and to answer more advanced questions, such as the effect of attention on IPO bubbles.
All relevant databases (SDC, CRSP, Datastream, and COMPUSTAT) are accessible at the University of Mannheim. Google SVI data is provided under www.google.com/trends.

Requirements:

A sound knowledge in corporate finance is needed for this topic. Basic knowledge (or ability/willingness to acquire basic knowledge) in econometrics and STATA is required. Furthermore, a (relatively simple) web-crawling program will have to be programmed in order to collect Google SVI data.

Introductory Literature:

Barber, B.M., and Odean, T. (2008): All that Glitters: The Effect of Attention and News on the Buying Behavior of Individual and Institutional Investors, Review of Financial Studies 21, 785-818.

Da, Z., Engelberg, J., and Gao, P. (2011), In Search of Attention, Journal of Finance, 66, 1461-1499.

Fink, C., and Johann, T. (2013): May I Have Your Attention, Please: The Market Microstructure of Investor Attention, Working Paper.

Merton, R.C. (1987): A Simple Model of Capital Market Equilibrium with Incomplete Information, Journal of Finance 42, 483-510.

Ritter, J.R., and Welch, I. (2002): A Review of IPO Activity, Pricing, and Allocations, Journal of Finance 57, 1795-1828.