

University of Zurich

Department of Banking and Finance

Prof. Dr. Thorsten Hens

The attractiveness of structured products under Prospect Theory

Bachelor's Thesis

Author: Anchal Amirtham
Toblerstrasse 19
8044 Zürich
+41 76 478 21 04
anchal318@gmail.com
Matriculation number: 09-729-211
Major: Banking and Finance

Supervised by: Stefan Zeisberger

Submitted: 3rd of June 2013

Executive Summary

Introduction

The attractiveness of structured products has been widely discussed under behavioral finance terms in recent research. Hens and Rieger (2011) find that investors with prospect theory utility may perceive utility gains when buying structured products, while for rational investors structured products are not an optimal investment. Focusing on capital protection products, the aim of this thesis is to further analyze whether investing in these products is reasonable under prospect theory. Additionally, differences of investment choices are discussed for decision making from description and experience. An application of prospect theory on decision making before and after experience will allow understanding whether an investor's decisions can still be explained by behavioral finance after collecting experience.

Approach

Bradbury, Hens and Zeisberger (2012) conducted an experiment, where subjects chose to invest in one of five products with different capital protection and participation levels. The decision was repeated after subjects gathered experience by randomly sampling the underlying's return distribution. They found that subjects chose riskier products after experience sampling. Using data from this experiment, investment decisions are analyzed under prospect theory utility before and after experience. Further, the decision switch after experience is analyzed to find whether utility improvements are attained through experience sampling.

The analysis of product utility is conducted by using prospect theory parameter estimates from Abdellaoui, L'Haridon and Parashiv (2011). A discussion of the influence of these parameters on the optimal product choice is presented, which allows further understanding of prospect theory utility for structured products.

Parameter elicitations within the experiment by Bradbury, Hens and Zeisberger (2012) are also tested for predictability of product choices.

Results

The results show that investment choices from description can very well be justified by prospect theory utility. On the other hand, after experience sampling the most common product choices by subjects do not coincide with products that offer the highest prospect theory utility. Alternative parameters for decisions from experience allow for a better explanation of the investment decisions made,

whereby it is mostly the probability weighting function that can reduce the mismatch between product utility and investment decisions.

Predictability of investment decisions through parameter estimates from within the experiment is established to be acceptable for risk aversion and low for loss aversion. Additionally, experience sampling seems to decrease the predictive power.

The importance of accurate parameter elicitation to, on the one hand, allow predictions of product choice, and on the other hand explain investment behavior is established, since there is a strong influence of these parameters on optimal product utility. Future research could expand on discussing the effect of experience sampling on utility and probability weighting functions for decision making.