



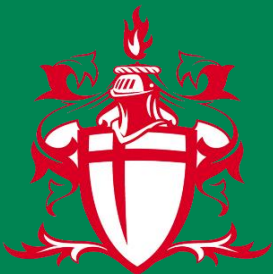
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Biases in Trustee Decision Making

Insights from Behavioural Finance

Professor Peter Ayton & Professor Iain Clacher
Joint work with
Dr. Leonardo Cohen & Dr Volker Thoma



**CITY UNIVERSITY
LONDON**
09 October 2018



UNIVERSITY OF LEEDS

Leeds University Business School



Agenda: research on the decisions of pension fund trustees

- Introduce our project
- Present the findings from extant behavioural finance research relevant to the same settings in which trustees operate
- Present our new empirical findings



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Background of our current project

- Most of research in behavioural finance focused on individuals: limited research on institutional investors
 - Reviews: Barberis & Thaler (2003) *Handbook of the Economics of Finance*; Shefrin (2009) *Foundation and Trends in Finance*
- Project aim: We have been employed by the IFoA to investigate decision-making biases in pension fund trustees
- This is joint academic research by City, Leeds, and UEL
- Working with Ipsos (Ethnographic research)
- together with support by Aon and Invesco



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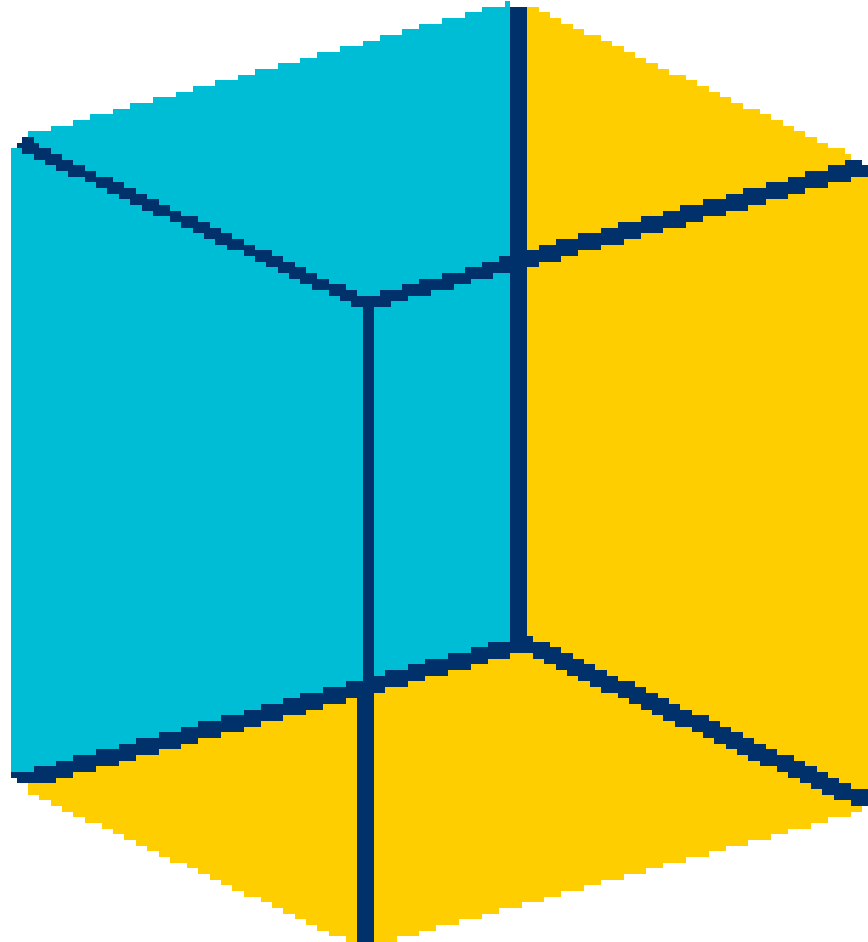


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Illusions

Visual and Cognitive



Is the blue on the inner left back or the outer left front?



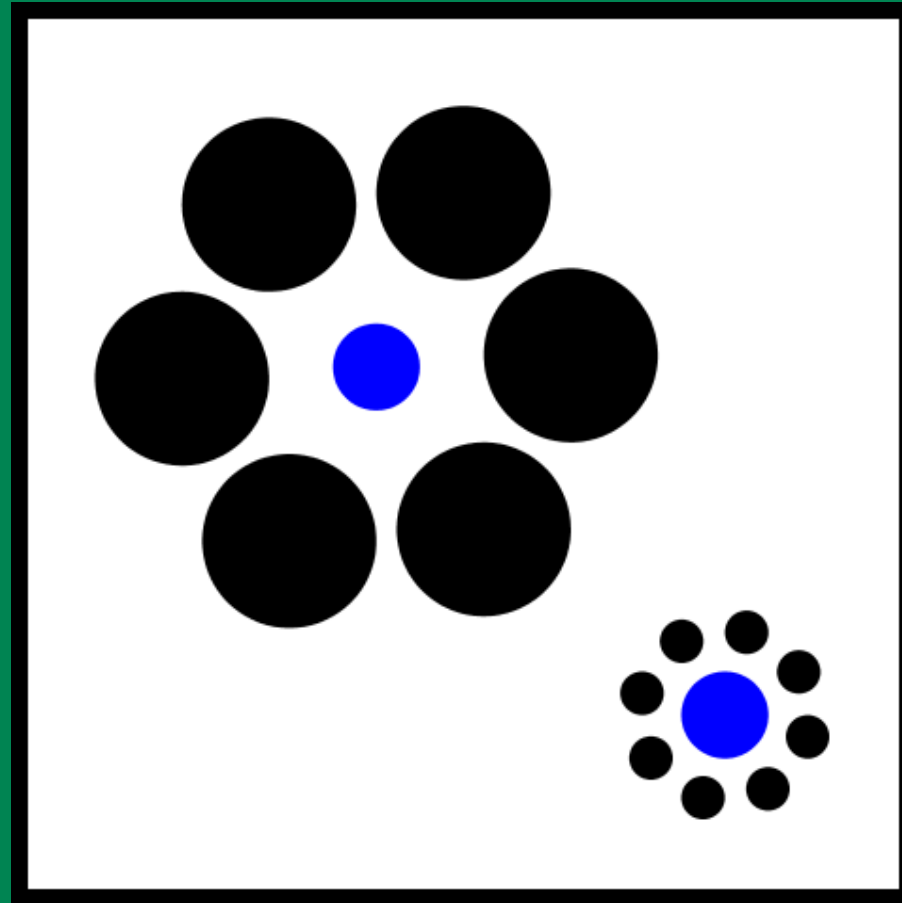
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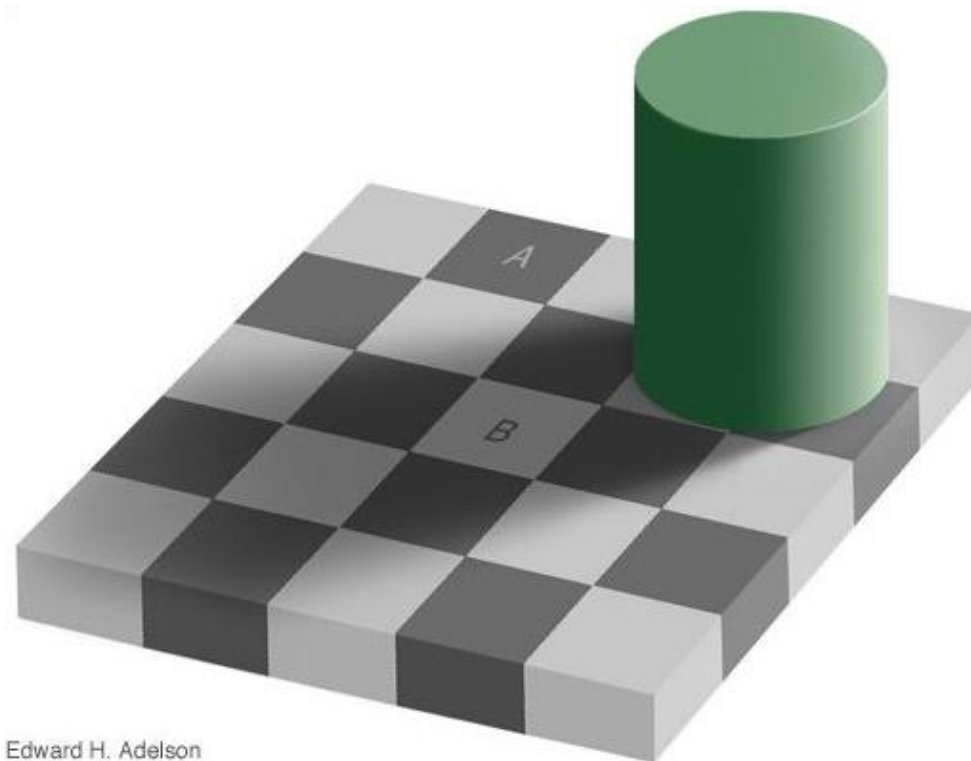
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The BLUE circles are the same size

What we see is not really what's there

- Our representation of the world doesn't need to be right. It needs to be useful
- Cognitive processes help filter and package information to be as useful as possible
- These processes save time and allow us to focus on what is generally most important



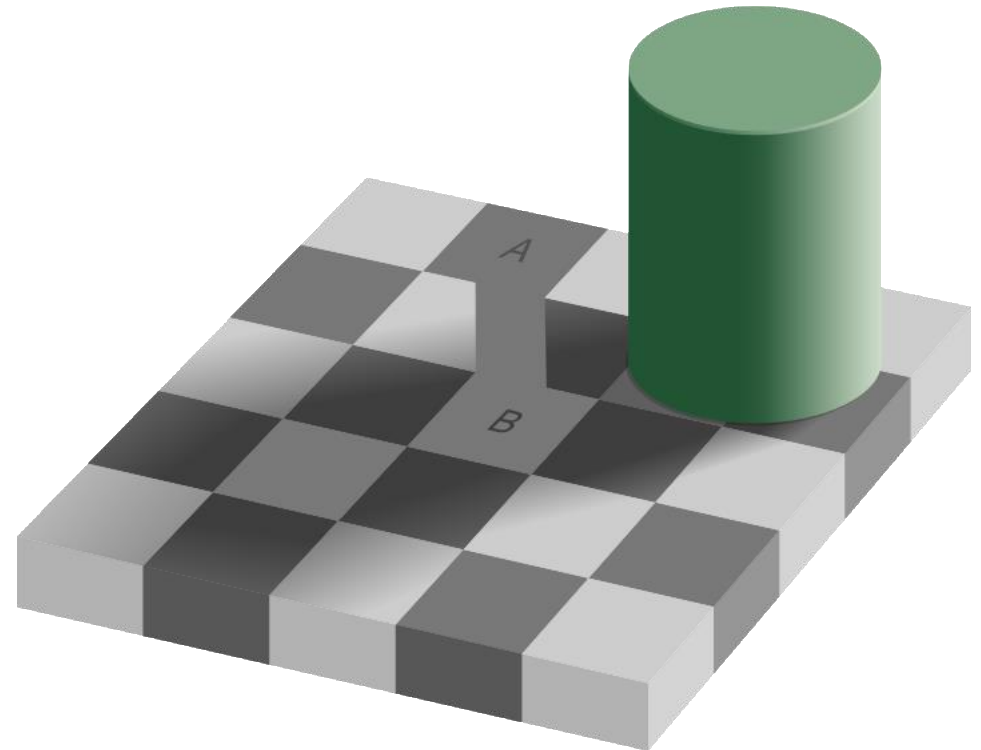
Edward H. Adelson



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Decision making under risk

POLL

Imagine that you face the following pair of concurrent decisions. First examine both decisions and then indicate the options that you prefer.

Decision I: Choose between

- A. Sure gain of £2,400
- B. 25% chance to gain £10,000, and a 75% chance to gain nothing

Decision II: Choose between

- C. Sure loss of £7,500
- D. 75% chance to lose £10,000, and a 25% chance to lose nothing

Behavioural finance biases

POLL

Most people choose A & D – hardly anyone prefers B & C. They like the sure gain in Decision I and dislike the certain loss in Decision II. But the pair of choices B & C is much better than – dominates - A & D.

Combining the outcomes of the two choices you can add the sure gain of £2,400 to the risky outcomes in D. So, A and D gives you:

A & D. **25% chance to gain £2,400, and**
75% chance to lose £7,600

Similarly, B and C can be combined – the sure loss of £7,500 in C can be subtracted from the risky outcomes in B:

B & C. **25% chance to gain £2,500, and**
75% chance to lose £7,500



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Behavioural finance biases

- Many behavioural finance biases have been identified so far
 - But never before with pension fund trustees
- Some examples:
 - Naïve diversification effect: 1/N heuristic (Benartzi & Thaler, 2001, AER)
 - Disposition effect: investors reluctant to sell large losses, eager to realize small gains (Shefrin & Statman, 1985, JoF; Weber & Camerer, 1998, JEB&O)
 - Overconfidence: leads to excessive trading, excessive market volatility, excessive market entry, excessive risk taking (Barber & Odean, 2000, JoF; Camerer & Lovallo, 1999, AER; Daniel et al., 1998, JoF)
 - Loss aversion: losses loom larger than gains (Benartzi & Thaler, 1995, QJE)





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Researching decisions of pension fund trustees



Three main areas have been identified

- Group decision-making
 - Trustees make decisions in groups
- Judge-Advisor Systems (JAS)
 - Trustees employ expert advice
- Surrogate decision-making
 - Trustees make decisions on behalf of others



Extant research

- We will present a review of the extant research on the 3 areas identified
- And how they apply to trustee decision-making
- More detailed materials and references can be found here:
 - Weiss-Cohen, L., Ayton, P., Clacher, I., Thoma, V. (2018). Behavioral biases in pension fund trustees' decision-making. *Review of Behavioral Finance*. doi: 10.1108/RBF-05-2018-0049
- This review is being used to guide our current new empirical research in the field



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Group decision making



Group decision biases: Group performance vs. Individual performance

- Despite common beliefs and a corporate appetite for brainstorming sessions, groups are usually not very efficient
- Lower productivity per person than separate individuals (Paulus et al., 1993, PSPB)
- Groups perform worse than the best individual in the group
 - However how to find the best individual *ex-ante*?
- (NB: in some specific cases groups perform better, such as “eureka” or “wisdom of crowds” questions with demonstrably correct solutions – not applicable to trustee decisions, see Kerr & Tindale, 2004, ARP)



Group decision biases:

Process losses and illusion of efficiency

- Group inefficiencies stem from process losses (Diehl & Stroebe, 1987, JPSP)
 - Reduce motivation and coordination
 - Social loafing
 - Free riding
 - Self-censorship and inhibition
- Illusion of efficiency persists for those working on groups (Stroebe, Diehl, & Abakoumkin, 1992, PSPB)
 - They believe they are more productive
 - They claim each others' ideas as their own



Group decision biases:

Common knowledge bias – Hidden profiles

- Groups do not share information (Stasser & Titus, 1985, JPSP; Lu, Yuan, & McLeod, 2012, PSPR)
- Decisions are based on information that was previously shared; unshared information is not discussed
 - Unshared information cannot be validated or positively evaluated
- Hidden profiles that would lead to better decisions are not uncovered – Common knowledge solution
- Trustee boards bring together individuals from different backgrounds – but information is not being shared



Group decision biases: Group polarization

- Polarization occurs when individuals' views become more extreme after group interactions (Isenberg, 1986, JPSP; Moscovici & Zavalloni, 1969, JPSP; Myers & Lamm, 1976, PB)
- Individuals do not want to be average: They want to take more extreme positions than the rest of the group
- Confirmation bias also plays a role
- Interaction enhances and reinforces the original ideas, making them more salient



Group decision biases: Choice shifts

- When the group pooled consensus is more extreme than the average of the individuals', then choice-shift occurs (Hinsz & Davis, 1984, PSPB; Schroeder, 1974, JPSP)
 - This can be either a “risky-shift”, or a “cautious-shift”
 - Depending on the direction initially favoured by the individuals (Stoner, 1968, JESP)
- Diffusing of responsibility allows for more extreme views (Pruitt, 1971, JPSP)
- Choice-shift can be so extreme to lay outside the range of original independent decisions (Sniezek & Henry, 1989, OBHDP)



Group decision biases: Summary

- Group decisions are not as efficient as commonly thought
- Information is not shared
- Process losses
 - Loafing
 - Free-riding
 - Self-censorship
- Choices become more extreme: shifted and polarized





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Judge Adviser Systems (JAS)



How Judge Adviser Systems (JAS) work

- Applies to settings in which there is one judge making the decision, supported by one or many advisers
 - Judges make the decisions
 - Advisers provide advice to judges
- Trustees are under the influence of external advice
 - Investment, legal, actuarial, accountancy advice
- Excessive influence of advice is detrimental; but dismissing good advice is also not ideal: balancing is crucial



JAS: Cued vs. independent advice

- Decisions can be “*cued*” – no prior decision before advice; or “*independent*” – prior decision before advice, then reviewed
- Cued decisions are more susceptible to adviser influence than independent advice
 - Cued judges are under the influence of “mental contamination” (Wilson & Brekke, 1994, PB)
 - Trustees are mostly cued judges
- Judges prefer to be independent and make an initial decision before getting advice (Scrah et al., 2006, JBDM)



JAS: Why is advice taken?

- Diffuse responsibility (legal liability of trustees)
- Facilitate *ex-post* justification
- Improve the quality of their decision
- Minimize decision-making efforts
- Increase confidence
- Not to offend advisor, also ensuring more advice might be available in the future
- (Bonnacio & Dalal, 2006, OBHDP; Harvey & Fischer, 1997, OBHDP; Scrah, Dalal, & Sniezek, 2006, JBDM; Sniezek & Buckley, 1995, OBHDP)



JAS: Advice is discounted

- Judges discount the advice, give more weight to their own opinions: egocentric discounting (Yaniv & Kleinberger, 2000, OBHDP)
 - Weight can change, but one's own opinions rarely totally ignored
 - Even when advice is reliable, and the judge knows little
- Judge has access to own reasoning to support their judgments. Adviser's reasoning is not as well supported
 - Providing support to advice increases its weight (Soll & Mannes, 2011, IJF)
- Preservation of self-esteem also important: Judges put more weight on their own judgements (Soll & Larrick, 2009, JEP:LMC)



Judge Adviser Systems: Summary

- Judges egocentrically discount advice received
- However advice can receive higher weights in certain situations – all below apply to trustees
 - When the decision is cued, and not independent
 - To diffuse responsibility (legal liability of trustees)
 - When the task is complex/important
 - When the adviser is confident and articulated
 - When advice is paid-for





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Audience views

POLL

Should trustees have to reflect member views on ESG issues in investment decision making?

- ✓ Yes
- ✓ No
- ✓ Don't know



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Surrogate decision-making



Surrogate decisions

- Decisions made on behalf of others
- Differentiates between “self” and “other” decisions
- The ultimate beneficiary of the decision is someone else
- Typically studied in medical research on intensive care / end-of-life / incapacitation scenarios
- Gold standard: substituted judgement, or making the same decision the other *would* make if they could
 - Different from the decision they *should* make



Surrogate decisions: Poor performance

- Surrogates usually perform very poorly (Sulmasy et al., 1998, AIM)
- Surrogates tend to incorrectly predict the wishes of others
- Often they do not perform better than chance
- When they do, it's because they are similar, or related
 - Even family members are wrong 30% of the time (Seckler et al., 1991, AIM)
- Even when patients disclose their preferences to the surrogates, the surrogates perform poorly (Ditto et al., 2001, AIM)



Surrogate decisions: Preference projection

- Surrogates project their own preferences (Fagerlin et al., 2001, HP)
- The decisions are closer to the surrogate's preferences than to the other's
 - Similar surrogates make better decisions (Hoch, 1987, JPSP)
- False-consensus effect: we believe others think like us (Marks & Miller, 1987, PB)
- Egocentric anchoring and adjustment (Epley et al., 2004, JPSP)
- Even when holding discussions about one's preferences, surrogates project



Surrogate decisions: More regressive choices towards social norm

- Surrogates tend to decide based on what the other *should* do: more acceptable social behaviour / social desirability
- This leads to more conservative behaviour, less risk-taking
- Fear of ex-post guilt also drives more conservative choices
- Surrogates also want to be socially seen as making the *right* public decisions on behalf of others: self-image preservation
- Therefore even similar surrogates will choose differently



Surrogate decisions: Summary

- Surrogates are poor at making decisions for others
- Surrogates project their own preferences
- Choose what other *should* do, instead of what they *would* do
- Choices are more regressive towards social norm / less extreme
 - Can lead to wrong levels of risk taking



Research Summary

- Group decisions are not efficient due to process losses; information is not shared; choice-shift and polarization leading to extreme decisions
- Advice influences decisions; many factors increase the weight of advice (payment, task difficulty, responsibility) putting unwanted importance in the adviser's hands
- Surrogates project their own choices; what should be done instead of what would be done; more muted behaviour converging towards more socially accepted choices





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Any questions or comments?





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Our new empirical research



Demographics: Total 147 trustees

- Three types of trustees:
 - Member-nominated
 - Employer-nominated
 - Professional
- Significant difference in all the expertise measurements
 - Professionals have worked longer than others, are more likely to have a finance related job role, and more likely to have personal investments – more experience with financial markets
 - Member-nominated have worked fewer years as trustees, have fewer financial qualifications, roles, or personal investments
 - Employer-nominated are in between the other two groups

| Measurement | Member | Employer | Professional | Difference |
|--------------------|-----------|-----------|--------------|------------|
| Age | 59 | 55 | 61 | $p=.06$ |
| Female | 11 (26%) | 9 (14%) | 7 (19%) | $p=.53$ |
| Trustee (yrs) | 8.3 | 8.3 | 12.6 | $p=.01$ |
| Qualification | 23 (30%) | 21 (62%) | 21 (58%) | $p=.001$ |
| Finance job | 20 (26%) | 17 (50%) | 24 (67%) | $p=.0001$ |
| Investments | 51 (66%) | 26 (76%) | 32 (89%) | $p=.04$ |
| Total YES | 1.22 | 1.88 | 2.14 | $p<.001$ |
| Weighted | 10.91 | 14.35 | 24.38 | $p<.001$ |
| Total Count | 77 | 34 | 36 | |



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Experiment 1: Naïve Diversification Setup

Trustees were given the choice between (Benartzi & Thaler, 2001, AER)

2 Funds - Balanced

| Fund |
|--------------------------------|
| FTSE All-Share companies |
| FTSE UK Conventional Gilts All |

2 Funds - Unbalanced

| Fund |
|--|
| FTSE All-Share companies |
| Balanced Fund (50% FTSE All-Share, 50% FTSE All Gilts) |

4 Funds - Balanced

| Fund |
|--|
| FTSE All-Share companies |
| FTSE 100 companies |
| FTSE UK Conventional Gilts All |
| FTSE UK Conventional Gilts over 15 years |

4 Funds - Unbalanced

| Fund |
|--|
| FTSE All-Share companies |
| FTSE 350 companies |
| FTSE 100 companies |
| FTSE UK Conventional Gilts over 15 years |



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Experiment 1: Naïve Diversification

N=119

| Mix of Funds | Bond % (95% CI) |
|--------------|-----------------|
| Balanced | 63% (56%~69%) |
| Bond-Heavy | 70% (63%~76%) |
| Equity-Heavy | 44% (37%~51%) |

- The Mix of Funds influenced the proportion allocated to bonds ($F(2,101)=23.77$, $p<.001$)
- No effect for Number of Funds or Trustee Type, no effect of interactions

Experiment 2: Framing / Context effects Setup

| LOW Label | Bonds | Stocks | Worst Case | Average Case | Best Case |
|--------------|-------|--------|------------|--------------|-----------|
| | 100% | 0% | £11,000 | £11,000 | £11,000 |
| | 90% | 10% | £10,750 | £11,500 | £12,250 |
| | 80% | 20% | £10,500 | £12,500 | £14,500 |
| | 70% | 30% | £10,000 | £13,500 | £17,000 |
| | 60% | 40% | £9,500 | £15,000 | £20,500 |
| Conservative | 50% | 50% | £9,000 | £16,500 | £24,000 |
| | 40% | 60% | £8,900 | £18,000 | £28,000 |
| Moderate | 30% | 70% | £7,000 | £20,000 | £33,000 |
| | 20% | 80% | £6,000 | £22,000 | £35,000 |
| Aggressive | 10% | 90% | £5,000 | £24,000 | £43,000 |
| | 0% | 100% | £2,500 | £26,000 | £49,500 |

| HIGH Label | Bonds | Stocks | Worst Case | Average Case | Best Case |
|--------------|-------|--------|------------|--------------|-----------|
| | 100% | 0% | £11,000 | £11,000 | £11,000 |
| Conservative | 90% | 10% | £10,750 | £11,500 | £12,250 |
| | 80% | 20% | £10,500 | £12,500 | £14,500 |
| Moderate | 70% | 30% | £10,000 | £13,500 | £17,000 |
| | 60% | 40% | £9,500 | £15,000 | £20,500 |
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| | 20% | 80% | £6,000 | £22,000 | £35,000 |
| | 10% | 90% | £5,000 | £24,000 | £43,000 |
| | 0% | 100% | £2,500 | £26,000 | £49,500 |



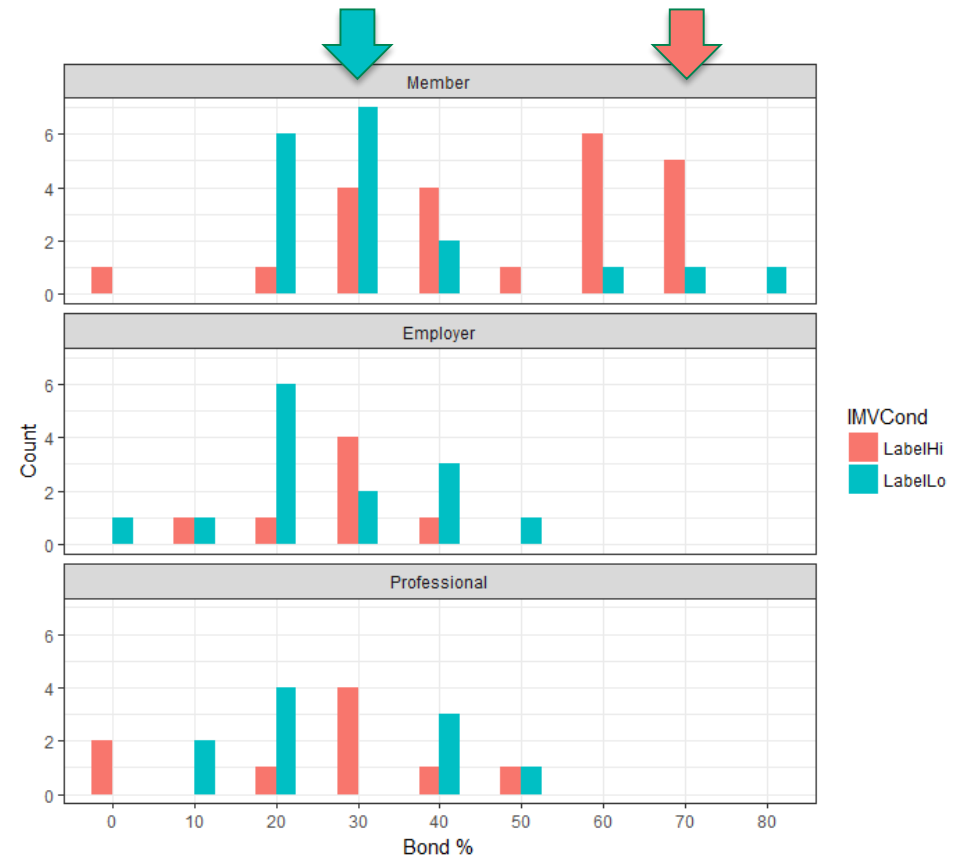
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Experiment 2: Labelling effects

N=80

| Trustee Type | Bonds % | | p value |
|--------------|-----------|------------|---------|
| | Label Low | Label High | |
| Member | 34% | 48% | .01 |
| Employer | 25% | 27% | .85 |
| Professional | 27% | 26% | .85 |

- Member-nominated trustees were influenced by labels ($p=.01$), no influence to other two groups
 - When the label pointed to High, there was a higher proportion of Bonds than when the labels pointed to Low



Experiment 3: Advice taking Setup

- Trustees were asked to choose from the fund to the right
 - Fund A: short-term choice
 - Fund B: medium-term choice
 - Fund C: lowest volatility choice
 - Fund D: long-term choice
 - Fund E: worst choice, dominated by D
- Advice given:
 - High Advice – Fund E
 - Low Advice – Fund B
- Advice framed as:
 - Investment Consultant
 - Member preferences

| Fund | 1-year return | 3-year return p.a. | 5-year return p.a. |
|------|---------------|--------------------|--------------------|
| A | 7.2% | 5.8% | 0.7% |
| B | 1.0% | 8.5% | 6.7% |
| C | 6.6% | 6.2% | 5.8% |
| D | -1.3% | 7.8% | 9.2% |
| E | -1.8% | 7.0% | 8.0% |

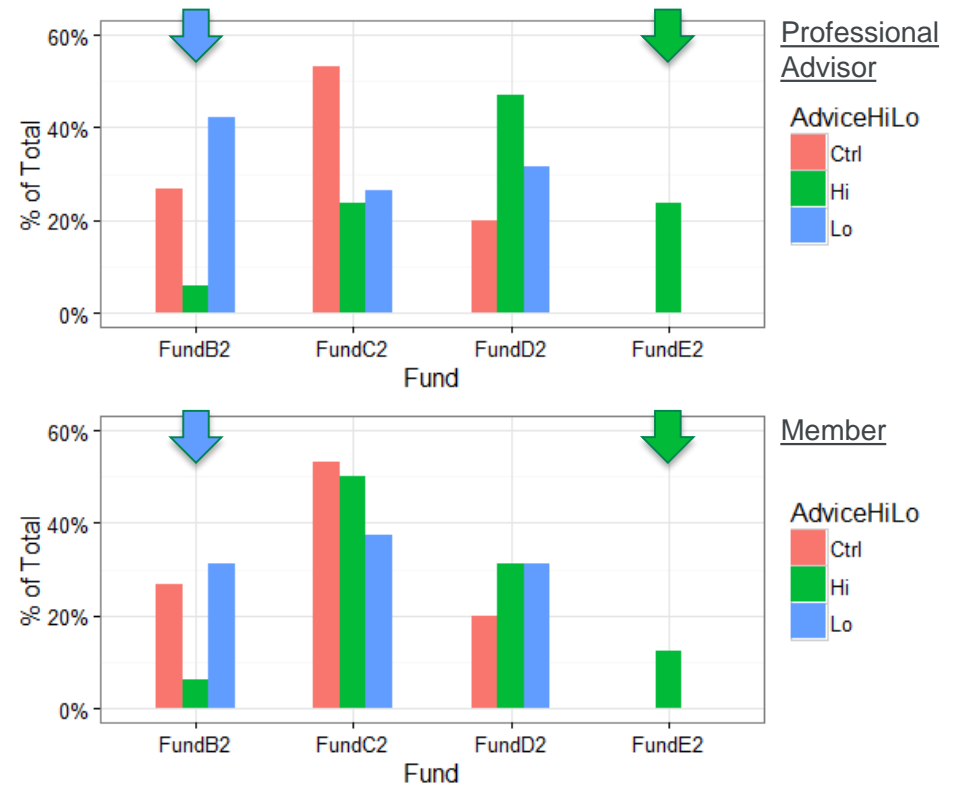


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Experiment 3: Advice taking

N=83

- Significant effect when recommendation was framed as provided by professional advisor ($p=.009$)
 - Effect driven by shift towards D option in the Hi condition ($p=.03$), no effect in the other condition ($p=.28$)
- No effect when it was shown as member's preference ($p=.28$)



Experiment 4: Fees Setup

- “Past performance does not guarantee future results”
- Participants were asked to choose in which fund to invest. They were all UK Investment Grade Corporate Bond funds with similar characteristics
- If the funds are similar and invest in the same options, the rational choice is to choose the one with the lowest fees

| Fund | Returns | Fees |
|------|---------|------|
| A | 8% | 2.0% |
| B | 6% | 1.5% |
| C | 4% | 1.0% |
| D | 2% | 0.5% |



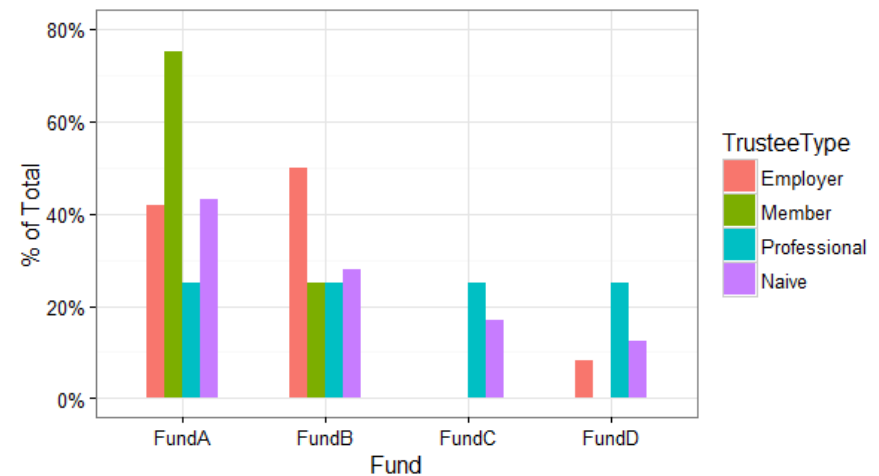
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Experiment 4: Fees

N=28

- There was a significant effect of trustee type ($F(2,25)=4.02$, $p=.03$)
- Professional trustees were the best at minimizing fees
- Research with naïve investors show that 43% choose Fund A*. In our sample, 75% of member-nominated chose Fund A, 42% of employer-nominated, and 25% of professional trustees

| Trustee Type | Average Fees (95%CI) |
|------------------|----------------------|
| Member | 1.88% (1.55%~2.20%) |
| Employer | 1.63% (1.36%~1.89%) |
| Professional | 1.25% (0.93%~1.57%) |
| Naïve investors* | 1.52% (1.46%~1.58%) |



* From Newall & Parker, 2018, JBDM. A disclaimer was used "Past performance does not guarantee future results"



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Conclusions



Conclusion 1/2

- Trustee decisions are set in environments that differ from the majority of extant behavioural finance research:
 - Sophisticated investors making decisions in group, with advice, on behalf of others
- Trustees unlikely to be immune from decision-making biases
- Further investigation of these biases crucial for sustainability of future pensions and influencing policy



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Conclusion 2/2

- Trustees displayed behavioural finance biases, but to a lesser extent than unsophisticated investors
 - Biases linked to experience: Member-nominated showed stronger biases than employee-nominated, with the weakest biases by professional trustees
- Trustees display the naive diversification effect (allocating assets evenly across options, according to the 1/N rule)
- Trustees were influenced by extrinsic labels applied to funds (funds labelled "moderate" regardless of their risk level)
- Trustees were influenced by good advice from investment consultants (but not by bad advice or stated preferences of scheme members)
- Trustees chased past performance failing to choose the fund with the lowest management fees



Next steps

- The project is still on-going, with further experiments still to come in 2018



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Audience views - Poll 3

Please type in a key word (or expression) that represents the most important takeaway from this webinar in your mind.



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Thank you. Questions?

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