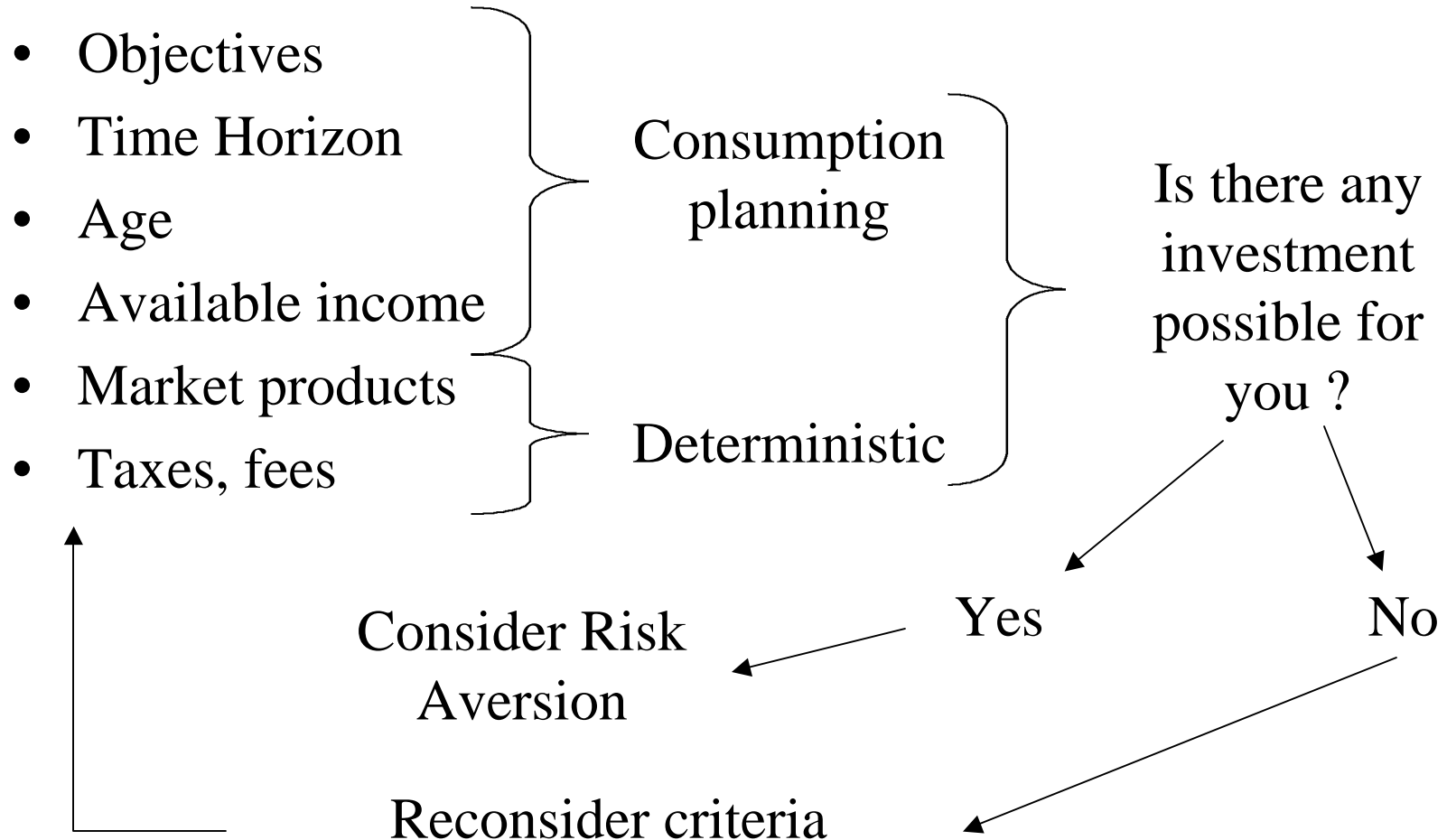


Measuring Financial Investor's Risk Aversion

Guillaume Cousin, Be-Partner
Philippe Delquié, INSEAD

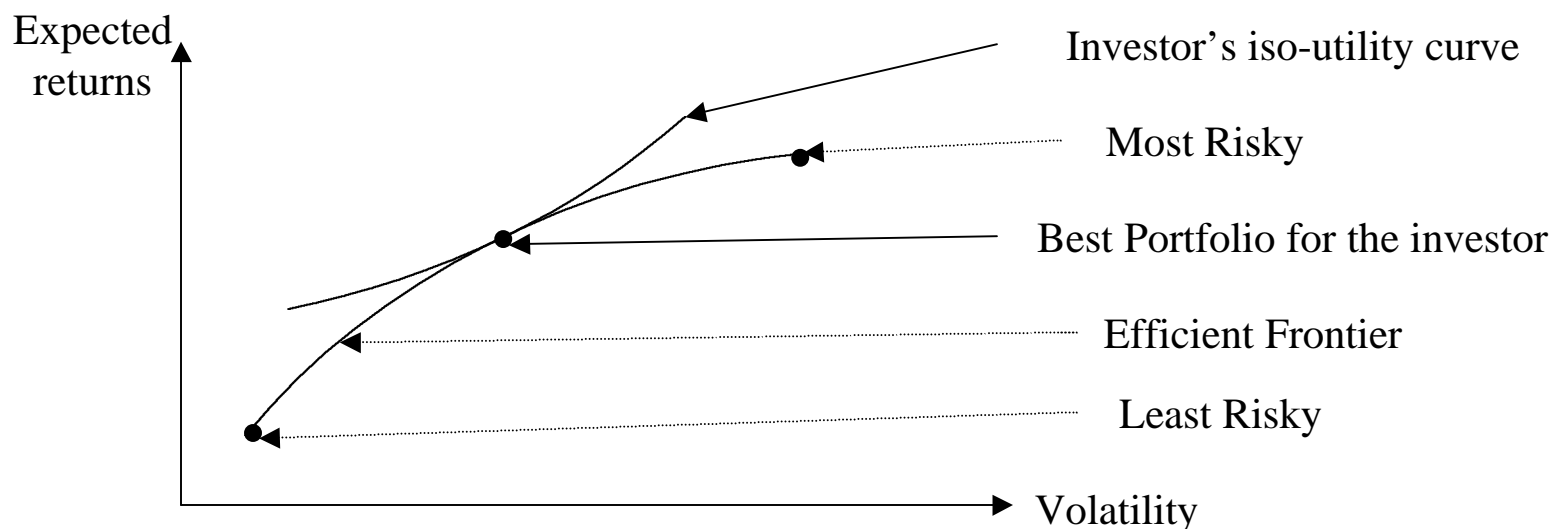
INFORMS San Antonio, November 2000

Risk aversion and other criteria



Our context

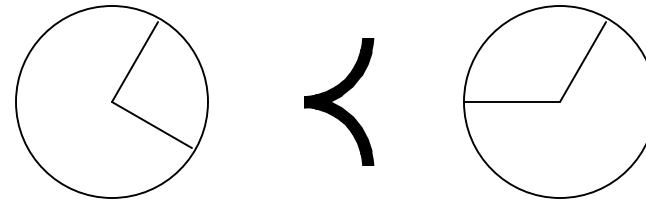
- Asset managers describe portfolio with annual expected returns and standard deviation



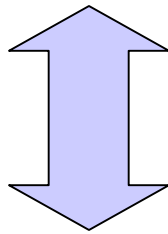
- For one investor, identify the best point on the efficient frontier

General Framework

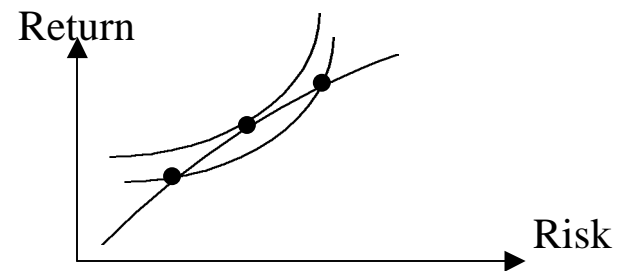
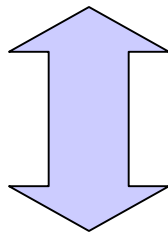
- Psychology



- Economics



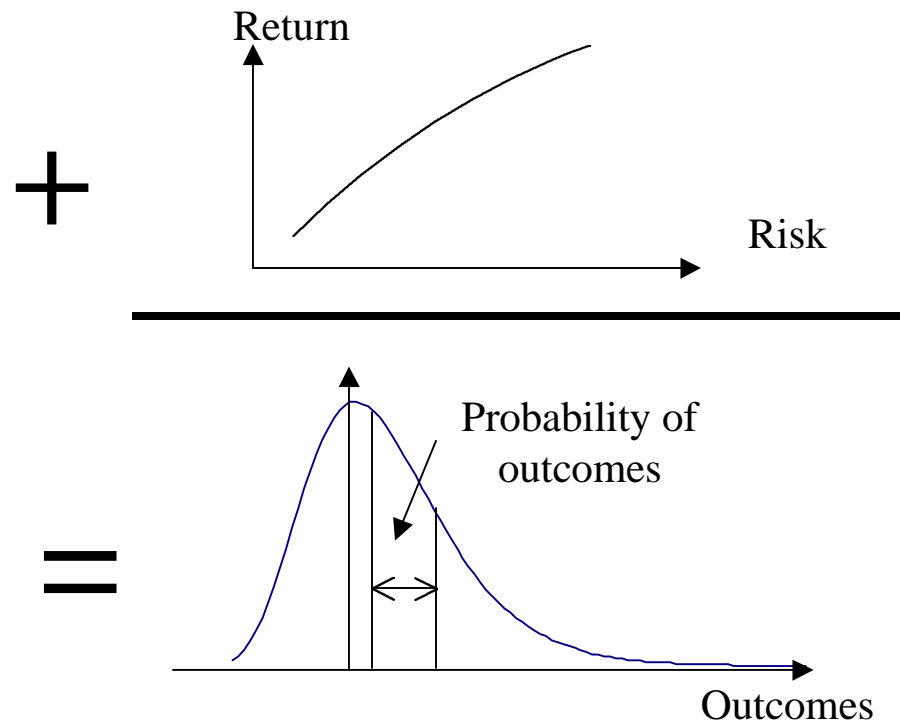
- Finance



Basic Elements

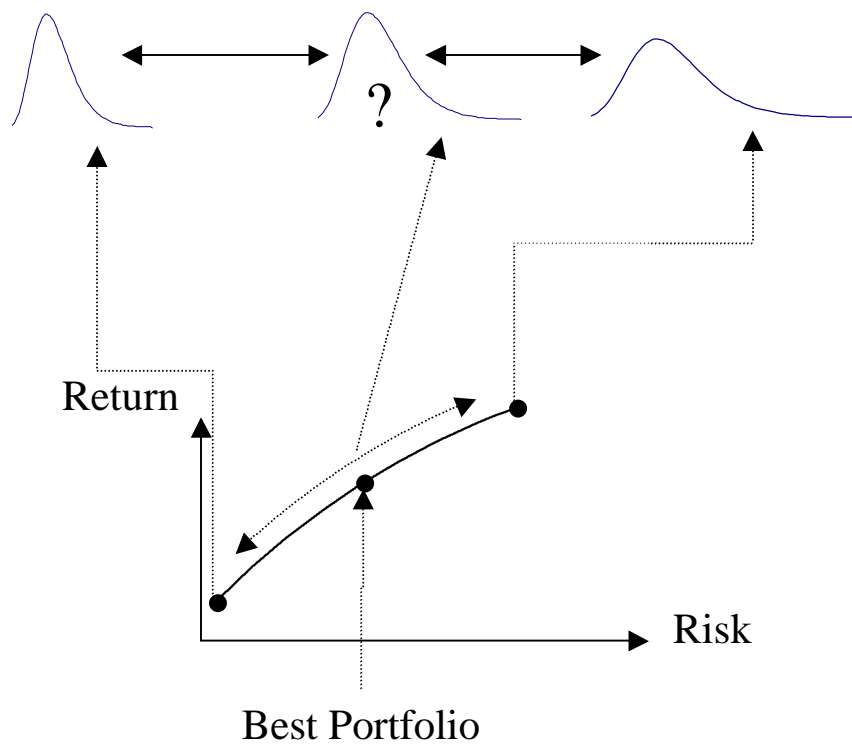
- Investment amount, time horizon
- Efficient frontier
- Family of lognormal distributions of final wealth

\$ 5000 for 5 years

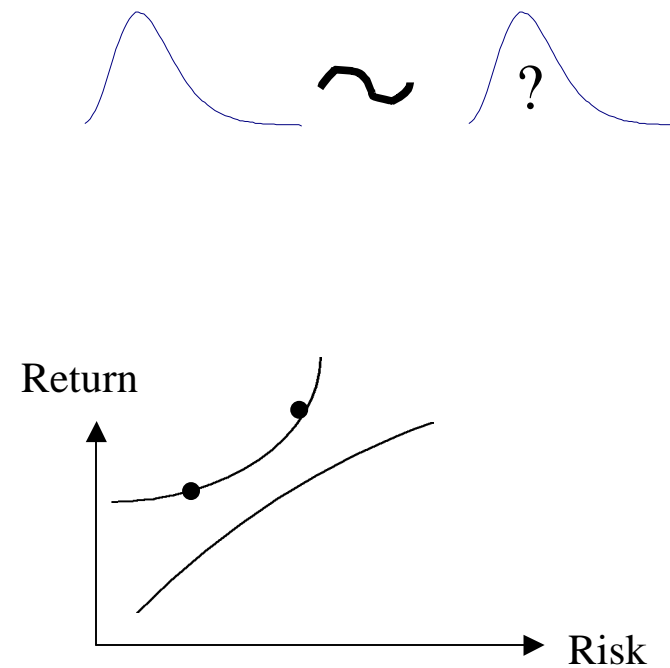


Approaches to capturing Preferences

- Optimization



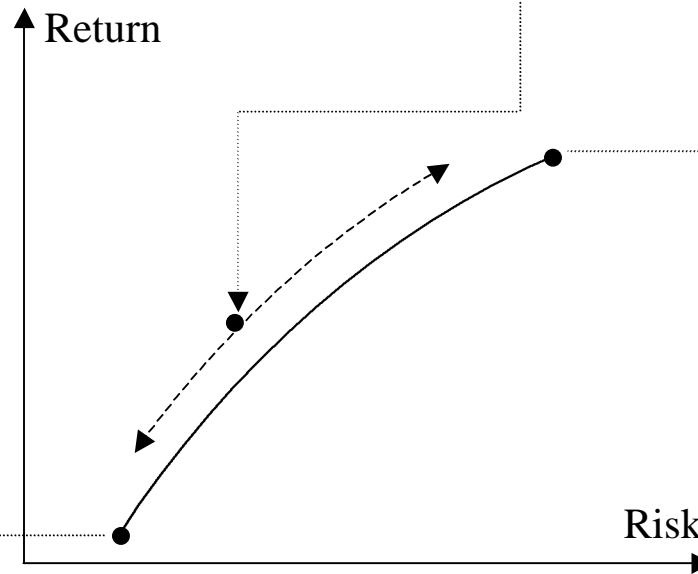
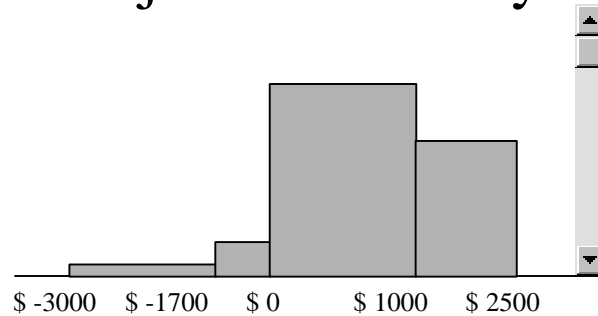
- Indifference



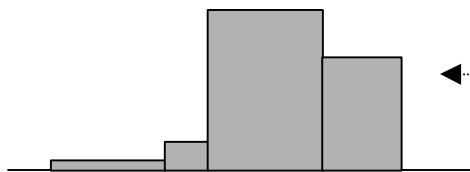
Optimization Method

Investor
modifies both
return and
volatility to
find best
distribution

Adjustable Lottery



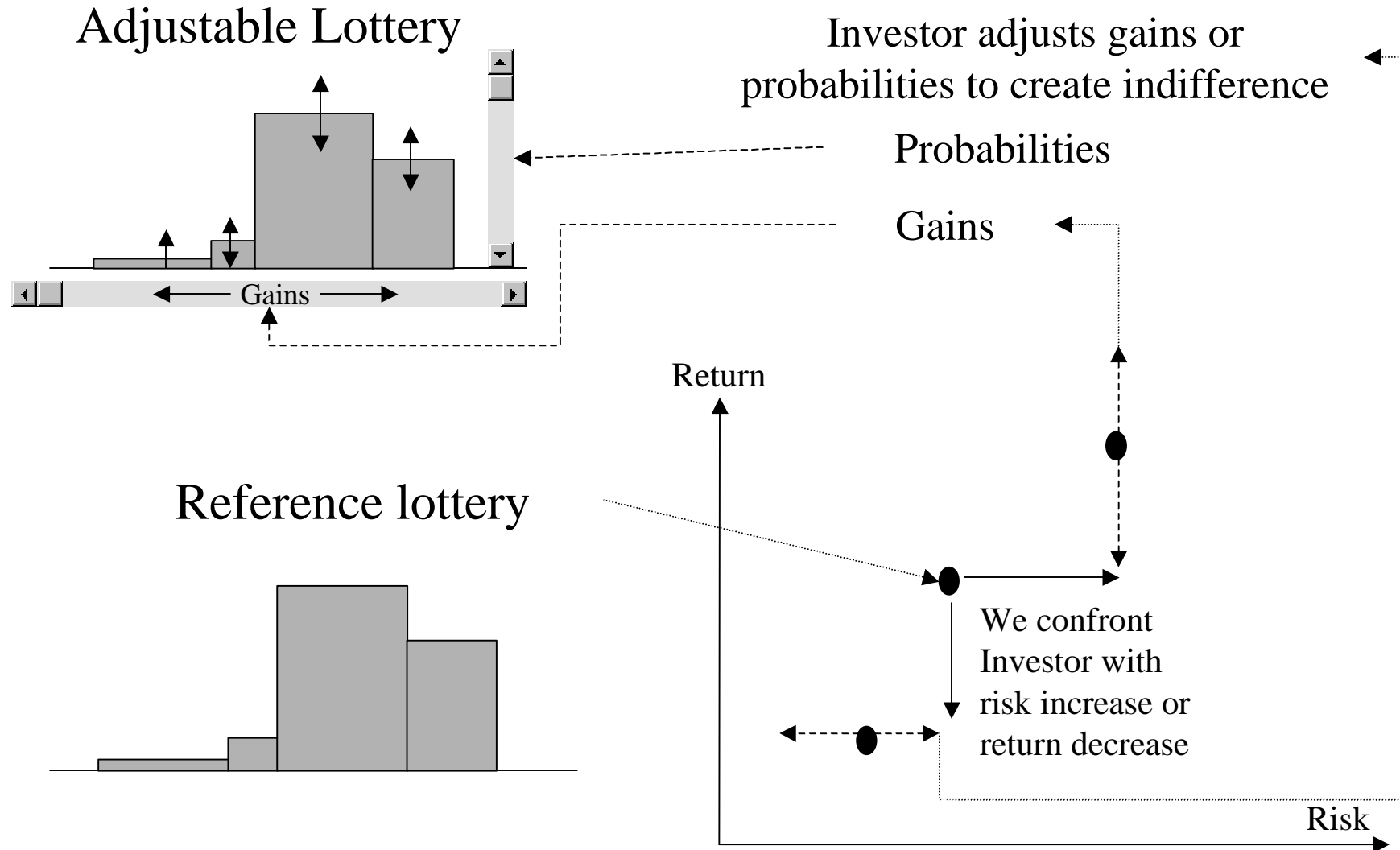
These are two extreme
references



Informs 2000 - November

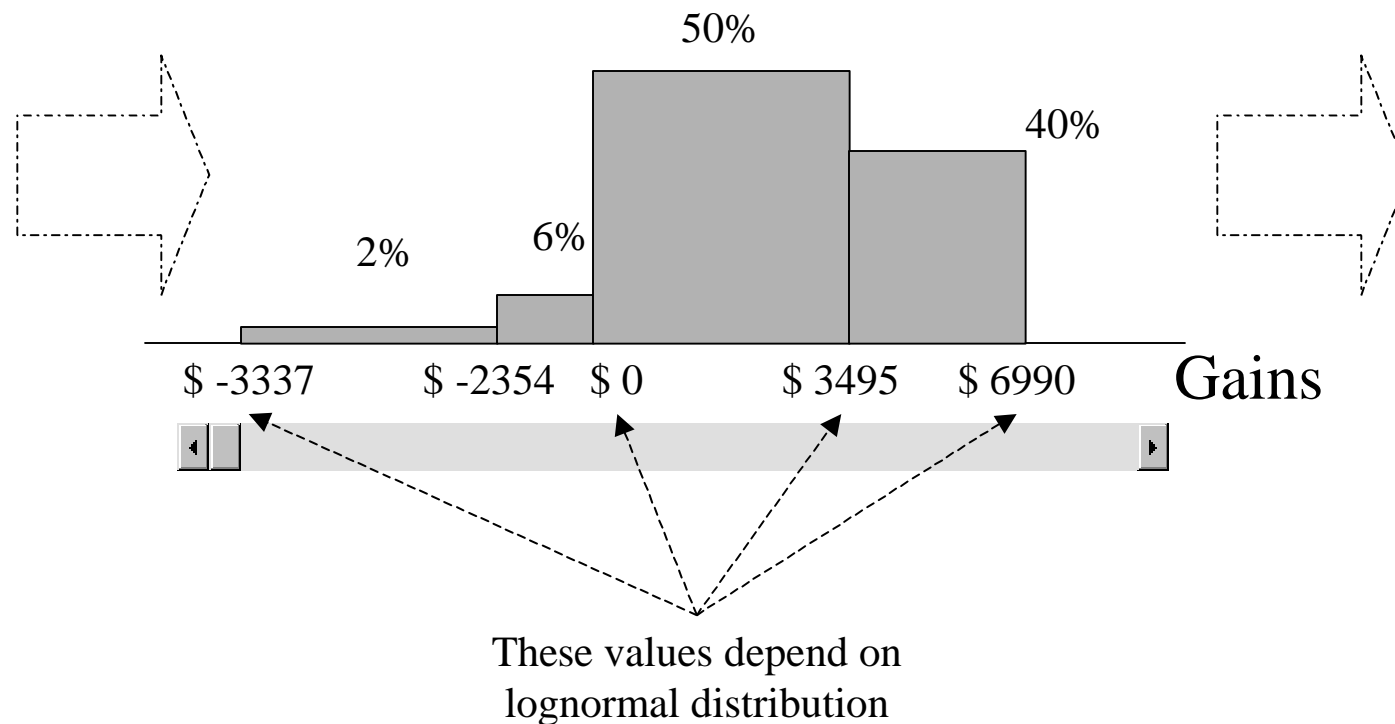
Cousin(Be-Partner) – Delquié (INSEAD)

Indifference Method



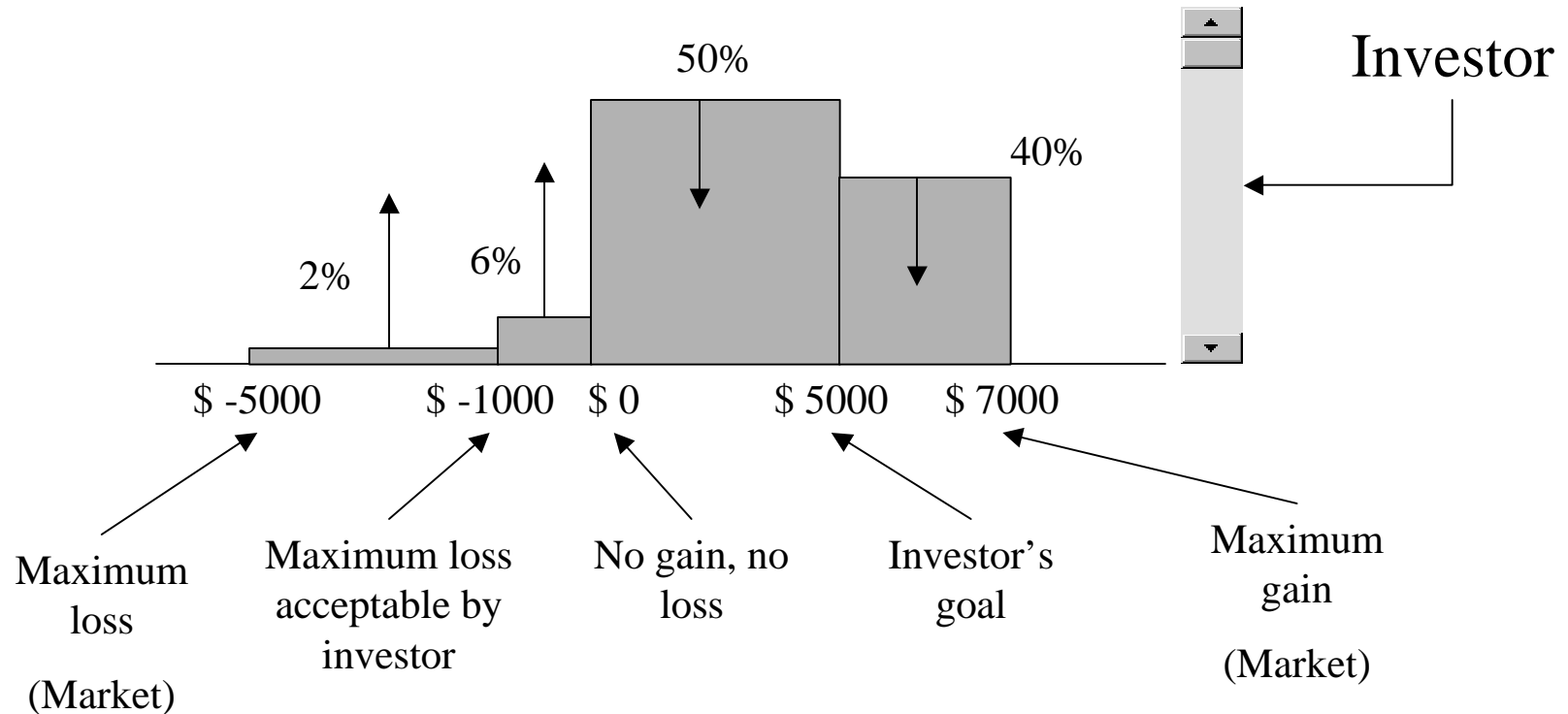
Outcomes Adjustment

- Investor uses Scroll-bar to shift Gains. Probabilities are constant.



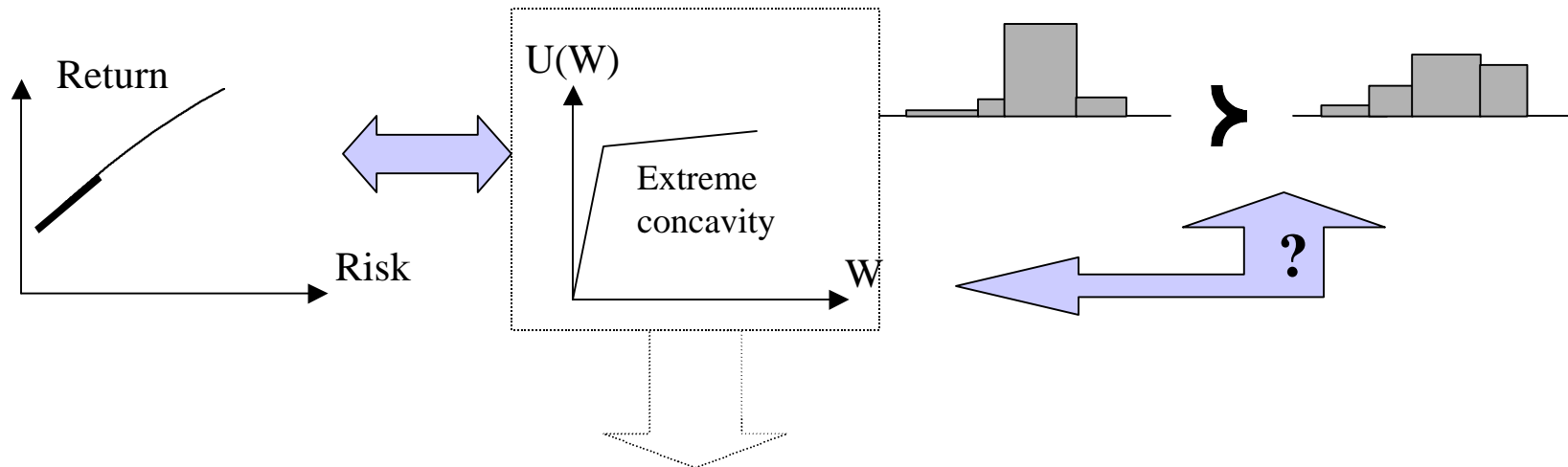
Probabilities Adjustment

- Outcomes are fixed. Probabilities adjusted so as to keep a lognormal distribution. Both expected returns and volatility are affected.



Challenges

- Consistency between different approaches ?
- Validation of the link between observed Portfolios and "true" risk preferences ?



- What is the right link between Psychology and Financial Engineering ?