Topics in Behavioral Finance (I)

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About myself...

- Bachelor in Computer Science, Xiamen University, China
- PhD in Decision Science, Carnegie Mellon University, Pittsburgh, USA

Assistant professor of Finance and Financial Markets.


Research:
- Behavioral Finance
- Decision Theory
- Cultural Finance

Teaching:
- Behavioral Finance
- Banking: Structured products
- Behavioral Decision Theory
A couple of words about Carnegie Mellon University

Department of Social and Decision Science:

- Behavioral Economics
- Experimental economics
- Policy analysis
- Active in interdisciplinary research
- Herbert Simon: Bounded Rationality
What is behavioral finance?

Behavioral Finance = “open-minded Finance”

“Sometimes, in order to find the solution to an empirical puzzle, it is necessary to entertain the possibility that some of the agents in the economy behave less than fully rationally some of the time. Any financial economist willing to consider this possibility seriously is ready to take a try at behavioral finance.”

(Thaler, 1993)
Key issues in BF

Empirical work:
Phenomena inconsistent with fully-rational framework

Theoretical work:
What if we relax rational assumptions?

Does further empirical evidence supports the improved model?
A brief overview of my research

1. Prospect Theory
   - Empirical tests
   - Theoretical improvements

2. Risk Perception (in financial investments)

3. Cross-cultural comparison
   - Risk-attitudes
   - Financial data (e.g. equity premium)
I. Prospect Theory

Descriptive extension of Expected Utility Theory. Main ideas:

Utility function depends on reference point and is convex–concave.

Small probabilities are overweighted with a nonlinear function $w$. 
Empirical studies on PT

Comparison of Chinese and American

- Experiments
  (with Fischbeck, J. of Risk Research, 2008)
- Field data
  (with Fischbeck, J. of Risk & Uncertainty, 2004)

Predictive power of PT

- Disposition effect
  (with Martin Vlcek, working paper)
Theoretical studies on PT
(with M. O. Rieger)

• St. Petersburg Paradox in PT
  (Economic Theory 2007)

• PT for continuous distribution
  (J. of Risk & Uncertainty 2008)

• PT compared with other heuristics
  (Psy. Rev., 2008)
2. Risk perception

- Perceived risk on financial products
  (with Siegrist & Keller, working paper)

- Are pension fund managers overconfident?
  (with Gort & Siegrist; J. of Beh. Finance, 2008)
Perceived risk of financial products

- bank account
- private house
- third pillar
- life insurance
- gold
- art/antique
- blue chip Switzerland
- blue chip USA
- blue chip Europe
- first-class bond CHF
- first-class bond Euro
- first-class bond dollar
- equity fund Switzerland
- equity fund worldwide
- equity fund Europe
- real estate fund
- commodity fund
- sustainable fund
- commodity fund worldwide
- bond Switzerland
- bond worldwide
- bond Euro
- bond Switzerland

Easy

Difficult

Low risk

High risk
Are pension fund managers overconfident?

Figure 1: Confidence intervals for historical returns
Figure 1 shows the median lower and the median upper boundaries for the confidence intervals in the professional and the laypeople samples for historical returns of 6 different asset classes as well as the upper and lower boundaries of the realized return of those assets over the last 36 years.
3. Cross-cultural comparison

- Important to know cultural differences (e.g. when offering financial services in different cultures).
- Studies can help to find influencing factors (different countries as “natural experiment”).

I present two ongoing projects as examples:
- International Test of Risk-attitudes, INTRA
- Equity premium – a meta-analysis
Ongoing projects (1)

INTRA International comparison of risk attitudes
(with Thorsten Hens and Marc Oliver Rieger)

Goals:

- compare risk-attitudes (PT framework), time
discounting, ambiguity aversion and cultural
dimensions across 30-40 countries

- test predictive power of cultural and macro-
economic variables for risk-attitudes

- results can be used as input variables for
  further studies on international markets
Ongoing projects (2)

**Equity premium – an international comparison**  
(with M.O. Rieger)

- Meta-analysis of 13 studies on the equity premium in 44 countries.
- Goal: finding common factors that can help to explain the equity premium puzzle.
Further ongoing projects (1)

Value of information
(with Daniel Hausmann and Marc Oliver Rieger)

Experimental study on the reasons why people tend to oversearch for information in investment decisions.

- Goal is to distinguish mistakes in the estimation of the objective probability for usefulness of information from attributing an intrinsic (irrational) “value” to information.

- Relation to underreaction on stock markets.
Further ongoing projects (2)

Experiments on:

• **Real option pricing**  
  (with Marc Chesney)

• **Emission trading**  
  (with Marc Chesney & Luca Taschini)

• **Framing in financial decisions**  
  (with Marc Oliver Rieger)
Potential topics

So much about my current research. – What about other potential topics for Your PhD thesis?
Potential topics (I)

Reaction to news

"Markets fell sharply today on fears of rising interest rates, high oil prices, terrorist attacks and monsters in the closet."

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Methodology on reaction to news

Experiment
- design experiment to control the timing of events
- real option experiment data (with Chesney)

Proxies of perceived probability in the field
- prediction market
- news analysis
Potential topics (2)
Cross-country comparison of home bias

What determines the degree of home bias?
(Institutional factors, transaction cost, familiarity bias)


Some general advice...

- Start early when searching for a topic and an advisor!

- Work together with your advisor and other professors!
Why should you start early?

There is a lot to do before you can actually start writing your summer research paper:

- literature review
- feasibility check
- match faculty
- narrow down your research question
- trial and error
Why should you work together?

Important to know:

Independent research ≠ no collaborations

You can and should work with senior researchers to learn and to avoid mistakes.
Thanks for your interest!

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