Engaging people with pensions via digital dashboards

A rapid evidence review from the Behavioural Insights Team for the Pensions Dashboards Programme

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Executive summary

This Rapid Evidence Assessment has been prepared to assist the Money and Pensions Service (MaPS) to guide the development of pensions dashboards in the UK. Developing well-functioning and engaging pensions dashboards is key to encouraging consumers to interact more with their pensions, and empowering them to make informed decisions about their retirement. This report includes a range of evidence, but focuses on identifying high-quality evidence where available.

However, the pensions dashboards field is a relatively nascent one, meaning that many questions have not been researched using the most statistically robust methods, such as Randomised Control Trials (RCTs). As such, in many instances we have relied upon other research — this includes qualitative research and quantitative surveys, as well as evidence from other relevant fields, such as consumer behaviour.

We have gathered together the evidence around barriers and enablers to engagement with pensions and dashboards, as well as the evidence on the optimal functionality and presentation of dashboards.

Barriers to engaging with pensions

There is a breadth of literature that explores what prevents people from engaging with their pensions. While this literature has not covered pensions dashboards specifically, the key barriers are likely to apply to pensions dashboards, and are important to understand in order to increase engagement with pensions dashboards. Key barriers include:

- **Inertia**, the general tendency towards inaction, to avoid the costs associated with action. For pensions, the costs of engaging may include the mental effort required to understand information about your pension, what it means for your situation and how you should act on that information. This is exacerbated by the long-term time frame of pensions which means that engagement is not urgent and can be put off till “later”
- **Present bias**, the tendency to prefer smaller rewards now than larger rewards later. Pensions inherently require forgoing rewards now, for payoffs in the distant future
- **Friction costs**, the small hassles that make an action more difficult, such as the steps involved in accessing information. These frictions can have a surprisingly large effect on whether someone engages or not
- **Choice overload**, where people feel overwhelmed by the number of options available to them and may therefore disengage and avoid making a choice
- **Lack of knowledge or ability**, which inhibits people’s ability to engage with the complex topic of pensions

These barriers do not exist in isolation. Rather, in any given situation, combinations of these barriers may be compounding and exacerbating each other. Being aware of these barriers enables them to be addressed and reduced in the design of pensions dashboards and in efforts to encourage people to sign-up and use pensions dashboards.

Increasing engagement with pensions and dashboards

There are minimal studies that have looked specifically at increasing engagement with pensions dashboards. However, there are lessons about engaging with pensions more broadly that could be applied when considering the design of pensions dashboards, as well as the broader ecosystem for encouraging sign-up and use of pensions dashboards.

Firstly, strategies to address the barriers to engaging with pensions could be employed to assist in increasing engagement with pensions dashboards. Such strategies include:

- **Prompting people at timely moments**. This involves taking advantage of key times of the year or key times in people's lives to prompt them to engage with pensions dashboards. Timely moments could include the start of a new year, the start of a new job, or a pay rise. This strategy can help to address inertia
- **Making the future more salient**. This involves helping people associate with their future selves or with future benefits, such as asking people to pause and reflect on their future or their life after retirement when encouraging them to engage with pensions dashboards. This strategy can help to address present bias
- **Simplifying and removing frictions**. This involves removing frictions and streamlining the processes involved in engaging with pensions dashboards, as well as simplifying the information contained within pensions dashboards. This strategy can help to address friction costs and choice overload
- **Providing rules of thumb**. This involves simplifying complex decisions by providing people with clear rules of thumb to follow. This strategy can help to address a lack of knowledge or ability

There may be opportunities to employ other strategies from behavioural science, which have been shown to change behaviour in a variety of contexts, in order to increase engagement with pensions dashboards. These include:

- **Personalisation,** including finding ways to tailor information and draw attention to the most relevant information. Personalisation has been shown to be effective in engaging consumers across a range of policy fields
- **Social norms**, including referencing the positive behaviour of someone's peers. However, there is mixed evidence on the effectiveness of social norms in a pensions context, particularly if the impact of knowing what others like you are doing is demotivational or unattainable
- **Loss framing**, including highlighting the potential losses of not taking action. There is also mixed evidence of the effectiveness of this approach in a pensions context, but there is some evidence in favour of framing inaction as a potential loss

Lastly, it is also important to consider differences in how different demographic groups will engage with pensions dashboards. Internationally, usage of pensions dashboards peaks before retirement, with younger age groups being less likely to have heard of their countries' dashboard. There is some evidence to suggest that those with lower financial literacy also tend to be less likely to engage with their pension.

Optimal functionality of dashboards

There has been some user research conducted in the UK that can provide guidance on what information pensions dashboards should contain. Consistent across multiple studies, the most important piece of information is projected retirement income. Other information important to users includes state pension amounts and retirement age, charges, levels of risk and where funds are invested. However, it should be noted that while users report wanting to see this information, there is little published data on what information users actually use on a live dashboard.

Some users are wary of being provided detailed information about their pension without also being provided with supporting advice or guidance. Rules of thumb could be provided to help guide user decision-making. The effectiveness of such rules of thumb for pensions has not been empirically tested.

Users may expect a dashboard to be interactive, however, only one published study appears to have tested the level of interactivity of a pensions dashboard. It found that increasing the interactivity of a prototype online pension planner did increase engagement.

There are conflicting findings on user tolerance of incomplete dashboards, though these findings come from small qualitative studies where the phrasing of the question posed to users is unclear. Anecdotally, the use of the pension dashboard in Denmark increased substantially once all providers were available on the dashboard. It may be beneficial to wait until pensions dashboards are almost complete, in case incomplete dashboards deter future engagement.

Optimal presentation of dashboards

There are some studies that have looked specifically at the presentation of pensions dashboards or pensions information. The findings from one study suggest that tailoring how pension information is presented may help users to engage with a dashboard and find the information most relevant to them. Similarly, carefully designing an interface to be visually appealing, as well as making the options available to users clear, can increase engagement.

Wider work on the format of presenting financial information has generally found that presenting information in simpler numerical amounts, such as £100, rather than comparators, such as 5%, generally improves comprehension and outcomes. In addition, framing information from different providers in standardised terms is likely to improve the ability of users to compare different providers. For example, experiments have found that the benefits of presenting information as a single numerical figure (for example, a single estimated annual bill vs per-unit consumption costs) only surface if presented this way consistently across the market.

Studies on presenting pension information or financial information more broadly have also found that simplifying the way that information is presented so that it requires the least amount of mental effort can help to increase user comprehension. The use of visual aids has also been found to increase user comprehension of pension information and financial information, particularly where the visual aid makes key information more salient, and easier to interpret.

Conclusion

The work on pensions dashboards is still relatively nascent, and there are many gaps in relation to understanding how people will actually behave when they interact with dashboards. Nonetheless, there is some evidence — and in many cases, insights can be drawn from the broader pensions literature, and from behavioural science. Importantly, testing and optimisation should continue once pensions dashboards are live. Rather than a "set and forget" approach, continuous evaluation and monitoring will be important to see whether different features are actually driving behaviour change.

Contents

Introduction

Developing well-functioning and engaging pensions dashboards is key to encouraging consumers to interact more with their pensions, and empowering them to make informed decisions about their retirement. The Pensions Dashboards Programme (PDP), which is part of the Money and Pensions Service (MaPS), is leading the work in this space in the UK.

The success of pensions dashboards will largely rest on how much consumers interact with them, and how they understand and are able to act on the information presented to them. A myriad of seemingly small decisions about layout, content and functionality can have significant impacts on the way that users interact with and understand the information presented within dashboards and online platforms.

Although PDP will not be designing the front-end interface, they will nonetheless make key decisions about the technical architecture that will underpin the dashboards system. This Rapid Evidence Assessment has been prepared by the Behavioural Insights Team (BIT) to assist PDP in making these decisions. The research questions are listed below, and also under each section where they are addressed.

- What lessons have been learned from the international experience of developing digital dashboards (including Australia, the Netherlands, Israel, Denmark and Sweden)
- Why don't people engage with their pensions (by different characteristics)
- What works in increasing people's engagement with their pensions (with a particular focus on what works for individuals with different characteristics e.g., those with protected characteristics under the Equality Act)
- What the user needs are for digital pensions dashboards
- What has worked for dashboards similar to the PDP proposition — a digital dashboard with multiple interfaces
- What information do individuals need to see about their pensions (on digital dashboards) to increase their engagement
- How is information best displayed on dashboards to increase people's understanding of their pensions
- What functionality will help to increase people's engagement with pensions
- What user behaviours are in relation to dashboards (e.g., tolerance for incomplete dashboards i.e., not all pensions showing)
- What are the evidence gaps from the existing literature (note that this question is addressed throughout the document where appropriate)

Evidence used in this report

This report includes a range of evidence, but focuses on identifying high-quality evidence where available. In general, we have prioritised well designed randomised controlled trials (RCTs) or quasi-experimental studies that provide robust results — where we reference the impact of studies or trials, these refer to results that are statistically significant. However, the pensions dashboards field is a relatively nascent one, meaning that many questions have not been researched in a detailed and robust way. As such, in many instances we have relied upon other research including qualitative researchand quantitative surveys.

In some cases, there is limited evidence about specific questions with respect to pensions dashboards, but there is often evidence from other, similar fields such as pensions and consumer behaviour more generally. For example, there is ample evidence that consumers are better able to make decisions when the information is presented as simpler numerical amounts, such as £100 instead of comparators such as 5%. Whilst this has not been specifically tested for pensions dashboards, it is likely that the same concept applies — however, we are extrapolating from another field of evidence, and we cannot be definitive about the strength of the evidence. This means that in many instances throughout the report, we are not able to provide definitive evidence about the best practices for pensions dashboards, but rather we have had to provide indicative evidence where available.

A note on "engagement"

In the wider research, engagement is used as a broad term, and its definition changes depending on the study in question. For example, engagement for some studies is focused merely on comprehension, whilst other studies take a different approach and measure engagement as taking some specific action or taking an action beyond the default.

Similarly, there may be different extents to which a person is "engaged". For example, one consumer might sign up for a pension plan and make one change to their investments over a decade, whilst another might regularly review their statements, log in to their pensions provider every quarter, and make annual changes to their investments. Both are arguably engaged, but the degree of engagement clearly varies. Additionally, it is not immediately apparent which is the "better" form of engagement — indeed, it is questionable whether it even makes sense to judge either consumers' engagement as "better". Depending on the outcomes that are most important, different metrics might be relevant.

It is worth noting that while comprehension and/or intentions to take action can be useful indicators of behaviour, they do not always translate into action. For example, research on the distribution of the annual Social Security Statement in the US found that it significantly increases worker knowledge about their benefits (60% were able to provide an estimate of their future benefits, compared to 40% for workers that did not receive the Statement). However, it does not appear to change behaviour with respect to claims or take up of incentives available.[1]

Similarly, whilst self-reported data suggests high levels of engagement with Sweden's Orange Envelope, empirical evidence suggests it has minimal impact on actual behaviour (see Case Study 1: Sweden, below). Hence, care needs to be taken when considering research that focuses on measures of knowledge, comprehension or awareness, or relies on self-reported measures of engagement.

[1] Mastrobuoni, G. (2011). The role of information for retirement behavior: Evidence based on the stepwise introduction of the Social Security Statement. *Journal of Public Economics* 95: 913–25.

Case study 1: Sweden

Since 1999, Sweden has sent out an Orange Envelope, containing information about each citizen's pension. The content is similar to that which would appear on a dashboard, including current value, changes in the past year, and estimated future amounts.

Notably, survey evidence suggests that nearly three quarters open the envelope, and around half read at least some of the content.[2] This seems to imply a relatively high level of engagement.

However, empirical evidence suggests that actual action taken is much lower. In recent years, over 98% of citizens have taken the default option. Even when the default fund changes drastically (for example, by substantially increasing leverage), hardly any citizens change their investment options — even though survey evidence suggests most Swedes prefer little to no leverage (and thus would presumably prefer to be in an unleveraged fund).[3]

Hence, self-reported measures of engagement, and more intermediate measures of engagement such as comprehension and intention, will not always accurately reflect substantive action.

For this paper, we have not chosen a single definition of engagement. Rather, we have included research that covers a range of definitions — from research that focuses on "deep" engagement such as increasing contributions and changing investment allocations, as well as more "shallow" engagement, such as intentions to take action and comprehension (which many not necessarily lead to action). This is because the type of engagement that might be relevant will depend on the context — for example, getting users to visit and sign up for dashboards requires a different type of engagement to getting users to make active changes or to regularly review dashboards.

Concepts that seemingly relate to one domain might be relevant to another — for example, some online studies explore intentions to increase pensions contributions (but do not look at actual behaviour). These provide weak evidence for whether people might actually increase pension contributions in the real world — but the insights could apply to increasing engagement with dashboards more generally (for example, by providing evidence of what might work to encourage people to visit or sign-up to dashboards). Hence, throughout this paper, we indicate what specific outcomes we are referring to when we discuss specific research or concepts.

[2] del Carmen Boado-Penas, M., Settergren., O., Ekheden, E., & Naka, P. (2020). *"Sweden's Fifteen Years of Communication Efforts"*. World Bank.
[3] Cronqvist, H., Thaler, R. H., & Yu, F. (2018, May). When nudges are forever: Inertia in the swedish premium pension plan. In *AEA Papers and Proceedings* (Vol. 108, pp. 153-58).

Barriers to engaging with pensions

Research questions covered in this section:

- ➢ Why don't people engage with their pensions (by different characteristics)

This section focuses on the barriers that prevent people from engaging with pensions and could by extension prevent them engaging with pensions dashboards. Specifically, this section explores the following barriers: inertia; friction costs; present bias; choice overload; and lack of knowledge or ability. Many of these reasons for disengagement with pensions mean that getting people to engage with pensions dashboards will also be a difficult task. For example, the default towards inaction with pensions and a focus on the present is likely to extend to pensions dashboards — people lack an impetus to engage with pensions dashboards, and are likely to be focused on their present financial concerns rather than their retirement. For example, recent data suggests that 79% of adults contributing to a defined contribution (DC) pension have never thought a lot about how much they should be paying into their pension, and 78% have never reviewed where their pension is invested (or not reviewed since joining).[4] Strategies to address these barriers may assist in increasing engagement with pensions dashboards. This is discussed in the next section.

Inertia

Inertia is the general tendency towards inaction. One of the drivers for inertia is the fact that there is a "cost" associated with action. Whilst the cost might be small, there is still some level of mental or physical effort required to complete a task, and these small costs can add up (see section on friction costs, below). One common manifestation of inertia is when people stick with the default setting rather than making an active choice to pursue an alternative. Inertia is particularly prevalent for decisions about retirement savings. People often stick with the default for their initial pension decisions (for example, whether to join a pension scheme), as well as for ongoing pension management decisions (for example, whether to change the asset allocation of their retirement savings).[5]

A further reason why inertia is particularly pervasive (and therefore problematic) for retirement saving is that individuals may receive very little information on their progress towards saving sufficiently for their retirement. Individuals may also avoid such information if they expect it will cause them psychological discomfort (information aversion).[6] In the context of pensions engagement, information aversion may manifest as people not checking whether they are saving sufficiently for their retirement. Without such feedback, the costs of inertia are not clear to the individual until it's too late to do anything about it. People only

[4] Financial Conduct Authority (2021) *Financial Lives 2020 survey: the impact of coronavirus*, Retrieved 26 March 2021 from https://www.fca.org.uk/publication/research/financial-lives-survey-2020.pdf

[5] Benartzi, S., & Thaler, R. (2007). Heuristics and biases in retirement savings behavior. *Journal of Economic perspectives*, *21*(3), 81-104.

[6] Golman, R., Hagmann, D., & Loewenstein, G. (2017). Information Avoidance. Journal of Economic Literature, 55 (1), 96-135.

retire once. If someone reaches retirement and realises they have saved insufficiently, they cannot learn from their mistakes to engage more with retirement planning — the opportunity to do so has passed.[7]

In general, people lack a prompt or impetus to engage with pensions, and hence the default is typically to not engage with pensions. For example, around three quarters of Australians have never made contributions to their retirement beyond the default required by law.[8] Indeed, the institutional structure is generally designed to allow a fairly minimal level of engagement. Features such as automatic enrolment and default contribution amounts mean that there is not necessarily a requirement to make a choice. One study suggests that around 85% of people are "passive" savers who largely maintain default contributions even when the default changes (for example when they move to a new firm with a higher default contribution rate).[9]

One key driver of the power of defaults may be that they are often seen as an implicit endorsement.[10] That is, many may view the default as being endorsed as the "right" option by the designers of the system. Hence, they may believe that there is no need to make any change to their contribution amounts or investment choice, as whoever designed the system has already determined that the default is "correct" and is in their best interests. This effect is typically stronger where the trust in the system designer is higher — if people trust that the government or their employer has already investigated the issue, then they are more likely to believe that the default pension settings are optimal. This is likely to be particularly relevant in cases where individuals have limited knowledge or ability (see section on lack of knowledge and ability, below).

Notably, interventions that have sought to change the default have shown success in changing outcomes, though not necessarily in changing *engagement* — for example, automatic enrolment may increase the proportion of people with a pension, but it is arguably not increasing their level of engagement with their pension. Hence, sometime after the roll-out of automatic enrolment, recent data suggests that that many adults with DC pensions are not very engaged - 69% are not aware of any charges incurred on their DC pension, 54% have not reviewed how much their pot is worth in the last 12 months, and 29% are not even aware that their DC pension is invested.[11]

Asking consumers to make an active choice — where they are forced to actively choose to either participate or not — can partially overcome inertia. One study reviewed a natural experiment: a firm had changed its processes, and found a change in the proportion joining

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[7] Bodie, Z., & Prast, H. (2012). Rational pensions for irrational people: Behavioral science lessons for the Netherlands. In Bovenberg, A. L., van Ewijk, C., & Westerhout, E. (Eds.), The future of multi-pillar pensions (pp. 299–329). Cambridge: Cambridge University Press.

[8] Smyrnis, G., Bateman, H., Dobrescu, L., Newell, B. R., & Thorp, S. (2019). *Motivated saving: The impact of projections on retirement saving intentions*. Available at SSRN 3464813.

[9] Chetty, R., Friedman, J. N., Leth-Petersen, S., Nielsen, T. H., & Olsen, T. (2014). Active vs. passive decisions and crowd-out in retirement savings accounts: Evidence from Denmark. *The Quarterly Journal of Economics*, *129*(3), 1141-1219.

[10] Jachimowicz, J. M., Duncan, S., Weber, E. U., & Johnson, E. J. (2019). When and why defaults influence decisions: A meta-analysis of default effects. *Behavioural Public Policy*, *3*(2), 159-186.

[11] Financial Conduct Authority (2021) *Financial Lives 2020 survey: the impact of coronavirus*, Retrieved 26 March 2021 from https://www.fca.org.uk/publication/research/financial-lives-survey-2020.pdf

a pension scheme. The firm's initial practice involved an active choice, whereby new employees were required to return a form nominating whether or not they wanted to join a pension scheme (i.e., the form was to be returned, along with a number of other legal forms, even if the employee declined to join). The new process instead required employees to call a number if they wished to join (which could be done at any time). The change away from an active choice decreased the enrolment rate by 28 percentage points, from 69% to 41%.[12]

Overall, inertia is a particularly important barrier to consider when attempting to increase engagement with anything to do with pensions. Peoples' general tendency towards inertia with respect to their pensions will be a key barrier in encouraging engagement with pensions dashboards, and the provision of dashboards alone is unlikely to overcome this inertia.

Present bias

Present bias is the tendency for people to prefer smaller rewards now than larger rewards later. This strong preference for present benefits (and a preference for avoiding present costs) makes engaging with pensions an unattractive proposition.[13] Pensions, by their very nature, have a payoff in the distant future and often require a sacrifice in the present (in the form of foregoing current income, or taking some effortful action to make a choice or decision).[14] By extension, people are more likely to focus more on their current needs if they perceive their retirement to be a very distant or uncertain event.[15] People are also more likely to focus on current needs to the detriment of their future retirement if they believe, to an unrealistic extent, they will earn significantly more in the future.[16] [17]

Present bias may be particularly acute for younger workers. For them, retirement is several decades away and may be too distant to be top of mind.[18] One small qualitative study conducted in 2015 of Generation Y men (born between 1980 and 2000) in the UK found that this cohort view retirement as both temporally and conceptually distant, and therefore not relevant.[19]

In addition, for young people, a key barrier to greater engagement with pensions is likely to be the fact that they simply have other, more pressing priorities. This may exacerbate the impact of present bias. Qualitative research in the UK suggests that a lack of disposable income and the desire to focus on other priorities such as purchasing a house mean that

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[12] Carroll, G. D., Choi, J. J., Laibson, D., Madrian, B. C., & Metrick, A. (2009). Optimal defaults and active decisions. *The quarterly journal of economics*, *124*(4), 1639-1674.
[13] Malkoc, S. A., & Zauberman, G. (2019). Psychological analysis of consumer intertemporal decisions. Consumer Psychology Review,2, 97–113.
[14] Boormans, S. (2017). *The relationship between life events and pension intentions, attitudes, and behaviour.*
[15] James, H., Price, D., Buffel., T. (2020). How do people think about later life when making workplace pension saving decisions? Journal of Aging Studies, 54(2020): 100869.
[16] Weinstein, N. D. (1980). Unrealistic optimism about future life events. *Journal of Personality and Social Psychology*, 39, 806-820.
[17] Krijnen, J., Angeles, L,. & Zeelenberg, M,. (2016). Overcoming inertia in retirement saving. Netspar Industry Series, Survey Paper 46.
[18] Foster, L. (2017). Young people and attitudes towards pension planning. *Social Policy and Society,* 16(1), 65–80.
[19] Shaw, K., & Waite, K. (2015). Exploring the pension 'X factor' for generation Y men. *Journal of Financial Services Marketing*, 20(2), 122-132.

pensions are not a high priority for young people (aged 25-39).[20] Similarly, recent survey data focused on young people in the UK (aged 22-29) highlighted a lack of income, the need to pay off debt, and saving for a major expense as the key barriers to additional pensions contributions.[21] It's important to note that some of these issues are more structural in nature, and so may not be something that the pensions industry can resolve, per se.

Friction costs

Seemingly small increases in the effort ("friction costs") required to perform a behaviour can make a surprisingly large difference to whether that behaviour takes place. These small hassles ("frictions") can exacerbate the tendency towards inertia, sticking with the default and procrastination.

One example of this effect comes from a trial with a government process, which found that a letter that directed readers to an online form directly, as opposed to a website that contained the link for the form (essentially removing the requirement to click on the link), increased the proportion completing the form from 19.2% to 23.4% — a relative increase of over 20%.[22]

There is typically effort involved in the process of accessing information about a pension. Doing so often requires setting up an account and password with the provider, and then providing additional information. Moreover, people may check their pensions relatively infrequently and so forgetting these details can increase the friction associated with engaging with their pensions.

A further point of friction may arise as a result of automatic enrolment. As automatic enrolment is now standard, the number of abandoned pension pots is projected to more than triple over the next fifteen years. This is because each new employer sets up a new pension for their employee, and as people move jobs throughout their life, they will accumulate more separate pension pots.[23] This is likely to become a growing issue in the future.

For example, Australia, which has had default pension contributions for several decades, has struggled with high numbers of people with multiple superannuation accounts (the Australian version of a pension pot). At one point, around 43% of Australians had multiple superannuation accounts, and even after years of concerted efforts (including public awareness campaigns and government websites to help consolidation) over a third of Australians have multiple accounts.[24] The hassle of tracking down information from multiple providers, and engaging with each of them, may deter engagement. Notably, well-designed pensions dashboards may help to overcome some of these friction costs — bringing

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[20] Pension Policy Institute (2018). *What limits workplace pension participation amongst threshold adults (aged 25-39 years)?*

[21] Behavioural Insights Team (2020) *Nudging for Retirement*, BIT report for Scottish Widows [Online]. Available at: https://www.bi.team/wp-content/uploads/2020/09/BIT-Scottish-Widows-Nudging-for-retirement-report-18-Sep.pdf

[22] Behavioural Insights Team (2014). *EAST: Four Simple Ways to Apply Behavioural Insights*.

[23] Pensions Policy Institute (2020). *Policy options for tackling the growing number of deferred members with small pot.*

[24] Australian Tax Office (n.d). *Super data: multiple accounts, lost and unclaimed super.* Retrieved March 24, 2021, from: https://www.ato.gov.au/About-ATO/Research-and-statistics/In-detail/Super-statistics/Super-accounts-data/Multiple-super-accounts-data/

together information about multiple pension pots in a single interface would eliminate some of the frictions that act as a barrier to pensions engagement.

Choice overload

Choice overload is the phenomenon whereby people can feel overwhelmed by the vast number of options available to them. People who feel overwhelmed may avoid making a choice altogether (choice aversion). Choice aversion can be exacerbated by regret aversion. Regret aversion is a phenomenon whereby people avoid making decisions that they believe they may come to regret.[25] The pensions landscape can be quite complex with a vast array of choices. For example, there are a range of different pension providers, and within the providers, there are a range of different investment options from asset allocation to contribution amounts. Choice overload can therefore also exacerbate people's tendency towards inertia and thus the default.

More generally, a broad meta-analysis shows that choice aversion is more likely if the task is difficult, the choice set is complex, and consumers do not have a strong preference (for example, because they lack expertise).[26] All of these are features that can describe decisions with respect to pensions. Within the pensions domain, studies have found a negative correlation between the number of investment options available and overall pension plan participation.[27] In one study, every 10 fund options added to a pension plan was associated with a 1.5% to 2% drop in participation rate.[28] Hence the complexity of the task, coupled with a seemingly satisfactory default, means that many may choose not to engage.

This is particularly relevant when considering the design of pensions dashboards — a balance needs to be struck between providing information that consumers desire and find useful, and providing too much information that is difficult to understand or is confusing. One study that looked at how consumers choose energy plans found that consumers had lower confidence in fact sheets that didn't have detailed pricing information — but if the detailed pricing information was the first thing they saw, it led to them making worse decisions.[29] That is, detailed and complex information may be necessary to include as a part of dashboards (as otherwise consumers will lack confidence in the dashboards), but it should not be the first thing that consumers are presented with (as they will struggle to use it).

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[25] Krijnen, J., Angeles, L,. & Zeelenberg, M. (2016). Overcoming inertia in retirement saving. Netspar Industry Series, Survey Paper 46.
[26] Chernev, A., Böckenholt, U., & Goodman, J. (2015). Choice overload: A conceptual review and meta-analysis. *Journal of Consumer Psychology*, *25*(2), 333-358.
[27] Benartzi, S., & Thaler, R. (2007). Heuristics and biases in retirement savings behavior. *Journal of Economic perspectives*, *21*(3), 81-104.
[28] Iyengar, S.S., Huberman, G., Jiang, W. (2004). How much choice is too much: determinants of individual contributions in 401K retirement plans, in: Mitchell, O.S., Utkus, S. (Eds.), Pension design and structure: new lessons from behavioral finance. Oxford University Press, Oxford, England, pp. 83-95.
[29] Behavioural Insights Team (2018), *Review of the Basic Plan Information Document*

Lack of knowledge or ability

A key barrier to engagement is the lack of financial literacy or knowledge, or limited ability to engage with a complex subject such as pensions. There is an abundance of evidence that this is the case and it's likely to exacerbate all other barriers highlighted in this section.[30] [31]

One survey found that over 40% of young workers are looking for advice from their employers on retirement, which may suggest that some lack the knowledge and confidence to engage with pensions.[32] An online experiment in the United States found participants with low financial knowledge (which tended to be women with lower salaries and less education) were 10 times more likely to opt for the default allocation of investments than participants with high financial knowledge (20% and 2% respectively). Moreover, participants with low financial knowledge suffered information overload even when investment information was standardised and fewer choices were offered.[33]

Further, analysis of longitudinal data in the Netherlands found that pension knowledge has a positive causal effect on active pension decision-making. When keeping pension knowledge constant, they did not find much evidence of a direct effect of providing pension information on active pension decision-making.[34] This suggests that if someone has a lack of fundamental, underlying pension knowledge, then providing further information to that person may not encourage them to engage more actively with their pension.

Given a lack of knowledge and the complexity of the task, many people may suffer from a degree of risk aversion, where they simply do not engage as they are afraid that they may make a mistake. This might in part be because the assumption is that the default has been set by someone who is an expert, or who is more knowledgeable than them (see section on defaults, above). Indeed, a person with low perceived financial literacy (low confidence about their own financial knowledge) is less likely to engage with their pension than someone with high perceived financial literacy, even if they both have the same objective financial literacy.[35] As such, rather than engaging substantively, it is likely that many consumers use rules of thumb to guide their decisions. For example, data suggests that many consumers will be influenced by information on suggested savings amounts, the behaviour of peers, or even factual information about thresholds for incentives. In fact, in the absence of other information, contribution rates tend to cluster around "round" figures such as 5% or 10%.[36]

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[30] Lusardi, A., & Mitchell, O. (2011). Financial Literacy and Retirement Planning in the United States. Journal of Pension Economics and Finance 10(4): 509-525.
[31] Van Rooij, M.C.J., A. Lusardi & R. Alessie (2011). Financial Literacy and Retirement Planning in the Netherlands, Journal of Economic Psychology, 32, 593-608.
[32] AON (2018) Living the Dream? Aon DC and Financial Wellbeing Member Survey 2018
[33] Agnew, J. R., & Szykman, L. R. (2005). Asset allocation and information overload: The influence of information display, asset choice, and investor experience. *The Journal of Behavioral Finance*, *6*(2), 57-70.
[34] Debets, S., Prast, H., Rossi, M., & van Soest, A. (2020). Pension communication, knowledge, and behaviour. *Journal of Pension Economics & Finance*, 1-20.
[35] Allgood, S., & Walstad, W. B. (2016). The effects of perceived and actual financial literacy on financial behaviors. Economic Inquiry, 54(1), 675–697.
[36] Benartzi, S., & Thaler, R. (2007). Heuristics and biases in retirement savings behavior. *Journal of Economic perspectives*, *21*(3), 81-104.

Whilst many are likely not confident in their abilities, and therefore avoid making a decision or simply rely on the default, there may also be a small number who are in fact overconfident (but still lack knowledge and/or ability).[37] One qualitative study of young men found that they were confident that they would earn higher salaries in the future, and so postponed retirement planning until then.[38]

[37] Angrisani, M., & Casanova, M. (2019). What you think you know can hurt you: under/over confidence in financial knowledge and preparedness for retirement. *Journal of Pension Economics and Finance*, 1-16.
[38] Shaw, K., & Waite, K. (2015). Exploring the pension 'X factor' for generation Y men. *Journal of Financial Services Marketing*, 20(2), 122-132.

Increasing engagement with pensions and dashboards

Research questions covered in this section

➢ What works in increasing people's engagement with their pensions (with a particular focus on what works for individuals with different characteristics e.g., those with protected characteristics under the Equality Act)

This section focuses on techniques that could be used to increase engagement with dashboards — this includes techniques for engaging people with dashboards, as well as considering broader communications to encourage initial sign-ups to dashboards or to support ongoing engagement and repeat visits.

We start by considering differences among different demographic groups. Then move on to discuss ways of overcoming the barriers to engagement outlined in the previous section, including prompting people at timely moments, making the future more salient, simplifying and removing frictions, and providing rules of thumb. Finally, we discuss other principles from behavioural insights that could be applied to increase engagement, including personalisation, social norms and loss framing.

Differences in demographic groups

Unsurprisingly, usage statistics of international pensions dashboards indicate that peak usage tends to occur near retirement. Women also tend to use pensions dashboards less than men[39] [40] - it is not clear why, though this may be due to more men having pensions/more valuable pension arrangements. When surveyed, younger age groups are less likely to have heard of their countries' pensions dashboard, but in principle are in favour of a digital dashboard (as opposed to a physical letter) to provide pensions information.

For example, in the Netherlands, the pensions dashboard, My Pension Overview (MPO), was most visited by people between the ages of 45 and 65, with a peak between the ages of 61 and 65, (i.e., people who are about to retire).[41] Indeed, of those that have visited the MPO, the most common reason for logging on was an upcoming retirement (within three years).[42] The number of female visitors was lower than the number of male visitors.[43] A study in 2018 found that familiarity was greater among older people of working age (55-64) than

[39] Mypension.be. (n.d). Qui nous rend visite? À quelle fréquence? Retrieved March 24, 2021, from: https://www.10jaarmypension.be/fr/stat.html
[40] Stichting Pensioenregister. (n.d). *Mijnpensioenoverzicht.nl.* Retrieved March 24, 2021, from: https://pensioenregister.nl/mijnpensioenoverzicht
[41] Stichting Pensioenregister. (n.d). *Mijnpensioenoverzicht.nl.* Retrieved March 24, 2021, from: https://pensioenregister.nl/mijnpensioenoverzicht
[42] Stichting Pensioenregister. (n.d). *Belangrijke conclusies onderzoeksrapport Motivaction 2019.* Retrieved March 24, 2021, from: https://pensioenregister.nl/rapportage-bekendheid-en-waardering-motivaction-def.pdf
[43] Stichting Pensioenregister. (n.d). *Mijnpensioenoverzicht.nl.* Retrieved March 24, 2021, from: https://pensioenregister.nl/mijnpensioenoverzicht

among younger people (18-24), with 80% and 64% in the respective groups having heard of MPO.[44] This is supported by evidence from Belgium from 2017, which shows that people between the ages of 46 and 65 make up 66% of visitors to their pension dashboard, with a peak between the ages of 56 and 65. Only 10% of people that visit the dashboard are 35 or younger. More men (57%) access the dashboard than women (43%).[45]

Some research has found differences between age groups in terms of the methods of communications that are most preferred, though this is not consistent. Aon surveyed over 1,000 of their members in the UK in 2018, and found the most popular method for receiving communications about their retirement savings was email, followed by a letter in the mail. Social media and text messages were not popular methods for receiving communications. This was consistent across age groups.[46] However, in Sweden, survey evidence from 2018 shows that people older than 55 prefer the physical copy of the Orange Envelope (as opposed to the digital dashboard equivalent – both of which provide a holistic view of all pension savings) to a larger extent than younger individuals. Only 44% of individuals over the age of 55 preferred the dashboard, whereas 58% of those aged 29-54 and 70% of those aged 18-28 preferred the dashboard.[47]

Key gap: These statistics are based on survey data measuring preferences so may not reflect actual behaviour. There are also likely to be further differences that have not been sufficiently explored.

The only other notable information on subgroups appears to be the fact that those with lower financial literacy tend to be less likely to take action. For example, Israel's national campaign to promote its pensions dashboard appeared to have minimal effect, and largely seemed to encourage those of higher socioeconomic status in more urban and central locations to take action (see Case Study 2: Israel, below).[48] This suggests that extra efforts may be needed to support those with lower financial literacy — a group who are already challenging to engage with pensions.

Key gap: Evidence suggests that different subgroups have different propensities to engage with pensions dashboards. However, little evidence exists about how to encourage specific subgroups to engage more with online dashboards.

[44] Stichting Pensioenregister. (n.d). *Belangrijke conclusies onderzoeksrapport Motivaction 2019.* Retrieved March 24, 2021, from: https://pensioenregister.nl/rapportage-bekendheid-en-waardering-motivaction-def.pdf
[45] Mypension.be. (n.d). Qui nous rend visite? À quelle fréquence? Retrieved March 24, 2021, from: https://www.10jaarmypension.be/fr/stat.html
[46] AON (2018) *Living the Dream?* Aon DC and Financial Wellbeing Member Survey 2018
[47] del Carmen Boado-Penas, M., Settergren., O., Ekheden, E., & Naka, P. (2020). *"Sweden's Fifteen Years of Communication Efforts"*. World Bank.
[48] Rosen, M. H., & Sade, O. (2017). *Does financial regulation unintentionally ignore less privileged populations*. Bank of israel research department.

Case study 2: Israel

Israel conducted a national campaign (titled "Money Mountain") to recommend the use of a centralised internet portal (to help people find inactive retirement plans and withdraw inactive funds). Evidence suggests it did not have the desired effect; it did not result in many withdrawals, and those who did withdraw were mainly of higher socioeconomic status who lived in central locations.[49]

Notably, those with low financial literacy and confidence in their knowledge of retirement planning and the unemployed were less likely to have been aware of the communications. However, there is evidence that more personalised efforts such as an email with a video (with information presented by a professional actor) can significantly increase engagement (in this case, visiting the relevant website).[50]

Prompting people at timely moments

One of the key barriers to pension engagement is that people generally lack a prompt or impetus to engage with pensions and hence the default is typically to not engage with pensions (inertia, discussed in the previous section). There is evidence that people are more likely to take action at certain times of the year or certain times in their lives. As such, prompting people at particular times of the year or during key moments in their life may help to increase engagement with pensions dashboards. For example, there is evidence that "fresh start" events are associated with increases in aspirational behaviour. Searches for "diet" are most frequent at the beginning of the week, month, and year. Similarly, the probability of visiting the gym increases at the beginning of a new week (by 33.4%), month (by 14.4%), year (by 11.6%), and semester (by 47.1%).[51]

This appears to work in the pensions space as well — an email with personalisation, a "fresh start" (New Year), loss framing and clear action steps increased re-enrolment in a retirement savings plan among active duty Armed Forces members in the United States (from 23.5% to 28.7%).[52] Using data from the UK-based pension fund National Employment Savings Trust (NEST), a Master's student from Maastricht University undertook an analysis of the relationship between certain life events and pension engagement, finding similar results. Individuals who had married in the previous three years logged on to the pension platform more often than those who hadn't. Similarly, they found that divorce induced an increase in login intentions along with an increase in positive attitudes towards pensions, and finally the event of childbirth resulted in more positive intentions regarding additional contributions.[53] Research by the Money Advice Service and Ipsos MORI further found that people with

[49] ibid.
[50] Rosen, M. H., and Sade, O., (2020) *Investigating the Introduction of a Regulatory Fintech Advancement Designed to Reduce Limited Attention Regarding Inactive Saving Accounts – Data, Survey, and Field Experiment*, SSRN working paper.
[51] Dai, H., Milkman, K. L., & Riis, J. (2014). The fresh start effect: Temporal landmarks motivate aspirational behavior. *Management Science, 60*(10), 2563-2582.
[52] Office of Evaluation Sciences. (2015) *Servicemember Roth TSP Re-Enrollment.*
[53] Boormans, S. (2017). *The relationship between life events and pension intentions, attitudes, and behaviour.*

children spoke about “pension guilt”; feeling like they needed to plan for the future as they had dependents.[54]

More generally, there may be scope to use certain moments of change or key life events (such as the start of a new job, a pay rise, or moving house) as a prompt to engage with pensions. Pensions providers may be able to detect a change in employer, pay, or address — these would offer timely moments to prompt people to engage with their pensions and/or dashboards.

Alternatively, there may be scope to direct people into the process through other timely channels. A large media push could build awareness, but this is likely to only be effective as a one-off tool — whilst the initial launch of the Orange Envelope in Sweden was coupled with a large media campaign that saw nearly two-thirds of the population switch out from the default option, in subsequent years the proportion has declined to 1-2%.[55] And these media pushes may not always be effective — Israel’s media push largely helped those who were already well-off and with high financial literacy (see Case Study 2: Israel). However, whilst these key moments of change or life events offer “teachable moments”, they are short-lived and must be acted on quickly. Communications are needed to trigger a behavioural change at these key moments (rather than relying on the life events themselves to trigger behaviour change). Importantly, different life events have different impacts, and the same event may be experienced differently by different people. For example, moving to a new house might be driven by a range of factors, some of which are positive whilst others are negative. [56]

Relevance for pensions dashboards

One approach, perhaps most relevant to pensions dashboards, would be to find ways to direct people to dashboards from other sources — pension providers could themselves have links to dashboards on their own websites and portals. For example, in the Netherlands, the number of visits to Mijnpensioenoverzicht, translated as My Pension Overview (MPO), increased to 9.9 million in 2019, an increase of more than 24% compared to 2018. According to Stichting Pensioenregister, which hosts the MPO, this increase is partly due to referrals from the online environments of the pensions sector and Stichting Pensioenregiste’s ongoing social media campaign.[57] In 2019, a survey of Dutch residents showed that a quarter (24%) of respondents had heard of MPO from the annual pension statement they received from their provider.[58]

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[54] Ipsos, M. O. R. I., Elliott, A., & Vlaev, I. (2014). *Money Lives: the financial behaviour of the UK*. Money Advice Service. London, UK.
[55] Cronqvist, H., Thaler, R. H., & Yu, F. (2018, May). When nudges are forever: Inertia in the swedish premium pension plan. In *AEA Papers and Proceedings* (Vol. 108, pp. 153-58).
[56] Blakstad, M., Bruggen, E., Post, T. (2017) *Life Events and Participant Engagement in Pension Plans.* Netspar, The Netherlands.
[57] Stichting Pensioenregister. (n.d). *Mijnpensioenoverzicht.nl.* Retrieved March 24, 2021, from: https://pensioenregister.nl/mijnpensioenoverzicht
[58] Stichting Pensioenregister. (n.d). *Belangrijke conclusies onderzoeksrapport Motivaction 2019.* Retrieved March 24, 2021, from: https://pensioenregister.nl/rapportage-bekendheid-en-waardering-motivaction-def.pdf

Key gap: Whilst the general principle of using timely moments is well established, the specific moments that are likely to be most effective are still unclear, particularly for pensions (i.e., is it better to contact someone at the start of a new year vs when they start a new job or when they move house?).

Making the future more salient

Another of the key barriers to pension engagement is the fact that people focus on the present (present bias, discussed in the previous section). This is exacerbated by the fact that they often struggle to identify with their future self — they see their future self as a different person, which makes it harder to save, because by saving, they are effectively taking money away from themselves in the moment and giving it to "someone else" (i.e. their future self).

One strategy to overcome this is to help people associate with their future selves — this appears to increase engagement with pensions in a number of ways. One technique involves asking individuals to pause and reflect on their future or their life after retirement. This might involve asking them to write a short essay about the legacy they want to leave,[59] asking them to review a short statement about their future goals,[60] or simply asking them to reflect on their life after work.[61] Each of these has been shown to increase intentions to increase retirement savings, even for those under the age of 30.

Another technique involves encouraging workers to think about their family — this increases the proportion of workers who make a voluntary contribution to their retirement (from 0.49% to 0.71%).[62] Note, however, this appears to backfire for those under the age of 30 — this is likely because "family" is likely to have a different meaning for those over 30 (who are more likely to have a spouse and dependent children who may need support in the future), compared to those under 30.

More broadly, making the future benefits more salient can also have an impact on engagement with pensions. In the United States, the Office of Evaluation Sciences found that a letter that clarified the steps needed to enrol in a Thrift Savings Plan and emphasised the potential long-term benefits of saving even a little each month increased enrolment of active service members (from 4.41% to 8.71%).[63]

A novel approach to this problem uses technology to overcome the gap between the present and the future. Using software, some researchers have invited consumers to take a photo of themselves and then view a version of the photo that has been artificially aged. This helps the consumer to more easily visualise their future self. This has been shown in experimental

[59] Zaval, L., Markowitz, E. M., & Weber, E. U. (2015). How will I be remembered? Conserving the environment for the sake of one's legacy. *Psychological science*, *26*(2), 231-236.
[60] Fertig, A., Fishbane, A., & Lefkowitz, J. (2018). *Using behavioral science to increase retirement savings in Mexico.* Ideas42.
[61] Behavioural Insights Team (2020). *Nudging for Retirement*, BIT report for Scottish Widows [Online]. Available at: https://www.bi.team/wp-content/uploads/2020/09/BIT-Scottish-Widows-Nudging-for-retirement-report-18-Sep.pdf
[62] Fertig, A., Fishbane, A., & Lefkowitz, J. (2018). *Using behavioral science to increase retirement savings in Mexico.* Ideas42.
[63] Office of Evaluation Sciences. (2015) *Servicemember TSP Enrollment.*

settings to increase intentions to save for retirement (from 5.20% of current pay to 6.76%).[64] It has also been shown to increase one-off contributions to pension plans in the field (an increase from 1.5% to 1.7% of account holders making a one-off contribution in a given month).[65]

Relevance for pensions dashboards

When trying to encourage consumers to engage with dashboards and trying to overcome present bias (particularly when encouraging them to sign up or take some specific action), one method may involve finding ways to help them associate more with their future self. Again, communications to engage consumers with dashboards may be beyond the scope of the work of the PDP, but may be relevant for other stakeholders to consider.

Simplifying and removing frictions

As described in the previous section, a key barrier to engagement with pensions is the complexity of the decision and the substantial mental effort required to engage with the financial concepts involved (friction costs and choice overload). Hence, finding ways to streamline or simplify the process of dealing with pensions can help substantially — both in terms of making the decision easier, but also in terms of reducing friction costs in a process.

For example, in the USA, simplifying enrolment for retirement savings programs by having a pre-set option that could be selected with one tick (rather than asking separately about preferences for joining, contribution rates and asset allocation) increased participation rates in retirement savings from 9% to 34%.[66]

Similarly, simplifying a pensions “wake-up” pack in the UK by reducing the pack to one A4 page that included all the essential information that a customer needed to access open market options and a clear call to action around next steps increased the likelihood of visiting the Pension Wise website by 9.8 percentage points (from 1.1% to 10.9%). The simplified information also increased the likelihood of calling the Pension Wise booking line by 3.5 percentage points (from 5.2% to 8.7%).[67]

More broadly, efforts to reduce frictions in a process have been shown to have substantial benefits when encouraging program take up. In other examples from the USA, pre-filling applications for college financial aid using tax return data significantly increases the rate of low-income students that complete this application (from 40.2% to 55.9%) and ultimately attend college.[68] Also, providing personalised cost information on different healthcare plans

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[64] Hershfield, H. E., Goldstein, D. G., Sharpe, W. F., Fox, J., Yeykelis, L., Carstensen, L. L., & Bailenson, J. N. (2011). Increasing saving behavior through age-progressed renderings of the future self. *Journal of Marketing Research*, *48*(SPL), S23-S37.

[65] Fertig, A., Fishbane, A., & Lefkowitz, J. (2018). *Using behavioral science to increase retirement savings in Mexico.* Ideas42.

[66] Carroll, G. D., Choi, J. J., Laibson, D., Madrian, B. C., & Metrick, A. (2009). Optimal defaults and active decisions. *The quarterly journal of economics*, *124*(4), 1639-1674.

[67] Glazebrook, K., Larkin, C. and Costa, E. (2017). *Improving engagement with pension decisions: The results from three randomised controlled trials*. The Behavioural Insights Team.

[68] Bettinger, E. P., Long, B. T., Oreopoulos, P., & Sanbonmatsu, L. (2012). The role of application assistance and information in college decisions: Results from the H&R Block FAFSA experiment. *The Quarterly Journal of Economics*, 127(3), 1205-1242

directly to individuals (as opposed to requiring them to find it themselves) significantly increases plan switching by 11 percentage points (from 17% to 28%), saving consumers on average £100 a year.[69]

Relevance for pensions dashboards

Finding ways to streamline processes and make them as simple and frictionless as possible will likely have the biggest impact on increasing engagement with pensions dashboards. This might involve, for instance, only requiring consumers to provide the minimum information required for identification purposes when initially signing up.

Providing rules of thumb

Rules of thumb are particularly helpful when lack of knowledge or ability is a barrier, as described in the previous section. For example, a study in the Dominican Republic found that providing simplified financial literacy training to individuals and micro-entrepreneurs produced significant improvements in business practices and outcomes.[70] The simplified training taught basic heuristics and rules of thumb to manage finances, compared to the standard training which taught fundamentals-based accounting. The results were particularly pronounced for micro-entrepreneurs who initially showed poor financial literacy.

The Institute and Faculty of Actuaries (IFoA) has developed a series of rules of thumb to help guide savers on how best to prepare for retirement.[71] Representative UK polling from the IFoA shows that 44% of UK workers think that rules of thumb or savings guidelines accessed online or through their employer could be a helpful tool for retirement planning and pension saving.[72] The Financial Advice Working Group for HM Treasury and the Financial Conduct Authority (FCA) has also developed the “Financial Five” rules of thumb to help improve the financial wellbeing of UK consumers, one of which relates to pensions.[73]

Key gap: To our knowledge, these rules of thumb have not been empirically tested with consumers, and there is no evidence about their effectiveness. Other rules of thumb, such as those developed by the FCA, have had some qualitative work conducted, but do not appear to have robust quantitative evidence for the specific formulations developed by the FCA.

The Pensions and Lifetime Savings Association (PLSA) recommends dashboards include a set of easy-to-understand retirement income targets; three target levels, based on a basket of goods approach.[74] The three target levels are for a “minimum”, “modest” and

[69] Kling, J. R., Mullainathan, S., Shafir, E., Vermeulen, L. C., & Wrobel, M. V. (2012). Comparison friction: Experimental evidence from Medicare drug plans. *The quarterly journal of economics*, *127*(1), 199-235.
[70] Drexler, A., Fischer, G., & Schoar, A. (2014). Keeping it simple: Financial literacy and rules of thumb. *American Economic Journal: Applied Economics*, *6*(2), 1-31.
[71] Hyams, S. D., Smith, A. E., Squirrell, C. M., Warren, G. J., Warren, O. H., & Willetts, P. J. (2020). Saving for retirement: rules of thumb. *British Actuarial Journal*, 25.
[72] Institute and Faculty of Actuaries. (2019). *Savings Goals for Retirement.* Policy briefing.
[73] Financial Advice Working Group for HM Treasury and the Financial Conduct Authority (2017). *Rules of Thumb and Nudges: Improving the financial wellbeing of UK consumers*. https://www.fca.org.uk/publication/research/fawg-rules-of-thumb-nudges.pdf
[74] PLSA (2018). *Hitting the target: A Vision for Retirement Income Adequacy.* Final Recommendations.

"comfortable" retirement. PLSA research has shown that 70% of people believe that retirement income targets would encourage them to save more for retirement, and 74% of people believe that retirement income targets would make it easier to plan for retirement.[75] Targets such as these have also been developed in Australia.[76]

Figure 1: Retirement standards developed by the Association of Superannuation Funds of Australia.[77]

	Modest lifestyle		Comfortable lifestyle	
	Single	Couple	Single	Couple
Total per year	$28,179	$40,739	$44,224	$62,562

Key gap: The impact of showing users specific information on retirement income targets has not been tested. Drawing on the above, one strategy could be to show how a saver's current trajectory tracks against the PLSA targets. This has also been recommended by the PLSA. Ideally, the effect of showing users their current trajectory against the PLSA targets should be tested to see what effect it has on user behaviour, as it is possible the targets may decrease engagement if they feel unattainable to users.

Personalisation

In general, finding ways to personalise information makes that information more salient and relevant to people, increasing the likelihood that they will engage. Obviously, dashboards will by definition be personalised — but in order to get people to use dashboards, some of that information may need to be put into communications that are directed at prospective users. This is likely beyond the scope of the work of the PDP, but may be relevant for stakeholders in the broader pensions dashboards sector to consider.

For example, the Financial Conduct Authority in the UK found reminder letters sent to pension holders that also highlighted there was an available appointment for them increased the number of pension holders who called the free Pension Wise service (from 8% to 12%).[78] A key feature of the "wake-up" pack simplification described above was that the information was highly personalised, with key information that was relevant to the individual provided clearly (such as fund value, provider name and reference numbers).[79]

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[75] ibid.
[76] Moneysmart.gov.au. (n.d). *How much super you need.* Retrieved March 24, 2021, from: https://moneysmart.gov.au/grow-your-super/how-much-super-you-need#:~:text=Modest%20lifestyle&text=ASFA%20estimates%20that%20the%20lump,%24545%2C000%20for%20a%20single%20person
[77] The Association of Superannuation Funds of Australia. *ASFA Retirement Standard*. https://www.superannuation.asn.au/resources/retirement-standard
[78] Adams, P. Ernstsone, E. (2018). *Testing retirement communications: Waking up to get wise*
[79] Glazebrook, K., Larkin, C. and Costa, E. (2017). *Improving engagement with pension decisions: The results from three randomised controlled trials.* The Behavioural Insights Team.

More broadly, personalisation has been shown to be effective in engaging consumers across a range of policy fields when communicating with them — techniques such as including the names of people being contacted, using personal information, and tailoring communications to different groups have all been shown to be effective.[80]

Relevance for pensions dashboards

As noted, pensions dashboards will by definition be personalised. Finding ways to maximise this personalisation — for example, allowing people to make their own projections based on their personal assumptions or situation — could help to increase engagement with dashboards. And when communicating with consumers to induce them to engage with dashboards, a key tactic will be personalising the information that is sent to them.

Social norms

There are a limited number of studies on the use of social norms in pensions communications, and these studies also show mixed results. One pension provider in the Netherlands sent postcards to plan members to encourage them to log in to their personal pension environment. Postcards that showed the total number of visits to the pension environment, including a compliment to recipients for their effort of actively engaging with their pension and a photo of someone accessing their personal pension environment, were shown to increase visits to personal pension environments from 1.71% to 2.23% compared to postcards that did not contain these features.[81]

Similarly, another pension provider in the Netherlands sent emails to plan members which included information on which pension-related magazine section is most read by a peer group. Different peer groups were tested to see which version resulted in greater click-throughs to pension information. Referencing a generic peer group did not increase click-throughs, but referencing a work-sector peer group or referencing a peer group of the same age or older increased click-throughs depending on whether participants were more sensitive to normative of informational influence.[82]

In contrast, in a field experiment in the U.S, researchers tested the impact of providing peer information to employees not enrolled in a 401(k) plan or with a low savings rate. A 401(k) plan is a tax-advantaged, defined-contribution retirement account offered by many employers to their employees. It is named after a section of the U.S Internal Revenue Code. Employees were sent forms to enrol or to increase their contributions to 6%, with some forms randomly allocated to include the percentage of age-matched co-workers participating in the plan, or contributing at least 6% of their pay.

They found the peer information *discouraged* some employees, observing fewer enrolments and fewer increases to contributions from those who received the peer information. For those employees with a 0% contribution rate default, receiving peer information significantly reduced the likelihood of subsequently enrolling in the plan from 9.9% to 6.3%. This

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[80] Behavioural Insights Team (2014). *EAST: Four Simple Ways to Apply Behavioural Insights*.
[81] Augustus-Vonken, J., Verhallen, P., Brüggen, L., & Post, T. (2019) *Using social norms to activate pension plan members: insights from practice.*
[82] Ibid.

oppositional reaction is particularly apparent amongst employees with low relative incomes, that is employees who earn less than the median salary of employees from the same firm in the same U.S. state. The authors hypothesise that making their relative economic status more apparent decreased the motivation of lower income employees to save.[83]

Building on these and other studies, Netspar (the Network for Studies on Pensions, Aging and Retirement) provides some useful guidelines for using social norms. These can be summarised as follows:

1. The social norm should specifically reference the target behaviour, and not other, related behaviours
2. The nature of the norm presented must be realistic — if not, it risks the norm being ineffective or even backfiring
3. The group that is selected for the norm should be one that the target individual closely identifies with — the closer the identification to the group, the more powerful the norm is likely to be
4. Care should be taken to consider any possible "boomerang" effects — for example, whilst those who are below the norm may increase their engagement in response to seeing information about the overall group average, those who are already above the norm may end up *decreasing* their behaviour to match the norm. Hence, the way that information is presented, and to whom, needs to be carefully thought through[84]

Loss framing

There are some studies that have looked at changing the framing in pension communications to improve engagement, particularly emphasising the potential losses of not taking action. The studies that have been conducted in this area show varying results, but there appears to be some evidence in favour of framing inaction and a lack of engagement as a potential loss.

For example, following a 2016 pension rule change in the Netherlands (The Improved Contribution Scheme Act), researchers tested the best way of communicating this change with pension participants. The researchers found that, in two field studies with large pension providers, loss framing was more successful at changing consumer behaviour than profit framing (highlighting the potential profits from visiting their profile) or social comparison framing (describing how many others were visiting their profiles). The loss framing increased the number of participants who visited their profile on their pension providers online site to avoid future losses (from 10.7% to 12.6%). The loss framing was also more likely to encourage participants to change their pension arrangements but these choices were no more/less risky than prior to the communication.[85]

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[83] Beshears, John, James J. Choi, David Laibson, Brigitte C. Madrian, and Katherine L. Milkman. 2015. The effect of providing peer information on retirement savings decisions. *The Journal of Finance* 70: 1161–201.

[84] Augustus-Vonken, J., Verhallen, P., Brüggen, L., & Post, T. (2019) *Using social norms to activate pension plan members: insights from practice.*

[85] Van Putten, M., Van Loon, R. P., Turlings, M., Van Dijk., E. (2018). *Framing in pensioenkeuzes Het effect van framing in de keuze voor beleggingsprofiel in DC-plannen naar aanleiding van de Wet verbeterde premieregeling*. (Translated: Framing in retirement choices The effect of framing in the

In contrast, in an online study in the Netherlands, researchers tested the effect of different videos on participants' intentions to acquire information about their own pensions. The researchers found a loss frame (i.e., the potential lost money if they didn't take action) was no more effective than a gain frame (i.e., the potential financial gains if they did take action) in increasing intentions to acquire pension information.[86] However, given that this trial was a small online trial and is based on intentions, it is likely that the results are not as reliable as the trials noted above (which were conducted in the field and tracked actual behaviour).

choice of investment profile in DC plans as a result of the Improved Contribution Scheme Act). Netspar Industry Series, Design Paper 112.

[86] Braun, A. K. (2018). *Exploring the persuasive effects of narratives and framing on the intention to acquire pension information.*

Optimal functionality of dashboards (the "what")

Research questions covered in this section:

- What the user needs are for digital pensions dashboards
- What information do individuals need to see about their pensions (on digital dashboards) to increase their engagement
- What functionality will help to increase people's engagement with pensions
- What user behaviours are in relation to dashboards (e.g., tolerance for incomplete dashboards i.e., not all pensions showing)
- What has worked for dashboards similar to the PDP proposition – a digital dashboard with multiple interfaces

This section focuses on the functionality of pensions dashboards, including what information they should ideally contain, their level of interactivity and user tolerance for incomplete information.

Content

Important information

Consumer research published in the UK in 2017 by the Money Advice Service (MAS) found people want to see information on a pensions dashboard that will help them to make decisions or take action on their pensions.[87] The information seen as most important by users was their projected monthly or weekly pension income, as this helps them get an idea of what their lifestyle will be like in retirement. This finding is supported by a number of research studies which found forecasted income is most valued by users.[88,89] Note that in some cases, the items may have been identified as the most popular from a pre-selected list that respondents prioritised, and hence express relative rather than absolute importance.

Key gap: There is some evidence that consumers find it difficult to understand projections when they include things like inflation and projected wage growth.[90] However, more research is needed to identify what elements should be included in projections, particularly whether projected incomes should be presented in current monetary terms, or actual monetary value at the time of retirement.

Information on projected balances and income levels is generally found to increase engagement with pensions. Hence, providing information about current and future balances, as well as projected retirement incomes, is likely to enhance a dashboard.

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[87] Saint-Warrens, S., & Allen, N., (2017) *Pensions Dashboard Research*, 2CV research report prepared for Money Advice Service.
[88] OIX (2016) *Creating a Pensions Dashboard: Pensions Finder* Alpha White Paper
[89] AON (2018) *Living the Dream?* Aon DC and Financial Wellbeing Member Survey 2018
[90] del Carmen Boado-Penas, M., Settergren., O., Ekheden, E., & Naka, P. (2020). *"Sweden's Fifteen Years of Communication Efforts"*. World Bank

One field study in the U.S. found that adding income and balance projections when directly contacting employees about their pensions increased the likelihood that employees would increase their pension contributions (from 4.1% to 5.5%).[91] Note that the income projections were coupled with information about retirement and pensions planning, suggesting that projections may need to be coupled with additional information to be effective.

Research from Australia provides further evidence that projected balances and projections of retirement income can increase engagement. In this case, engagement involved participants electing to save more in a hypothetical online experiment.[92] Similarly, evidence from Germany suggests that providing information about projected retirement incomes can increase savings for retirement; the introduction of a letter with this information increased the proportion of adults with a retirement account by an estimated 1.5 percentage points. Whilst this may seem small, it is important to note that this represents a roughly 5.5% increase, and when applied across a whole population, represents several hundred thousand people. .[93]

Projected pension income is already available on the main dashboard in Sweden, and appears to be popular (see Case Study 3: Sweden).

Case study 3: Sweden

The Swedish pension dashboard, MinPension, offers a pension forecast tool, enabling users to project their pension benefits based on their current earnings and contributions. Users can also project their pension benefits based on a hypothetical change in their salary or contributions.

As of 2019, the MinPension dashboard had 3.8 million users (Sweden has an adult population of 8.15 million), who in turn create over 26 million forecasts a year.[94]

Key gap: The actual impact of these specific features does not appear to have been released publicly.

[91] Goda, G. S., Manchester, C. F., & Sojourner, A. J. (2014). What will my account really be worth? Experimental evidence on how retirement income projections affect saving. *Journal of Public Economics*, *119*, 80-92.
[92] Smyrnis, G., Bateman, H., Dobrescu, L., Newell, B. R., & Thorp, S. (2019). *Motivated saving: The impact of projections on retirement saving intentions*. Available at SSRN 3464813.
[93] Dolls, M., Doerrenberg, P., Peichl, A., & Stichnoth, H. (2018). Do retirement savings increase in response to information about retirement and expected pensions?. *Journal of Public Economics*, 158, 168-179.
[94] John, D. C., Enda, G., Gale, W. G., Iwry, J. M. (2020). *A Retirement Dashboard for the United States.* Brookings.

Key gap: Consumer survey evidence can indicate what functionalities users might want the most, which can be very useful. However, very little published data provides insight into the functionalities that users actually use once they access a dashboard. There is not even much experimental data on what users might hypothetically use in an online dashboard environment. Indeed, even within the qualitative evidence, there is limited evidence as to what information users think they might prefer or prioritise.

Other key information

The consumer research on pensions dashboards conducted for MAS found users also want the following information in order to help them make a decision about their pensions:[95]

- Total pension pot and income valuation
- Death benefits
- Guaranteed annuity rates
- Pension status
- Scheme number

In addition, users identified they would like to be able to view and amend their details held by pension providers, such as their address and contact details and their list of beneficiaries.

The previously mentioned Aon survey of over 1,000 of their members in the UK found other information that users want to know about their pensions (in order of popularity, and reflecting the approximate proportion that selected each option) is summarised in the table below:[96]

Proportion selecting	Option
6 in 10	What annual income I can expect based on what I have saved so far?
5 in 10	How much is in my pension fund in total?
4 in 10	How much can I expect to get from the State pension and from what age?
3 in 10	What are the charges on my pension fund? How much risk I am taking with my pension money? Where is my money invested?

In both the above studies these preferences were collected using prompted methodologies, which will tend to produce longer and deeper lists than unprompted questioning. The latter tends to focus responses around the main user needs of retirement income estimates and pot valuations.

[95] Saint-Warrens, S., & Allen, N., (2017) *Pensions Dashboard Research,* 2CV research report prepared for Money Advice Service.
[96] AON (2018) *Living the Dream?* Aon DC and Financial Wellbeing Member Survey 2018.

Nonetheless, this information is important to users, and should be easy to access. The most prominent information should be current and future balances, as well as projected income levels.

Guiding information

The consumer research conducted for MAS in 2017 also found users are wary of being provided detailed information about their pension, without also being provided with supporting advice or guidance.[97] One user suggested that a Live Chat could help them answer immediate questions they might have about what the information on a dashboard means and how they could act on it. An alternative would be to provide simple rules of thumb to help guide decision-making (as discussed in the previous section).

Information on sustainability

There is some limited evidence that younger pension customers like the idea of sustainable investments, and that including information that highlights opportunities for sustainable investments may be of interest to younger pension customers. There's no direct evidence that this would affect engagement with pensions dashboards, but previous survey research in the UK has shown that out of the three main working-age generations, millennials (defined by the researchers as those aged 25-39 at the time) are the most likely to want their investments to reflect their climate change concerns.[98]

Key gap: The impact of highlighting responsible investments for pensions has not been empirically tested, although a trial is underway. Evidence from other industries suggests that the impact of highlighting responsible investing may be limited. Typically, sustainable initiatives only see widespread popularity when they require little to no sacrifice on the part of individuals — sustainable investments may in some cases mean sacrificing some returns,[99] which may mean they are not as popular in practice for pensions.[100]

Interactivity

The consumer research undertaken for MAS in 2017 identified that users assume the term "dashboard" indicates it will be interactive (i.e., it will allow users to manipulate variables and see the subsequent impact).[101] Therefore, user expectations will need to be managed, particularly if dashboards are not interactive when launched.

Only one published study appears to have tested the level of interactivity of a pensions dashboard, although undoubtedly many private companies will have tested the impact of different levels of interactivity on the use of their dashboards.

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[97] Saint-Warrens, S., & Allen, N., (2017) *Pensions Dashboard Research*, 2CV research report prepared for Money Advice Service.
[98] LGIM. (2020). *Finding the greenest generation: our research into the ESG views of Boomer, Gen X and Millennial savers.*
[99] Statman, M., & Glushkov, D. (2016). Classifying and measuring the performance of socially responsible mutual funds. *The Journal of Portfolio Management*, *42*(2), 140-151.
[100] Nest Insight (2020). *Responsible investment as a motivator of pension engagement*
[101] Saint-Warrens, S., & Allen, N., (2017) *Pensions Dashboard Research*, 2CV research report prepared for Money Advice Service.

In the Netherlands, increasing the interactivity of a prototype online pension planner increased engagement — in this case, the number of options clicked (within the planner) and intentions of participants to check their own pensions situation in the next 3-6 months (from an average of “somewhat disagree” to “neutral” on a 1-7 Likert scale).[102] In the control condition, participants could check their pension situation and the composition of their future retirement income. In the medium level of interactivity, participants could choose to modify certain variables affecting their pension income. In the high level of interactivity, participants could use an interactive budget tool which showed whether their accumulated pension income was sufficient to cover spending. The researchers looked at whether preferences differed by gender, and found male participants preferred a high level of interactivity, while female participants preferred a medium level of interactivity.

Completeness

The MAS consumer research found there was a low tolerance for an incomplete dashboard, i.e., one which does not include the majority of providers.[103] Many users said they would rather wait to use a dashboard until all their providers were included, and would prefer not to log in and see incomplete information. As a minimum, users said they expected a dashboard to include their largest providers as well as the State Pension.

In contrast, consumer research conducted by OIX in 2016 found that out of the 24 people they interviewed, the majority were not concerned if their information was missing initially, as long as this was clearly labelled and explained.[104] How this type of question is answered can depend on how it is asked, particularly how the circumstances around missing records are described; for example, whether the missing records are identified as such, or are just missing.

In Denmark, there was a significant increase in the number of unique users after all providers were available on the dashboard.[105] See Case Study 4: Denmark for more details. Reviews of pensions dashboards development internationally have documented that pensions dashboards often start as simple information sites or registries, with additional features and capabilities being added iteratively.[106]

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[102] Brüggen, E.C., Post, T. and Schmitz, K. (2019), "Interactivity in online pension planners enhances engagement with retirement planning – but not for everyone", *Journal of Services Marketing*, Vol. 33 No. 4, pp. 488-501.
[103] Saint-Warrens, S., & Allen, N., (2017) *Pensions Dashboard Research*, 2CV research report prepared for Money Advice Service.
[104] OIX (2016) *Creating a Pensions Dashboard: Pensions Finder* Alpha White Paper
[105]Department for Work and Pensions. (2018). *Pensions Dashboards: Working together for the consumer* (Cm 9719). Retrieved from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/760659/pensions-dashboards-working-together-for-the-consumer.pdf
[106] John, D. C., Enda, G., Gale, W. G., Iwry, J. M. (2020). *A Retirement Dashboard for the United States.* Brookings.

Case study 4: Denmark

Anecdotally, DWP heard from pensions dashboard representatives from Denmark that there was a significant increase in the number of unique users after all providers were available on the dashboard. The onboarding process in Denmark, which has a relatively small number of providers, took well over a decade.In 2017, Denmark had around a third of the working age population using their dashboard, with around 1.3 million unique users; in 2007 this number was around 240,000.[107]

Overall, this suggests that it is better to err on the side of completeness — in particular, there may be a risk that consumers may attempt to access dashboards in an early state (when they are missing some key information), and conclude that they are not helpful.

[107] Department for Work and Pensions. (2018). *Pensions Dashboards: Working together for the consumer* (Cm 9719). Retrieved from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/760659/pensions-dashboards-working-together-for-the-consumer.pdf

Optimal presentation of dashboards (the "how")

Research questions covered in this section

- How is information best displayed on dashboards to increase people's understanding of their pensions
- What has worked for dashboards similar to the PDP proposition — a digital dashboard with multiple interfaces

This section focuses on how information can be displayed on a pensions dashboard to increase user comprehension of the information and level of engagement with a dashboard.

Structure

How information is structured or organised can help people to find the information that is most relevant to them and prevent them from disengaging due to being overloaded with too much information. For example, "chunking" information into sections under relevant headings can help people to digest information, rather than being overwhelmed by a wall of text.

The Network for Studies on Pensions, Aging and Retirement in the Netherlands tested whether tailoring how pension information was structured affected how participants navigated through the information.[108] Participants were categorised into age groups; young (18-34), middle (35-54) or senior (55+). Each age group was presented pension information under a different structure tailored to the needs of their age group. For example, information for young participants was structured under categories such as "pension in five minutes", and information for senior participants was structured under categories such as "are you on track for retirement?", "choices to make when you retire" and "which additional choices do you have?".

They found this tailoring was successful at motivating senior participants to click on relevant pension information, with 92% and 89% of senior participants who viewed a tailored structure clicking on content relevant to whether they are on track, and what their available choices are (respectively), compared to 63% and 35% who viewed a generic structure. They also found tailoring successfully distracted young participants from clicking on information the researchers deemed not relevant to them, with only 20% of young participants who viewed a tailored structure clicking on irrelevant information, compared to 54% who viewed a generic structure.

As such, structuring pension information into sections by the types of questions that different audiences may be seeking answers to may help users to engage with a dashboard and find the information most relevant to them.

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[108] Dinkova, M., Elling, S. K., Kalwij, A. S., & Lentz, L. R. (2018). *The effect of tailoring pension information on navigation behaviour.* Netspar Design Paper, 38(9), 1-29.

Interface

A well-designed interface is another important aspect for user engagement with a pensions dashboard. Even making a number of small but carefully thought-out design choices can encourage greater engagement.

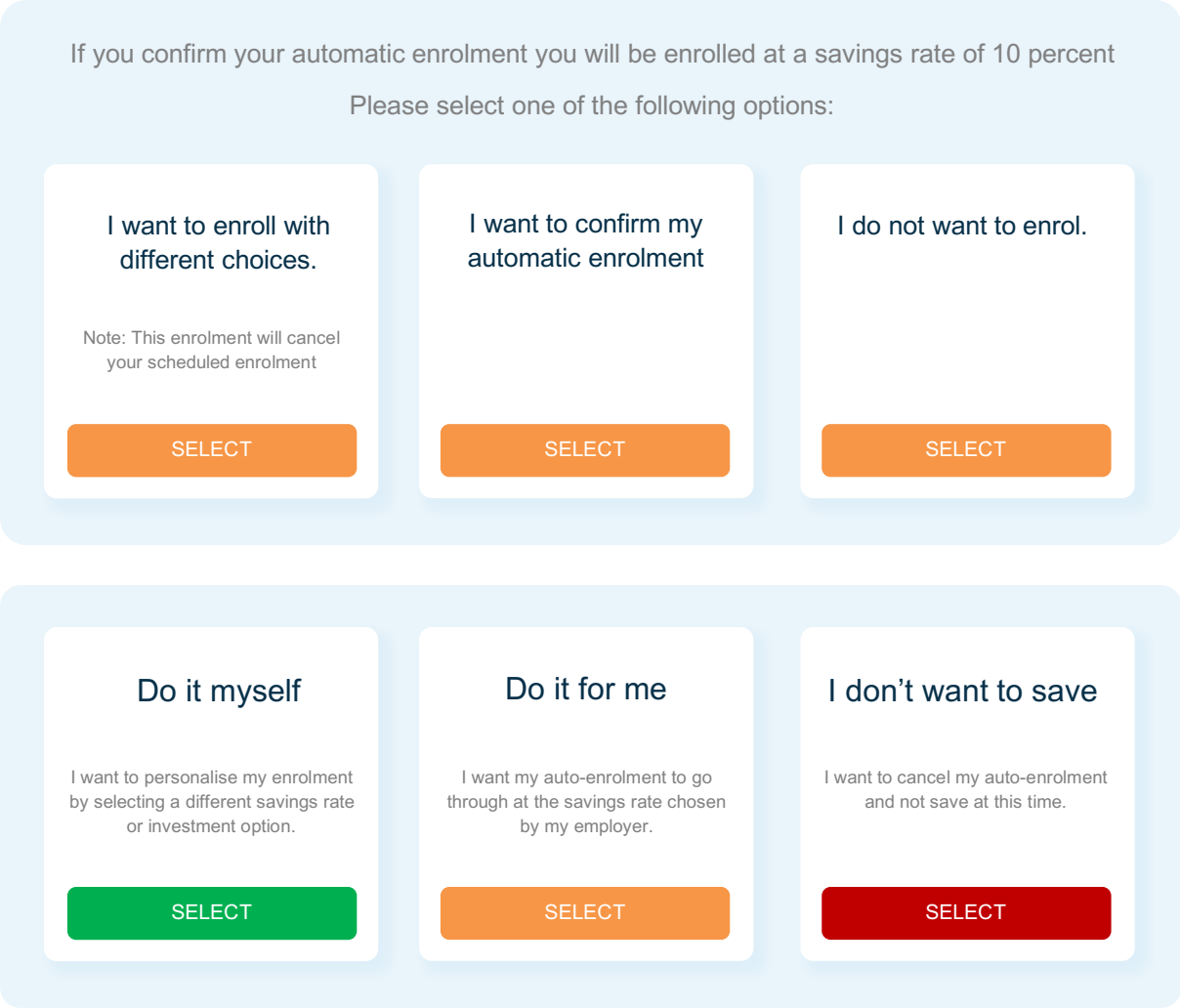
One large study from the US found that improving a digital pensions enrolment interface to include colour, more personalised headlines and descriptive text encouraged greater engagement.[109] The researchers conducted a series of field trials with employees joining pension plans in the US. Participants were presented with different screens when originally signing up (see images), depending on the trial arm. The enhanced version featured:

- Colour coding that encouraged the employee to personalise their enrolment amount (left option), as opposed to simply accepting the default enrolment option (middle option) or declining entirely (right option)
- Headlines that were more personalised and encouraging (i.e., “do it myself”).
- Descriptive text that explained the options, including explicitly framing the choice to opt out as a choice to not save

These combined interventions saw an increase in engagement through increases in the proportion of participants choosing to personalise their enrolment (and a commensurate decrease in those opting for the default or opting out) from 60% to 69%. The combined interventions also resulted in an increase in the share of employees fully taking up available matching contributions (from 58% to 69%).

[109] Bhargava, S., Conell-Price, L., Mason, R., & Benartzi, S. (2018). *Save (d) by Design*.

Figure 2: The enhanced version of the digital interface presented to participants



Key gap: As far as we can tell, no evidence exists about how to ensure inclusivity or accessibility for those with disabilities when accessing pension dashboards. For example, ensuring easy access for those with visual impairments seems to be an important evidence gap. There is also no evidence about how different subgroups (i.e., different ages, genders etc.) react to different interfaces, beyond the fact that older populations tend to engage more (i.e., as they approach retirement).

Format

The format in which information is presented can have an impact on how well users comprehend or understand that information. For example, an experiment in Australia found participants responded more in line with the expected utility theory of decision making when risk was presented as a range (e.g., "There is a 9 in 10 chance of a return between -6% and

14%") rather than as a frequency (e.g., "on average, negative returns occur 7 years in every 20").[110]

Other studies show that presenting information as scalars (or numerical amounts, such as £100) instead of vectors (or percentages, such as 5%) generally improves comprehension and outcomes. This is likely because a vector essentially asks people to "do the math", whilst it is much easier to compare two numerical amounts to determine which is larger or smaller. A wide body of work — including some of BIT's past work — has shown this in fields such as foreign exchange, energy and telecommunications.[111] An example of this is a framed online experiment in Australia, which found that participants quickly chose a low-fee plan over a high-fee plan when plan fees were expressed in nominal dollars.[112] Participants were slower and responded more tentatively when plan fees were expressed as an annual percentage of assets.

In contrast, an online experiment in the Netherlands found that expressing projected pension income as a percentage (instead of a decimal) of current income significantly increased the probability that a plan member correctly perceived a pension income as too low.[113] The difference in these findings may be due to the difference in the options presented to participants. This study tested projected income as a percentage versus a decimal of current income — in other words, both required participants to "do the math" — whereas other studies have tested a percentage versus a pound figure.

More generally, formatting information from different providers in standardised terms is likely to improve the ability of users to compare different providers. For example, an online experiment found that consumers are more likely to identify the cheapest energy plan when all plans are presented in a standardised way.[114]

Similarly, other experiments have found that the benefits of presenting information as a single numerical figure (for example, a single estimated annual bill vs per-unit consumption costs, or a single cost for a foreign exchange transaction vs breaking out the exchange rate, commission and fees) only surface if done consistently across the market.

That is, consumers can only make better comparisons if all options are shown in a standardised fashion. If only some options are in a standardised/simplified format, the benefits of simplification no longer exist.[115]

Therefore, requiring providers to present pension information in a standardised format is likely to help users compare providers and make better decisions about their pensions.

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[110] Bateman, H., Eckert, C., Geweke, J., Louviere, J., Satchell, S., & Thorp, S. (2016). Risk presentation and portfolio choice. *Review of Finance*, 20(1), 201-229.
[111] Grubb, M. D. (2015). Failing to choose the best price: Theory, evidence, and policy. *Review of Industrial Organization*, 47(3), 303-340.
[112] Thorp, S., Bateman, H., Dobrescu, L. I., Newell, B. R., & Ortmann, A. (2020). Flicking the switch: Simplifying disclosure to improve retirement plan choices. *Journal of Banking & Finance*, 121, 105955.
[113] Prast, H., & Teppa, F. (2017). *The power of percentage: Quantitative framing of pension income.*
[114] European Commission (2017), *Second consumer market study on the functioning of the retail electricity markets for consumers in the EU*
[115] Behavioural Insights Team, (2018), *The impact of improved transparency of foreign money transfers for consumers and SMEs*

Similarly, framing information in scalar or numerical amounts, as opposed to vector or per-unit amounts, may help improve user comprehension of pension information.

Simplicity

As with simplifying a process and making it as easy and frictionless as possible, simplifying the way that information is presented so that it requires the least amount of mental effort can help to increase user comprehension of pensions information. For example, an online experiment in the UK looking at the best way to communicate monetary policy information found that simplifying language increased comprehension more so than visuals, particularly when messages were relatable to people's lives.[116]

In Sweden, the Orange Envelope (at that stage still in physical copy and not yet online) was simplified to remove the assumption of a 2% wage growth. That assumption was used to project pension benefits, but user surveys found that it was often confusing. Although changing the growth rate for the projections to 0% rendered the underlying assumptions highly unlikely, users were better able to understand projections in current price and wage levels.[117]

In Australia, the Behavioural Economics Team of the Australian Government (BETA) found that simplifying the presentation of energy bills, drawing attention to key information, and including a "ways to save" box that encouraged people to search for and switch to a better plan, increased participants' confidence in their ability to look for a better offer by 13%.[118] It is worth noting that, whilst these measures increased confidence levels, they did not affect participants' actual intention to look for a better offer.

Similarly, BETA tested simplified energy fact sheets in a framed field experiment, with participants finding all simplified versions easier to understand and helpful in comparing electricity plans and making household budget decisions. However, participants were only mildly likely to use the fact sheets to switch to another plan.[119]

Hence, finding ways to simplify (as much as possible) the way that pension information is presented is likely to improve user comprehension. However, as noted previously, comprehension may not necessarily translate into a particular action by users.

Visual aids

Similarly, the use of visual aids, such as graphs, tables and images, can also help users to process and comprehend pension information. For example, an experiment in Australia

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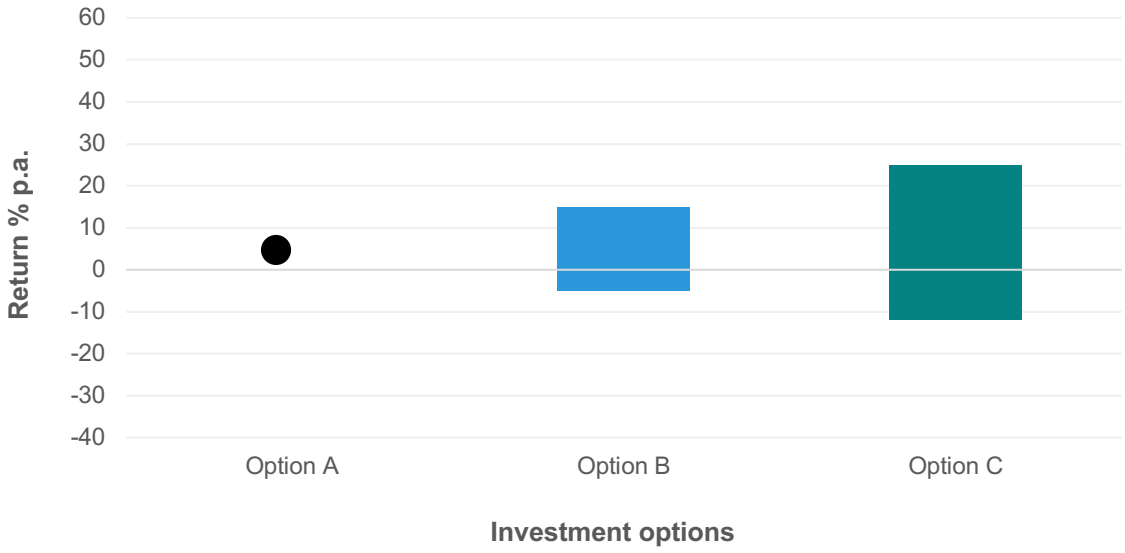
[116] Bholat, D., Broughton, N., Ter Meer, J., & Walczak, E. (2019). Enhancing central bank communications using simple and relatable information. *Journal of Monetary Economics,* 108, 1-15.
[117] del Carmen Boado-Penas, M., Settergren., O., Ekheden, E., & Naka, P. (2020). *"Sweden's Fifteen Years of Communication Efforts"*. World Bank
[118] Commonwealth of Australia, Department of the Prime Minister and Cabinet, *Electricity information to fit the bill: Redesigning electricity bills to support consumer engagement.*
[119] Commonwealth of Australia, Department of the Prime Minister and Cabinet, *Saying more with less: simplifying energy fact sheets.*

found that presenting risk information in a simple graph helped participants understand numerical risks and allowed for a better comparison of alternative investment options.[120]

Figure 3: Presentation of expected return in a graph



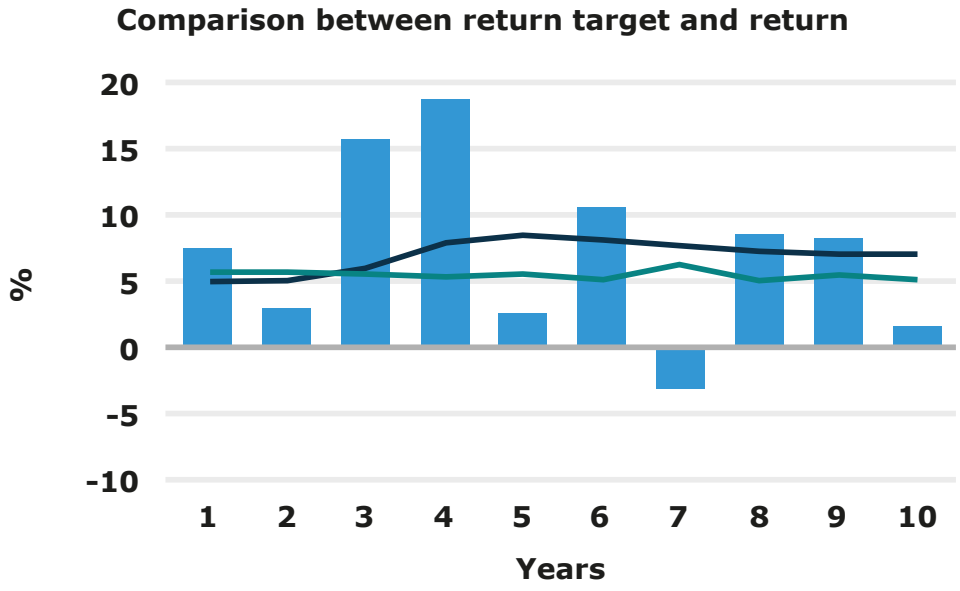
However, graphs can also be confusing if they try to convey too much information. A framed online experiment in Australia found participants reacted more confidently to past average return information when it was expressed in a table as a simple percentage, as opposed to a complex graph that effectively disguised the underperformance of a pensions plan.[121]

[120] Bateman, H., Eckert, C., Geweke, J., Louviere, J., Satchell, S., & Thorp, S. (2016). Risk presentation and portfolio choice. *Review of Finance*, 20(1), 201-229.
[121] Thorp, S., Bateman, H., Dobrescu, L. I., Newell, B. R., & Ortmann, A. (2020). Flicking the switch: Simplifying disclosure to improve retirement plan choices. *Journal of Banking & Finance,* 121, 105955.

Figure 4: Past average return information presented in a table and in a graph

Comparison between return target and return

	Past 1 year return	Past 10 year average return	Target average return
Year 1	5.06%	4.30%	3.54%
Year 2	5.14%	4.53%	4.01%
Year 3	3.23%	4.26%	3.62%
Year 4	3.54%	4.24%	4.16%
Year 5	5.25%	4.33%	3.41%
Year 6	2.62%	4.10%	3.16%
Year 7	2.86%	3.99%	3.25%
Year 8	5.15%	4.16%	4.05%
Year 9	4.22%	4.16%	3.91%
Year 10	4.15%	4.12%	4.07%



An online framed field experiment by the Behavioural Economics Team of the Australian Government (BETA) found that presenting information about different options for retirement income products in a table with text and highlighting the estimated fortnightly income was the most effective format across a number of alternatives such as graphs or numeric tables. The table with text format improved comprehension (from 2.67 to 3.71 out of 5), perceived clarity (from 3.50 to 3.74 out of 5), decision-making ease (from 3.42 to 3.54 out of 5) and decision-making confidence (from 3.4 to 3.50 out of 5).[122]

[122] Commonwealth of Australia, Department of the Prime Minister and Cabinet, *Supporting retirees in retirement income planning.*

Figure 5: Presentation of retirement income products in a text table with estimated income highlighted

	Plan A	Plan B
Amount of income	This plan provides a **medium-to-high** amount of income Expected average fortnightly income is: **$843**	This plan provides a **low** amount of income Expected average fortnightly income is: **$667**
Protection from running out of income	This plan provides you with **high** protection from running out of income	This plan provides you with **high** protection from running out of income
Amount of money available from lump sum withdrawals or bequests Note: If you withdraw a lump sum amount during your retirement your fortnightly income with be subsequently lower	This plan provides a **low** amount of money for a lump sum withdrawals or bequests Expected average amount of money available is: **$41,000**	This plan provides a **high** amount of money for lump sum withdrawals or bequests Expected average amount of reserve money available is? **$173,000**
Protection from fluctuation in income	This plan provides a **low-to-medium** protection from income fluctuations due to changes in investment returns (positive or negative) In most years, income could rise or fall by: **4.5%**	This plan provides a **low** protection from income fluctuations due to changes in investment returns (positive or negative) In most years, income could rise or fall by: **6.7%**

There have not been many studies that have looked at the use of imagery in communicating pensions information. However, in one laboratory experiment in Ireland, researchers tested whether diagrams on a Pension Benefit Statement improved recall or comprehension, or influenced decisions about pension contribution levels.[123] They found that the diagrams had no influence on recall or comprehension, but that participants who saw the diagram of predicted fund sizes were more likely to propose raising their contribution level.

[123] McGowan, F.P. and Lunn, P.D. (2019). Supporting decision-making in retirement planning: do diagrams on pension benefit statements help? *Journal of Pension Economics and Finance*

Figure 6: Diagram depicting projected fund sizes

As such, the use of graphs may help users understand pension information when the graphs are simple and convey one clear message that is easier to comprehend when presented visually, rather than in text. Presenting information in tables may be more useful for users when presenting more than one piece of information. Similarly, the use of imagery may help users in making decisions about their pensions.

Conclusion

As noted at the outset, there is a breadth of literature that explores why most people are disengaged with their pensions, including the barriers that prevent people from engaging with their pensions. In many cases these barriers will also apply to pensions dashboards. In addition, the work on pensions dashboards is still relatively nascent, and there are many gaps in relation to understanding how people will actually behave when they interact with dashboards. In particular, robust evidence about behavioural outcomes with respect to dashboards is relatively hard to come by.

Nonetheless, there is some evidence - and in many cases, insights can be drawn from wider behavioural science. Classic concepts such as simplification, personalisation, encouraging users to think actively about the future, and using timely moments to prompt, are all likely to encourage engagement. Similarly, there is some evidence about the functionality and presentation of dashboards, however, there are still more questions than fully-evidenced answers. Much of the available research is based on qualitative or self-reported data, rather than quantitative data on behavioural outcomes.

The key gap for further research is understanding actual behaviour (not just stated preferences or intentions) of users in an online dashboard environment. Online experiments conducted as a part of pilots prior to the launch of dashboards could test the impact of different formats and presentations on comprehension and behaviour. In addition, there may be scope to conduct research with pension providers who currently have their own dashboards in order to further build on the evidence in this report.

The online experiments and potential research with pension providers could focus on the evidence gaps discussed in this report, summarised below:

Increasing engagement with pensions and dashboards

- Whilst the general principle of using timely moments is well established, the specific moments that are likely to be most effective are still unclear, particularly for pensions (i.e., is it better to contact someone at the start of a new year vs when they start a new job or when they move house?)
- There is some survey evidence about communications preferences with respect to retirement savings, but it may not reflect actual behaviour
- Evidence suggests that different subgroups have different propensities to engage with pensions dashboards. However, little evidence exists about how to encourage specific subgroups to engage more with online dashboards

Optimal functionality of dashboards

- Consumer survey evidence can indicate what functionalities users might want the most, which can be very useful. However, very little published data provides insight into the functionalities that users actually use once they access a dashboard. There is very little experimental data on what users use in online dashboard environments. Indeed, even within the qualitative evidence, there is limited evidence as to what information users think they might prefer or prioritise

- However, more research is needed to identify what elements should be included in projections, particularly whether projected incomes should be presented in current monetary terms, or actual monetary value at the time of retirement.
- To our knowledge, rules of thumb published by the IFoA have not been empirically tested with consumers, and there is no evidence about their effectiveness. Other rules of thumb, such as those developed by the Financial Conduct Authority (FCA), have had some qualitative work conducted, but do not appear to have robust quantitative evidence for the specific formulations developed by the FCA
- Similarly, the impact of showing users specific information on retirement income targets has not been tested. One strategy could be to show how a saver's current trajectory tracks against the PLSA targets. This has also been recommended by the PLSA. Ideally, the effect of showing users their current trajectory against the PLSA targets should be tested to see what effect it has on user behaviour, as it is possible the targets may decrease engagement if they seem unattainable to users
- The impact of highlighting responsible investments for pensions has not been empirically tested, although a trial is underway. Evidence from other industries suggests that the impact of highlighting this may be limited. Typically, sustainable initiatives only see widespread popularity when they require little to no sacrifice on the part of individuals - sustainable investments may in some cases mean sacrificing some returns, which may mean they are not as popular in practice for pensions
- Whilst some international dashboards do include forecasting and projection tools, the actual impact of these specific features does not appear to have been released publicly

Optimal presentation of dashboards

- As far as we can tell, no evidence exists about how to ensure inclusivity or accessibility for those with disabilities when accessing pension dashboards. For example, ensuring easy access for those with visual impairments seems to be an important evidence gap. There is also no evidence about how different subgroups (i.e., different ages, genders etc.) react to different interfaces, beyond the fact that older populations tend to engage more (i.e., as they approach retirement)

Importantly, testing and optimisation should continue once dashboards are live. Rather than a "set and forget" approach, continuous evaluation and monitoring will be important to see whether different features are actually driving behaviour change. Further research in this area, particularly on actual behaviour, is likely to be well-received and crucial to the development of such initiatives. As a number of countries have their own dashboards and similarly lack detailed research on some of these specific behavioural questions, there is an opportunity for research in this space to have a significant positive impact.

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