Behavioural Finance: Its Relevance for Selecting Fund Managers

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BEHAVIOURAL FINANCE
THE USE OF BEHAVIOURAL FINANCE
CONCLUSIONS

MARKET EFFICIENCY AND LIMITS TO ARBITRAGE
NON RATIONAL CHOICES
WHAT IS BEHAVIOURAL FINANCE NOT?

EFFICIENT MARKETS

- Rational Approach: people make decisions
  - according to Expected Utility (EUT) or at least Subjective Expected Utility (Savage 1954)
  - and apply correctly Bayes Law
- Efficient Market Hypothesis (EMH)(Fama 1965) and (Fama 1970)
- Friedman (Friedman 1953): rational traders (arbitrageurs) will fast eliminate non-efficiencies created by irrational traders (noise traders)
- EMH together with EUT is an elegant, appealing and rational framework

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ARE MARKETS EFFICIENT?

- However
  - prices are right $\implies$ no free lunch
  - but . . .
  - no free lunch $\nRightarrow$ prices are right
- And . . . exploiting inefficiencies can be both **risky** and **costly**

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MARKET EFFICIENCY

- Behavioural Finance (BF), is the stance where some financial phenomena can be better understood, assuming that some agents are **not** (fully) rational
- Examples of behavioural models:
  1. Adam Smith's Theory of Moral Sentiments (Smith 1759)
  2. Keynes's beauty contest (Keynes 1936)
  3. Prospect Theory (Kahneman and Tversky 1979)
  4. Behavioural Portfolio Theory (Shefrin and Statman 2000)

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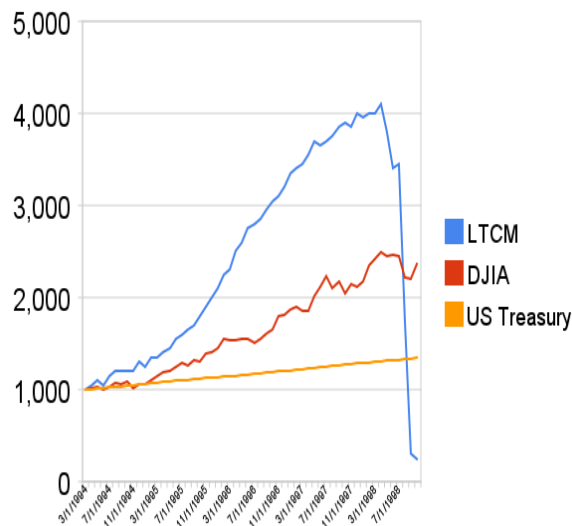
LONG TERM CAPITAL MANAGEMENT (LTCM)
EXAMPLE 1: EXPLOITING INEFFICIENCIES CAN BE RISKY

- LTCM was a well known Hedge Fund with 3 well known partners with excellent reputation:
  - John Meriwether (Salomon Brothers)
  - Myron Scholes (Nobel Laureate)
  - Robert Merton (Nobel Laureate)

- consistent and very good performance between 1994 and 1997

- more than USD 7 Bln. assets by 12/97

- banks eager to lend to LTCM

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LTCM IN 1998

- The assets decreased with 82%
- 9/98: the Federal Reserve Bank of NY organises privately funded rescue plan with 14 banks and brokers
- They raise $3.6 bln. in exchange for 90% of LTCMs equity

- How was such a major disaster possible?

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LTCM MADE RATIONAL BETS
THE PAIRS TRADES

- Royal Dutch Petroleum (RDP) and Shell Transport & Trading (STT) Both owned by Royal Dutch Shell
  - a DLC (Dual Listed Company)
  - 1998: a corporate charter linked the two companies by dividing the joint cash flows between them on a 60/40 basis
  - both shares quoted on the NYSE and the LSE
  - $\implies$ Rational expectation: market cap of RDP = 1.5 market cap of STT
  - LTCM noticed that STT traded at a 8% discount
  - $\implies$ pairs-trade: Long in STT and short in RDP
- but, the spread continued to widen . . .
- and LTCM had to close its position at a spread of 22%
- of course there were also the swaps, equity volatility, emerging markets (Russia), etc. . . .

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OTHER RISKS RELATED TO EXPLOITING INEFFICIENCIES

- Systematic Risk
  - stock undervalued $\implies$ buy it $\implies$ you expose yourself to the risk of that stock and its industry
  - you could hedge your position by shorting a similar stock
  - but it will never be a perfect hedge, there is still the systematic risk

- Remaining Risks:
  - noise trader risk (De Long, Shleifer, Summers, and Waldmann 1990) and (Shleifer and Vishny 1997)
  - specific risk
  - systemic risk
  - Agent/Principal effect: the Principal will generally evaluate the Agent at short term returns (especially creditors)
  - forced liquidation of position increases the non-rational gap.

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OTHER INHIBITORS

- bid-ask spread
- borrowing fee (for the short position)
- many important financial players are not allowed to take short positions (e.g. mutual funds, pension funds, . . .)
- many investors or asset managers have simply other goals (index tracking, benchmark tilted, capital guaranteed, . . .)

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Conclusion for Limits to Arbitrage

- Exploiting non-rational pricing can be
  - Risky
  - Costly
- $\implies$ non rationalities **may** persist longer than than the rational trader can stay liquid.
- $\implies$ markets can during certain periods deviate from what we would expect via the EMH framework
- $\implies$ riding the trend can be the rational thing to do . . .
- and . . . who knows the real price anyhow?

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Further Evidence of Non-Rationalities in Financial Markets

- The Tulipomania – Amsterdam, 1637 – (Mackay 1841)
- The South-Sea Bubble – LSE, 1720 – (Mackay 1841)
- Twin Shares – e.g. (Froot and Dabora 1999): STT and RDS
- Index Inclusions – e.g. (Harris and Gurel 1986) and (Shleifer 1986)
- Internet Carve-Outs – e.g. 3Com and Palm (March 2000) – (Lamont and Thaler 2003)

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Are only the Markets Inefficient?

- Markets can be at non-rational levels . . .
- but can we at least hope that we, humans, see the world rational and make rational decisions based on our unbiased perception of the world?
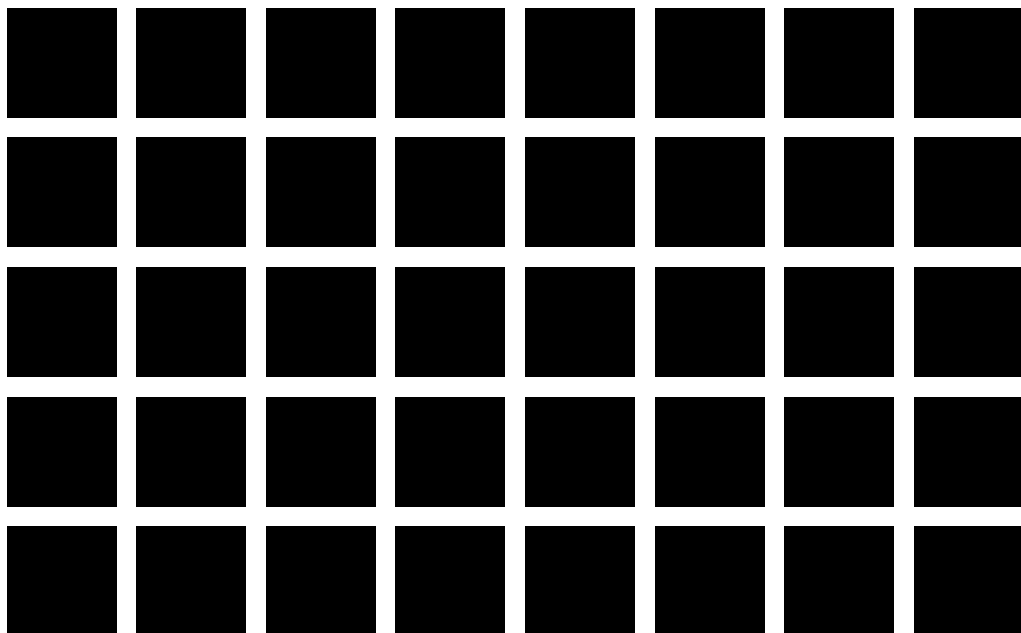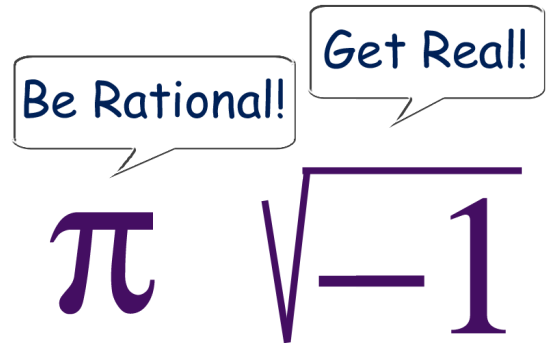
Be Rational!   Get Real!

$$\pi \quad \sqrt{-1}$$

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FIGURE: Gray dots appear at the intersection of the black squares (and if you focus on it, then it disappears, but others become visible).
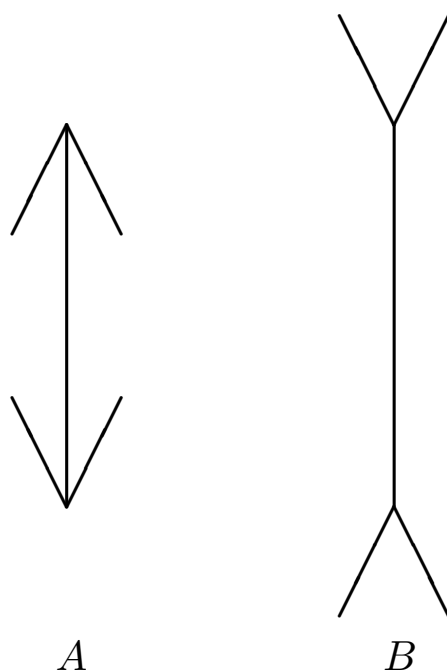
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FIGURE: Which vertical line is longer? (only taking into account the vertical lines, not the arrows)

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OVERCONFIDENCE

- When people give a 98% confidence interval, it contains only in 60% of the cases the true value – (Alpert and Raiffa 1982)

- When they say to be "certain", then the they are about 80% certain – (Fischhoff, Slovic, and Lichtenstein 1977)

- Related to:
    - hindsight bias
    - self attribution bias
    - optimism and wishful thinking: 90% of people believe to be over average in many common skills – (Weinstein 1980); and they generally are too optimistic in meeting deadlines – (Buehler, Griffin, and Moss 1994)

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REPRESENTATIVENESS

- (Kahneman and Tversky 1974): "Linda is thirty-one years, single, outspoken and very bright. She majored in Phylosophy. As a student, she was deeply concerned with issues of discrimination and social justice, and also participated in anti nuclear demonstrations." – what is most probably:
  1. Linda is a bank teller
  2. Linda is a bank teller and is active in the feminist movement
- People tend to confuse "sounds like" with "is proof for". Generally people act here in contradiction with Bayes' law.
- Related to:
  - sample size neglect
  - hot-hand fallacy – (Gilovich, Vallone, and Tversky 1985)
  - the Law of Small Numbers – (Rabin 2002)
  - gamblers' fallacy

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BELIEF PERSEVERANCE

- Once people have formed their opinion, they stick to it too tightly and too long – (Lord, Ross, and Lepper 1979)
- Two effects:
  1. people do not search for disconfirming evidence
  2. if they find it anyhow, they treat it with excessive scepticism (i.e. they underreact to it)
- Related to:
  - Confirmation bias: people misinterpret disconfirming evidence as if it would support their beliefs
  - overconfidence
  - self-serving bias

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ANCHORING

- When forming an estimate, people start from an initial (possibly) arbitrary value and then adjust ... but not enough – (Kahneman and Tversky 1974)
- Related to:
    - Availability Bias: people overestimate the value of the available information – (Kahneman and Tversky 1974)

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FRAMING

Consider that you are participating in a game that consists out to two gambles: A and B, so choose an option in question A and B

A Choose an option.
    I a sure gain of € 2'400 [84%]
    II 25% chance to win € 10'000 and 75% chance to win nothing [16%]

B Choose an option.
    I a sure loss of € 7'500 [13%]
    II 75% chance to loose € 10'000 and 25% chance to loose nothing [87%]

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Framing II

the results:

1. (Ai + Bi) = 100% sure € 5'100 loss
2. (Ai + Bii) = 75% chance to loose € 7'600 and 25% to win € 2'400
3. (Aii + Bi) = 25% chance to win € 2'500 and 75% chance to loose € 7'500
4. (Aii + Bii) = 37.50% chance on zero, 6.25% chance to win € 10'000, 56.25% chance to loose 10'000

$\longrightarrow$ In order to solve a problem, people break it down to small units and solve each of them overlooking correlations and interconnections – (Tversky and Kahneman 1981)

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Framing III

Framing is a strong heuristic and leads to different other biases

- mental accounting
- consider gains and losses in stead of total wealth (consider each gamble separate)
- (and as a consequence) **loss aversion** (in stead of volatility aversion)
- labelling
- sunk cost fallacy
- loss aversion
- anchoring

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Herding Behaviour

- Assume that you're hungry and find two restaurants that only differ in name and in the number of guests: one is empty and the other is half full. Which restaurant would you choose?
- How hard is it to be the first to stand up and applaud after an opera that you particularly liked, or to remain seated when all are standing?
  - labelling

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Preferences – Labelling

Which do you prefer?

A a junk bond

B a high-yield bond

Other Biasses:

- hyperbolic discounting
- money illusion

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PREFERENCES – PROSPECT THEORY

see (Kahneman and Tversky 1979) and for "cumulative prospect theory": (Tversky and Kahneman 1992)

- *Descriptive* theory to explain choices under uncertainty
- that allows for:
  - mental accounting – (Thaler 2002)
  - loss aversion
  - non linear probability transformation
  - acts per gamble

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- a normative theory(!)
- a portfolio selection method: so it is no replacement for Mean Variance (MV), CAPM and Safety First (SF)
- a sure way to beat markets (despite BAPT)
- (necessarily) in contradiction with EMH . . .
- . . . however a more complex model might be needed, for example the Adaptive Market Hypothesis (AMH) (Lo 2004)

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IMPROVING YOUR DECISIONS
HOW CAN BF HELP TO CREATE BETTER PORTFOLIOS?
IMPROVING YOUR TRADING SKILLS
HOW CAN BF HELP TO SELECT FUND MANAGERS?

IMPROVE YOUR DECISIONS

- avoid framing: try to see the larger picture (look at it via another frame, another person's point of view, ...)
- when you're sure ... you're not (keep your exit routes available for the 20% surprises!)
- avoid confirmation bias and self serving explanations; look for dis-confirming evidence; learn from your mistakes and challenge your beliefs
- remember Bayes' Law – avoid being fooled by representativeness bias
- avoid sample size neglect: is it truly statistically significant?
- is your guess based on an anchor? ... then reconsider
- avoid excessive regret by hindsight: manage expectations (especially those of the Principal if you're the Agent)

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HOW CAN BF HELP TO SELECT FUND MANAGERS?

IMPROVE YOUR PORTFOLIO SELECTION SKILLS I

Before Selecting a fund manager we need to create the portfolio

- Read "Maslowian Portfolio Theory" (De Brouwer 2009), "Target Oriented Investment Approach" (De Brouwer 2010) or "Behavioural Portfolio Theory" (Shefrin and Statman 2000)
- ... or simply:
  - use mental accounts (create sub-portfolios)
  - make investment goals for each sub-portfolio explicit
  - remember the 93% rule – (Brinson, Hood, and Beebower 1986) and (Statman 2000)
  - use in a rational way an appropriate portfolio selection method (avoid pretending to use MV or CAPM while you're not)

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Improving Your Decisions
How can BF help to create better portfolios?
Improving Your Trading Skills
How can BF help to select fund managers?

Improve Your Portfolio Selection Skills II

- Read "The Utility of Wealth" – (Markowitz 1952b) . . . and foresee that you will get used to your new wealth level $\longrightarrow$ review all plans on a regular basis
- Have a framework that avoids emotions and biasses from rational behaviour to ruin your performance: especially
  - "The Disposition to Sell Winners Too Early and Ride Losers Too Long" (Hersh and Statman 1985)
  - being too overconfident and hence trading too much (Barber and Odean 2001)

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Improving Your Decisions
How can BF help to create better portfolios?
Improving Your Trading Skills
How can BF help to select fund managers?

Improve your Trading Skills

- Read "Behavioural Asset Pricing Theory" – (Shefrin and Statman 1994)
- Indeed: with hindsight one can find effects of labelling effect, trending and mean reverting patterns, etc.
- but avoid the fate of the "ABN Amro Behavioural Finance Fund", LTCM and many others!
- i.e. re-read previous slide!
- Though some hedge fund managers are able to show a consistent out performance, one must consider (representativeness biases and sample size neglect bias) and conclude that "there is still no free lunch"

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Improving Your Decisions
How can BF help to create better portfolios?
Improving Your Trading Skills
How can BF help to select fund managers?

How can BF help to select fund managers? I

- first re-read previous slides
  - Improve Decisions
  - Select a portfolio that answers to your needs
- avoid to judge the fund manager (Agent) at short term (narrow frame)
- In the *qualitative part* of manager selection:
  - limit the role of your emotions (liking/preferring, being sure, representation bias (especially in combination with labelling = remember Madoff) ...)
  - if the fund manger is important (if it is not a quant method) then try to judge his/her level of overconfidence
- In the *quantitative part* of manager selections, especially be aware of:
  - hot hand fallacy,

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Improving Your Decisions
How can BF help to create better portfolios?
Improving Your Trading Skills
How can BF help to select fund managers?

How can BF help to select fund managers? II

- sample size neglect,
- overconfidence,
- conservatism / belief perseverance
- labelling / herd behaviour (Madoff)

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Conclusions

- the Efficient Market Hypothesis is not dead
- but Behavioural Finance is real
- the Adaptive Market Hypothesis is an interesting generalization (Lo 2004), however lacks (right now) predictive power
- Understanding Behavioural Finance is understanding yourself and others . . .
- . . . and therefore helps in various ways in selecting fund managers.
  - composing a portfolio
  - selecting a manager
  - understanding the manager

Thanks

Thank you for your attention!

I happily take any questions now or by email philippe@de-brouwer.net

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ABOUT THE AUTHOR

Philippe De Brouwer

(41 y.o.), holds Master degrees in **Theoretical Physics** and **Applied Economics** (Commercial Engineering), and **prepares his PhD** in the domain of Behavioural Finance and portfolio theory.

He has a professional experience of 18 years and is active in asset management since 1996 (13.2 years). He joined Fortis Asset Management N.V. (Belgium) in 1996 and played a key role in the development of that company. Philippe *stood at the cradle of the capital guaranteed funds, then helped to structure the company and organized product development, facilitated international coordination, managed many cross business-line and cross country projects and finally managed hedge funds of funds, and became a specialist in behavioural finance, communication about risk and financial planning.*
In 2002 he joined KBC Asset Management N.V. and for that company he merged 4 daughter companies into one in Poland, and was many years *Chief Executive Officer* at KBC Towarzystwo Funduszy Inwestytcynych S.A. (Poland). During that period (2005–2009) he drove his team to grow market share by 35%, while reducing the costs relative to the assets under management. Then (still in the same group) he became *Director and Member of the Board* of Eperon Asset Management Ltd (Ireland) that manages over 30 Bln. €, where his focus is predominantly general managment, cppi funds and funds of hedge funds. Philippe holds simultaneously a board mandate in Archipel Fund Plc and KBC Live Fund Management Ltd.

Philippe welcomes communication at `philippe@de-brouwer.net`

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