

## **Retail Investor Behavior and Financial Retail Products – Evidence from the 2<sup>nd</sup> European Retail Investment Conference\***

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### **I. Introduction**

From April 24–26, 2013, the 2<sup>nd</sup> European Retail Investment Conference (ERIC) was hosted at Boerse Stuttgart. The conference was designed to highlight the importance and breadth of topics on the behavior of retail investors and financial products distributed to them. Since the financial crisis has left many retail investors with little understanding of financial markets and its institutions, a detailed analysis of the market environment for retail investors is today more topical than ever. To meet this objective, the conference chairs Prof. Dr. Hans-Peter Burghof (University of Hohenheim), Prof. Dr. Ryan Riordan (University of Ontario Institute of Technology) and Prof. Dr. Christof Weinhardt (Karlsruhe Institute of Technology) invited academics and practitioners to discuss empirical and theoretical research that analyzes retail investor products and services, the impact of technology on retail investor behavior, investors' decision making process, investor protection schemes, and market microstructure. In addition to the main conference, the conference included a doctoral consortium, specifically designed for PhD students to present their work and discuss it with experienced researchers.

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In total, the conference organizers received more than 50 submissions from 20 countries for the main conference and about 25 for the doctoral consortium. This was a substantial increase to the 1<sup>st</sup> European Retail Investment Conference in 2011. Based on the results of a double-blind peer review process, the best submissions were admitted to the conference. The final program of the main conference had 13 slots and many high quality papers did not make it onto the program. In addition, 9 papers written by PhD students were selected for presentation at the doctoral consortium.

The keynote speech was given by Prof. Alok Kumar (University of Miami), on the impact of socio-economic characteristics on investor behavior. Professor Kumar is a leading researcher in the field of behavioral finance and empirical asset pricing. His work has appeared in such notable journals as the *Journal of Finance*, the *Review of Financial Studies*, the *Journal of Financial Economics*, the *Journal of Financial and Quantitative Analysis*, the *Journal of Financial Markets*, and *Management Science*.

## **II. Conference Presentations – State of the Research on Retail Investor Behavior and Financial Retail Products**

This section provides a chronological overview of the conference sessions and the research presentations of the main conference, given during the respective sessions.

### *1. Session: Behavioral Finance I*

Sebastian Mueller (University of Mannheim) opened the first session on behavioral finance with his presentation of the paper “Media Makes Momentum”, co-authored by Alexander Hillert (University of Mannheim) and Heiko Jacobs (University of Mannheim). In their empirical work, the authors investigate the relationship between media coverage and momentum trading, based on a sample of 2.2 million newspaper articles published between 1989 and 2010 in the U.S. They find that firms with higher media coverage exhibit stronger momentum. This effect is found to be more pronounced in U.S. states with higher investor individualism and stocks that predominantly attract overconfident fund managers. Further, they argue that the documented momentum effects are driven by investor overreaction to news.

In his paper “Can Facebook Predict Stock Market Activity”, Yigitcan Krabulut (Goethe University Frankfurt) documents that changes in daily returns and trading volume of U.S. stocks can be predicted by the sentiment reflected in Facebook’s Gross National Happiness (GNH) indicator. His findings indicate that an increase of one standard deviation in GNH predicts an increase in market return of 11 basis points on the next trading day. Furthermore, the paper ascribes the return predictability to the activity of noise traders, because the influence of GNH on market returns is only temporary and reversed in subsequent weeks. Moreover, the impact of GNH appears to be stronger for small-capitalized stocks and in times of financial distress.

## *2. Session: Behavioral Finance II*

In their paper, Christoph Merkle (University of Mannheim), Daniel Egan (Barclays, University of Mannheim), and Greg Davies (Barclays, University of Oxford) analyze “Investor Happiness” based on a survey among UK brokerage clients. They find that investors’ expectations about future happiness depend on individual investor characteristics, such as portfolio risk levels, used benchmarks, investment horizon, and overconfidence. Further, investors are satisfied, if they achieve the outcome they predicted to be happy with. However, the determinants of ex-post satisfaction and expected happiness only partially correspond. In addition, their results imply that particularly the relative performance in comparison to other investors, plays an important role for investor happiness. The final contribution of the behavioral finance session on “What Makes Investors Optimistic, What Makes Them Afraid?” came from Arvid Hoffmann (Maastricht University) and Thomas Post (Maastricht University). The authors match retail trading records and monthly survey data, to identify the determinants of investors’ optimism (as measured by return expectations) and fear (as measured by their risk tolerance/perception). They find that past returns have a positive influence on return expectations and risk tolerance and negatively affect risk perception. This tendency to primarily base investment decisions on past returns is most pronounced for investors with little experience and higher levels of overconfidence. These investors have problems to adequately evaluate and interpret portfolio risk, and hence resort to portfolio returns.

### 3. Session: *Informed Trading*

Jerry Parwada (University of New South Wales) and William Li (University of New South Wales) opened the session on informed trading, with their contribution “How Smart is Exchange Intermediated Money? Evidence from Listed Open-End Mutual Funds in Europe”. The starting point of their analysis is the observation that in addition to traditional mutual fund distribution channels, open-end mutual funds are increasingly listed on European stock exchanges. Based on this, the authors test, whether differences exist in the behavior of exchange intermediated and traditional flows. They find that the well-documented flow-performance relationship is not present for listed funds. Further, they show that the exchange trading channel is mainly used by investors to dispose mutual funds. Generally, investors benefit from the additional exchange-traded channel.

The second paper on informed trading was a contribution by Keith Gamble (DePaul University) and Wei Xu (Peking University) on “Informed Retail Investors: Evidence from Retail Short Sales”. Their empirical study suggests that a low number of informed retail traders drive the recent evidence of informed retail order flow. Based on account level data, they detect an information channel between retail investors and certain stocks they trade. Short sales in these stocks generate abnormal returns of 22% and long positions generate abnormal returns of 41%. However, with only 19% of all short sales and less than 1% of entered long positions informed trading is rare. Also, trades in other stocks by these informed traders do not generate significant alphas. Hence, the authors argue that the superior trading performance of informed investors stems from private information rather than personal trading skills.

### 4. Session: *Investment Decisions*

The session on investment decisions was opened by Christoph Winkler (University of Augsburg), Marco Wilkens (University of Augsburg), Oliver Entrop (University of Passau), and Michael Kenzie (University of Sydney) with their contribution “The Performance of Individual Investors in Structured Financial Products”. The authors examine how product overpricing, transaction costs and poor selection abilities affect retail investor’s wealth. To do this, they analyze the risk-adjusted performance of retail investors trading investment certificates and ordinary stocks at a

large German discount broker. The findings show a negative risk-adjusted performance for both investment types, both before and after taking into account transaction costs. The authors argue that the poor performance can be explained by overpricing of structured products and poor stock/product selection abilities. Further, retail investors are found to suffer from product complexity and the disposition effect.

In their contribution, “What is the Impact of Financial Advisors on Retirement Portfolio Choices and Outcomes?” John Chalmers (University of Oregon) and Jonathan Reuter (Boston College) find support for their assumption, that the portfolio choices of brokerage clients reflect the recommendation of their brokers. The authors compare the defined contribution retirement plan portfolios of employees who choose to use financial advice with self-directed investors. They find that younger, less highly educated and less highly paid employees prefer to resort to financial advisors. Advised employees are found to allocate contributions across a larger number of investments than those who take independent investment decisions and they are less likely to remain fully invested in the default option (as measured by target-date funds, a popular default investment). However, the findings show that advised employees hold riskier portfolios and underperform self-directed investors as well as the default option. Further, the authors provide evidence, that brokerage clients allocate more money to retirement plans when broker fees are higher.

### *5. Session: Investor Characteristics*

Hang Dong (Universidad Carlos III) and Gil-Bazo Javier (Universitat Pompeu Fabra) raise the question “Who Buys the Worst Mutual Funds? Fund Performance and Investor Characteristics”. To address this question, the authors create a proxy for investor characteristics, derived from sociodemographic characteristics of U.S. visitors to mutual fund websites. They document a systematic link between differences in these characteristics and predicted fund performance. Specifically, funds with a higher fraction of female, older, or low-income investors exhibit a worse predicted performance. Further, they document that differences in optimal investor choices can be explained by varying sensitivities to past performance and fund fees. Finally, the authors find only limited evidence that the sensitivity to fund marketing across sociodemographic groups can explain fund choices.

The second contribution to the investor characteristics session came from Torsten Walther (LMU Munich) and Markus Glaser (LMU Munich). In their paper “Run, Walk, or Buy? Financial Literacy, Dual-Process Theory, and Investment Behavior”, they adopt an experimental approach to determine how individual characteristics affect investor behavior. The authors argue that the level of financial literacy depends on the prevalence of the two dual process theory thinking styles, intuition and cognition. Based on this, they hypothesize that financial literacy can be overruled if investors base their decisions on gut feelings and do not rely on an analytical investigating approach. Further, the authors expect this effect to be most pronounced in times of stress, for example, caused by poor portfolio returns. In their experiment, participants are confronted with their personal performance and market developments. The findings confirm the hypothesis of an interaction effect. Further, the results imply that this interaction adversely affects performance.

#### 6. Session: Mutual Funds

The first contribution to the mutual funds session was the paper “Analyst Forecasts and European Mutual Fund Trading”, by Alexander Kerl (University of Giessen) and Alexander Frank (University of Giessen). In this paper, the authors address the questions whether European mutual fund managers rely on sell-side analyst information and whether such behavior affects mutual fund performance. The results show a positive link between consensus stock measures and European mutual fund stock holdings. Further, mutual fund managers attribute a high information value to certain positive consensus forecast revisions. Also, the findings document a positive relationship between informativeness of analyst forecast revisions and the level of foreign ownership, which can lead to an increase in mutual fund trading. Finally, they argue that sell-side analysts are beneficial for mutual fund managers. This reasoning is based on the finding that stock trades that are in line with analyst forecast revisions significantly outperform trades that are contrary to analyst research.

In their paper “Tri-criterion inverse portfolio optimization with application to socially responsible mutual funds”, Maximilian Wimmer (University of Regensburg) Sebastian Utz (University of Regensburg), Markus Hirschberger (Munich Re) and Ralph Steuer (University of Georgia) provide a framework for inverse portfolio optimization in a Markowitz port-

folio model that is extended to a third criterion. This enables the authors to compute a surface instead of the traditional nondominated frontier. This allows to incorporate the three objectives, risk, return and implied risk tolerance. As a database, they use a broad sample of conventional and socially responsible mutual funds. In contradiction to the expectations of socially responsible investors, their findings suggest that there are no significant differences between the two mutual fund types.

### *7. Session: Market Microstructure*

The paper “Designated Market Makers in Electronic Limit Order Books – A Closer Look” of Christian Westheide (University of Mannheim), Erik Theissen (University of Mannheim), and Christian Voigt (Fidessa) was presented in the market microstructure session. It is motivated by the fact that whereas market makers have been found to be beneficial to markets by increasing liquidity, only little is known about the trading activities of these market makers. In their empirical analysis, they investigate the trading activities of market makers for a dataset of 110 German stocks. They document a u-shaped participation pattern for firm size and trading volume. Participation rates for the smallest firms are highest, then participation rates decreases with increasing firm size until the largest size quintile, where participation increases again. Further, the authors find that market makers not only provide liquidity, but also take liquidity from the market. Market participants particularly take liquidity from market makers in times of high volatility, high bid-ask spreads and high informational asymmetries. Finally, market makers, on average, do not generate profits from their market making activities

### **III. Keynote Speech – “Social Biases and Investor Behavior”**

In the ERIC 2013 keynote speech Prof. Alok Kumar (University of Miami) focused on the research question how social biases affect investor behavior. The starting point of the keynote speech was that many irrational behavioral biases are systematic across investors and hence do not cancel each other out on aggregate. At the same time, limits to arbitrage exist, which prevent rational arbitrageurs to bet against irrational investors. As a result, “ordinary” investors have the ability to affect asset prices. Previous research has predominantly analyzed how psychological biases, such as overconfidence, loss aversion and the disposition effect in-

roduce irrational tendencies in the trading behavior of investors. Since psychological biases and cognitive limitations are more and more well-established in the literature, the behavioral finance literature is moving beyond psychology and shifting towards the identification of “social biases”. That is, how do social factors such as in-group bias, discrimination, stereotyping, religion, political preferences, and social interactions affect economic and financial decisions? In the following, an overview of the addressed social biases is given.

### *1. Religion*

In a first, step Prof. Kumar outlined how religious preferences influence investor behavior. In this analysis, the religious background is used as a proxy for gambling propensity to investigate whether geographical variation in religion-induced gambling norms affects aggregate market outcomes. The key assumption is that Catholics should have a higher propensity to gamble than Protestants. The results show that religious induced gambling preferences indeed affect the portfolio decisions of institutional investors. Specifically, investors in regions with higher concentrations of Catholics invest more in stocks that are likely to be perceived as lotteries (that is, stocks with lower prices, higher volatility, and higher skewness). Collectively, the results of the analysis imply that religious beliefs, through their influence on gambling attitudes, impact investors’ portfolio choices, corporate decisions, and stock returns.

### *2. Political Affiliation*

As a second step, Prof. Alok Kumar addressed the question, how people’s political affiliation and the political climate jointly influence their investment decisions. More specifically, are Democrats more optimistic about the economy and the stock market when their party is in power, and if so, does this affect their portfolio decisions? The findings show that Democrats become significantly less optimistic about the economy and the stock market when a Republican comes to power. Further, the level of optimism is influenced by both, the political affiliation and the current political regime. When investors are less optimistic about the domestic economy, they perceive the market to be more risky, assume less portfolio risks, prefer familiar stocks, are more overconfident in their investment decisions, and pick mutual funds with high expense ratios.



Another finding presented in the context of political affiliation was that Republican analysts can generally be judged to be more conservative, since their forecasts are systematically lower than consensus forecasts. Further, the personal political orientation of analysts affects their forecast quality and the speed of information dissemination in financial markets. Also, Prof. Alok Kumar documented that the political sentiment affects stock returns: Stocks that are politically sensitive exhibit significantly higher returns than other stocks. In sum, the documented findings strongly imply that political affiliation importantly affects trading behavior and security prices.

### 3. *In-Group Bias*

The so-called in-group bias has first been documented by David Hirshleifer, and states that people are more confident among members of their own group. Against this backdrop, Prof. Alok Kumar raised the question whether financial market participants discriminate against people with “foreign-sounding names”. Experimental results in the U.S. imply that individuals do discriminate against foreign-sounding names: They allocate substantially more money to a fund, managed by a manager with a common U.S. name (56 %) than to a fund, managed by a foreign manager. Similar findings were obtained in empirical tests: Funds managed by managers with Middle-Eastern and South-Asian names experienced significant drops in fund flow in the aftermath of the terrorist attack on September 11, 2001. The same discrimination effect is documented after the Boston Bombings on April 15, 2013.

Further, foreign fund managers are punished more severely after bad performances and rewarded less after good performances. The documented results are generally stronger for funds located in regions that are more conservative and are characterized by stronger racial/ethnic stereotyping. In sum, it can be concluded that the in-group bias strongly affects the behavior of retail investors.

### 4. *Gender Bias*

The starting point of the analysis on a potential gender bias, is the general question whether the identity of the information provider has an impact on the market’s interpretation of public information. Based on this, Prof. Alok Kumar analyzes how the market evaluates the opinions of

sell-side analysts and whether there is evidence of an implicit gender bias. The results of the empirical analysis show that female analysts exhibit higher forecast accuracy. They are better at interpreting private information and more likely to issue bold forecasts. Further, the market responds strongly to the evaluations of female analysts. The promotion probability is higher for female analysts and the demotion probability is lower. Hence, it can be concluded that female analysts are better and the market is at least partially aware of this.

### 5. Conclusion

In sum, Prof. Alok Kumar concluded that various social factors significantly influence people's economic and financial decisions. Due to their systematic nature, social factors are likely to aggregate and could therefore have a significant impact on broad financial market outcomes. As a result, the degree of financial market efficiency may be affected by social factors.

## IV. Round Table – “Retail Investors in a Complex World”

Motivated by the challenging market environment for retail investors in the recent past, an expert panel discussed the topic “Retail Investors in a Complex World”. Participants were Dr. Christoph Boschan (Member of the Executive Board of Boerse Stuttgart), Prof. Dr. Ryan Riordan (University of Ontario Institute of Technology), Jean-Paul Servais (Chairman of the Financial Services and Markets Authority) and Christian Vollmuth (Managing Director of the German Derivatives Association). The discussion was moderated by the financial market journalist Roland Klaus.

The discussants addressed different types of complexity, retail investors are typically faced with. The first topic focused on the question how retail investors can deal with “information complexity” and successfully handle the increasing flood of information. The panelists agreed that time restrictions and limited resources indeed pose a severe problem to retail investors when it comes to processing the large abundance of information and make sensible investment decisions. Innovative information technology tools are needed to systematically assist retail investors to overcome this challenge. The second part dealt with “product complexity” and raised the question whether retail investors need to be protected more actively from complex financial products, and whether they

are actually capable to pick the “right” product that matches their individual needs? The panelist generally highlighted the importance of transparency and financial market stability. Also, financial institutions need to devote additional efforts to better inform investors and increase their financial literacy.

## V. Doctoral Consortium

The papers presented at the doctoral consortium covered various aspects of retail investor behavior and financial products traded by retail investors, ranging from the valuation of leverage knock-out certificates to effects of limited attention on investor choices. The participating students engaged in fruitful discussions and received valuable feedback from the participating senior researchers Prof. Dr. Hans-Peter Burghof (University of Hohenheim), Prof. Dr. Robert Jung (University of Hohenheim), Prof. Alok Kumar (University of Miami), Prof. Dr. Ryan Riordan (University of Ontario Institute of Technology), and Prof. Dr. Tereza Tykvova (University of Hohenheim).

The most outstanding contributions were honored with a first/second best paper award, sponsored by “Sparkassen Finanzgruppe Wissenschaftsfoerderung”, an initiative of the German Savings Bank Finance Group. The winning paper by Ruben Cox dealt with “The Demand for Mortgage Insurance”. The background of the paper is that a major part of household wealth is invested in real estate that is financed with mortgage debt. This research question is of great practical relevance, given that the market uncertainty caused by the ongoing sovereign debt crisis strongly induced investors to invest in real estate. The paper specifically focuses on the demand for mortgage insurance as a means to insure wealth risk. The findings indicate that the more overconfident households are, as measured by their financial knowledge and precautionary savings behavior, the lower is their demand for mortgage insurance. The implication is that many households that should be insured based on their financial situation are not. This can have major economic consequences in times of distress as observed during the global financial crises that started in 2008. Hence, the paper makes an important contribution to the discussion of mandatory insurance and bundled offerings of insurance policies.

In addition to the doctoral presentations, Prof. Dr. Ryan Riordan contributed to the doctoral consortium with his invited talk on the research

question “Do retail traders suffer from high frequency traders?”, co-authored by Katya Malinova (University of Toronto) and Andreas Park (University of Toronto). Based on a regulatory fee change on the Canadian stock market, that affected algorithmic quoting activities, the paper analyzes the impact of high frequency trading on market quality, trader behavior, and trading costs and profits. As reaction to the regulatory change, the number of algorithmic orders, trades and order cancellations dropped by 30 %, while bid-ask spreads increased by 9 %. The negative effect on bid-ask spreads is attributed to the decreased activity of algorithmic traders. Further, this reduced activity adversely affects retail investors’ intraday returns.

## VI. Conclusion & Acknowledgements

Overall, the various contributions to the 2<sup>nd</sup> European Retail Investment Conference (ERIC) have highlighted that a profound analysis of retail investor behavior and products is of growing relevance, both for the scientific community and financial institutions. Whereas retail investor subgroups have been identified as informed market participants, the findings presented at this year’s conference imply that retail investors are generally still subject to a broad range of behavioral biases and cognitive limitations that negatively affect their trading performance. Hence, future efforts of the scientific community and the financial industry should be directed at innovative solutions, how to further increase the financial literacy of retail investors and successfully assist them in taking more sensible investment decisions.

The 2<sup>nd</sup> European Retail Investment Conference has managed to substantially increase the already high international interest among leading researchers and financial practitioners for the conference. Given this renewed success, ERIC has established itself as one of the leading scientific finance conferences for retail investor topics in Europe. The high-quality presentations and the intense and fruitful discussions at the conference greatly contributed to new insights for all conference participants. This impression was confirmed by the survey responses given by conference participants, which showed a very high satisfaction with the presented topics and the conference organization. The 3<sup>rd</sup> European Retail Investment Conference will prospectively be held in 2015.

Finally, on behalf of the conference chairs and the organization committee of the 2<sup>nd</sup> European Retail Investment Conference, we would like

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