# Behavioral biases in pension fund trustees' decision-making

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Abstract

**Purpose.** Behavioral finance research has almost exclusively investigated the decision-making of lay individuals, mostly ignoring more sophisticated institutional investors. This paper aims to better understand the relatively unexplored field of investment decisions made by pension fund trustees, an important subset of institutional investors, and identify future avenues of further exploration.

**Approach.** This paper starts by setting out the landscape in which pension fund trustees operate and make their decisions, followed by a literature review of the extant behavioral finance research applicable to similar situations.

**Findings.** Despite receiving training and accumulating experience in financial markets, these are limited and sparse, therefore pension fund trustees are unlikely to be immune from behavioral biases. Trustees make decisions in groups, are heavily reliant on advice, and make decisions on behalf of others. Research in those areas have uncovered many inefficiencies. It is still unknown how this specific context can affect the psychological effects on their decisions.

**Implications.** Given how much influence trustees' decisions have on asset allocation and by extension in financial markets, this is a surprising state of affairs. Research in behavioral finance has had a marked influence on policy in the past and so we anticipate that exploring the decisions made within pension funds may have wide ramifications for the industry.

**Value.** As far as we are aware, no behavioral research has empirically tested pension fund trustees' decisions to investigate how the combination of group decisions, advice, and surrogacy influence their decisions and, ultimately, the sustainability of our pensions.

Most of the published research in behavioral finance has investigated systematic biases in investment decisions made by individuals (for comprehensive reviews, see Barberis & Thaler, 2003; Shefrin, 2009). This biased behavior can be described as anomalous departures from normative decisions as predicted by economic and financial theory. For example, Benartzi and Thaler (2001) have shown how individuals display naive diversification when deciding how to invest their own savings plans: they allocate a uniform distribution of their assets across the options available. Individuals' choices are determined by the number of options available, regardless of the nature of the options. Hence their choices reflect the options offered, e.g., the proportion invested in stocks depends strongly on the proportion of stock funds offered, while normative financial theory claims they should be informed by the risk-return characteristics of each option. While some individuals decide their retirement asset allocation directly, as researched by Benartzi and Thaler, most people rely on institutions, such as their pension funds, to invest the assets on their behalf. In this situation, the investment decision is not made at an individual level, but at an institutional level.

Financial investors can be traditionally split into two main categories: individual investors and institutional investors; with the latter covering pension funds, insurers, mutual funds, hedge funds, corporations, and the public sector. Despite the overwhelming interest of behavioural finance research in individual investors and their decisions, they are not the most important influencers in the financial markets. In the UK, according to the Investment Association,[1] a trading body representing UK investment managers, only 19% of the assets under management in the UK were held on behalf of retail clients, with an overwhelming 79% being held for institutional clients (The Investment Association, 2017). More than half of the institutional investors assets belong to pension funds. In Europe, according to the European Fund and Asset Management Association,[2] the proportions in 2015 were 27% in retail and 73% in institutional hands, with pension funds representing around one third of the latter figure (European Fund and Asset Management Association, 2017). The proportional representation of pension funds assets has also grown in the last ten years, and is expected to continue growing, with government pushing individuals to enroll more aggressively into pension funds, for example by using automatic enrollment.

While institutional investors, and pension funds in particular, are large significant players in financial markets, very little academic attention has been given to researching the behavioral aspects of their financial decisions. Given the issues facing pension funds worldwide, their importance to global financial markets, and the lack of attention their decision-making has received in research, further exploration of their decision-making is crucial. It is essential that investment decisions of pension funds are made wisely, in order to ensure the retirement income of future pensioners. Before defining the potential areas where cognitive biases can surface in pension fund trustees' decisions, we first need to establish the landscape in which they operate.

The assets of occupational pension funds are typically organised as trust entities, and managed by a board of trustees (Bunt, Winterbotham, & Williams, 1998). According to

[1] www.theinvestmentassociation.org

[2] www.efama.org

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a survey in Clacher, McNair, and Hodgett (2017b), the majority of trustee boards have between five and seven members. Larger funds with larger sizes of trustee boards will tend to create specialised sub-committees, thus reducing the size of the group ultimately making certain decisions, such as investment decisions (Myners, 2001). The trustee board has a fiduciary duty to act in the best interests of the underlying members of the fund, who are its ultimate beneficiaries. It is possible that these fiduciary pressures, and the threat of legal action if they are breached, might influence the decision-making of trustees - for example, by increasing behavioural inertia (Myners, 2001), by increasing the reliance on external advisers (Pratten & Satchell, 1998), or by relying on non-financial criteria for investment decisions (Del Guercio & Tkac, 2002). Crucially, they decide on how and where to invest the assets of the pension fund, in order to ensure that members will receive a satisfactory income upon retiring (Pratten & Satchell, 1998). The boards tend to meet quarterly or half-yearly, which means that the decisions they make are not frequent, and the feedback they receive on their decisions may take years to emerge (Clacher et al., 2017b). Contrast this against more dynamic market decisions made by traders and brokers, which typically involves immediate feedback. Delayed feedback can disconnect the causal link between action and outcome, and impair learning, leading to poorer decisions in the future (Sutton & Barto, 1990).

Pensions regulations in the UK state that at least one third of trustees have to be nominated by the members of the pension fund (typically the employees of the company associated with that fund), with the remainder being assigned by the employer (Myners, 2001). Some of the trustees are professional trustees, and the remainder of the trustees tend to be employees of the company itself. The former group has considerably more experience, are better trained, and are more sophisticated than the latter (Myners, 2001). While pension funds are legally required to provide training, the training provided tends to be very limited, and likely falls short of creating truly sophisticated financial agents, with trustees lacking sufficient financial and investment knowledge and skills. Some trustees interviewed by Myners (2001) have claimed that they did not have a good understanding of the financial markets. By contrast, in the survey by (Clacher et al., 2017b), 69% of trustees reported above average financial literacy, although this was self-reported, and could have resulted from hubris or the illusory superiority resulting from the better-than-average fallacy (Alicke, 1985). Subsequent investigation by Clacher, McNair, and Hodgett (2017a) concluded that trustees were familiar with the most basic investment management concepts, but struggled with more specialist areas, while overall trustees of larger schemes fared better than those of smaller schemes.

Because of the lack of crucial knowledge to perform their duties, and the weight of their fiduciary responsibilities, trustees rely heavily on external advice, in the form of consultants and advisers (Myners, 2001; Pratten & Satchell, 1998). These advisers bring with them knowledge in diverse fields, such as legal, financial, accountancy and actuarial. They are likely to have a disproportional weight on the final decisions made by pension funds. Pension advisers are also called upon for handling the daily administrative duties of pension funds, and thus might also have a large influence in the running of pension funds, for example, by influencing the way that questions and issues are framed and presented for trustees when decisions are required, which can make a major difference to the choices made (e.g., Tversky & Kahneman, 1981). According to the Myners report: "trustees tend

to feel that they lack the expertise to do so, and advisers that they lack the power to make decisions" (p. 6). Although it is impossible to deny that investment consultants have great influence on the decision-making of trustees (Myners, 2001), the majority of trustees claim to challenge and question their advice, by considering alternatives, instead of taking it for granted (Clacher et al., 2017a). Despite this, trustees admit that they rarely reject the consultant's recommendations in the end, and that they are very reliant on their advice (Clacher et al., 2017a). While the advice provided by consultants is likely to be helpful to trustees, and good advice generally can help improve decision quality (Bonaccio & Dalal, 2006; Harvey & Fischer, 1997), excessive reliance on advice can open avenues for malicious manipulation, such as an increased influence of poor or misleading advice (Gino, Brooks, & Schweitzer, 2012; Soll & Larrick, 2009).

One of the most influential type of consultants is the investment consultant, who advises the trustees on where to invest the assets of the pension. While the decision on where to invest ultimately lies within the trustees' control, it is clear that the investment consultants exert great influence in this decision (Myners, 2001; Pratten & Satchell, 1998). For example, they provide recommendations of approved funds for the trustees, and while the trustees could in theory select funds from outside the recommended list, they are unlikely to do so (Clacher, McNair, & Hodgett, 2017c), and might not even be aware of other options available to them. The process of selecting funds typically involves looking at a series of performance metrics, provided by the investment consultant, as well as prospective managers being directly interviewed by the trustees (Clacher et al., 2017c). Del Guercio and Tkac (2002) looked at how pension funds select where to invest their assets. They claim that because of the fiduciary duties of pension fund trustees and their responsibility towards pension scheme members, the financial decisions that are made are those that can be defended *ex-post*, and where blame can be transferred to others. This agency issue leads to pension trustees basing their investment decisions on non-financial and non-performance characteristics of asset managers, such as their personality, credibility, reputation and attentiveness. It also increases their reliance on external advice.

Based on the UK government reports on institutional investors (Bunt et al., 1998; Myners, 2001; Pratten & Satchell, 1998), the surveys on trustees summarized above (Clacher et al., 2017a, 2017b, 2017c), and our understanding of the pension funds and their decisions, we identify three characteristics of institutional investor decision-making as topics for further research: Trustees often make decisions in groups; they often rely on external advisers to inform their decisions; and they make surrogate decisions on behalf of others. We review the research on each of these topics in the following three sections.

## 1 Group decision-making

The decisions of pension funds are made by the board of trustees, which is a mixed group of individuals selected by the employer and employees (Clacher et al., 2017b; Myners, 2001). Despite common beliefs, and a corporate appetite for brainstorming (Thamia & Woods, 1984), groups usually do not make decisions efficiently, with lower productivity per person than separate individuals (Baron & Kerr, 2003; Fifić & Gigerenzer, 2014; Paulus,

Dzindolet, Poletes, & Camacho, 1993).[3] This lack of group efficiency is due to process losses associated with group decision-making and their interaction: Groups are not as efficient as the sum of their parts, with actual performance considerably below the potential of their pooled resources (Stroebe & Diehl, 1994). An exceptional individual alone will often perform better than a group including that individual, which shows how process losses can deteriorate individual performance (Hill, 1982). The issue remains, though, of identifying who was the exceptional individual in the group, and thus combining individuals might still be better than relying on one randomly selected individual. These process losses act by reducing motivation and coordination, as a result of several social behavioural issues, such as social loafing and free-riding, self-censorship and inhibition, and members blocking the productivity of each other (Diehl & Stroebe, 1987). Despite these process losses, there is a perceived illusion of effectiveness within group members: Individuals tend to believe that working in a group enhances performance. This illusion arises because individuals might claim others' ideas as their own, believe to be individually more productive in a group, and overestimate the number of ideas that occurred to them during group discussions (Stroebe, Diehl, & Abakoumkin, 1992).

This illusion of effectiveness of group decisions may also be responsible for overconfidence in group decisions. Overconfidence is an issue often encountered in individual decision-making, when an individual believes that their own responses are more accurate than they really are (Ayton & McClelland, 1997; Harvey, 1997). Empirical research has shown that groups are even more confident than individuals in their decisions, in particular in judgmental tasks (Heath & Gonzalez, 1995; Sniezek & Henry, 1989; Zarnoth & Sniezek, 1997). Overconfidence can be detrimental to decision-making: In financial decisions, for example, it can lead to poor financial performance and unnecessary losses via excessive trading (Barber & Odean, 2000), excessive market volatility (Daniel, Hirshleifer, & Subrahmanyam, 1998), and excessive risk taking (Camerer & Lovallo, 1999; Nosic & Weber, 2010). Confidence in a decision can even be more influential for behaviour than accuracy, as confidence mediates actions and might induce poorly chosen behaviours based on wrong, but confident, beliefs and judgments (Sniezek, 1992). However, expertise can influence confidence, with higher expertise leading to higher confidence in one's decisions (Trafimow & Sniezek, 1994). Most trustees are not experts in the decisions they make, which could lower their confidence and reduce actionable behavior, leading to behavioral inertia, an issue highlighted in Myners (2001).

Group process losses can also impact effectiveness by reducing the amount of information shared during group discussions. By bringing together individuals who can share information, groups should improve the informational set used for decisions, and make better decisions. While the majority of pension fund trustees might not possess specific knowledge required to make the decisions needed for their pension scheme, such as a high level of financial or legal expertise, it was found that many boards had at least one indi-

[3] Although there are exceptions: in some specific situations, groups can perform better than invididuals, such as in problem-solving tasks with "eureka" moments and a demonstrably correct solution (Laughlin, Bonner, & Miner, 2002; Michaelsen, Watson, Black, & Lynch, 1989; Sniezek & Henry, 1989); interventions can also be used to improve group performance (e.g., Reagan-Cirincione, 1994). However, these do not apply to the types of subjective decisions and judgments made by pension fund trustees, in which no single correct answer exists. For more extensive reviews, see Kerr and Tindale (2004) and McGrath and Kravitz (1982).

vidual who was better informed in each necessary area (Myners, 2001). However, research has shown that group members do not pool their informational resources: Groups tend to make decisions using only information which was already previously shared between all the members of the group, while unshared information available to single individuals are rarely introduced into the decision-making discussion (Stasser & Titus, 1985).

Groups therefore tend to gravitate towards a common knowledge solution, even when there is private information available within the group to lead to better decisions (Lu, Yuan, & McLeod, 2012; Stasser & Titus, 2003). One interpretation is that group members positively evaluate one another when mentioning shared information (Wittenbaum, Hubbell, & Zuckerman, 1999) and do not share unique information, which cannot be validated by other, for fear it will prevent consensus. As a result, commonly available information is substantially more discussed. High information load makes the bias even stronger, with an increased focus on shared information and lower tendency to exchange unique information when there is more information overall (Stasser & Titus, 1987). This is applicable to pension fund decisions where the trustees may well be overloaded with reports and information: Reducing the amount of information could lead to more sharing and better decisions. This bias also appears to become worse with larger group sizes: Smaller groups discuss unshared information more (Cruz, Boster, & Rodríguez, 1997; Stasser, Taylor, & Hanna, 1989). Their finding supports the approach of larger trustee boards to rely on smaller sub-committees for certain decisions. Consistent with this notion, Postmes, Spears, and Cihangir (2001) found that inducing a group norm for critical thought improved attention to unique information and the quality of decisions.

Despite this apparent lack of sharing of new information, the debates and discussions occuring during group decision-making often lead to individuals revising their judgements and decisions, which has been associated with group polarization and choice shifts (Isenberg, 1986). Group polarization occurs when individuals' views become more extreme after discussion than they were prior to the interaction (Moscovici & Zavalloni, 1969; Myers & Lamm, 1976). These discussions can enhance the initially dominant point of view, reinforcing it and making it more salient. Any previously shared information gets excessively more attention and disproportionally more discussion time. Confirmation bias also plays a role by helping individuals to more easily ignore and discard conflicting information (Klayman & Ha, 1987). As a result, a choice-shift can occur: The group's pooled consensus answer tends to be more extreme than the average of the individuals' (Hinsz & Davis, 1984; Schroeder, 1973). Hence groups tend to shift and amplify their choices in the direction towards which most of the group members were already preferring. Facing a situation in which individuals would initially have a natural tendency to be risk-takers, for example in the domain of losses (Kahneman & Tversky, 1979), group discussions would lead to a "risky shift," with even greater risk-taking; while in the gains domains, if individuals are more naturally risk-averse, then a "cautious shift" would be observed following group discussions, with lower risk-taking (Stoner, 1968). One of the reasons why groups can take more extreme positions than their individual members is because responsibility is diffused and blame can no longer be directly attributed to any particular member directly (Pruitt, 1971). The group shift can sometimes be so extreme that final decisions can even fall outside the range of original independent decisions (Sniezek & Henry, 1989).

## 2 Judge adviser systems

The UK government's reports on institutional investors concluded that "investment consultants are highly influential in [the] investment decision-making" of pension fund trustees (Myners, 2001, p. 7). One relevant area of psychology research that has extensively investigated a similar type of relationship looks at judge-adviser systems (JAS). In JAS research, a judge makes the final decision, receiving advice provided by one or many advisers, usually in the form of a recommendation (for a review, see Bonaccio & Dalal, 2006). There are many reasons why judges seek advice. They might want improve the quality of their decisions, minimize decision-making effort, reduce uncertainty, share responsibility for their actions, and also make it easier to justify their decisions *ex-post* (Harvey & Fischer, 1997; Schrah, Dalal, & Sniezek, 2006). They also take advice provided now, in order not to offend the adviser, maintaining a good on-going relationship, and not to preclude any future provision of additional advice (Gurmankin, Baron, Hershey, & Ubel, 2002; Sniezek & Buckley, 1995). Receiving and integrating advice also seems to increase the confidence levels of judges, making it easier to make decisions and act upon them (Savadori, Swol, & Sniezek, 2001).

Despite being open to receiving advice, the research shows that judges typically do not fully integrate the advice into their own decision, but tend to discount most advisory information received, consistently putting more weight on their own ideas and opinions and underweighting advice (Harvey & Fischer, 1997; Mannes, 2009; Yaniv & Kleinberger, 2000). The works by Soll and Larrick (2009) and Soll and Mannes (2011) go even further, showing that advice is often completely ignored. In contrast, expert medical advice can have a very strong influence on patients' decisions, with some patients fully accepting a treatment proposed by a doctor, even when it goes against the patients' preferences (Gurmankin et al., 2002; Siminoff & Fetting, 1991). It appears that weight given to advice can vary widely, but the judge's own personal views are rarely completely ignored, and remains egocentrically influential even when they know little about the question at hand and the advice provided comes from an expert in the field (Sniezek, Schrah, & Dalal, 2004; Soll & Mannes, 2011; Yaniv & Kleinberger, 2000). Lim and O'Connor (1995) have shown how individuals find it considerably difficult to allocate lower weights on their own judgments even when presented with reliable advice.

According to Yaniv and Kleinberger (2000), this egocentric discounting of advice occurs because individuals have access to their own reasoning supporting their own judgements, but not to the reasoning supporting the judgements of others. People tend to weight opinions in relation to the strength of the supporting evidence (Soll & Mannes, 2011), which could lead to advice with a stronger evidence base being allocated higher weights. Advisers who can demonstrate expertise, knowledge, and experience of the topic also tend to receive higher weights (Goldsmith & Fitch, 1997; Gurmankin et al., 2002). Individuals might also prefer their own opinions as a way of preserving self-esteem, because accepting advice might result in an undesirable devaluation of one's opinion: After individuals initially reject advice in their own area of expertise, thereby confirming their own self-value, they are more susceptible to accepting advice in other areas of expertise (Soll & Larrick, 2009).

Other factors influence the weight given to advice, such as the distance between the advice and the judge's own prior opinion: The larger the distance, the lower the weight given

to the advice (Yaniv, 2004b). Therefore, advice that is closer to the judge's initial views receives more weight. Consequently, advisers who know a judge well can undertake a process of nudging them along in small steps, by providing a series of incremental advices over time. Counter-intuitively, conflicting advice can be quite influential as well, by confusing judges and lowering their confidence (Sniezek & Buckley, 1995). Sniezek and Buckley believe that conflicting advice might make the judge believe that the task is more difficult than it really is, and induce the judge to take a simpler decision heuristic involving luck rather than skill. Task difficulty and task complexity on their own also directly influences advice usage: On more difficult tasks, judges used advice significantly more than expected (Gino & Moore, 2006; Schrah et al., 2006). Conflicting advice which is atypical or unexpected can also lead patients to wonder if their doctors knew some additional important piece of information that was not being shared (Gurmankin et al., 2002; Siminoff & Fetting, 1991).

Less confident judges are more receptive to advice than more confident ones (Bonaccio & Dalal, 2006; Gino & Moore, 2006; Savadori et al., 2001). If the lower confidence is justified, because the judge lacks appropriate knowledge to decide alone, then relying on good quality reasonable advice should help improve decision perfomance (Bonaccio & Dalal, 2006; Harvey & Fischer, 1997). However, lack of confidence is indicative of a reduced capacity for discerning the quality of the advice received, resulting in excessive weighting being allocated to unreasonable or bad advice (Gino et al., 2012; Soll & Larrick, 2009). Thus, if pension fund trustees are not very confident about their roles, tasks, responsibilities, and lack appropriate training, they are likely to be influenced more by poor advice. Groups are more confident than individuals, but it remains to be seen how the group interaction influences the taking of advice. Advice also receives more weight when the judges feel more accountable for their decisions, likely a result of the need to be able to justify it and share responsibility *ex-post* (Yaniv, 2004a). Given the legal framework in which trustees operate, and their fiduciary obligation, this is likely to be an important moderator, increasing the reliance that trustees place on advice.

One crucial area relevant for investment consultants providing advice for trustees relates to the fact that these advisers are paid by the pension funds, and in general judges are significantly more receptive to paid advice than to free advice (Gino, 2008; Sniezek et al., 2004). This increase in importance given to paid advice appears to be moderated by credibility, with payment for advice increasing its credibility (Patt, Bowles, & Cash, 2006). The sunk-cost fallacy (Arkes & Blumer, 1985) may apply to the relationship between payment and usage of advice: Individuals would use advice that was already paid for, even when it is unhelpful, so not to believe that they wasted any money.

If advice is provided to the judges before they had the chance to form an initial opinion, then their decision can be considered as being *cued*. This creates an initial starting position for consideration, akin to an anchoring effect (Chapman & Johnson, 1994; Tversky & Kahneman, 1974). Wilson and Brekke (1994) have called this external influence and its effect on decisions "mental contamination." It is suggested that this process is unconscious and unwanted, and that judges would prefer not to be cued. According to Wilson and Brekke, after being cued, most individuals will not be able to correct and adjust appropriately, and might be unable to adjust or even overreact and overcorrect. Because of this effect, cued judges are influenced more strongly and tend to give more weight to advice (Rader, Soll, & Larrick, 2015). Cued judges engage in less information processing overall,

focus their informational search around the advice given, biasing their information processing by reducing the proportion of attention dedicated to the non-cued alternatives (Schrah et al., 2006; Sniezek & Buckley, 1995). In comparison, if judges are not cued, and only receive the advice after forming their initial opinion, they are considered to be more independent, revising their decision after the advice is received. Independent judges are likely to make better informed, less biased decisions, allocating lower weights to advice (Rader et al., 2015).

According to Schrah et al. (2006), if given the option, judges will delay advice acquisition until they have formed their initial position, and thus prefer to be independent rather than cued judges. Being able to make independent initial decisions is crucial to reduce the influence of external advisers (Van Swol & Sniezek, 2005). Pension fund trustees are more likely to be cued judges, and rely extensively on the information provided by advisers without the opportunity (or time, or desire) to form prior opinions. However, the need for independent judges needs to be weighed against the importance of advice. Soll and Mannes (2011) suggest that independent judges might be reluctant to accept advice in order to avoid any regrets in the case that their initial judgment proved more accurate than the revised final judgment. If the judge is not an expert in the field, ignoring important advice might lead to lower quality of decisions.

## 3 Surrogate decision-making

Pension fund trustees make decisions on behalf of others, also known as surrogate or substituted decisions. The ultimate beneficiaries of the decisions made by pension fund trustees are the members of that pension fund. This is similar to the extensively researched field of surrogate medical decisions, involving end-of-life treatment for incapacitated patients (for meta-analyses, see Fagerlin, Ditto, Danks, & Houts, 2001). Ideally, the gold standard is for surrogates to apply "substituted judgement," which occurs when they make the same decision that a patient *would* make if they were not incapacitated. However, this does not appear to happen in practice. Systematic reviews of the extant corpus of research show that individuals are very poor at making surrogate decisions: surrogates tend to incorrectly predict the patient's wishes quite often, and do not perform much better than chance (Sulmasy et al., 1998; Uhlmann, Pearlman, & Cain, 1988). Family members tend to perform slightly better than doctors but are still incorrect around 30% of the time (Moorman, Hauser, & Carr, 2009; Seckler, Meier, Mulvihill, & Cammer Paris, 1991; Shalowitz, Garrett-Mayer, & Wendler, 2006).

One of the key aspects of medical surrogate decision-making is that individuals tend to project their own preferences onto others, and as a result the decisions are closer to the surrogate's wishes than to the patient's (Fagerlin et al., 2001; Pruchno, Lemay, Feild, & Levinsky, 2005). This might be explained by a belief of the surrogates that the others' preferences would be the same as their own, an assumption of similarity (Cronbach, 1955), which is related to the false-consensus effect (Marks & Miller, 1987). Because surrogates project their preferences, research has shown that similarities in taste allow for better matched predictions of other's preferences and attitudes (Hoch, 1987): Similar surrogates are the best surrogates. Surrogates relying on assumptions of similarity to decide on behalf of others will only make good decisions when they have similar preferences. This approach works well in certain scenarios in which preferences overlaps, such as between spouses, but

can also lead to lower quality decisions where there is limited overlap of preferences, such as doctors predicting for patients.

Matheis-Kraft and Roberto (1997) and Ditto et al. (2001) go on to show that even holding discussions with the patient about their critical medical care preferences did not help improve the surrogate judgment, with the surrogate's own preferences overriding the information gathered during these discussions. Furthermore, Epley, Keysar, Van Boven, and Gilovich (2004)'s theory of egocentric anchoring and adjustment has shown how individual's estimates of other's perceptions are anchored around their own perceptions, and later serially adjusted, taking into consideration what the surrogate might believe the other's wishes to be. Therefore, the inability to sufficiently adjust, even after discussions, can explain these findings (see also Chapman & Johnson, 1994; Tversky & Kahneman, 1974).

Even when surrogates have similar values, they might still make different decisions for others than for themselves. This issue brings to attention the difference between what an individual *would* choose and what an individual *should* choose. For example, doctors tend to make more rational, analytic, and utilitarian decisions on behalf of their patients, while they rely on simpler heuristics and are more susceptible to cognitive biases when deciding for themselves (Garcia-Retamero & Galesic, 2012; Ubel, Angott, & Zikmund-Fisher, 2011). As a result, doctors make more conservative treatment decisions, taking less risk, on behalf of patients than for themselves, and also than the patients would have selected. In contrast, Beisswanger, Stone, Hupp, and Allgaier (2003) found that when deciding for others, participants used less information and focused more on single dominant attributes, making certain dimensions much more salient, such as the negatives aspects of taking risks for example. In all cases, surrogates made different choices for themselves than they made for others (see also Kray & Gonzalez, 1999).

Individuals often believe that others have more muted emotional responses, and the influence of emotion on others' decisions is less powerfull (Loewenstein, 1996). This "empathy-gap" between the self and others, is observed because it is easier to understand one's own feelings, than someone else's. People find it hard to empathise with others' distress at bad outcomes or thrill at good ourcomes, and underestimate their willingness to take risks. Therefore, the ability of a surrogate to empathize with another person predicts how well the surrogate discards their own choices and more accurately estimate the other person's judgements (Tunney & Ziegler, 2015). As a result, surrogate decision-makers are more emotionally detached from the decision and its consequences (Kray, 2000). Lack of introspection into other's actual preferences is another factor for concern. If a surrogate is not completely sure about the other's wishes, then they might prefer to err on the side of conservativeness and choose what they should do instead.

Making accurate predictions of other people's risk preferences is an important aspect of the role of a pension fund trustee. However, research has shown that surrogates are very poor at such a task (e.g., Faro & Rottenstreich, 2006; Hsee & Weber, 1997). In the risk domain, the empathy-gap can be applied to the concept of "risk as feelings" (Loewenstein, Hsee, Weber, & Welch, 2001): Risk-taking is driven by feelings, and because feelings about oneself are more salient than feelings about others (and others' feelings as well), this should lead to more subdued risk-taking behaviour in surrogate decisions. The theory states that any departures away from risk neutrality are driven by how intensely individuals feel the pleasure or dread of the outcomes of their risky choices. Therefore, an empathy-gap reducing

the strength of these feelings should lead to more muted response towards risk-taking or risk-avoidance, depending on the domain. Because surrogates find it difficult to empathise with others, their decisions tend to be more regressive towards risk neutrality, which might also appear more normative, and socially expected (Hsee & Weber, 1997). Empirical research has confirmed: Surrogate decisions are more risk-averse in situations in which safety is socially desirable (Faro & Rottenstreich, 2006; Fernandez-Duque & Wifall, 2007; Garcia-Retamero & Galesic, 2012), and more risk-seeking in situations in which risk is more socially desirable (Andersson, Holm, Tyran, & Wengström, 2016; Beisswanger et al., 2003; Hsee & Weber, 1997). Both directions of deviations of surrogate decisions are inefficient, as the true risk preferences of the individuals are not being accurately represented. And because individuals project their own preferences, this would imply that surrogates who are more risk seeking would recommend more risk taking than a surrogate who is more risk averse.

One of the ways that surrogates can adjust their own judgements while deciding on behalf of others, according to Epley et al. (2004)'s theory of egocentric adjustment, is to adjust according to social values to make the decision more socially acceptable. This "social value theory" posits that individuals decide for others not based on what they think the others would do, but instead on what is valued by society as the best action to take (see also Kray, 2000; Stone & Allgaier, 2008). This leads to behaviour that is more conservative and more regressive to the mean, towards a more neutral and thus more socially accepted norm (Garcia-Retamero & Galesic, 2012). Surrogates make what is essentially an egocentric decision benefiting their own reputation, regardless of what might be best for the other person (Tunney & Ziegler, 2015). Fear of *ex-post* guilt for bad outcomes from poor decision-making can also be a cause of more normative regressive behaviour (Stone, Yates, & Caruthers, 2002). More normative behaviour should lead to lower volatility in the outcomes, fewer unexpected results, thereby reducing responsibility if the behaviour was the more normally socially accepted action. Surrogate decision-making is also more public than an individual deciding for themselves, which tends to be a more private affair. This might exacerbate the social influence on surrogate decisions to preserve the surrogate's self-image by providing a more socially acceptable decision (Stone et al., 2002). As a result, people make riskier decisions for others in domains where risk taking is valued, and less riskier decisions in those where risk is not valued (Stone & Allgaier, 2008).

One frequent problem with surrogate decision-making is that surrogates very rarely get feedback for their decisions from the person who is the target of those decisions. West (1996) has shown how surrogates who learn about their performance via feedback from their targets also learn to reduce certain biases such as the false consensus or projection, and learn to rely less on their own preferences over time, as they learn their target's preferences. Nevertheless, because the results from deciding for others translate into lower hedonistic values than when deciding for oneself, the surrogate ends up not as emotionally engaged with the learning process, the decision made, and its outcomes (Fernandez-Duque & Wifall, 2007). This can explain why surrogates choices are more subdued, more regressive, and more normative.

## 4 Conclusions

The decisions made by pension fund trustees are set in environments that differ from the majority of the research conducted so far in behavioral finance. The extant research has

mostly focused on lay individuals making small financial decisions that only affect themselves (and their households), and most of the biases uncovered apply to that population. In contrast, pension fund trustees receive training and have some experience in financial markets, which should distance them from the traditional unsophisticated retail investor. Very little research has been dedicated to the decisions of pension fund trustees so far. Some research on the most sophisticated financial market players, such as professional mutual fund managers, has revealed that they still succumb to decision biases (e.g., Feng & Seasholes, 2005; Garvey & Murphy, 2004; Shapira & Venezia, 2001). Pension fund trustees are therefore unlikely to be immune from the biases studied at individual level. Direct investigation of pension fund trustee behavior is the necessary next step to further advance the field of behavioral finance.

In addition to an investigation of these biases in the pension fund trustee environment, it is still unknown how the specific context of trustee decisions can affect these psychological effects on their decisions; this setting may, potentially, mitigate them, or conversely strengthen them. Pension fund trustees make decisions in groups, are heavily reliant on advice, and make decisions on behalf of others. So far, we know that group decisions are not efficient, due to process losses and lack of information sharing between the group members. Group discussions tend to lead to choice-shift and group polarization, with more extreme decisions at group level than at the individual level. While individuals are usually receptive to advice, they tend to discount the advice and put more weight on their own judgments. However, the weight given to advice is moderated by numerous factors, many of them relevant to trustee decision-making, which can increase the weight given to advice, putting unwanted decision control in the hand of external advisers. When making surrogate decisions on behalf of others, individuals tend to project their own preferences, instead of considering the preference of the other. They decide as the other should behave, not as how they would behave. And they make emotionally more muted, rational, and less empathic decisions, converging towards more socially acceptable normative behavior.

As far as we are aware, no behavioral research has empirically tested pension fund trustees decisions to investigate how the combination of group decisions, advice, and surrogacy influence their decisions and, ultimately, the sustainability of our pensions. Given how much influence trustees' decisions have on asset allocation and by extension in financial markets, this is a surprising state of affairs. Research in behavioral finance has had a marked influence on policy in the past (e.g., Thaler & Sunstein, 2009) and so we anticipate that exploring the decisions made within pension funds may have wide ramifications for the industry.

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