

Studienreihe der Stiftung Kreditwirtschaft
an der Universität Hohenheim

Sebastian Schroff

Investor Behavior in the Market for Bank-issued Structured Products



Verlag Wissenschaft & Praxis



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List of Abbreviations

<i>ADF</i>	Augmented Dickey-Fuller
<i>AIC</i>	Aikake Information Criterion
<i>AMEX</i>	American Stock Exchange
<i>CFD</i>	Contract for Difference
<i>CAR</i>	Cumulative Abnormal Return
<i>DAX</i>	German Stock Market Index
<i>DJIA</i>	Dow Jones Industrial Average
<i>DJNS</i>	Dow Jones Newswire Service
<i>EPS</i>	Earnings per Share
<i>EUSIPA</i>	European Structured Investment Products Association
<i>EUWAX</i>	European Warrant Exchange
<i>GDP</i>	Gross Domestic Product
<i>HFT</i>	High Frequency Trading
<i>IBES</i>	Institutional Brokers Estimate System
<i>ID</i>	Information Demand
<i>IQ</i>	Intelligence Quotient
<i>IS</i>	Information Supply
<i>ISIN</i>	International Securities Identification Number
<i>MDAX</i>	German Midcap-Index
<i>NYSE</i>	New York Stock Exchange
<i>OTC</i>	Over-The-Counter
<i>PP</i>	Phillips Perron
<i>RA</i>	Risk Appetite
<i>RIC</i>	Reuters Instrument Code
<i>RNSE</i>	Reuters NewsScope Sentiment Engine

<i>RV</i>	Realized Volatility
<i>SIC</i>	Schwarz Information Criterion
<i>SIRCA</i>	Securities Industry Research Centre of Asia-Pacific
<i>SIX</i>	Swiss Stock Exchange
<i>TecDAX</i>	German Technology Companies Index
<i>WSJ</i>	Wall Street Journal

Chapter 1

Introduction

Noise makes financial markets possible, but also makes them imperfect.

Fisher Black (1986)

1.1 Motivation

Retail investors are currently facing challenging times. The global financial crisis, followed by the European sovereign debt crisis, has left many retail investors with little understanding and confidence in financial markets and their institutions.¹ On top of that, retail investors are confronted with a steadily growing flood of information. This makes it difficult for them to keep track of financial market events and process relevant information. At the same time, households in industrialized countries would be well-advised to build private capital stock to ensure adequate pension provisions.² However, persistently low interest rates in recent years and the

¹ See, for example, Dorn and Weber (2013) who document that recent financial turmoils have contributed to a loss of confidence in financial intermediation and lower stock market participation rates as a result.

² See, for example, the OECD Social, Employment and Migration report by Antolin and Whitehouse (2009).

resulting scarcity of traditional investment opportunities, makes this a difficult task. More generally, retail investors are increasingly required to deal with financial market topics, while the environment for this is becoming more complex and demanding. Hence, the behavior of retail investors is of major importance to financial research, policy makers, and financial institutions alike, since solutions for the challenges at hand require a thorough understanding of what drives financial market decisions of retail investors.

To contribute to this field, my thesis analyzes the behavior of retail investors in the German market for structured financial products. These bank-issued structured products are securitized derivatives, specifically designed to grant retail investors access to a broad range of risk-return combinations in various underlyings. They range from conservative investment certificates to high-risk leverage products. Legally, all these products are bearer bonds payable by the issuer to the investor. With more than 1 million exchange-traded products and an outstanding market volume of EUR 100 billion in 2013, structured products play an important role in the asset allocation of German households: 2% of all monetary assets in Germany are invested in structured products.³

Previous work on structured products predominantly deals with the question, whether issuers fairly price their products.⁴ The question, how retail investors trade with structured products and whether they follow systematic behavioral patterns has not been addressed comprehensively. This is despite the fact that these products provide an ideal market environment to study the behavior and the trading motives of retail investors. The extensive universe of different products allows retail investors to implement much more diverse and sophisticated trading strategies as this is the case with traditional stock market investments. They enable retail investors to set up trading strategies that match their individual expectations at any given point in time. For example, it is not only possible to benefit from rising security prices, but also from sideways movements or falling prices. From a research perspective, this provides for a much more differentiated

³ Total monetary assets of German households amount to EUR 4,991.6 billion in Q1/2013. For details, see Deutsche Bundesbank (2013), p. 55.

⁴ See, for example, Baule et al. (2008), Wilkens and Stoimenov (2007), and Entrop et al. (2009).

evaluation of retail investor behavior as would be possible in traditional stock markets. The particular product choice of an investor can shed light on the underlying trading motivation, market expectation and risk preference. For example, an investor who enters a position in a highly leveraged structured product clearly has a different motivation than an investor who buys an investment product with a conservative payoff structure.

1.2 Research Outline

I analyze trading behavior in structured products based on data from the EUWAX trading segment of Boerse Stuttgart, the largest market place for these products in Europe in terms of exchange turnover and number of listed products.⁵ I particularly focus on the effect of financial market information on retail investor trading behavior. The investigation, which kind of information retail investors take into account for their trading decisions and how they react to new information, can reveal systematic trading patterns and shed light on potential behavioral biases. Generally, research on the question how information translates into trading decisions is more relevant than ever since the universal internet adoption in recent years has greatly changed the financial information landscape. Nowadays, even retail investors have a wealth of information on almost any financial market topic conveniently available at their fingertips. Most likely, this has greatly affected information acquisition, information processing and financial decision-making. This raises the question, how retail investors use online sources as basis for their investment decisions. I contribute to this field with my first research question:

Research Question 1: How does internet search volume on financial market topics affect the trading behavior of retail investors in structured products?

⁵ For details, see the EUSIPA Q2/2013 market report at http://www.eusipa.org/images/inhalt_bilder/13.09.02_EUSIPA_Market_Report_Q2.2013.pdf.