



Identifying investor preferences and biases

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Determining the optimal individual approach

- Investors not able to define objectives, trade-offs, and strategies easily
- Susceptible to short-run emotional reactions to investment outcomes
- Different financial personalities determine appropriate investment goals and styles



How do we differentiate between rational preferences and biases?

Preferences

- Rational
- Coherent
- Stable
- Not circumstantial
- Integrative

Biases

- Irrational
- Incoherent (money pump)
- Unstable
- Circumstantial
- Partitioning

Building upon two views of investing

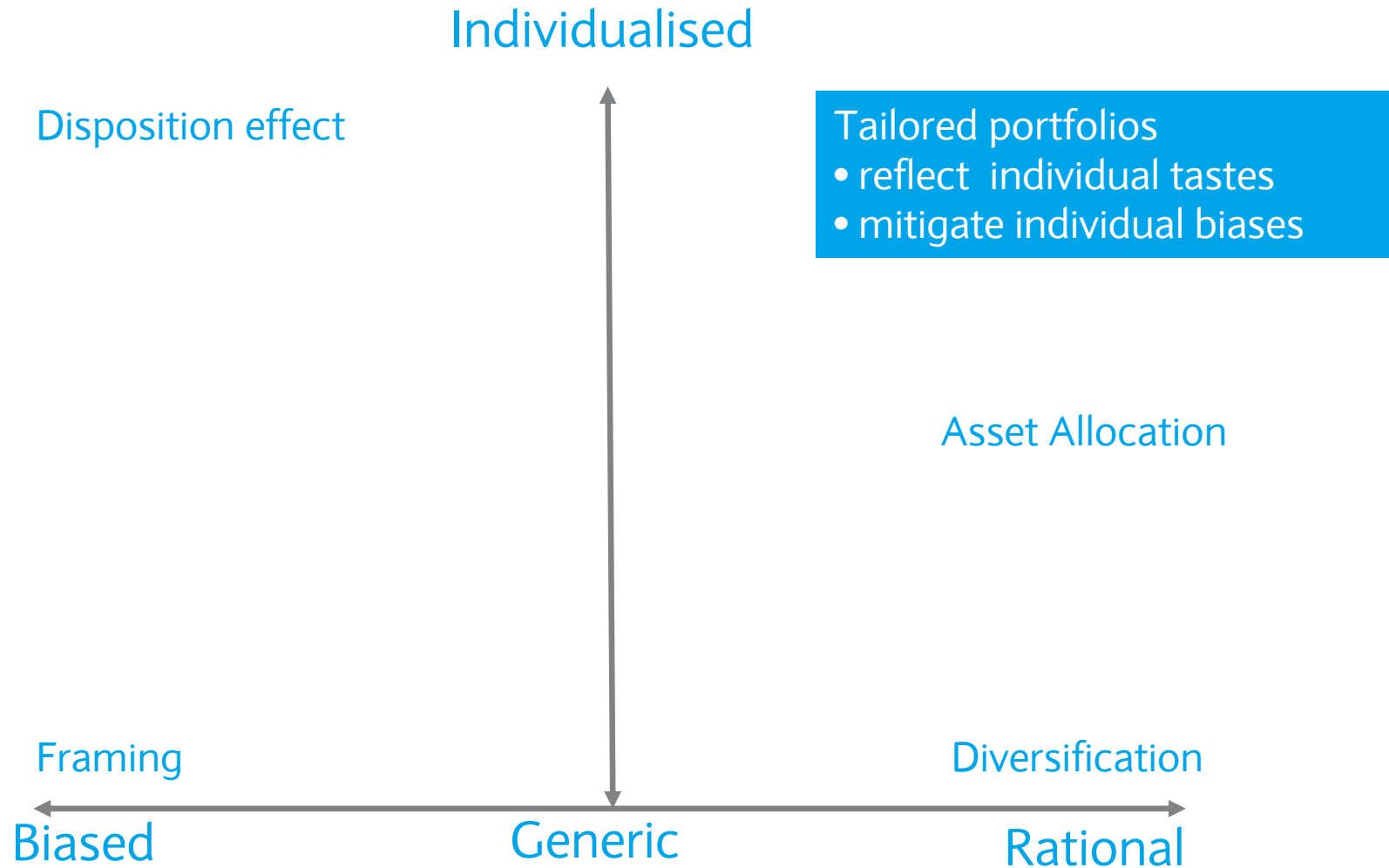
Harry Markowitz:
Nobel Prize 1990



Daniel Kahneman:
Nobel Prize 2002



What would a truly optimal individual portfolio include?



What have we learned from Behavioural Finance?

Financial Framing

Imagine that you bought \$6,000 worth of stock from a now bankrupt company. There are two alternatives to recover money...

Would you choose A or B?

Alternative A

- Recover \$2,000

Alternative B

- 1/3 chance \$6,000 recovered
- 2/3 nothing recovered

92% go for A

Would you choose X or Y?

Alternative X

- Lose \$4,000

Alternative Y

- 1/3 chance nothing lost
- 2/3 chance \$6,000 lost

67% go for X

Framing of investment decisions: myopia and the emotional time horizon

1 Month Time Horizon

- Historic Stock Gains: 62%
 Losses: 38%
- *Loss averse* people will avoid stocks due to short-term emotional responses

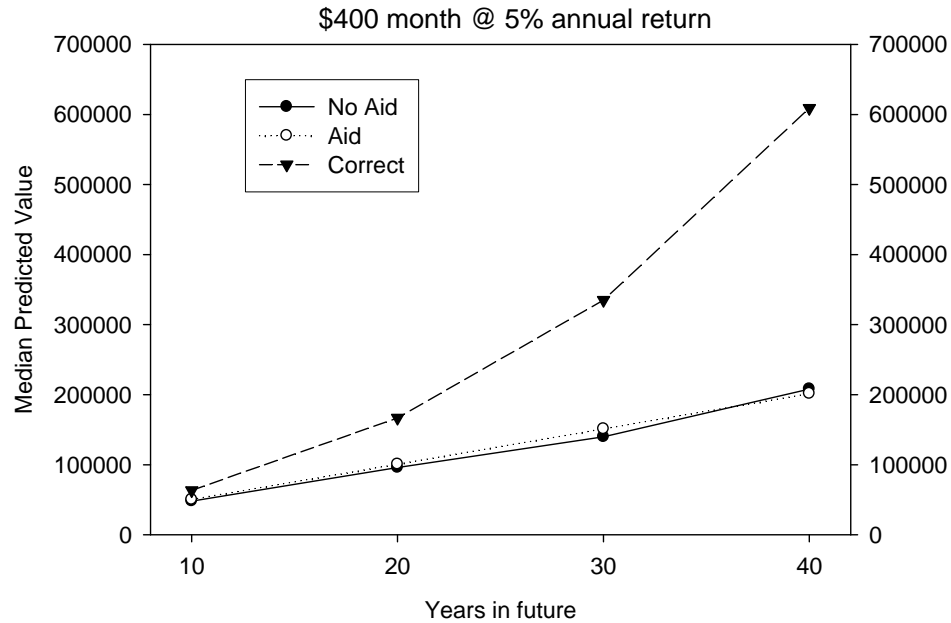
5 Year Time Horizon

- Historic Stock Gains: 90%
 Losses: 10%
- *Loss aversion* kicks in far less frequently so long term goals achieved more easily

A sequence of appropriate short-term decisions do not add up to a good long-term decision

Source: Barclays Wealth analysis – FTSE all Share data 1962 to present

....and we don't predict the cumulative effect of compounding

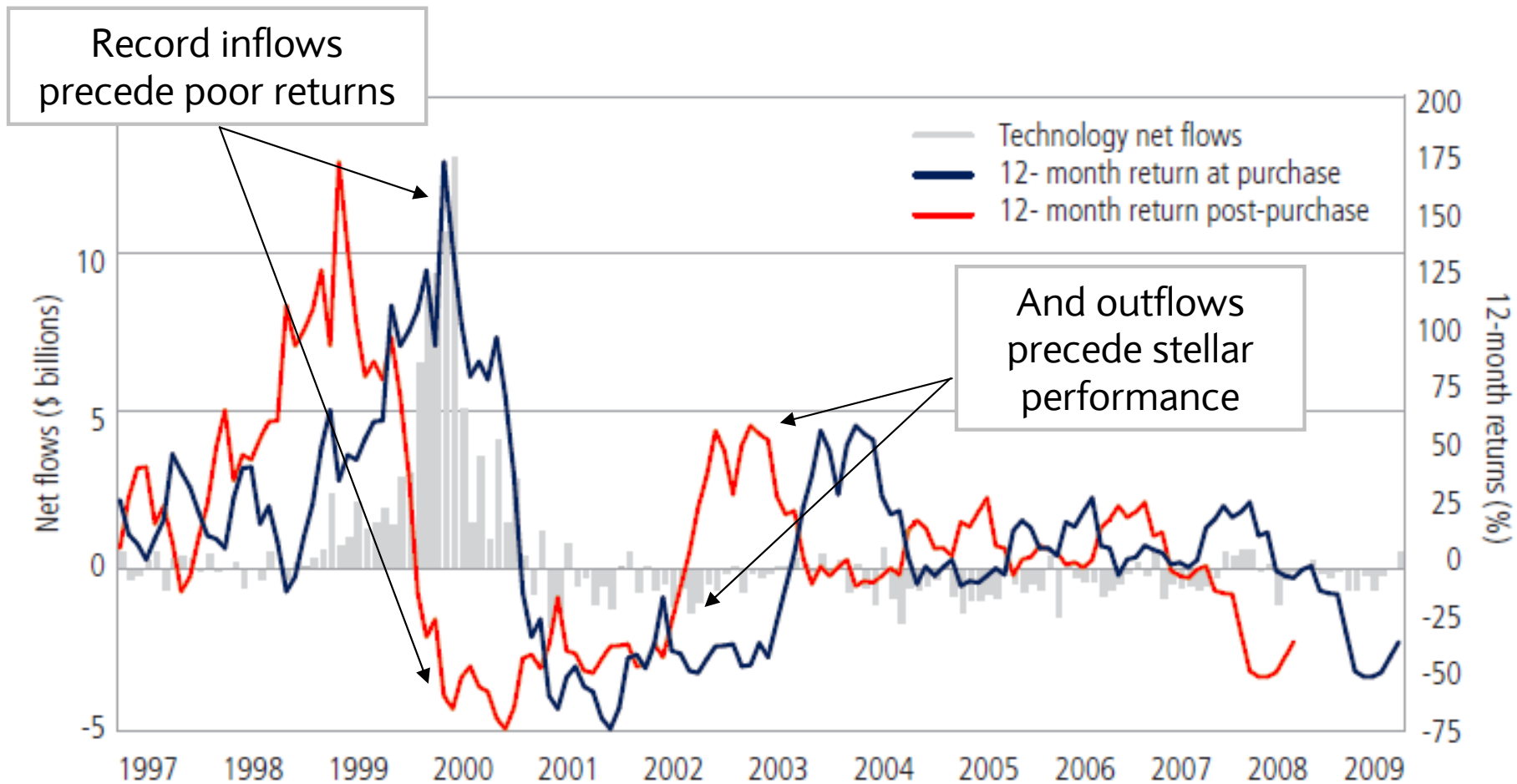


Sub-optimal behaviour along the investment journey

Focus on the past, miss the future



Chasing past returns leads to buying high & selling low



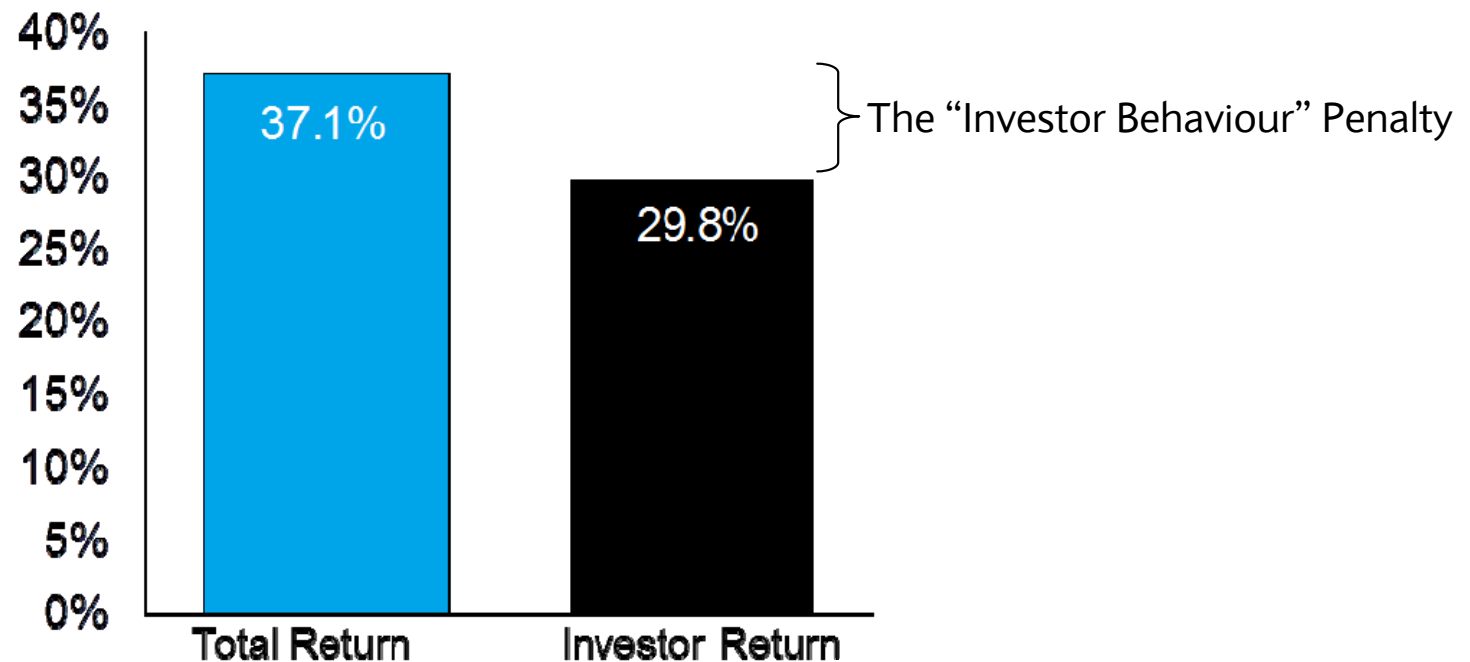
Source: Technology mutual fund sales, redemptions, exchanges, reinvested dividends and assets under management are based on monthly data calculated by F.R.C. Performance data provided to F.R.C by Morningstar. Based on 128 technology mutual funds.

What is the cost to investors of market mis-timing?

Total Return: reflects a buy and hold strategy

Investor Return: accounts for all cash flows into and out of funds to measure how the average investor performed

UK Equity Fund Performance Compounded over 5 Years

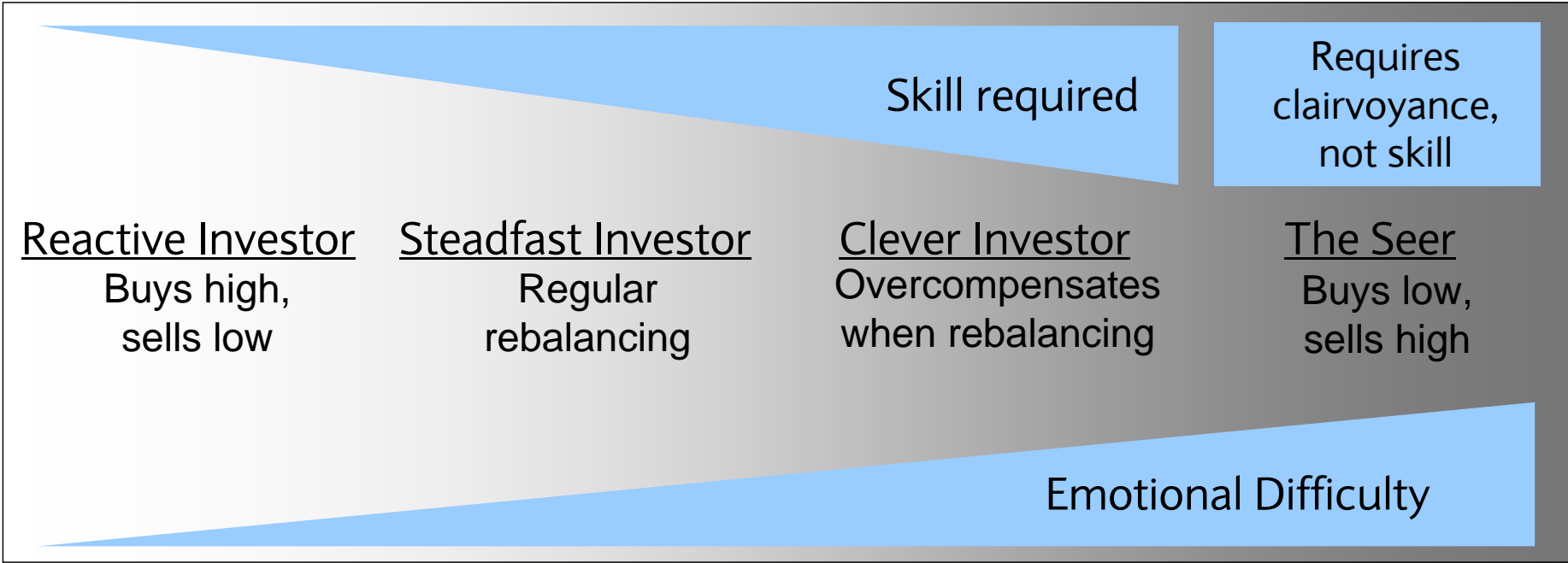


Source: Clare & Motson (2010) Do UK retail investors buy at the top and sell at the bottom?; UK equity funds from 1992 to 2009 recorded by the Investment Management Association. Study commissioned by Barclays Wealth at Cass Business School,

Becoming a better investor

Pro-cyclical

Counter-cyclical



Most people follow this pattern

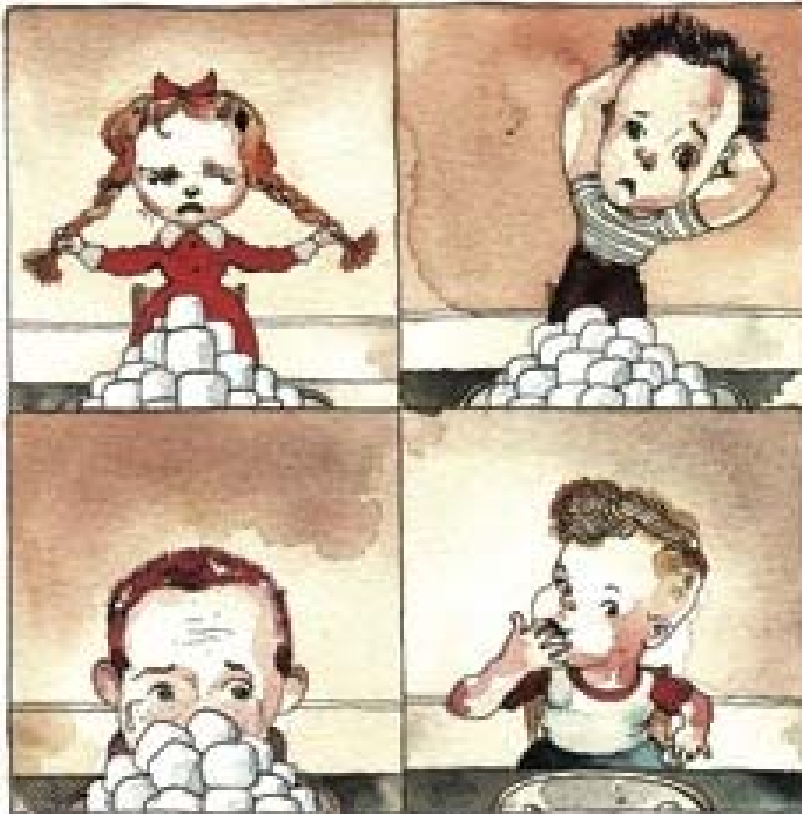
A little composure can improve returns

A countercyclical tactical approach is likely to pay off

Do not attempt to time the market

Individual differences matter

Basic personality differences can have a large influence



12 to 14 years later, those who waited for the two marshmallows...

- Earned 210 points higher scores on SATs
- Less likely to go to pieces under stress
- More persistent in the face of difficulties
- Still able to delay gratification in pursuit of goals

Mischel, Shoda, Rodriguez (1989) Delay of gratification in children
<http://www.sciencemag.org/cgi/content/abstract/244/4907/933>

The disposition effect: cash in gains, ride losses

Situation A

- A month ago you bought a stock which you believed was undervalued by 30%. Today it is up 20% from that point. Nothing has changed your estimate of its fair market price.
- How likely are you to sell?

Very Likely: 34%

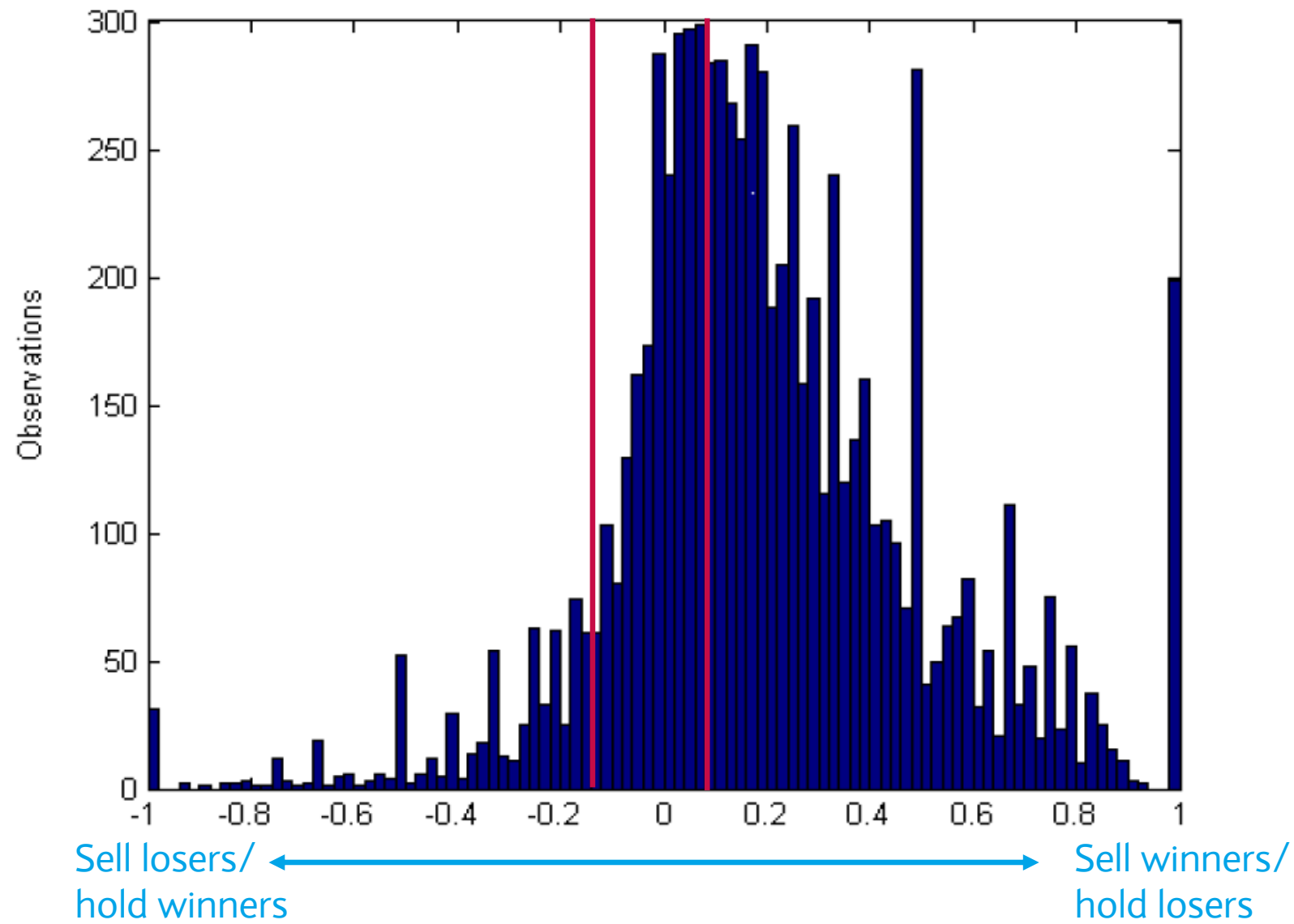
Situation B

- A month ago you bought a stock which you believed was undervalued by 30%. Today it is down 20% from that point. You now believe its fair market price is undervalued by 10%.
- How likely are you to sell?

Very Likely: 5%

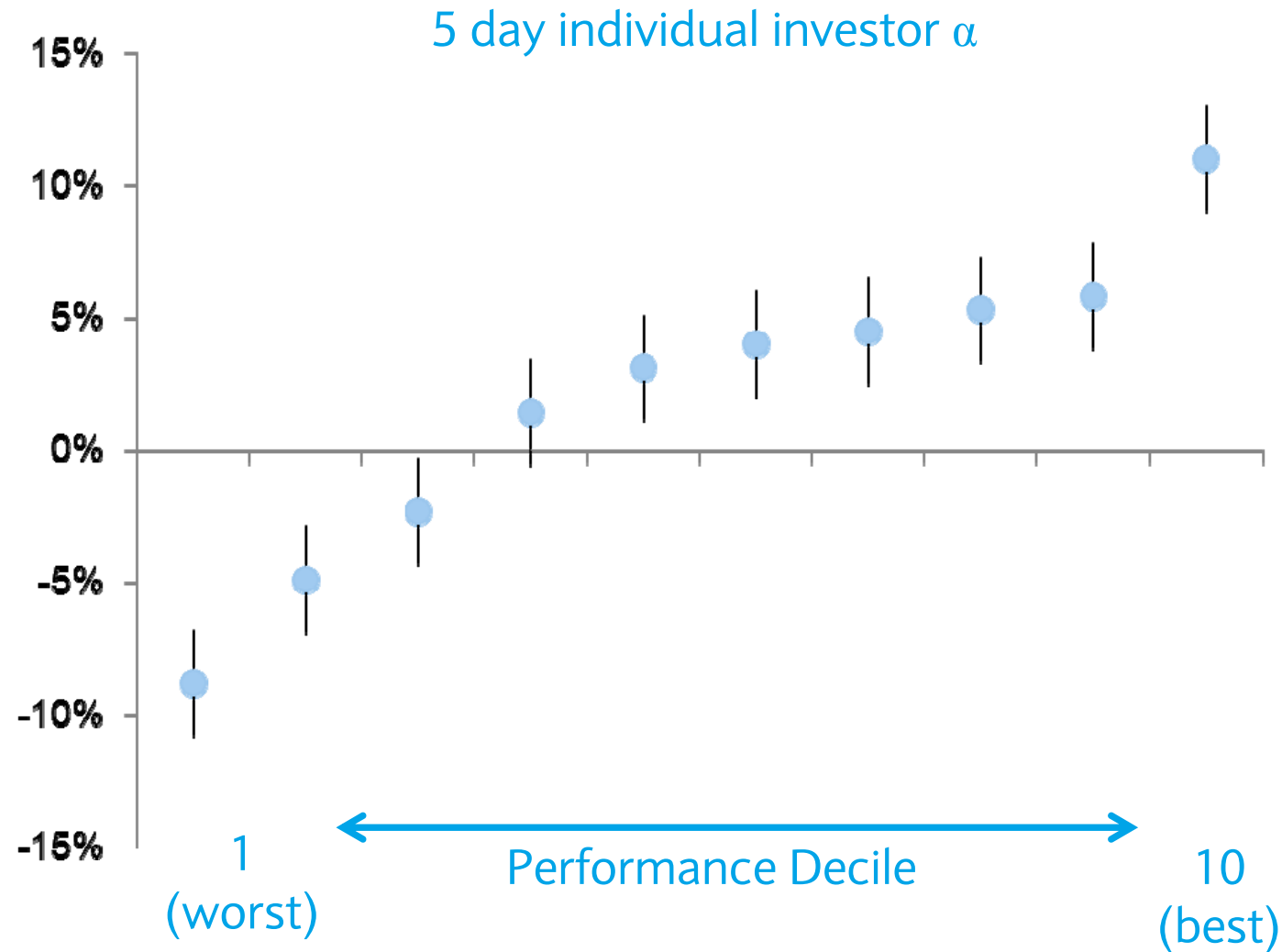
Source: BWA IR workshop responses

The disposition effect is common, but not fate for everyone



Source: Dhar and Zhu 2002

Individual investors vary significantly in their skill level



Source: Coval, Hirshleifer and Shumway, 2010

Building an individualised view of preferences and biases

Behavioural profiling considerably beyond the industry standard

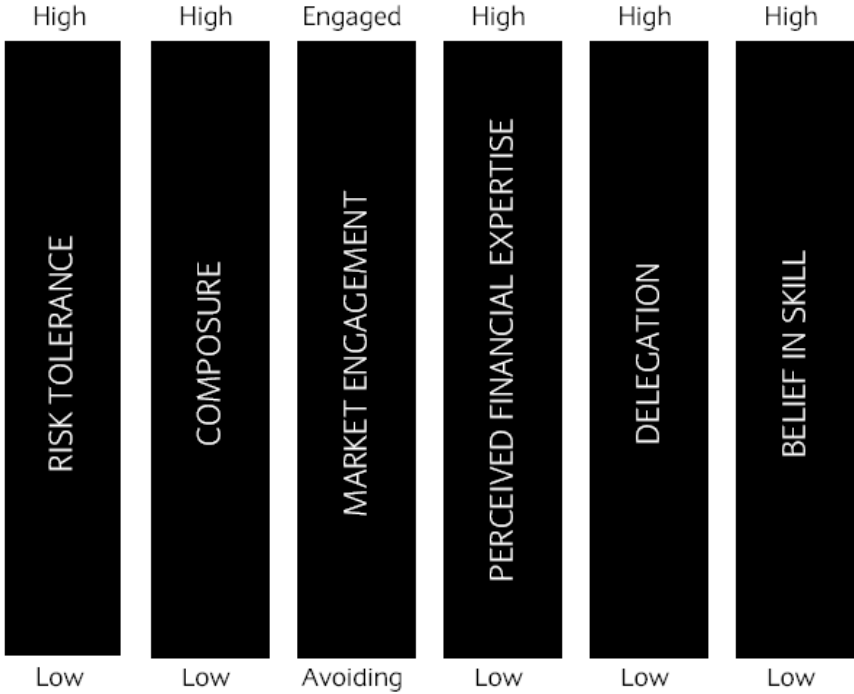
Traditional One-Dimensional Approach

Risk Tolerance Questionnaire



Barclays Wealth Behavioural Approach

Financial Personality Discovery



You are not one-dimensional, all aspects of your personality matter

Financial Personality Dimensions

Risk Tolerance

- Long term rational trade-off between risk and return
- Holistic – relates to individual not specific portfolios

Composure

- Short term emotional engagement with the investment journey
- Tendency to worry about decision outcomes

Market Engagement

- Attitudes to taking on specifically financial risks
- Concern about protection and potential for extreme downside

Perceived Financial Expertise

- Comfort with own financial decision making
- (Over) confidence...

Delegation

- Desire to reduce effort of financial decision making and take advice
- Willingness to place trust and delegate

Belief in Skill

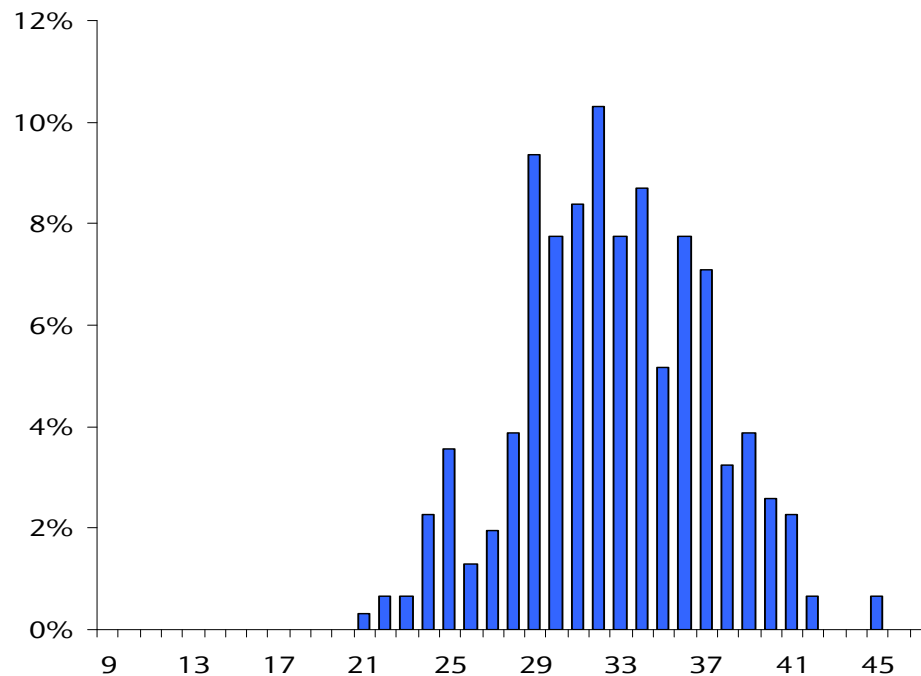
- Belief in possibility for investment managers to consistently beat the market
- Willingness to pay for skill (alpha)

Traditional risk tolerance questionnaires don't work

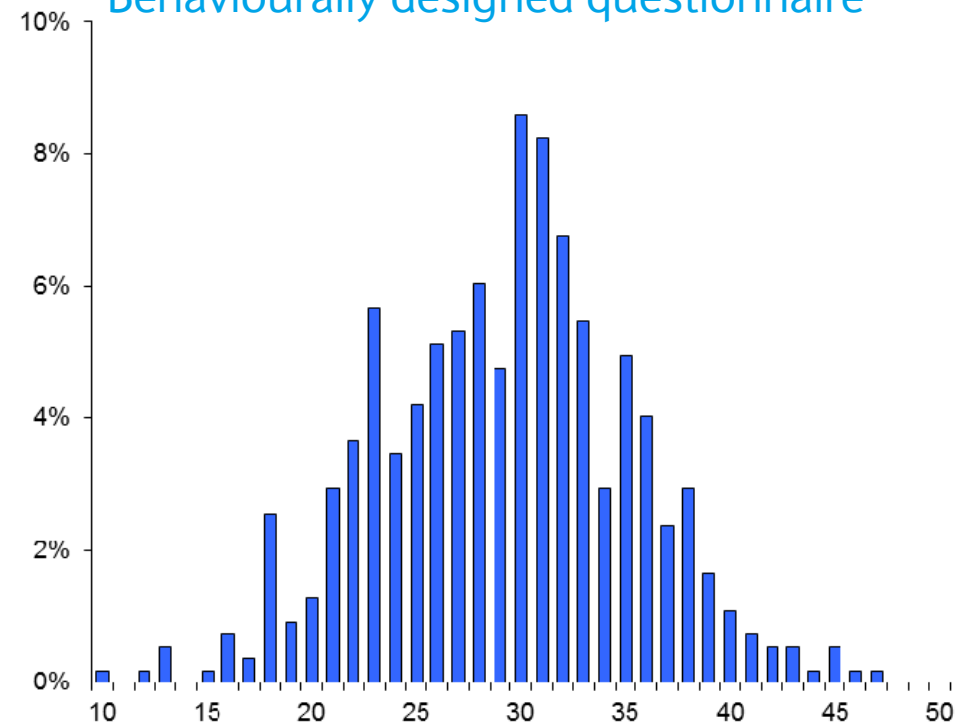
- Not behaviourally designed or statistically robust
- Often more a test of financial knowledge or numeracy than risk tolerance
- Push the effort of mapping risk attitude to asset allocation onto client!

Result: low validity, reliability, discrimination, and efficiency

Industry standard questionnaire



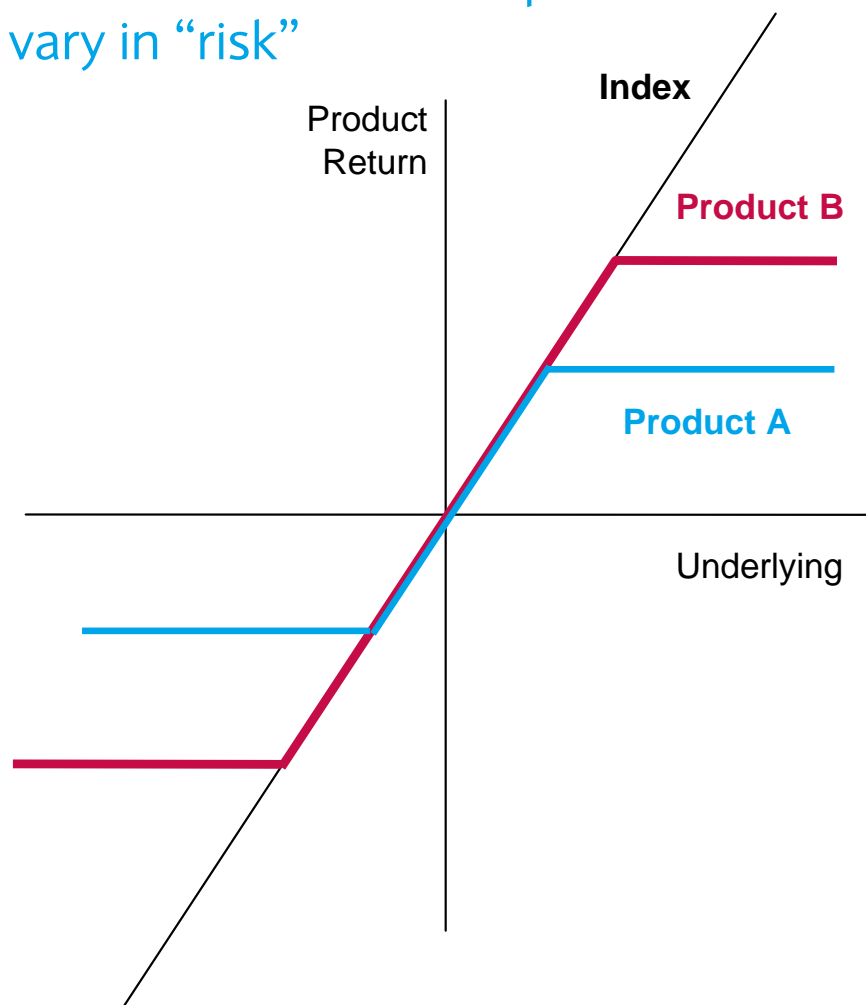
Behaviourally designed questionnaire



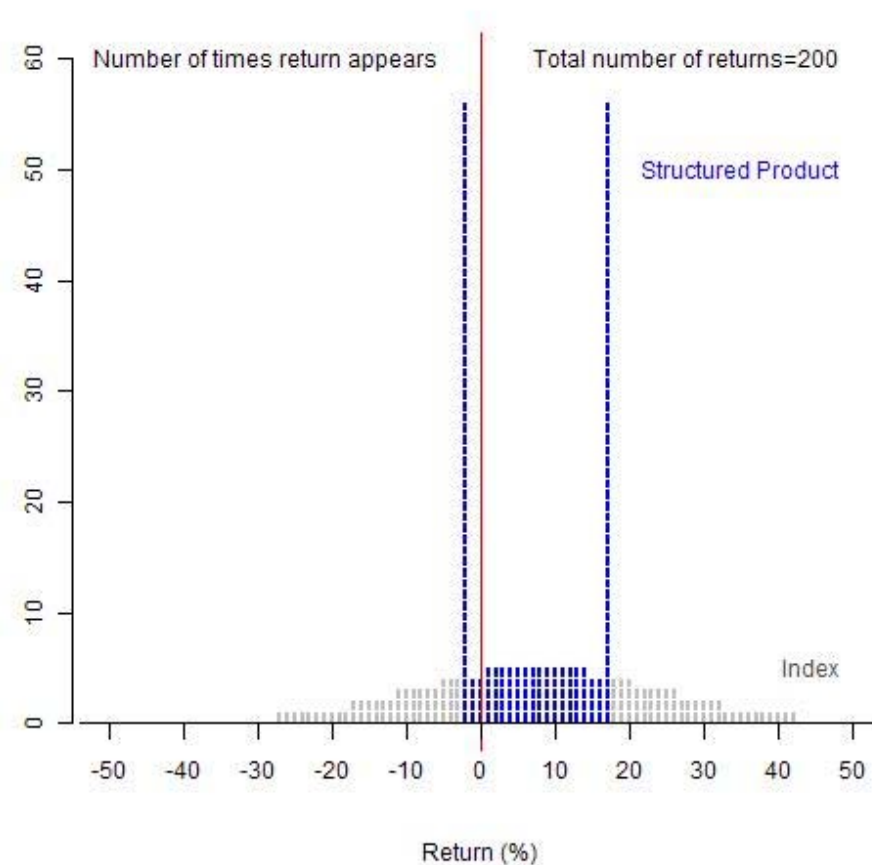
For further reading, consult: Egan, Brooks, Davies, *Comparisons of risk attitudes across individuals*, Wiley Encyclopedia of Operations Research and Management Science, 2010

Evidence: traders and structured products

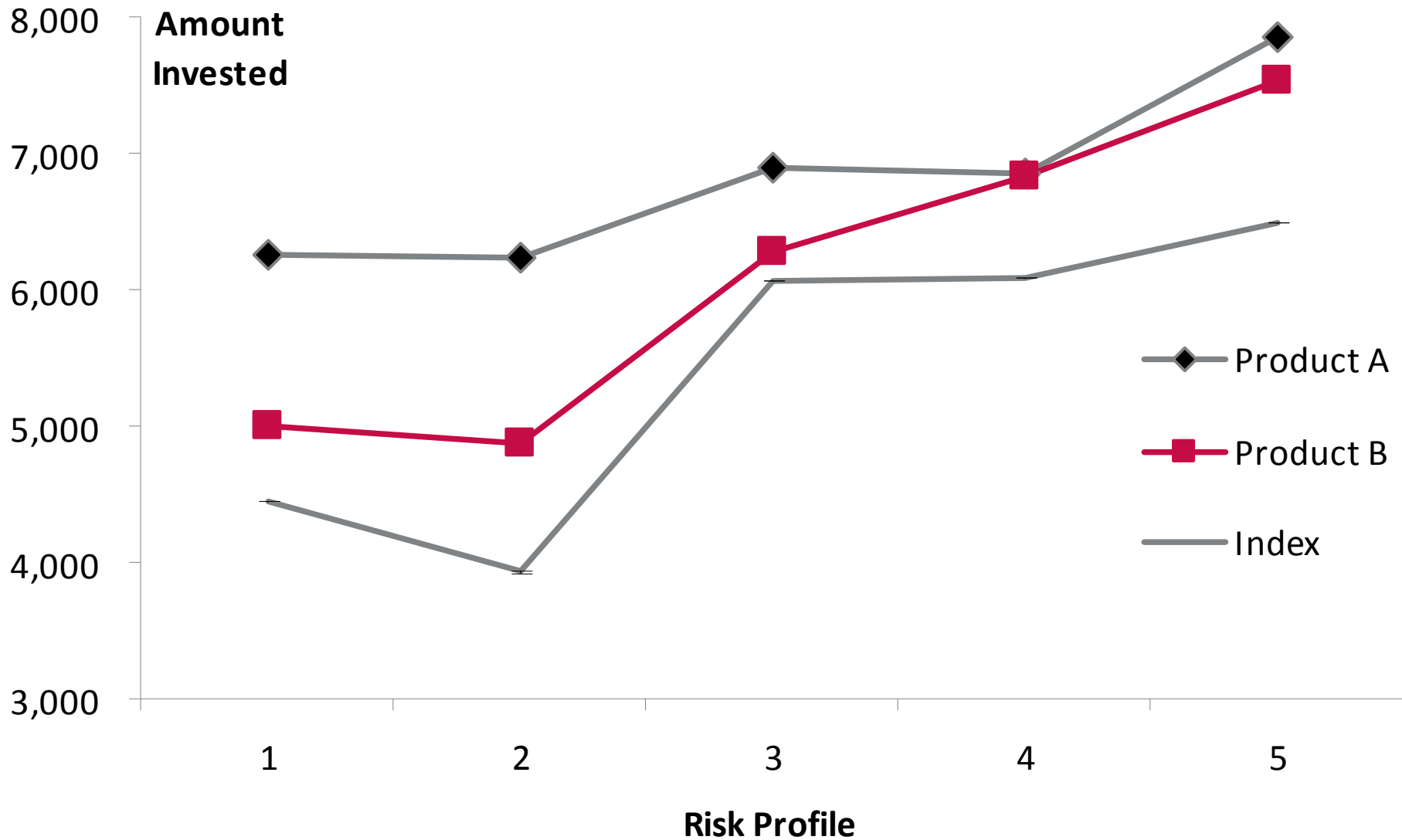
Create two structured products which vary in “risk”



Show prospective outcome distributions



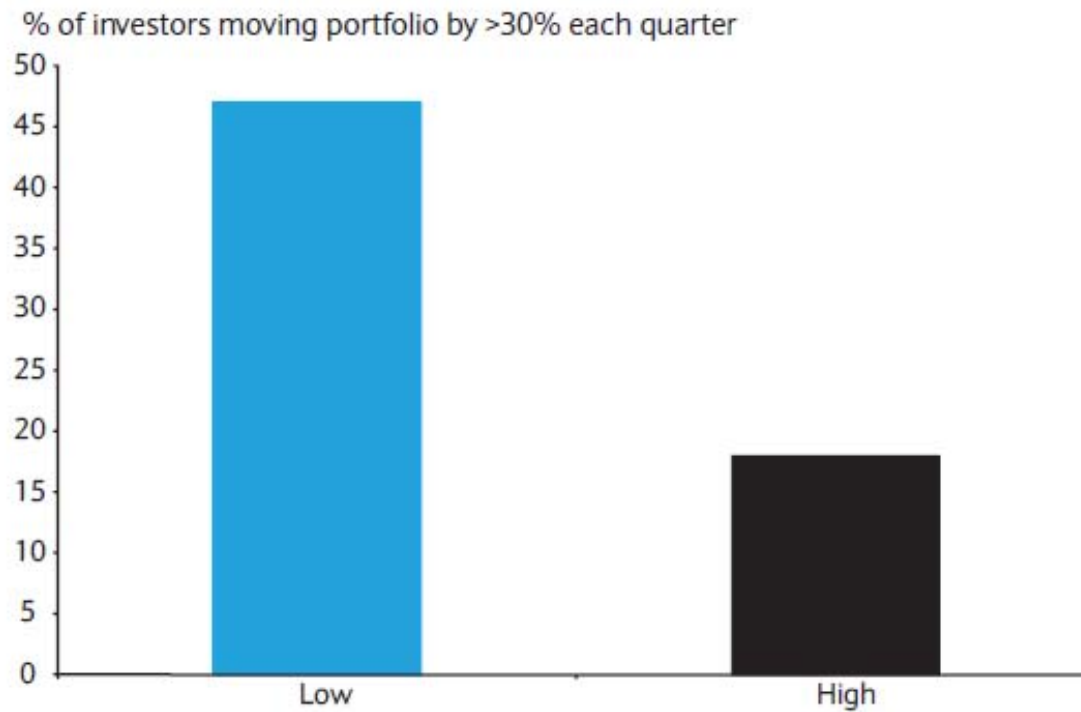
Risk tolerance predicts preferences over non-normal distributions



Source: Egan, Brooks, Davies, *Psychometric risk tolerance, exponential utility, and choices over risky distributions*, 2010.

Individual biases are identifiable before trading

Low composure encourages portfolio shifts

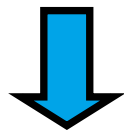


Source: Barclays Wealth

Consider both long term and short term risk attitudes

Risk Tolerance

- Long term risk/return trade-off
- Rational
- Concerned with final wealth goal
- Big picture (wide framing)



- Happy with cyclical products as long as long term risk/return trade-off is appropriate

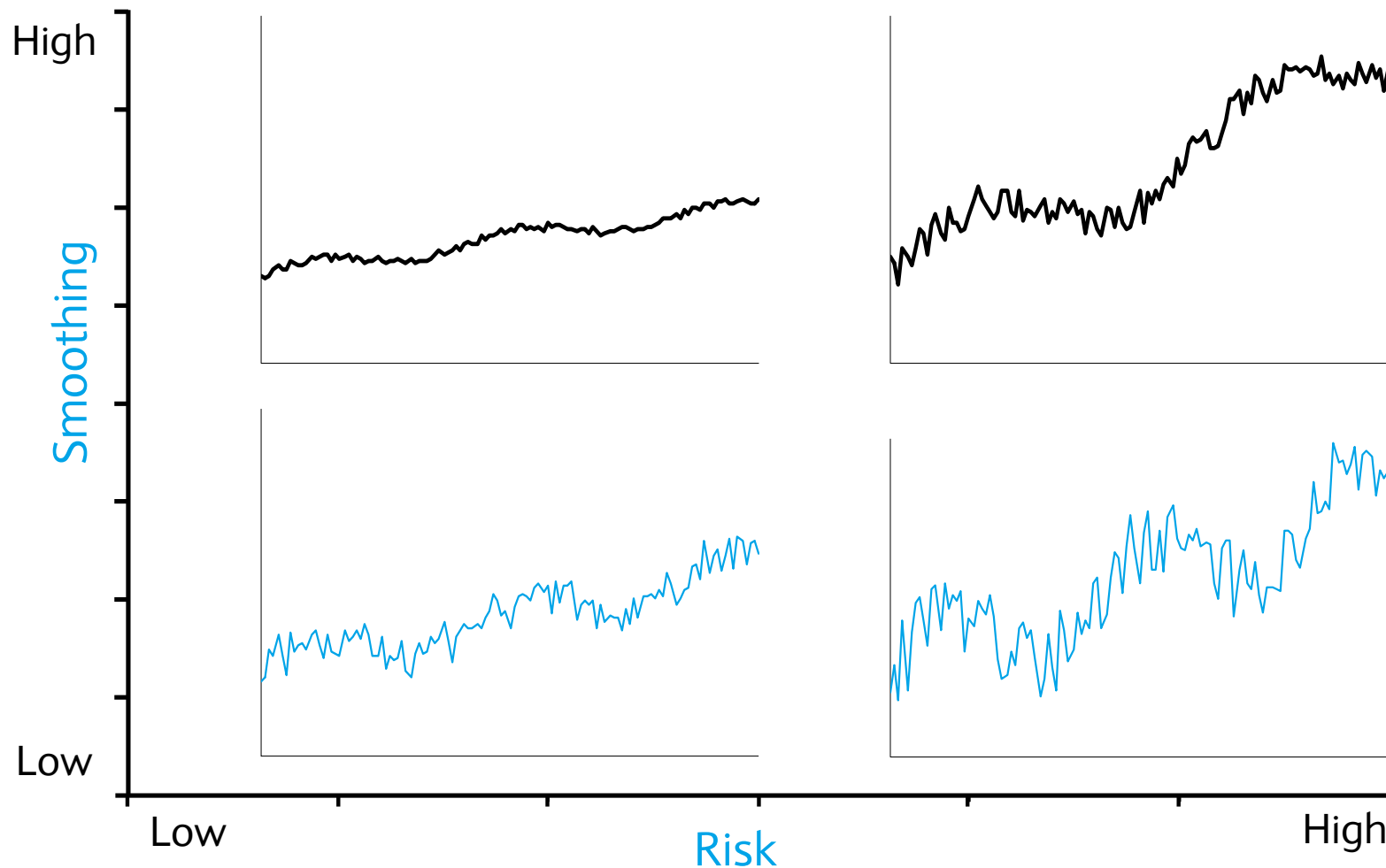
Composure

- Short term risk perceptions
- Emotional
- Concerned with investment path
- Narrow Framing



- Reflects need for smooth emotionally comfortable journey towards final wealth goal

The best asset allocation for an individual client will reflect both elements of their personality



This informs and fine-tunes the portfolio implementation

Financial personality and objectives determines desired portfolio characteristics

Example secondary characteristics to guide product implementation

