Biases in Trustee Decision Making
Insights from Behavioural Finance

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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
Background of our current project

• Most of research in behavioural finance focused on individuals: limited research on institutional investors

• 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
Illusions
Visual and Cognitive
Is the blue on the inner left back or the outer left front?
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
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.
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
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
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)
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:
- This review is being used to guide our current new empirical research in the field
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
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: egocentrical 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
Audience views

**POLL**

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

- Yes
- No
- Don't know
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
Any questions or comments?
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

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Member</th>
<th>Employer</th>
<th>Professional</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>59</td>
<td>55</td>
<td>61</td>
<td>$p = .06$</td>
</tr>
<tr>
<td>Female</td>
<td>11 (26%)</td>
<td>9 (14%)</td>
<td>7 (19%)</td>
<td>$p = .53$</td>
</tr>
<tr>
<td>Trustee (yrs)</td>
<td>8.3</td>
<td>8.3</td>
<td>12.6</td>
<td>$p = .01$</td>
</tr>
<tr>
<td>Qualification</td>
<td>23 (30%)</td>
<td>21 (62%)</td>
<td>21 (58%)</td>
<td>$p = .001$</td>
</tr>
<tr>
<td>Finance job</td>
<td>20 (26%)</td>
<td>17 (50%)</td>
<td>24 (67%)</td>
<td>$p = .0001$</td>
</tr>
<tr>
<td>Investments</td>
<td>51 (66%)</td>
<td>26 (76%)</td>
<td>32 (89%)</td>
<td>$p = .04$</td>
</tr>
<tr>
<td>Total YES</td>
<td>1.22</td>
<td>1.88</td>
<td>2.14</td>
<td>$p &lt; .001$</td>
</tr>
<tr>
<td>Weighted</td>
<td>10.91</td>
<td>14.35</td>
<td>24.38</td>
<td>$p &lt; .001$</td>
</tr>
</tbody>
</table>

Total Count
- 77
- 34
- 36
## Experiment 1: Naïve Diversification

### Setup

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

<table>
<thead>
<tr>
<th>2 Funds - Balanced</th>
<th>4 Funds - Balanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fund</td>
<td>Fund</td>
</tr>
<tr>
<td>FTSE All-Share companies</td>
<td>FTSE All-Share companies</td>
</tr>
<tr>
<td>FTSE UK Conventional Gilts All</td>
<td>FTSE 100 companies</td>
</tr>
<tr>
<td>FTSE 100 companies</td>
<td>FTSE UK Conventional Gilts All</td>
</tr>
<tr>
<td>FTSE All-Share companies</td>
<td>FTSE UK Conventional Gilts over 15 years</td>
</tr>
<tr>
<td>Balanced Fund (50% FTSE All-Share, 50% FTSE All Gilts)</td>
<td>Balanced Fund (50% FTSE All-Share, 50% FTSE All Gilts)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2 Funds - Unbalanced</th>
<th>4 Funds - Unbalanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fund</td>
<td>Fund</td>
</tr>
<tr>
<td>FTSE All-Share companies</td>
<td>FTSE All-Share companies</td>
</tr>
<tr>
<td>FTSE 350 companies</td>
<td>FTSE 100 companies</td>
</tr>
<tr>
<td>FTSE 100 companies</td>
<td>FTSE UK Conventional Gilts All</td>
</tr>
<tr>
<td>FTSE UK Conventional Gilts over 15 years</td>
<td>FTSE UK Conventional Gilts over 15 years</td>
</tr>
</tbody>
</table>
Experiment 1: Naïve Diversification
N=119

<table>
<thead>
<tr>
<th>Mix of Funds</th>
<th>Bond % (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balanced</td>
<td>63% (56%~69%)</td>
</tr>
<tr>
<td>Bond-Heavy</td>
<td>70% (63%~76%)</td>
</tr>
<tr>
<td>Equity-Heavy</td>
<td>44% (37%~51%)</td>
</tr>
</tbody>
</table>

- 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

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

<table>
<thead>
<tr>
<th>HIGH Label</th>
<th>Bonds</th>
<th>Stocks</th>
<th>Worst Case</th>
<th>Average Case</th>
<th>Best Case</th>
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</thead>
<tbody>
<tr>
<td>100%</td>
<td>0%</td>
<td>£11,000</td>
<td>£11,000</td>
<td>£11,000</td>
<td></td>
</tr>
<tr>
<td>Conservative</td>
<td>90%</td>
<td>10%</td>
<td>£10,750</td>
<td>£11,500</td>
<td>£12,250</td>
</tr>
<tr>
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<td>20%</td>
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<td>£12,500</td>
<td>£14,500</td>
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</tr>
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<td>30%</td>
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<td>£17,000</td>
</tr>
<tr>
<td>60%</td>
<td>40%</td>
<td>£9,500</td>
<td>£15,000</td>
<td>£20,500</td>
<td></td>
</tr>
<tr>
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<td>50%</td>
<td>£9,000</td>
<td>£16,500</td>
<td>£24,000</td>
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<td></td>
</tr>
<tr>
<td>0%</td>
<td>100%</td>
<td>£2,500</td>
<td>£26,000</td>
<td>£49,500</td>
<td></td>
</tr>
</tbody>
</table>
Experiment 2: Labelling effects
N=80

<table>
<thead>
<tr>
<th>Trustee Type</th>
<th>Bonds %</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Label Low</td>
<td>Label High</td>
</tr>
<tr>
<td>Member</td>
<td>34%</td>
<td>48%</td>
</tr>
<tr>
<td>Employer</td>
<td>25%</td>
<td>27%</td>
</tr>
<tr>
<td>Professional</td>
<td>27%</td>
<td>26%</td>
</tr>
</tbody>
</table>

- 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

<table>
<thead>
<tr>
<th>Fund</th>
<th>1-year return</th>
<th>3-year return p.a.</th>
<th>5-year return p.a.</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>7.2%</td>
<td>5.8%</td>
<td>0.7%</td>
</tr>
<tr>
<td>B</td>
<td>1.0%</td>
<td>8.5%</td>
<td>6.7%</td>
</tr>
<tr>
<td>C</td>
<td>6.6%</td>
<td>6.2%</td>
<td>5.8%</td>
</tr>
<tr>
<td>D</td>
<td>-1.3%</td>
<td>7.8%</td>
<td>9.2%</td>
</tr>
<tr>
<td>E</td>
<td>-1.8%</td>
<td>7.0%</td>
<td>8.0%</td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>Fund</th>
<th>Returns</th>
<th>Fees</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>8%</td>
<td>2.0%</td>
</tr>
<tr>
<td>B</td>
<td>6%</td>
<td>1.5%</td>
</tr>
<tr>
<td>C</td>
<td>4%</td>
<td>1.0%</td>
</tr>
<tr>
<td>D</td>
<td>2%</td>
<td>0.5%</td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>Trustee Type</th>
<th>Average Fees (95%CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Member</td>
<td>1.88% (1.55%~2.20%)</td>
</tr>
<tr>
<td>Employer</td>
<td>1.63% (1.36%~1.89%)</td>
</tr>
<tr>
<td>Professional</td>
<td>1.25% (0.93%~1.57%)</td>
</tr>
<tr>
<td>Naïve investors*</td>
<td>1.52% (1.46%~1.58%)</td>
</tr>
</tbody>
</table>

* From Newall & Parker, 2018, JBDM. A disclaimer was used “Past performance does not guarantee future results”
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
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
Audience views - Poll 3

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

Questions?

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