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Moving from “Big Data” to
“Best Information”

Employees’ Struggle with
Information Security

The Future of Robo-Advice:
Tailor-Made Decision Support
for Investors

FinTech as Enabler of Entrepreneur-
ship and Growth in the EU



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Editorial

Moving from “Big Data” to “Best Information”

Scott Mullins

In the financial services industry, data has always been 'big'. Information derived from data is the fuel that drives the engines of global markets. With the advent of the commercial cloud, organizations of all sizes across all industries have access to incredibly flexible, scalable, enterprise-grade infrastructure. A company's ability to make the best use of its data sets is no longer limited by the computing power available in their own server room or under their employees' desks, and instead is now enriched by tools such as real-time streaming, predictive analytics, machine learning, low cost data storage, and petabyte-scale data warehousing.

Imagine reading 15,000 tweets in a single day. Chris Camillo, the founder of FinTech startup TickerTags and the author of the book 'Laughing at Wall Street' used to do just that as an individual investor when, in 2007, he took USD 20,000 and turned it into just over USD 2 million in three years. Camillo's premise was

a simple one: read as much information as possible about companies that interested him and then make investments based on the sentiment of the social networks that he scanned. In 2015, Camillo co-founded TickerTags to enable investors to perform social sentiment analysis using data from online content streams including Twitter, blogs, message boards, and more. Instead of the 15,000 tweets that Camillo was able to physically read each day, now TickerTags users have access to the Twitter Firehose data feed (500 million+ tweets per day) and libraries of curated 'tags' to query from thanks to the company's use of Amazon Simple Storage Service (S3) and Hadoop.

FinTech start-ups aren't the only financial firms using Big Data to innovate. Financial services firms are leveraging Big Data analytics, data warehousing, and machine learning to better enable fraud detection, risk analytics including stress tests mandated by global



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regulatory agencies, and mobile, voice, and Internet banking. Both FINRA, the primary regulatory agency for broker-dealers in the US, and Nasdaq, the second largest exchange by market capitalization, leverage the cloud for data analytics. For market surveillance, each night FINRA loads approximately 35 billion rows of data into cloud storage and uses Amazon EMR to monitor trading activity on exchanges and market centers in the US. Nasdaq leverages a petabyte-scale data warehouse to store an average daily volume of 7 billion rows of data upon which it runs analytics for its internal business teams and customers.

While Big Data is 'big' in financial services today, it will only get bigger – in the volumes, velocity, and variety of the data sets. Moreover, there will be an increase in the use of analytics to both produce actionable information and improve the customer experience as the technical transformation currently in motion in the industry continues.

In the future, “Big Data” – the tools and processes that we use to accomplish it – will no longer be in focus; rather, the output of these will be expected to simply deliver “Best Information”, and to do so through channels that abstract away the heavy lifting of the actual analytics. Today, financial firms are preparing for a future where their customers leverage devices, such as a voice-powered personal assistant to ask complicated questions related to their financial life. In the not-so-distant future, customers will simply 'ask' devices, “how did my portfolio perform this month?”, or “please show me options for rebalancing my portfolio to protect against instability in Europe and then execute the strategy I select”.

As you consider the future of your own Big Data projects, think long-term and take advantage of cloud-based analytics. By doing so, you will be well equipped to meet the “Best Information” demands of our rapidly evolving financial markets.

Research Report

Employees' Struggle with Information Security

TO INCREASE THE INFORMATION SECURITY AWARENESS AMONG THEIR WORKFORCE AND TO ACHIEVE SECURE INFORMATION SYSTEMS, DECISION-MAKERS EMPLOY MEASURES OF INFORMATION SECURITY, SUCH AS SECURITY POLICIES OR ASSOCIATED TRAINING AND EDUCATIONAL PROGRAMS. HOWEVER, THESE MEASURES MIGHT STRESS EMPLOYEES. THIS IS TRUE IF, FOR INSTANCE, INFORMATION SECURITY MEASURES ARE PERCEIVED AS DIFFICULT TO UNDERSTAND, AS AN INVASION OF PRIVACY, OR IF THEY GIVE RISE TO CONFLICTS OF INTEREST. CONSEQUENTLY, A MULTI-FACETED PERSPECTIVE ON EMPLOYEES' STRUGGLE WITH INFORMATION SECURITY IS DISCUSSED.

Clara Ament

Introduction

Over the last years, the frequency of information security incidents, such as intellectual property or customer data theft, has increased tremendously and also the financial losses affected organizations are confronted with have soared. Moreover, affected organizations often overlooked negative longterm effects, such as reputational damages, the decline in customer trust, and the resulting fatal effects such information security incidents can have on businesses.

To avert these risks, organizations allocate a significant amount of resources to the protection of their information systems. They secure their networks by using, for instance, firewalls,

Steffi Haag

encryption techniques, and antivirus programs. Though, a purely technical defense neglects "the weakest link" in the information security chain. An ever so technically secure system can still become a victim of human errors. A holistic security strategy is desirable as incidents frequently originate from the unaware or aware but non-malicious behavior of organization's own employees. To overcome this issue, various approaches have been suggested to cover, among others, information security policies, awareness programs, and security training. Such measures are supposed to decrease shortcomings in employees' security behavior and to equip personnel with a sound orientation for secure decision-making.

First evidence, however, points out that secure information systems will not be achieved if employees perceive elements of behavioral information security or even the company's entire information security strategy as difficult to understand, overwhelming, or time-consuming (D'Arcy et al., 2014). In other words, employees can feel strain and pressure due to organizational information security requirements and experience so-called security-related stress.

Methodology

Because this field of research is scarce and lacks reliable quantitative measures that comprehensively capture stress from information security requirements, a first logical step was to conduct expert discussions as well as a number of target group interviews to examine employees' struggle with information security requirements. A subsequent pretest evaluated the instrument and examined its validity (Ament and Haag, 2016). Based on these results, a large questionnaire-based survey with 213 participants was implemented in mid-2016.

Empirical Findings

An information security strategy has complex consequences and a multi-layered effect on employees. The findings suggest six stressors of information security:

- **Complexity:** Often information security policies are rather difficult to understand as they use technical jargon. Consequently, employees have to spend time and effort on learning, understanding, and implementing information security requirements. Furthermore, the

complexity of security requirements possibly exceeds an employee's intellectual abilities. As such, interview partners pointed out that they fear to unintentionally cause an information security breach.

- **Overload:** Overload is a common work-place stressor, which also applies to the information security context. Due to information security requirements, employees have to fulfill additional tasks and are confronted with more work than they can handle. As a result, they are forced to work faster in order to fulfill their actual tasks in time, which leads to a decrease in working quality. In addition, information security measures, such as the pop-up of a security scan, interrupt the routine workflow and lead to multi-tasking.

- **Uncertainty:** As a consequence of rapid technology developments, technical and behavioral information security is in the course of constant transition. This includes changes in information security policies, procedures, and technologies alike. Employees have to continuously update their security knowledge, which prevents them from building a solid security routine.

- **Invasion of privacy:** Moreover, employees' information security behavior can be easily monitored and tracked. This might include monitoring staff members' Internet usage or E-mail traffic. Employees are stressed out because they fear that their employer could violate their privacy.

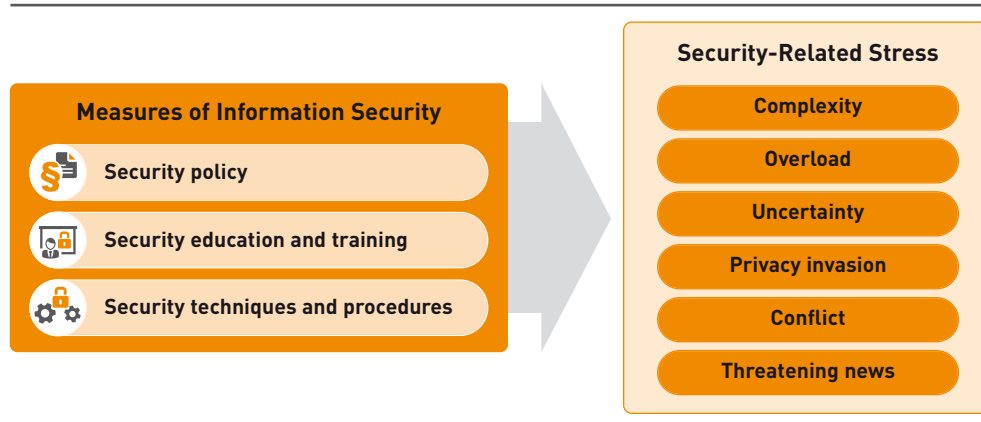


Figure 1: Security-Related Stress

- Conflict:** Furthermore, stress can result from the interaction with superiors, peers, or customers. In addition to their business role, employees have to occupy a secondary role with regard to information security. As such employees can feel stressed if confronted with supervisors' instructions or requests by peers that deviate from established information security requirements. In such cases, employees feel stressed because they have to either violate existing regulations or to face confrontation with colleagues. For example, if security policies prohibit sharing computer passwords, an employee who will be on leave could refuse to give his login credentials to the colleague who is supposed to be his vacation replacement. This might lead to an argumentation on the common practice which can, in turn, stress the affected employee.
- Threatening news:** Study participants stated that they feel unsettled when hearing about

substantial security breaches or the misuse of sensitive data. Triggered by the possible risk of a threat, individuals are prone to perceive stress. The magnitude thereby varies depending on the information source, i.e., if the information is presented by close friends, colleagues, or mass media. Here, stress levels depend particularly on the individual relevance of the news and on whether the employees are directly affected or not. For example, employees using hard- or software that was identified to have a security gap are more likely to experience security-related stress.

Furthermore, we examined the effect of security-related stress on employees' compliance towards information security policies. The results suggest that stress from complexity, overload, uncertainty, and privacy invasion negatively affects compliance intentions. Employees confronted with these stressors are more likely to disregard their company's information security

policy. Stress from conflicts and threatening news, on the contrary, strengthen employees' compliance intention, at least in the short-term.

Conclusion

This study presents a multi-faceted perspective on employees' struggle with information security requirements. The results equip researchers and practitioners alike with the necessary toolset to recognize security-related stress among employees. Due to the comprehensive set of stressors, security managers can more precisely identify the actual source of security-related stress. Moreover, they can better anticipate the effects while developing security policies, and, thus, adopt countermeasures or even avert security-related stress before it emerges. Regarding our findings with respect to the social environment (stress from conflicts or threatening news), security-related stress might also be used as a security measure itself to sensitize employees.

To counteract security-related stress, the findings suggest an information security strategy which focuses on the individual employee. Adequately formulated security policies (optimally unambiguous and easy to understand) can reduce security-related stress from complexity. Moreover, information security training and education should cover the content of information security policies and involved security measures. Employees need an expert to consult if questions concerning the topic of information security arise. Besides, employees have to be informed about the relevance of information security and its needs to be anchored in job

descriptions. This way, stress in terms of overload declines. Stress from the 'invasion of privacy' can be encountered by increasing awareness among employees and educating them to understand the importance of information security. If employees act in line with information security requirements, there is no need for monitoring their security behavior and, consequently, there is no stress from privacy invasion.

In an organization with a positive and constructive working atmosphere, employees which are well educated with respect to information security will be confident enough to confront their principal or peer if information security is at risk. Moreover, those who are responsible can transform security-related stress into a useful security source if they keep in mind that security-related stress has favorable aspects. A proper reaction to current information security discussions or news, for instance, via news feeds, is necessary.

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Research Report

The Future of Robo-Advice: Tailor-Made Decision Support for Investors

ROBO-ADVICE HAS THE POTENTIAL TO DISRUPT THE MARKET FOR FINANCIAL ADVICE. ALGORITHMS ALREADY DELIVER LOW-COST, AUTOMATIC, AND STANDARDIZED INVESTMENT GUIDANCE TO CLIENTS FROM ALL WEALTH LEVELS AND ESPECIALLY TO THOSE PREVIOUSLY EXCLUDED FROM PERSONAL FACE-TO-FACE ADVICE. TODAY'S OFFERINGS CONCENTRATE ON CONVENIENCE AND COMPLEXITY REDUCTION, COUPLED WITH PASSIVE INVESTMENTS. THE NEXT STEP WILL ADVANCE ALGORITHMS TO DELIVER TAILOR-MADE DECISION SUPPORT FOR THE GROWING NUMBER OF SELF-DIRECTED INVESTORS. THIS ARTICLE PRESENTS REAL-LIFE EMPIRICAL RESULTS ON THE INTRODUCTION OF A PORTFOLIO OPTIMIZATION TOOL THAT GUIDES BROKERAGE CLIENTS TOWARDS INDIVIDUAL OPTIMAL PORTFOLIOS.

Andreas Hackethal

Steffen Meyer

Matthias Rumpf

Introduction

Robo-advice has been advocated as an answer to both the conflicts of interest inherent in the traditional advisory model (Inderst and Ottaviani, 2009) and the documented underperformance of advised accounts (see, e.g., Hackethal et al., 2012; more recently, Foerster et al., 2015). In the aftermath of the financial crisis, banks and regulators have pushed the standardization and transparency of advisory services. Simultaneously, Internet start-ups have entered the market offering innovative automated investment guidance. These so-called robo-advisors

are low-cost online applications that deliver personalized recommendations or discretionary investment management based on self-reported client information. Most importantly, they substantially reduce the stock market entry costs for low net-worth individuals.

The Evolution of Robo-Advice

Currently, robo-advice concentrates on guiding investors towards sound and low-cost passive investments – blending equity and fixed income instruments. Their often fairly simplistic algorithms are designed to match the consumer's

financial and demographic characteristics with fitting asset allocations. Matching algorithms are of course not only prevalent in robo-advice. In 2016, around 70% of UK firms surveyed by the Financial Conduct Authority (FCA) used computer technology for risk profiling and financial planning (see Figure 1). Natural extensions of such technology are tools that provide active investors concrete guidance on how alterations of an existing portfolio improve the risk-return profile. Celent, a research division of Oliver Wyman, estimated a growth rate of 4.9% (1.4%) for the US self-directed (non-self-directed) retail investor segment in 2015. A growing number of self-directed investors – around 50% in 2015 are considered active – trade at least three trades a month.

Yet, the do-it-yourself mentality of modern investors will not fully eliminate personal advice. In fact, analysts expect a growing demand for hybrid models that offer robo-

advice plus access to a variety of advice services tailored to different types of clients. J.D. Power (2016) reports a substantial increase on so-called "validator" clients (from 21% to 25% over the recent past). These are mostly self-directed clients that still appreciate on-demand access to advice mainly to verify their own ideas and views. A new breed of online investment tools could bridge the robo sphere and the human advisor sphere especially for this growing client segment. According to the FCA, today, only 15% of UK advisory firms offer tools that "aid decision-making and transacting" to a significant degree and 46% do not provide any (Figure 1). The stage might therefore be set for the next wave of technological innovation.

In order to investigate the usage of investment tools and their effect on investor decision making, we have conducted a field study together with a German online bank that has launched a portfolio optimization tool for its active investors.

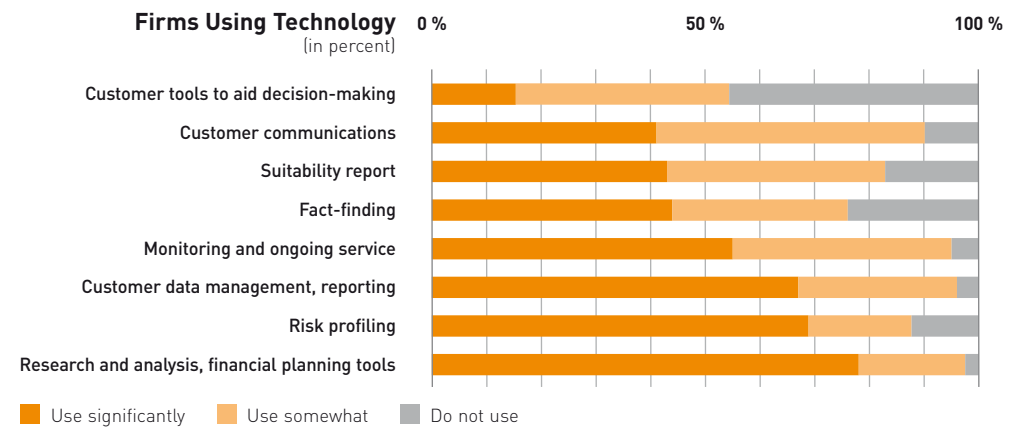


Figure 1: Use of Technology in the Advice Process (FCA, 2016)

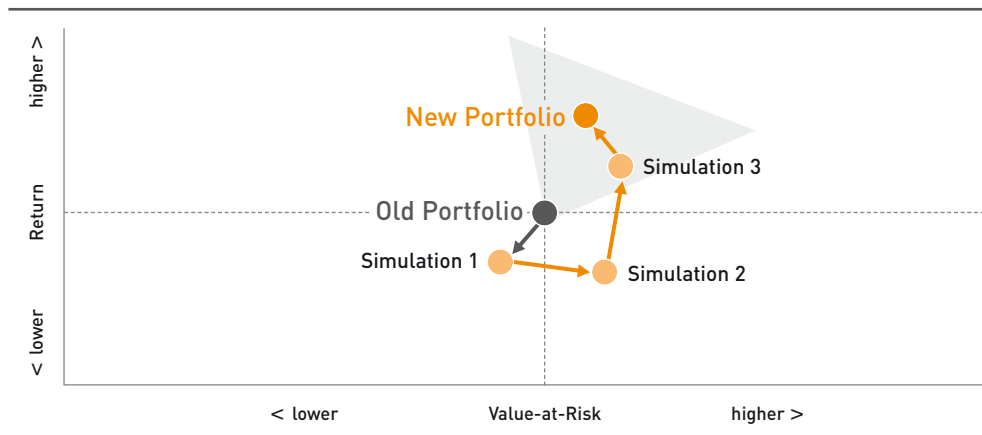


Figure 2: Illustration of the Portfolio Optimizer's Graphical Output Showing a Simulation User's Fictive Path of Optimization

Who Would Benefit?

Self-directed investors tend to overestimate their abilities and the value of their information at hand. Such overconfidence often induces portfolio under-diversification and overtrading (see, e.g., Barber and Odean, 2000). Both investor mistakes can be related to behavioral biases, namely mental accounting and myopic investment (see, e.g., Thaler et al., 1997). Mental accounting limits investors in their ability to aggregate financial decisions. In extreme cases, this would lead to portfolios in which securities are acquired, one at a time, with individual but unrelated trading motives. The benefits of diversification are thereby ignored. Myopic behavior is related to mental accounting in the sense that investors have the impulse to frequently evaluate investments. A combination of both results in the segregation of long investment horizons into separate mental accounts for short, consequent trading periods.

Glaser and Weber (2007) confirm these predictions and find that private investors are unable to state aggregate returns of their portfolio positions and are often un-aware of (trading) cost and consequences of (under-) diversification.

The portfolio optimization tool discussed in this article shows promising features to ameliorate precisely these common biases.

Description of Investment Tool

We work with a German online bank that offers the full range of retail bank services, such as checking and term accounts, brokerage services as well as consumer and mortgage loans. In 2014, it introduced a portfolio simulation tool that allows its clients to back-test their own and any arbitrary portfolio over a 180-day period based on their current portfolio positions or self-defined security watch lists.

The portfolio optimizer targets insufficient knowledge of aggregate information by providing a simple environment that helps to evaluate investments in the context of the clients' complete portfolios. It serves investors challenged by the trade-off between risk and return of different products by visualizing efficiency gains between simulated portfolios. The optimizer generates a graphical display by plotting a representative dot in a risk-return diagram for each simulated portfolio marking its return on the y-axis and its value-at-risk (VaR) on the x-axis. Figure 2 shows an illustration of the optimizer's output, which appears prominently at the top of the optimizer-page on the brokerage's online platform. Up to four portfolios, i.e., three simulation results plus the actual user portfolio, can be compared on the two dimensional plane. Risk and return values are one-month expectations based on historical data over the last six months. The VaR is provided as a percentage loss and calculated at the 5% level.

Who Are the Early Adopters?

We count a total of 149,217 simulation runs for the portfolio optimizer over an 17-month period. On average (median), each user conducted 28 (10) simulations and accessed the optimizer on 3.7 (2) different days. The users at the 99th percentile of the simulation-count distribution ran 288 simulations. The bank sent physical invitations letters and invitation E-mails to a total of 72,811 clients from our sample. 4.4% of the clients visited the investment tool in response to the invitation. That portion is comparable to the 5% response rate on an invita-

tion to free advice analyzed by Bhattacharya et al. (2012) who use data from the same brokerage but a different sub-sample of clients.

The probability of using the portfolio optimizer is estimated by a probit regression on client characteristics. It is not surprising that a higher activity on the brokerage's online platform (measured in login days and portfolio turnover) increases the probability of using the optimizer. Considering wealth and income with three categories each, only clients from the highest wealth category (> EUR 100,000 p.a. income) show a higher probability (compared to the lowest category, i.e., < EUR 30,000). Female clients, representing 9.4% (18.3%) of the user group (control group), older clients, and clients from the intermediate income group (EUR 60,000-100,000) are less likely to use the optimizer. The results are in line with expectations since younger, rather male, and more sophisticated – that is wealthier – clients seem to be a plausible audience for technological innovations.

Does the Tool Have Any Impact on Investor Behavior?

We set up a panel difference-in-differences model on monthly data to produce reliable estimates on the tool's treatment effect. To account for self-selection, we employ a conservative two-stage matching process that identifies valid and balanced treatment and control groups. The first stage generates strata of pre-treatment demographic and account characteristics. The second stage implements a one-to-one nearest neighbor propensity

score matching conducted separately on each stratum.

We estimate the treatment effect on portfolio turnover and the Herfindahl-Hirschman index (HHI) as a measure of portfolio concentration and we find that turnover increases significantly for months in which clients use the portfolio optimizer. Not surprisingly, the effect subsides over in the following months. Moreover, portfolio diversification increases over the subsequent months. We conclude that the tool prompts client actions and ensuing portfolio amendments.

What Is the Simulation Strategy of Users?

We test for significant changes in key portfolio indicators between the starting portfolio (before the first simulation) and the very last simulation

of each client per daily session. Figure 3 illustrates the changes in the key performance indicators. Simulated portfolios get riskier (value-at-risk). At the same time their expected returns improve. The Sharpe ratio, which measures the return-risk trade-off of portfolios, increases substantially throughout the simulations. The HHI, our diversification measure, decreases – indicating a lower portfolio concentration and therefore better diversification. The increase in diversification is likely due to the fact that users tend to swap more single stocks into mutual funds and add new securities as they run additional simulations. Significance tests indicate that all documented changes in portfolio indicators except for return differentials are highly statistically significant. Users thus seem to pursue a simulation strategy that aims for maximizing portfolio efficiency.

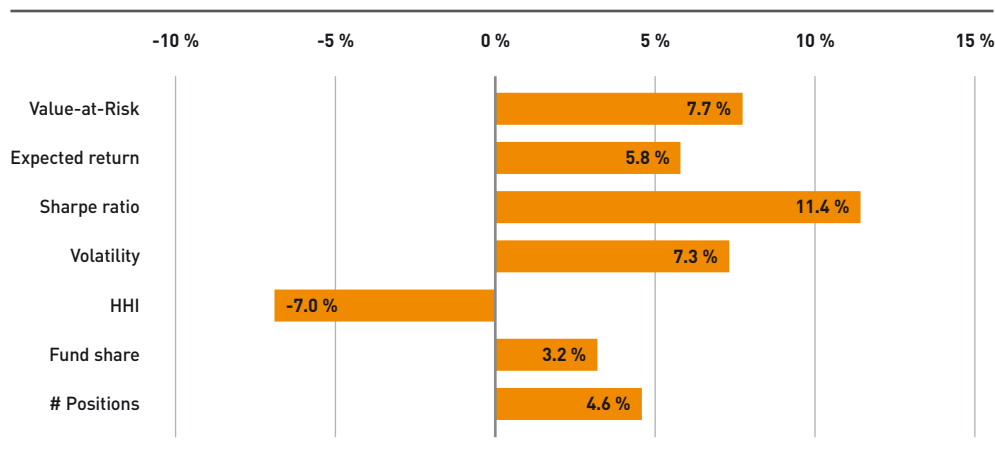


Figure 3: Percentage Changes of Key Portfolio Indicators on Simulated Portfolios

(Changes of the daily last simulated portfolio vs. the actual account portfolio; values are relative to the corresponding indicator's actual portfolio sample average)

Do Users Implement Their Simulations?

We define the simulation implementation as the volume-weighted fraction of simulation positions that were actually traded ex post. We regress the overlap on an indicator for strict Sharpe ratio improvements. The results confirm that clients trade what they simulate and thereby improve the Sharpe ratio of their real portfolio.

Future Research

In a next step, we will analyze which clients benefit most from online investment guidance for individual portfolio construction. We will also more directly establish a causal relation between usage and improvement through difference-in-differences analyses on user subgroups.

We are still at an early phase of experimenting with this new breed of online investment tools, but our field study indicates that such user-friendly investment tools can guide self-directed investors towards better portfolios without imposing product or risk restrictions.

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Insideview

FinTech as Enabler of Entrepreneurship and Growth in the EU

INTERVIEW WITH JOACHIM SCHWERIN

The European Commission has in recent years increasingly focused on policies to support small and medium-sized enterprises (SMEs). In the aftermath of the financial crisis, SME access to finance has regularly been discussed at highest political level. Why is it so important?

SMEs are the backbone of our economy. 99% of all European firms are SMEs. They employ two thirds of the workforce and create 58% of added value. Banks still account for 75% of SME financing in the EU, but in most countries they become ever more reluctant to provide loans to SMEs, especially to small firms.

The problem you describe is even more aggravated for start-ups. Is that right?

Yes. Start-ups are SMEs without a track record – the worst in terms of financial risk management. We have no shortage of innovative companies in Europe, but they face severe access-to-finance problems when scaling up. This blocks entrepreneurship. 4% of all

EU firms create 70% of all new jobs. These high-growth companies need more capital.

What is the European Commission doing to address this problem?

Our top priority is to reduce SMEs' dependence on bank lending by promoting alternative forms of finance and by creating an ecosystem that fosters equity. Our flagship initiatives – the Capital Markets Union (CMU) in 2015, the Start-up and Scale-up Initiative in 2016, and our upcoming policy focus on FinTech – clearly address this priority.

Why will there now be such a strong focus on FinTech also for SMEs?

We noted five years ago, when we started our policy work on crowdfunding, that we need to think outside the box of legacy systems. We need to create more disruptive dynamics by bringing the demand and supply sides of financial markets much closer together without an abundance of intermediaries, by empowering retail investors and by allowing markets to test



Dr. Joachim Schwerin
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European Commission
DG Internal Market, Industry,
Entrepreneurship and SMEs

new business models that combine finance, innovation, and crowdsourcing of new ideas.

So you see FinTech as a disruptive process beyond finance?

Absolutely. I distinguish between non-disruptive and disruptive FinTech. Non-disruptive FinTech triggers incremental efficiency gains, which is good for mature markets, e.g., in banking. Disruptive FinTech creates its own markets and empowers asset owners to allocate their resources without recourse to third parties that follow their own interests. This revolution returns power to where it belongs: economic agents and their decentralized interaction.

Which part of FinTech has the greatest potential in your opinion?

Distributed-ledger technology (DLT). Blockchain emerged as a cryptocurrency (we now have more than 700 of them) but has rapidly grown into a fast, cheap, safe, and inclusive technology that empowers many types of transactions,

also – combined with smart contracts – in the real economy. In 2016, Jean-Claude Juncker, President of the European Commission, asked us to identify the EU's top innovation priorities. I proposed DLT, which secured its place on the final list. We are certain that DLT will soon boost competitiveness in many areas.

What will the European Commission do to facilitate the take-up of FinTech?

We engage with market players to fully grasp FinTech opportunities, we promote best practices across the EU, and we seek advice from the public (https://ec.europa.eu/info/finance-consultations-2017-fintech_en) on how to best promote FinTech. We must give new business models the chance to compete with each other, so I favour mirroring our successful approach on crowdfunding, where we encouraged EU countries to adopt an open, opportunity-driven approach. Those who have done so are already reaping the benefits.

Thank you for this interesting conversation.

Infopool

News

New Members in the Council of the E-Finance Lab

We are proud to welcome Prof. Dr. Joachim Wuermeling (Deutsche Bundesbank) and Dr. Christian Brauckmann (DZ BANK Group) as new members in the Council of the E-Finance Lab. Prof. Wuermeling was elected Chairman of the Council and succeeds Dr. Joachim Nagel (Deutsche Bundesbank) in this function. Dr. Brauckmann is the successor of Thomas Ullrich (DZ BANK Group) in the Council. We thank Dr. Joachim Nagel and Thomas Ullrich for their significant and valuable support as well as Prof. Wuermeling and Dr. Brauckmann for their engagement.

Prof. Gomber Elected to the Exchange Council of the Frankfurt Stock Exchange

In January 2017, Prof. Gomber (layer 2) was re-elected for three further years as a member of the Exchange Council of the Frankfurt Stock Exchange. The Exchange Council is an important controlling and supervisory body of a stock exchange. Prof. Dr. Gomber is a member since 2011.

Successful Disputation

Sebastian Scheurle (team Prof. Hackethal, layer 3) has received his doctoral degree on February 23rd, 2017, with his dissertation "Essays in Empirical Personal Finance". Congratulations!

New Colleague at the Chair of Prof. Gomber (layer 2)

In February 2017, Jens Lausen has joined the team of Prof. Gomber (layer 2) as doctoral student. He received a Master in Management from the University of Mainz. In his master thesis, he empirically investigated the measurability of selectivity and timing for fund performance measures. Welcome!

E-Finance Lab Spring Conference 2017

This year's Spring Conference was organized and hosted together with the IT-security auditor and consulting company usd AG. On February 15th, about 400 international experts, high-profile representatives of key industry players, and academics joined us in the Casino Building at Goethe University to discuss "Cyber Security and Finance – Challenges, Counter Measures, and Application Experiences".



Selected E-Finance Lab Publications

Schlereth, C.; Skiera, B.:

Two New Features in Discrete Choice Experiments to Improve Willingness to Pay Estimation that Result in New Methods: Separated (Adaptive) Dual Response.
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Is Proprietary Trading Detrimental to Retail Investors?
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Koestner, M.; Loos, B.; Meyer, S.; Hackethal, A.:

Do Individual Investors Learn from their Mistakes?
Forthcoming in: Journal of Business Economics (2017).

For a comprehensive list of all E-Finance Lab publications see <http://www.efinancelab.com/publications>

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RESEARCH PAPER: WSJ CATEGORY KINGS – THE IMPACT OF MEDIA ATTENTION ON CONSUMER AND MUTUAL FUND INVESTMENT DECISIONS

This study by Ron Kaniel and Robert Parham was conducted to investigate whether media attention influences investment decisions. In order to analyze the impact of media attention on investment decisions, the study measures the impact of a single mention of a fund in the quarterly Wall Street Journal Category Kings ranking table. The authors find that – compared to those funds that did not appear in the list – the naming of the fund led to a 31 % local average increase in quarterly capital flows into mutual funds mentioned in the ranking list in the post-publication quarter. However, there was no increase in flows when the Wall Street Journal published similar lists absent the prominence of the Category Kings labeling.

Kaniel, R.; Parham, R.

In: *Journal of Financial Economics*, 123 (2017) 2, pp. 337-356.

RESEARCH PAPER: CAN BROKERS HAVE IT ALL? ON THE RELATION BETWEEN MAKE-TAKE FEES AND LIMIT ORDER EXECUTION QUALITY

Today, many exchanges levy fees or pay rebates that depend on an order's attributes. In the standard setting, exchanges charge liquidity-demanding orders (i.e., marketable orders) a "take fee" that exceeds the "make rebate" they offer liquidity-supplying orders (i.e., non-marketable limit orders). Based on order data of a large US broker as well as public trade and quote data, the authors analyze how different fee schedules affect order routing decisions of brokers and limit order execution quality. The results show that there is a negative relation between several measures of order execution quality and the rebate/fee level. This finding suggests that order routing designed to maximize liquidity rebates does not maximize limit order execution quality.

Battalio, R.; Corwin, S. A.; Jennings, R.

In: *Journal of Finance*, 71 (2016) 5, pp. 2193-2238.

E-Finance Lab Quarterly

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