



# Behavioural finance biases in the decision-making of pension trustees

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- Most of research in behavioural finance focused on individuals: limited research on more sophisticated institutional investors
  - Research has shown that knowledge, expertise and sophistication might not immunize institutional investors from decision-making biases
- We have been funded by the IFoA to investigate decision-making biases in pension fund trustees
- This is joint academic research by City, Leeds, and UEL, together with Ipsos, and supported by Aon and Invesco
  - Collaborators: Peter Ayton (City), Iain Clacher (Leeds), Volker Thoma (UEL)



# Review of previous research

- There are many behavioural biases which have been identified
  - Almost exclusively conducted with individual/retail investors
  - Limited research with professional/sophisticated institutional investors
- Some (selected) examples:
  - Naïve diversification and home bias
  - Disposition effect – buying high and selling low
  - Mental accounting and framing
  - Overconfidence – excessive trading and excessive market entry
- Comprehensive reviews:
  - Shefrin (2009). Behavioralizing finance. *Foundations and Trends in Finance*;
  - Barberis & Thaler (2003). A survey of behavioral finance. *Handbook of the Economics of Finance*;
  - Benartzi & Thaler (2007). Heuristics and biases in retirement savings behavior. *Journal of Economic Perspectives*.

# The unique setting for trustees' decisions

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- Judge-Advisor Systems
  - Trustees employ expert advice
- Surrogate decision-making
  - Trustees make decisions on behalf of others
- Group decision-making
  - Trustees make decisions in groups
- Published review:
  - Weiss-Cohen, L., Ayton, P., Clacher, I., & Thoma, V. (2019). Behavioral biases in pension fund trustees' decision making. *Review of Behavioral Finance*

- Judges egocentrically discount advice received
  - Individuals only partially adjust from their beliefs towards the advice given
- However advice can receive higher weights in certain situations
  - 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
- All of the situations above apply to trustee decisions

- Surrogates are poor at making decisions for others
  - Most of the research is on medical decision-making
- Surrogates project their own preferences
  - Even when the preferences of the other is discussed beforehand
  - Surrogates tend to insufficiently adjust from their preferences towards the other's
- Choose what other *should* do, instead of what they *would* do
- Choices are more regressive towards social norm / less extreme
  - E.g., what is the socially acceptable gift, instead of what the other really wants
  - Can lead to wrong levels of risk taking (both too high and too low)

- Group decisions are not as efficient as commonly thought
  - Fewer ideas generated during brainstormings than individually
- Information is not shared
  - ‘Hidden profiles’
- Process losses
  - Loafing
  - Free-riding
  - Self-censorship
- Choices become more extreme: shifted and polarized
  - No one wants to be ‘average’





# **New experimental research**

- During our project, we have collected experimental data from pension scheme trustees and other pension professionals
  - With the help of Aon, Invesco, AMNT, and Professional Pensions
  - Throughout, we observed differences in financial experience and expertise. Employer-nominated trustees are more sophisticated than member-nominated trustees.
  
- Three main research themes:
  1. Menu effects
  2. Surrogate decisions
  3. Mutual fund fees vs. performance



# 1. Menu effects

- Financial decisions should be based on principled underlying financial fundamentals
  - However, the method of describing the alternatives can be perceived by the decision-maker as communicating relevant information, even when it is determined by arbitrary factors (Fox, Ratner, & Lieb, 2005, J. Exp. Psych. Gen.; DellaVigna, 2009, J. Econ. Lit.)
- Menu effects are subtle variations in the description/presentation of options which can affect decisions
  - Adding irrelevant decoys
  - Changing the number of menu options
  - Framing an alternative as middle or extreme
  - Changing the menu layout
- We tested three menu manipulations with 252 trustees

# 1.1. Menu items and naïve diversification

- We asked trustees to allocate pension scheme assets across different combinations of mutual funds
  - Menu of options presented was either balanced (50/50 bonds/equities), bond-heavy (75/25) or equity-heavy (25/75)
  - Based on similar research with retail pension investors by Benartzi & Thaler (2001) in American Economic Review
- The investment allocation between bonds and equities was influenced by the balance of options ( $p < .001$ )
  - E.g., more investment in bonds when there were more bond funds from which to choose

Condition	Average allocations	
	Bonds	Equities
Bond-Heavy	69.7% $\pm$ 2.7%	30.3% $\pm$ 2.7%
Balanced	61.5% $\pm$ 2.7%	38.5% $\pm$ 2.7%
Equity-Heavy	44.3% $\pm$ 2.7%	55.7% $\pm$ 2.7%

Condition	Concentration ( $\Sigma w^2$ )	Funds Chosen
2 Funds	0.66 $\pm$ 0.2	1.83 $\pm$ 0.09
4 Funds	0.43 $\pm$ 0.2	2.95 $\pm$ 0.09

# 1.2. Menu context and framing

- We asked trustees to choose one of 11 combinations of bonds and equities for their default pension fund
  - One option was labelled as “moderate”, either the 30% or 70% bond option; or no label
  - Based on research with retail investors by Benartzi & Thaler (2002) in J. Finance (also Sela, Berger, Li, 2009, J. Cons. Res.)
- The asset mix was influenced by the labelling ( $p=.032$ ). Member nominated-trustees were attracted by the “moderate” label ( $p=.033$ ) but not employer-nominated trustees ( $p=.73$ )

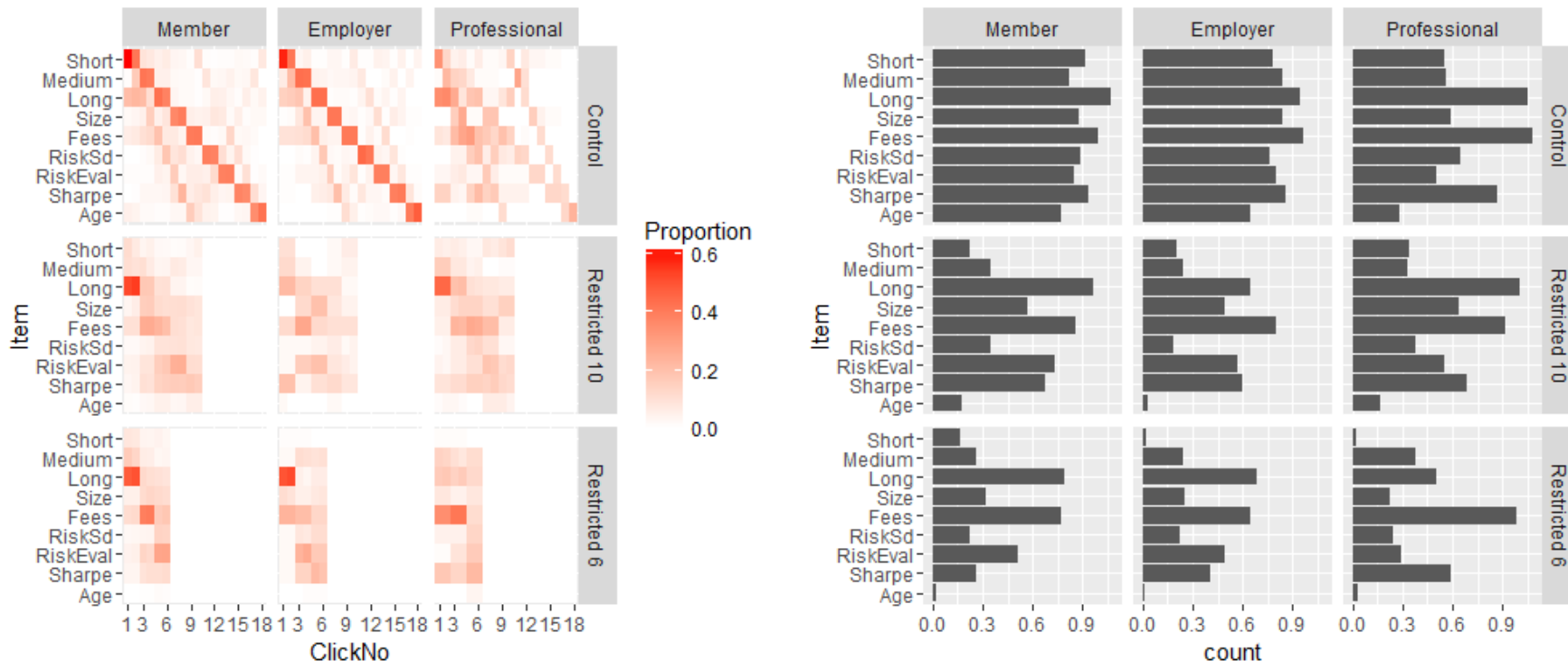
Average allocation into bonds	Fund with “moderate” label		
	30% Bonds	No label	70% Bonds
Member nominated	34.4% ± 3.8%	37.1% ± 3.9%	48.2% ± 3.5%
Employer nominated	26.2% ± 4.1%	32.1% ± 4.3%	26.2% ± 3.3%
Average	30.3% ± 2.5%	34.6% ± 2.9%	37.2% ± 2.7%

# 1.3. Menu layout and search patterns

- We asked trustees to choose mutual funds by clicking to reveal hidden information about each fund
  - Based on the “Mouselab” paradigm by Payne, Bettman & Johnson (1993)
  - We traced the order and frequency in which each item was revealed
  - There were 10 asset classes, each with two fund options
  - Some subjects could click in as many items as they wanted, others were limited to 10 or 6 items per asset class

	Fund A	Fund B
1-year short term returns		
3-year medium term returns		
5-year long term returns		
Size of funds (net assets)		
Fees (TER – Total Expense Ratio)		
Risk (one year Standard Deviation)		
Risk Evaluation (within its asset class)		
Sharpe Ratio (return per unit of risk)		
Fund manager’s age and gender		

# 1.3. Menu layout and search patterns



Trustees followed the choice layout closely when clicks were not restricted. They considered their search pattern more carefully when restricted, prioritizing the most important items (long-term returns, risk, and fees)



## 2. Surrogate decision making

- Trustees make surrogate decisions on behalf of members
- Even in flexible plans, most members accept the default options with limited consideration
  - Effectively outsourcing their decisions to trustees
  - See Byrne, Blake, Cairns, & Dowd (2007) Default funds in UK defined-contribution plans, *Fin. Analyst Journal*; and Madrian & Shea (2001) The power of suggestion: Inertia in 401(k) participation and savings behaviour, *Q. J. Econ.*
- We tested 120 scheme trustees and 116 scheme members
  - We asked subjects what they believed to be ideal pension income replacement rates for themselves and for an average scheme member
  - Detailed information about the scheme and average member was provided to ensure consistent responses
- Review on surrogate decision making: Tunney & Ziegler (2015) Toward a psychology of surrogate decision making, *PPS*



## 2. Surrogate decision making - findings

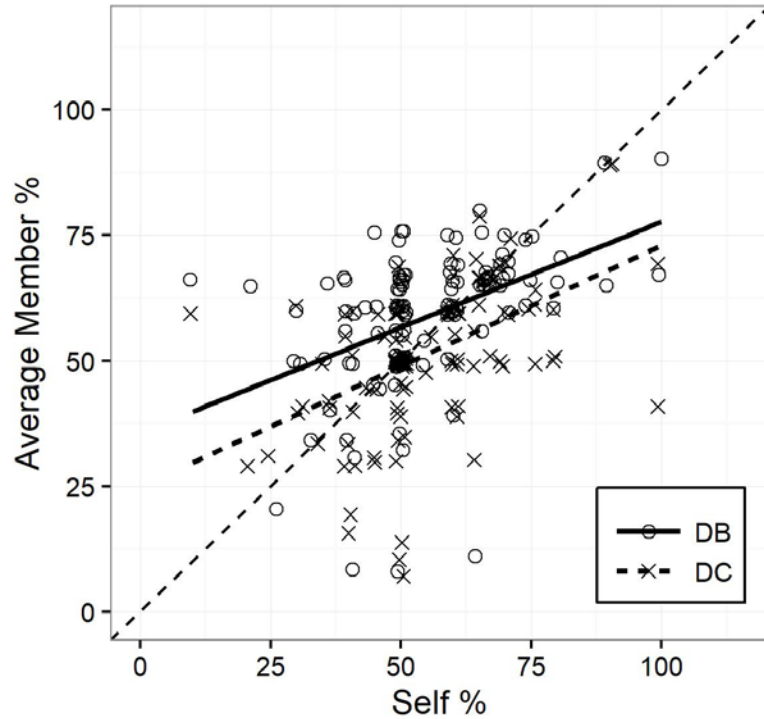


- Trustees projected their preferences
  - Positive correlation between the replacement rates trustees chose for members and those they chose for themselves ( $p < .001$ )
- Replacement rates chosen by trustees for members were higher than those chosen by members for themselves ( $p < .001$ )
  - Trustees are not demographically representative of members (richer and older, mostly retired on DB)
  - Would require considerably higher contributions
- Trustees' replacement rates for DB were higher than for DC ( $p < .001$ ): legacy effects
- Members' replacement rates were better aligned to the guidelines proposed by The Pensions Regulator (and contributions)

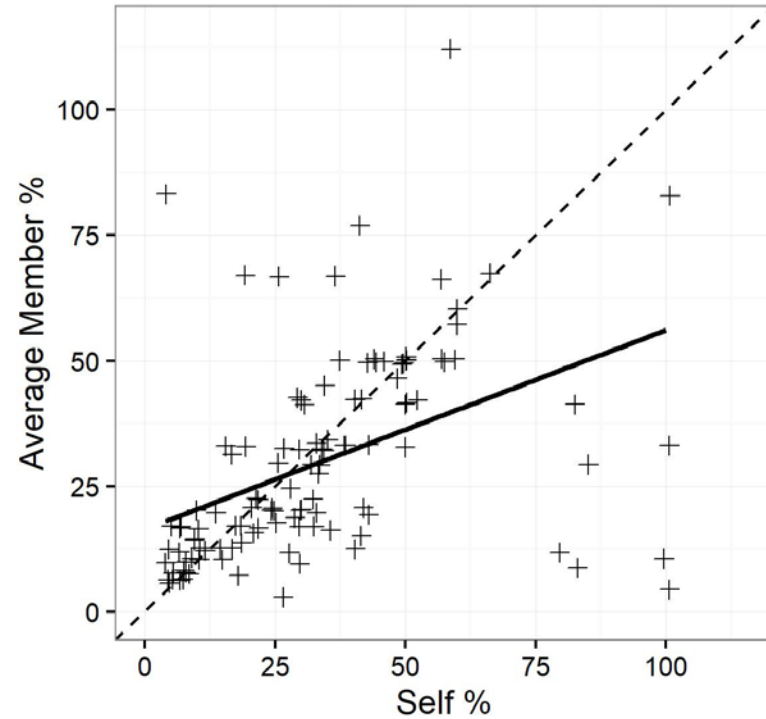
Condition	Pension replacement rate
Trustees	
Self	55% $\pm$ 1.3%
Other: Average DB member	59% $\pm$ 1.3%
Other: Average DC member	51% $\pm$ 1.3%
Members	
Self	34% $\pm$ 2.5%
Other: Average member	31% $\pm$ 2.4%

# 2. Surrogate decision making - findings

(A) Trustees



(B) Members



# 3. Mutual fund fees vs. performance



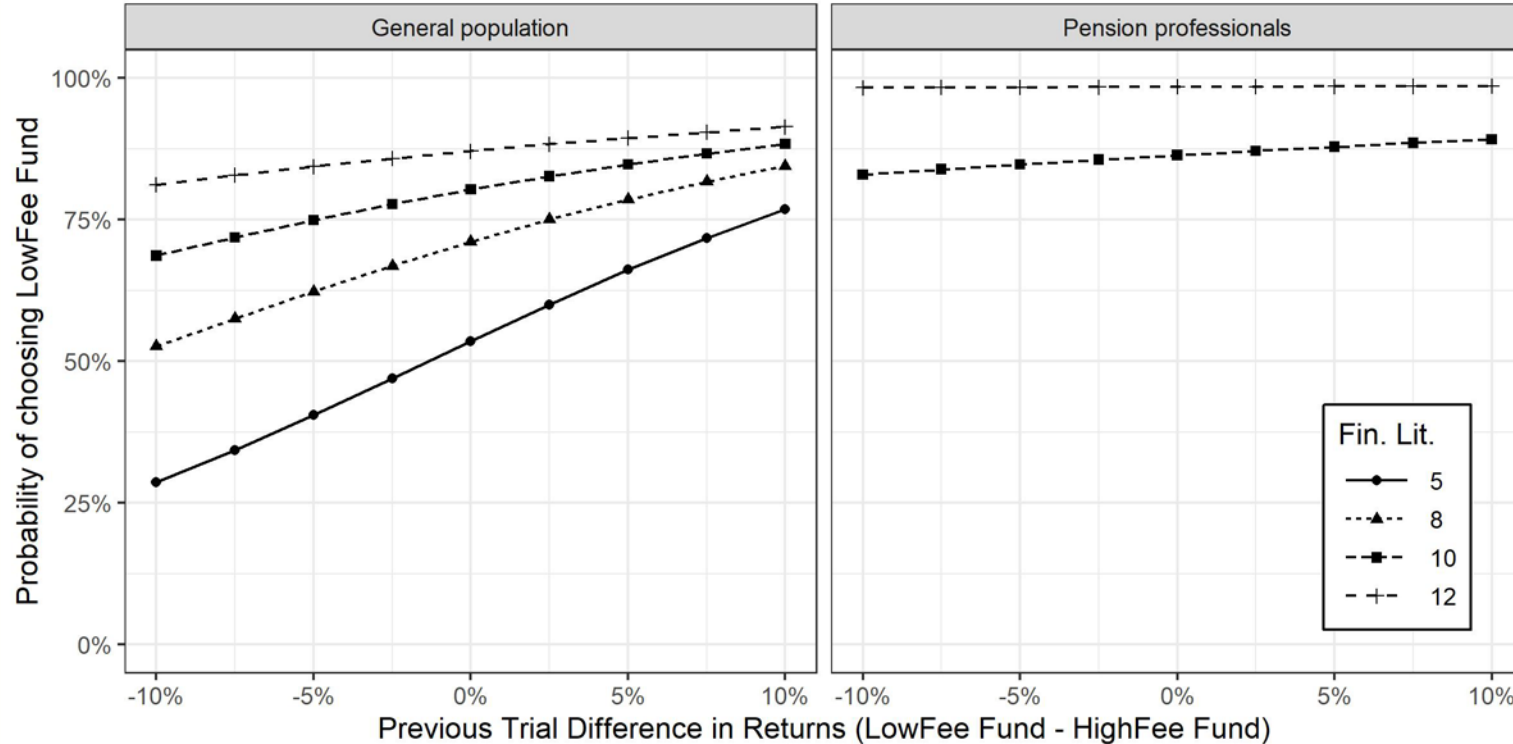
- Investors tend to ignore fees when choosing funds
  - Investors end up paying too much in fees
  - In particular recurring management fees (as opposed to front-load fees)
  - Average mutual fund fee is 0.55% p.a. even though there are now zero-fee funds
- Instead, investors choose fun with the highest past performance
  - Past returns can not reliably be used to predict future performance
  - In the long-term the cheaper funds are the winning funds (within the same asset class)
  - Fund managers exploit this bias by advertising funds with higher returns and by incubating funds before marketing them – further inflating fees
- Some references: Haslem, Baker & Smith (2008). Performance and characteristics of actively managed retail equity mutual funds with diverse expense ratios, *Fin. Serv. Rev.*; Carhart (1997). On persistence in mutual fund performance, *J. Finance*; Pontari, Stanaland, & Smythe (2009). Regulating information disclosure in mutual fund advertising, *J. Consum. Pol.*

# 3. Mutual fund fees vs. performance - findings

- Mutual fund selection task between a high-fee and a low-fee fund
  - Based on actual historical returns simulating real funds, for 60 months
  - Past performance was not correlated with future returns
  - Financial payments based on selections
- We tested general population (200) and pension professionals (62)
  - Professionals chose the low-fee fund more frequently than the general population ( $p < .001$ ) and did not chase past performance

	General population	UK Pension professionals
Low-fee fund selection	64.0% ±2.0%	78.8% ±3.7%
Slope for past performance	0.96% ±0.11%	0.33% ±0.19%
Financial literacy level	9.6 / 13 ±0.2	11.3 / 12 ±0.1

# 3. Mutual fund fees vs. performance - plot





# Conclusions

- Trustee decisions are set in environments that differ from the majority of behavioural finance research:
  - More sophisticated investors making decisions in group, with advice, on behalf of others
  - Level of sophistication differs by type of professional
- Trustees displayed behavioural finance biases, but to a lesser extent than unsophisticated investors
  - Less experienced member-nominated trustees generally more susceptible to biases than more experienced professional trustees
  - Trustees were influenced by the menu of options and how information was presented
  - Trustees projected their own (biased) preferences when choosing on behalf of members
  - Professional investors minimize fees instead of chasing past performance

- It is important for pension professionals and regulators to be aware of the decision-making biases of pension trustees
  - Despite being more sophisticated, trustees are not immune from decision-making biases
  - Biases can negatively influence funding levels, risk, investment returns, and the outcome of pensions for members
- This knowledge is important to improve:
  - Training of trustees
  - Information presented to trustees
  - Advice and guidance provided to trustees
  - Regulation and policy around trustee decision-making
- Care should be taken to ensure that irrelevant factors do not unduly influence the decisions of trustees



# Contact details

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