How effective are reward-based and prize-linked savings schemes?

Findings of a rapid literature review

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Contents

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1. Executive Summary

'Nation of Savers' is one of the Money and Pensions Service's five national goals. It aims to increase the number of financially struggling and squeezed working-age adults who save regularly, by 2m by 2030. This review assesses recent UK and international evidence on the effectiveness of reward-based and prize-linked schemes in promoting regular saving behaviour among lower-income households, a particularly vulnerable subset of this target group, including through the formation of saving habits, and supporting people to build a savings buffer.

There is promising evidence of the effectiveness of both schemes on saving behaviour and the amounts held, but it is highly nuanced and at times inconsistent. The most robust evidence about rewards-based schemes come from medium and long duration schemes (of several months and years) which also tie the match to longer-term goals (e.g., education). There is a greater volume of evidence which tentatively supports the effectiveness of prize-linked saving schemes, but this often comes from field trials of comparatively small interventions, proof of concept and lab-based studies.

The review concludes, on balance, that reward-based schemes appeal most to those who are inclined to save and may already be saving. Prize-linked schemes, meanwhile, appear to provide the stronger 'nudge' into saving among those less able and less inclined to save.

1.1. There is promising evidence of the popularity and effectiveness of both reward-based and prize-linked savings schemes for encouraging saving behaviour.

- There is more robust evidence of the effectiveness of reward-based schemes on saving behaviour. However, the amounts saved in reward-based schemes are generally modest, in the order of a few hundreds of pounds, and it occurs only after several months or a few years of saving. There is more extensive evidence of the effectiveness of prize-linked schemes, particularly in relation to saving for short-term goals and emergencies.

1.2. Where permitted under the scheme's design, reward-based savings accounts – and a large share of the balance – are often maintained some months and years beyond the award of a match.

- Encouraging people to set up automatic contributions may be a factor in this.
- Yet there appears to be a high risk of at least some reduction in other savings in order to take advantage of reward-based schemes. As such, total savings and net assets are not necessarily improved as the savings in these schemes simply substitute for savings that would otherwise be held elsewhere.
- The effect of prize-linked schemes, in contrast, appears to be one of higher net savings with comparatively small negative impacts on other accounts. There is strong evidence that these additional savings come from reductions in expenditure and reduced spending on lotteries in particular.

1.3. The impacts of reward-based and prize-linked savings schemes on long-term saving behaviour are unclear.

- Reward-based savings schemes appear to be more effective in this respect. This may reflect the very attractive match rates offered in some schemes and their typically long durations (of several months, if not several years). It may also reflect self-selection into schemes by people who are able and willing at the outset to commit to longer-term saving, and the typically low take-up rates of schemes echo this.
- Generous incentives (particularly match rates) do appear to be helpful for promoting long-term saving, but it is difficult to attribute any

positive effects to the incentive directly (as opposed to other design elements). This is especially true for the more established and well-evidenced reward-based schemes. which normally provide financial education, counselling or automatic contributions alongside the match.

- We found some evidence of the persistence of saving in prize-linked schemes, but this was inconsistent.
- It is also impossible to attribute the impressive positive impacts on individuals' longer-term financial and personal wellbeing observed in reward-based schemes to the incentive itself.

1.4. Facilitating regular saving and asset accumulation is key irrespective of how it arises.

- Current and recent policy emphasises the role of routine and regular saving in financial wellbeing outcomes.
- Making saving attractive and easy is likely to be especially important for promoting regular saving.
- The role of 'habit', when defined as automatic and non-conscious thought, is yet to be fully tested in the available evidence.

1.5. Capitalising on behavioural and cognitive biases in reward-based and prize-linked schemes offers promise in helping lower-income households overcome psychological barriers to saving.

- Prize-linked schemes benefit inherently from people's tendencies to overweight small probabilities of large wins and in both scheme types the salience of the incentive (and actual wins) is important.
- The simplicity of incentives and minimum deposits and balances provide a frame to influence saving rates, and match thresholds and maximums may additionally act as an anchor or target to aim toward.
- A short time preference is one of the most important cognitive barriers to saving for lower-income households and is influenced by how long people must wait for their reward or can access their savings.
- For lower-income households that are averse to the loss of spending power that saving requires, the incentive and overall scheme design have to be attractive enough to overcome this.

1.6. Lower-income households are nonetheless diverse and the benefits of schemes are not necessarily felt evenly.

- While there is little evidence that particular socio-demographic or income groups within the target base of lower-income households benefit particularly well from schemes, families with children (and especially lone parents) appear to benefit less well.
- There is clear evidence that the attraction of prize-linked schemes is greater among the financially excluded, lottery players, and low and non-savers.
- Lower-income households also differ in their responses to behavioural designs, regardless of how they may be defined by their demographic, socio-economic or financial characteristics.

1.7. In the successful design and delivery of products, the most researched and clearest evidence for both scheme types relates to the offer of a substantial financial incentive.

- A high incentive draws attention because it is salient. However, frequent and short-term incentives and flexibility in saving frequency, amounts and withdrawals are also important for lower-income households.
- Prize-linked schemes which offer additional, highly contextual reasons for saving other than financial incentives can improve the motivation to save.

- The framing of a scheme and messaging to communicate it must be clear, positive and appropriate to the needs of the target beneficiaries.
- Choosing a trusted provider and pairing strong incentives with other design features, such as goal setting, automatic transfers, financial capability and gamification, are expected to support scheme success.

There is unlikely to be a one-size-fits-all solution for scheme design, and context matters. In the development, implementation and evaluation of new schemes, careful consideration should be made of all proposed design elements, individually and in combination.

2. Introduction

This review considers evidence of the effectiveness of reward-based and prize-linked savings schemes on saving behaviour. It was commissioned by the Money and Pensions Service (MaPS) in the context of the UK Strategy for Financial Wellbeing, published in 2020, which identifies the Nation of Savers as one of five strategic National Goals. Nation of Savers focusses on working-age adults who are 'struggling' or 'squeezed' financially,[1] and promotes regular saving, whereby:

"There is widespread agreement that saving is a good thing. There is also compelling evidence that people who have a savings habit are more likely to display other behaviours that we associate with financial wellbeing, regardless of the amount they save. The savings habit both increases resilience and increases the 'future focus' of savers." MaPS (2020), p10

The survey question which tracks the Nation of Savers identified that 57% of struggling and squeezed adults in 2018 were saving regularly (those who say they save every month or most months). This was equivalent to 14.7 million working-age adults. The National Goal is to increase this by a further 2 million adults by 2030, and MaPS aims to achieve this by enabling people to "get the savings habit, build cash reserves to help with short-term emergencies and have a clearer future focus in their financial lives." MaPS (2020), p12.

Reward-based and prize-linked savings schemes are potential mechanisms for promoting regular saving and supporting people to build a savings buffer. Indeed, the UK government's Help to Save scheme has been implemented to do this among people on lower incomes.[2] And there have been calls from UK charities and policy think-tanks for prize-linked alternatives to Premium Bonds that are better suited to the needs and circumstances of people on lower incomes (e.g., Gregory et al, 2016; Surtees, 2015; Masters and Farchy, 2011). For details of the main reward-based and prize-linked schemes covered by the review, see Appendix A.

What are reward-based savings schemes?
Reward-based schemes normally offer a matched contribution based on sums accrued in a savings account instead of interest. The match is typically paid out when the account matures after a set period of time or a particular savings goal has been achieved. The matches tend to be very generous when compared with prevailing interest rates. Typical examples include the UK's Saving Gateway pilots and Help To Save as well as the US's IDAs (Individual Development Accounts). A few schemes offer one-off incentives on account opening.

What are prize-linked savings schemes?
Prize-linked schemes normally offer savers a chance to win monetary prizes (or monetary-equivalent prizes such as vouchers or fee waivers) based on their deposits into or balances held in a savings account. Prizes replace or supplement interest rates and may be small in order to

[1] For definitions, see https://moneyandpensionsservice.org.uk/wp-content/uploads/2021/03/market-segmentation-segment-infographics.pdf. Struggling and squeezed people live in households with an average of £22k and £34k household incomes respectively, and around 1 in 4 and 1 in 5, respectively, do not often have money left over after paying for food and other regular bills. A low or lower income was a reasonable proxy for the purpose of this review.

[2] See https://www.gov.uk/get-help-savings-low-income.

offer savers comparatively high odds of winning or small odds of winning very large prizes. Prizes are typically drawn monthly, but some are drawn weekly or annually.

There are not normally restrictions on when the money can be withdrawn although the product or prize structure may be designed to encourage people to maintain their savings in their account. Typical examples include the UK's Premium Bonds (which are not aimed specially at lower-income savers) and the US's Save To Win. We are aware of several prize-linked savings schemes offered by UK Building Societies and Credit Unions but were not able to find evidence on their effectiveness.

This report considers the relevant UK and international evidence, published since 2010, on the effectiveness of reward-based and prize-linked schemes on saving on a lower income. Its initial focus, in the next section, is on saving behaviour. It goes on to examine the ancillary benefits of saving behaviour, including the sums saved – the savings buffer – and improved financial wellbeing (Section 3). Next it explores the possible pathways to change, including the potential role of habit formation (Section 4). Then it considers the impacts of schemes on different groups of people and the influence of contexts (Section 5). Finally, it identifies some of the key learning for product design, delivery and communication (Section 6 and 7).

2.1. Research questions

The central research question this review aimed to address is:

How effective are reward-based and prize-linked savings schemes in encouraging saving behaviour amongst lower-income households?

Additional questions it sought to address are:

- Does effectiveness of either product type differ depending on demography?
- What is the behavioural theory that sits behind reward and prize-linked savings products?
- What comparisons can be made between the two types of savings interventions, in terms of:
  - Effectiveness of reward-based savings products (guaranteed reward, such as a bonus)
  - Effectiveness of prize-linked savings products (chance of winning a prize)
  - Any comparison between the two, e.g., effectiveness on different beneficiary groups and in different contexts and settings
- What is known about how these products should be designed, communicated, and delivered to enhance effectiveness?

2.2. Approach

This rapid literature review draws on a range of research, of varying quality and relevance. It includes primary research and previous reviews of the literature. The review methodology adopts elements of a rigorous rapid evidence assessment approach, and details of how the review was conducted are given in Appendix B. When reporting the evidence here, greater weight is given to the best evidence (see Appendix C).

The review process identified, in several instances, repeat reporting of findings from core studies in later, corroborating literature. The rigorous review methodology enabled this to be reconciled easily. We also found that certain assertions about the effectiveness of reward-based schemes, specifically, in the UK were repeated in the literature. On further investigation, these were discovered to be based on assumptions that these schemes *should* be effective or that their effectiveness in one context (e.g., US IDAs) should make them effective in this context. This risked overstating the evidence for reward-based schemes. Again, however, the critical approach to the review, which prioritised *empirical* findings, enabled this

to be reconciled and in many cases the evidence was found to be inconclusive. The same issue did not emerge for prize-linked schemes, which have to date had less exposure in the UK (Premium Bonds excepted).

3. How effective are reward-based & prize-linked savings schemes for encouraging saving behaviour?

This section reviews evidence on effectiveness of reward-based and prize-linked savings schemes on the specific question of whether it encourages saving behaviour, and regular saving within this.

Reward-based schemes: There is some evidence that reward-based savings schemes may lead to increased saving behaviour. Matched savings schemes have been the subject of most of the research, however some smaller schemes that offer a fixed reward have also been studied

In a previous review of the literature, Crossley et al (2012) reported that the Saving Gateway pilots increased saving behaviour during the lifetime of the accounts. Some 71% participants in the second pilot made a net contribution in at least 16 months of the 18-month scheme (Surtees, 2015). A smaller UK scheme offered to tenants of a housing association, Save and Insure, found that 52% of participants saved £10 every month for all six months of the account to qualify for a fixed £20 credit (and other benefits; Aynsley, 2011).

Similarly, Ratcliffe et al's (2020) robust review of $aveUSA and IDA research concludes that matches increase saving behaviour. They cite evidence that IDAs increased the amount of new saving up to 12 months after enrolment. A corroborating study which used surveys of members of one IDA programme found that those enrolled made the minimum deposit of $50 in 75% of months (Klawitter et al, 2013).

A high-quality evaluation of a Canadian IDA demonstration project, learn$ave, also found that the programme was effective in promoting regular saving behaviour and this was attributed, at least in part, to the match (which ranged across individual schemes from $2:1 to $5:1). On a smaller scale, offering American Express prepaid debit card users a $10 incentive against $150 saved over three months resulted in repeat saving after the first month in months two to four (Cooper et al, 2016).

How compatible are IDAs with the 'Nation of Savers' goal? Some of the most extensive and more robust evaluation of matched savings schemes comes from the US's Individual Development Accounts (IDAs). These schemes normally pay at least a 1:1 match on qualifying balances on withdrawal and are targeted at people on lower incomes of working age.

IDA programmes are targeted at medium to long-term savings goals, rather than the short-term savings for emergencies. They are also designed to build a large asset for house purchase, education or starting a business. The Nation of Savings goal, on the other hand, seeks to establish regular savings habits, but with less focus on longer term and larger savings goals and greater emphasis on resilience to financial shocks. A limitation of the research on the effectiveness of IDAs on saving is that the offer of a match is made as part of a wider package of financial education, training and case management, which makes inferences about the impact of the match, in isolation, difficult. For more details about the IDA programmes, see Annex A.

In corroborating research, people, including those on lower income, self-report financial rewards as the main incentive to encourage them to save (Building Societies Association, 2009; Dolphin, 2011). Previous reviews have regarded the matched savings in the Saving Gateway (and IDAs) as providing attractive savings products for lower-income savers of working age, and they see this as being causally effective in promoting saving behaviour and helpful for forming saving habits (Finney and Davies, 2011; MAS, 2016; MAS et al, 2018; Surtees, 2015). However, the links to habit formation are as yet unproven, as Section 4 considers in more detail. Two primary studies confirm that matches (Dolphin, 2011) and bonuses (Surtees, 2016) are at least the most attractive financial incentives for those on lower incomes and those who have sought debt advice,

respectively, when they are asked for their views.

Prize-linked schemes: Compared with reward-based schemes, the evidence which relates to prize-linked saving schemes comes more often from field trials of comparatively small interventions or proof of concept and laboratory studies which consider prospective schemes. Prize-linked saving schemes are said to have 'appeal' for lower-income groups and small savers (MAS et al, 2018, Searle and Köppe, 2014; Surtees, 2015) and the evidence does point tentatively to positive effects on saving behaviour.

In their rigorous review of US saving schemes, Ratcliffe et al (2020) found that studies in the US suggest that people respond positively to prize-linked saving offers and save more. However, context (and potentially design) appears important; reviews of schemes implemented in Mexico, Kenya and Nigeria, albeit out of scope here, found only limited increases in saving behaviour, if any (Kowalski, 2015; Ratcliffe et al, 2020).

In the field, Save To Win was effective in improving regular saving behaviour and this was transferred to saving in other savings products (Hahnel, 2015). A well-designed online US experiment found, from options which also included traditional interest-bearing savings and a simple lottery, that a prize-linked saving scheme was both popular option and successfully generated new savers among those not previously saving (Atalay et al, 2014; Ratcliffe et al, 2020).

In laboratory experiments with US undergraduates which manipulated several savings conditions, there was strong evidence that prize-linked schemes encouraged saving, and more so than for an equivalent certain pay-out (Filiz-Özbay et al, 2013). In a game-based experimental study (with Thai undergraduates), the offer of prize-linked savings increased the number of people saving, and this generalised to saving through both traditional and prize-linked saving accounts (Jindapon et al, 2019).

In more specific contexts, a before-and-after study of saving in the US Walmart MoneyCard (a prepaid debit card) found that a 'Prize Savings' scheme was associated with a near three-fold increase in usage of the saving facility, increased saving frequency and amounts (the latter by 35%; Commonwealth, 2017). Similarly, when offered a 'scratch card' with the chance to win $5 prizes in each week they saved $5, US SaverLife members who played one week were 30% more likely to play (and therefore save) again the next week. Those playing at the start of the ten-week scheme saved more often and saved greater sums, over the $5 minimum (Commonwealth & Earn, 2018).

Finally, a randomised US field trial in a homeless shelter found a prize-linked competition to save the highest balance (for a $100 prize and other small prizes) was an effective incentive to encourage residents to save (and ultimately helped them transition out of the shelter). Around 8 in 10 of those in the treatment group saved during the month compared with around 5 in 10 of control group members, with $2.60 higher average savings per day (Linardi and Tanaka, 2013).

In contrast, Loibl et al's (2016) randomised field trials combined matched and prize-linked savings. In one modification, a lottery-based incentive structure was introduced, such that the match rates established in the benchmark IDAs were determined *in small part* by a lottery tied to each deposit. The match-only group met their savings goals sooner and saved at a slightly faster rate than the match and lottery group.

In a proof-of-concept study in the US, only one fifth of survey respondents expressed interest in a hypothetical prize-linked saving scheme with monthly prizes and a grand prize of £100,000 or more. When other product features were added – savings interest and the chance of instant wins against new deposits – interest increased to two thirds of respondents (Boyd and Maynard, 2011). The authors concluded that prizes alone do not appeal to most lower-income consumers, and that other factors such as framing and messaging are important.

Randomised controlled testing of a hypothetical 'checkout savings' scheme, in which participants chose what to do with 60p in change, also found no benefit when compared with an interest-bearing option (but this may have reflected the small sums involved; MAS et al, 2018).

The findings from the research described so far mask some important nuances. One is whether the positive effects of saving schemes on saving behaviour persist or are short-lived (this is discussed in the box below).

Are the positive effects on saving behaviour long term or short lived? The positive impacts on saving behaviour may not be sustainable beyond the lifetime of schemes (Crossley et al, 2012; MAS, 2016). This speaks to the heart of the Nation of Savers goal, which emphasises the importance of regular saving in improving financial wellbeing outcomes.

Ratcliffe et al (2020) cite research which finds that the increases in new savings in IDAs observed up to one year after enrolment did not persist after three years. Savings balances in the American Express Serve Reserve decreased, on aggregate, from four months after the start of the initiative (Cooper et al, 2016). Kowalski (2015) noted that the limited benefits of a prize-linked scheme (in Nigeria) were short-lived.

Repetition of a one-month prize-linked saving competition in a homeless shelter evidenced lower levels of subsequent engagement by the original participants; though this was deemed to be due largely to prior savings enabling residents to move out, and to the unsustainable reduction in expenditure that saving more incurred (Linardi and Tanaka, 2013). There was also no evidence that saving behaviour endured beyond the Saving Gateway's 18-month term (Crossley et al, 2012; Which?, 2016).

However, it is also reported that two-thirds of Saving Gateway participants achieving the maximum match (who had saved in at least 16 out of 18 months) continued to contribute to their accounts after the pilot ended (Surtees, 2015). Six in 10 participants saved regularly after the pilot, an increase from 4 in 10 who said they had done so prior to the pilot (Gicheva, 2019). Almost 9 in 10 participants in Australia's Saver Plus continued to save the same amount or more three years beyond the 10-month programme (Russell et al, 2015).

Also, in reward-based schemes, some American Express savers also reported real, positive changes in their saving behaviour nine months after the intervention (Cooper et al, 2016). And $aveNYC participants reported increasing their savings by $120 on average 6-11 months following the match while those in a comparison group saw their savings reduce (Key et al, 2015).

Walmart's MoneyCard Prize Savings scheme also provided evidence of saving behaviour sustained beyond the scheme's first year (Commonwealth, 2017). On a smaller scale, most SuperSavings savers (who played for small-value sweepstakes, US) maintained their savings beyond the first three months (Kearney et al, 2010).

These contradictory findings are not easy to reconcile. They might in part reflect a degree of self-selection into schemes. They might also reflect precise scheme design or, as is clear in the case of the homeless shelter scheme, the contexts in which schemes are run. It might also more simply reflect marginal effects as a result of individual or group differences in outcomes.

Another complexity is that positive impacts on saving behaviour cannot always be attributed directly to the reward. Schemes are often complex in practice and the incentive is only one feature of the intervention. This is especially true for most of the evaluations of the US IDA schemes (as noted in the box above) and it is the case for the Saving Gateway and Saver Plus evaluations. In the learn$ave evaluation, for example, positive impacts on saving behaviour were credited at least in part to the requirement to save a minimum amount each month for 12 months (Leckie et al, 2010).

Related to this, the take-up of schemes is often low (see Section 3), and this highlights a degree of self-selection into them by participants. Inclusion of an adequate counterfactual (e.g., a comparison group of people who meet the eligibility criteria for the scheme but are not invited to take part) is rarely possible in real-world intervention evaluations and this makes it difficult to know what those same (or equivalent) people's saving behaviour would have been in the absence of the scheme.

Finally, questions were raised in the latter study (Leckie et al, 2010) about whether some of the participants who saved quickly into the account would have been likely to do so without learn$ave's assistance (Leckie et al, 2010). This points to a potential 'substitution effect', identified in other studies too, in which savings within a scheme are simply savings that are transferred from other accounts (this is addressed in the box further below).

In summary, there is promising but inconclusive evidence of the popularity and effectiveness of both reward-based and prize-linked savings schemes for encouraging saving behaviour. There is a greater *volume* of evidence supporting the effectiveness of prize-linked saving schemes. In contrast, a few rigorous studies of reward-based savings schemes lend great *weight* to the evidence base but do not normally relate to saving towards short-term and emergency funds, and often conflate the impact of other interventions (such as financial education) with the role of incentives. There is some indication that the benefits of savings schemes on saving behaviour *can* be sustained, and there is more evidence, on balance, to indicate that reward-based savings schemes are more effective in this respect.

4. What are the ancillary benefits of reward-based & prize-linked savings schemes?

Several studies have examined account holding and saving amounts as important outcomes of savings schemes. These often go hand-in-hand with saving behaviour, but not always. A few studies have also noted wider benefits of savings schemes on financial inclusion, financial wellbeing and personal wellbeing.

4.1. Account holding and enrolment

Research has previously shown that good interest rates and bonuses are the main incentives that people self-report will encourage them to save in accounts (Finney and Davies, 2011). Scheme enrolment is normally inherently self-selecting (MAS, 2016), and there is comparatively limited evidence on the success (or otherwise) of reward-based and prize-linked savings schemes on account opening. If only a few people choose to participate, this makes it difficult to identify the true impact of savings schemes.

In reward-based schemes, the take up of accounts has generally been observed to be modest and even low. This is reported in reviews of matched-savings schemes in general (Ratcliffe et al, 2020), the Saving Gateway (Which?, 2016), and the US's $aveUSA and American Express prepaid card schemes (Ratcliffe et al, 2020).3 Ratcliffe et al (2020) note that match rates generally increase the share of people who save, by around five to 15 percent, and higher matching rates were comparatively more effective for enrolment in the Saving Gateway (Which?, 2016). Take up was also deemed low in the UK's Save and Insure programme although this may have been due to resource constraints when promoting the scheme (Aynsley, 2011).

However, there is evidence that the IDA schemes, specifically, are associated with high take-up rates. In one study, 90% of people offered an account opened one (Grinstein-Wiess et al, 2011; Surtees, 2015).

In prize-linked schemes the popularity of the US Save To Win accounts suggests the product held appeal (Kearney et al, 2010) and, in schemes linked to US credit unions, between 11-20% of new members joined specifically for the prize-linked products (Commonwealth, 2018). However, in SuperSavings, an Indiana (US) scheme which offered small value sweepstakes with no purchase necessary, only 1.3% of members opened an account (Kearney et al, 2010).

How does context influence outcomes?
The findings from several studies suggest that the context in which schemes operate can be important for outcomes.

In the prize-linked scheme trialled in a US homeless shelter, the desire to transition out to independent living appeared to offer a strong saving motivation (Linardi and Tanaka, 2013). The success of the Ally Big Save prize-linked saving gaming app occurred in the context of a live sporting event (Dixon, 2020). In the $aveUSA and $aveNYC matched-savings schemes, capitalising on the opportune moment of a windfall tax refund was integral to the schemes' designs (Ratcliffe et al, 2020). In the UK-based Save and Insure programme, saving in a credit union provided an added 'incentive' of access to an affordable loan and the offer of free home contents insurance tied in to the housing association context (Aynsley, 2011).

In each case, the scheme offered an additional, highly contextual reason for saving above and beyond the financial incentive to save. The pilot of the SavingsQuest online game with prepaid

[3] Emerald Card is a prepaid card which offered a one-off $5 financial incentive to use the ePocket savings feature.

cardholders went one step further and found that saving outcomes were improved even in the absence of a financial incentive; the use of gamification and the chance to win 'badges' was powerful enough (Dixon, 2020).

Both American Express's one-time reward-based and Walmart's prize-linked saving schemes were linked to prepaid debit cards, which provided a ready route to engagement and may have enhanced outcomes in the context of trust in the provider (Commonwealth, 2017; Cooper et al, 2016; Cooper et al, 2016; Ratcliffe et al, 2020). Trust might also have played an underlying role in the scheme offered to homeless shelter residents. One study found that a prize-linked saving schemes provided via a bank was popular over a casino-based lottery, other things being equal, and that this was explained on the basis that the bank was the more 'moral' institution (Atalay et al, 2019).

Looking to broader contexts, scheme outcomes are improved in low-interest (and low national lottery jackpot) environments (Atalay et al, 2014; Finney and Davies, 2011; Givecha, 2019; Jindapon et al, 2019). Means-testing may serve as a disincentive to saving on a low income generally (Crossley et al, 2012). And changing life and work circumstances and seasonal expenditure such as holiday spending and back-to-school have been associated with early account closures and withdrawals (Leckie et al, 2010; Hahnel, 2015; Manturuk et al, 2012; Tucker et al, 2014).

Research in lower-income countries suggest the relevant time thresholds for schemes may be context dependent (Klawitter et al, 2013). A study of debt advice clients shows that a majority of lower-income households experience financial shocks each year, and 4 in 10 within 6 months (Surtees, 2016). In one rigorous field study, it was reported that a savings goal several years away may have overridden any potential benefits of the modifications they tested (Loibl et al, 2016).

4.2. Saving amounts

It is more common for studies to have examined the amounts people save in schemes and the extent to which these are maintained. The positive role of schemes on saving amounts held within scheme accounts is reduced somewhat when there is a commensurate reduction in savings held elsewhere. A potential 'substitution' effect is discussed in the box below.

In reward-based schemes, previous reviews report that there is limited evidence on the impact of matching schemes on the amounts saved (Crossley et al, 2012). Where evidence does exist, the amounts people save are generally modest (Tufano and Schneider, 2008). Average deposits in US IDAs totalled to $1,100 after three years (Leckie et al, 2010), and only a half of Saving Gateway participants saved the maximum of £375 (average of £282) in the first pilot and 61% in the second (MAS, 2016; Gicheva, 2019). Ratcliffe et al's (2020) rigorous review reports that $aveUSA participants had higher average savings of $512 after 18 months than the control group (including the first-year match which averaged $191); small, one-time incentives (e.g., $10 on prepaid card saving schemes) also increased the amount saved.

Studies of $aveUSA and $aveNYC (and also the American Express field trial) have found that accounts, and their balances, were maintained several months and even years after the match (Cooper et al, 2016; Ratcliffe et al, 2020; Tucker et al, 2014). The positive impacts of savings levels persisted regardless of the negative financial and life events people experienced (Key et al, 2015).

In IDAs, however, most control group members had caught up with IDA participants' saving levels within five to ten years (Grinstein-Wiess et al, 2011). And in $aveNYC, it was noted that someone's saving behaviour within the scheme did not predict early account closure (Manturuk et al, 2012); as such, the withdrawal of savings may have occurred in some instances despite people's early saving intentions.

Simulations of the Saving Gateway data indicate that the scheme should lead to higher asset-holding for the rest of someone's life (Connolly, 2017). A review reports that SEED IDAs were effective in significantly improving savings *and* assets levels (Surtees, 2015). The next box considers the impact on total savings, and the potential 'substitution effect' of some schemes.

Prize-linked schemes have been shown to be effective in increasing the amounts saved in a few studies. These include evaluations of South Africa's MaMa and the US's Save To Win (Cole et al, 2017, Hahnel, 2015; Ratcliffe et al, 2020), and in online and laboratory experiments (Atalay et al, 2014; Filiz-Özbay et al, 2013). The increased saving levels evidenced in these studies range from modest (4%; Filiz-Özbay et al, 2013) to moderate (25% in Atalay et al, 2014 and 38% in Cole et al, 2017).

In real terms, prize-linked schemes linked to US credit unions resulted in average total savings of over $1,600 (Commonwealth, 2018). Savers competing in the homeless shelter scheme saved around $80 more in a month than their counterparts (Linardi and Tanaka, 2013).

The addition of a small lottery element to a matched saving scheme did not improve saving amounts (Loibl et al's, 2016), however.

In other US (and Indian) prize-linked saving schemes savings were less likely to be withdrawn than other savings accounts (Gicheva's, 2019). Greater saving frequency in the Walmart MoneyCard trial was associated with saving larger sums (Commonwealth & Earn, 2018).

To what extent are savings in schemes new, or substitutions for savings held elsewhere? An important broader question for the success of schemes is whether they increase someone's savings overall, not just their savings in the scheme account. The available evidence shows that total savings and net assets are not necessarily improved.

For **reward-based schemes**, reviews note that net wealth did not increase in IDA or Saving Gateway studies (Gandy et al, 2016; MAS, 2016). Instead, there is evidence that people transferred their existing savings to take advantage of the financial incentive rather than saving more overall (Crossley et al, 2012; Which?, 2016). As such, the Saving Gateway had little reach among previous non-savers (MAS, 2016). In modelling work, Rablen (2010) found that the Saving Gateway *reduced* asset-holding during the scheme, suggesting even greater dissaving elsewhere.

There were also no improvements in net worth in the Canadian learn$ave trials; the authors concluded that many participants may have achieved the same outcomes without the programme (Leckie et al, 2010). In contrast, a robust $aveNYC study found no detrimental impact of saving within the scheme on other savings (Tucker et al, 2014).

In relation to **prize-linked schemes**, a previous, robust review concludes that empirical studies indicate modest positive effects of prize-linked schemes on net savings due to possible decreases in traditional savings (Kowalski, 2015).

In primary research, however, increases in total savings in South Africa's MaMa accounts were shown to reflect increased net savings. Moreover, savings held in other products also increased and some prize winners increased their savings beyond the value of the prize (Cole et al, 2017).

This is corroborated by a game-based experimental study, which found that the offer of a prize-linked saving scheme increased the number of people saving through traditional interest-bearing and prize-linked saving accounts and total amounts saved (at only the slight expense of traditional accounts; Jindapon et al, 2019). Also in the lab, saving in a prize-linked saving scheme was at the slight cost of a 9% reduction in saving in the traditional accounts, but total savings were higher (Atalay et al, 2014; also reported in Kowalski, 2015).

Qualitative research of the Walmart Scheme suggested that prize-linked saving schemes generated new savings for at least some people (Ratcliffe et al, 2020). Searle and Köppe (2014) explain that people with (almost) no savings are inclined to make deposits into a prize-linked saving schemes instead of a normal savings account; they keep the deposit in the long-term as flexible savings for emergencies with a chance to win large amounts.

Studies additionally find that new savings in both reward and prize-linked schemes are generated from reductions in consumption (Atalay et al, 2014; Gandy et al, 2016, Gicheva, 2019). In the case of prize-linked savings schemes it also comes from spending on lottery tickets specifically (a reduction of 23%; Atalay et al, 2014).

4.3. Inclusion and wellbeing

While not central to this review, there is evidence that links reward-based and prize-linked schemes to improved outcomes for individuals' financial inclusion, with the saving scheme account often appearing to act as a gateway to access or use of other financial products (Leckie et al, 2010; and Aynsley, 2011; Commonwealth, 2018; Gicheva, 2019; Hahnel, 2015; Kowalski, 2015; MAS, 2016; Russell et al, 2018; Searle and Köppe, 2014). Australian and Canadian matching schemes evidence benefits to individuals' financial capability (Leckie et al, 2010; Russell et al, 2015), though for both schemes financial education was also provided. In the US, IDAs brought homeownership forward by 5 to 10 years (Grinstein-Wiess et al, 2011).

For financial wellbeing measures such as self-reported financial satisfaction, the ability to meet commitments and avoiding some types of high-cost credit, the available evidence relates solely to reward-based schemes (Cooper et al, 2016; Ratcliffe et al, 2020; Russell et al, 2015; Russell et al, 2018; Tucker et al, 2014).

Studies of Saver Plus also noted the benefits of the reward-based scheme to personal wellbeing and social wellbeing, such as reduced stress about the future, worry about money and life satisfaction, some 3-7 years after the scheme ended (Russell et al, 2015; Russell et al, 2018). And IDAs evidence important positive effects on their intended purposes of funding education and business start-ups (Leckie et al, 2010). Finally, studies of reward-based and prize-linked schemes have been shown to improve lower-income individuals' confidence and self-efficacy (Hahnel, 2015; Russell et al, 2015 reward; Russell et al, 2018).

In summary, the take up of accounts in both scheme types is often low and inherently self-selecting. The amounts saved in reward-based schemes are generally modest, in the order of a few £100s, even after several months or years of saving, and it is questionable as to whether or not these sums reflect an increase in net assets. The longer-term positive impacts on financial and personal wellbeing observed following reward-based schemes are difficult to attribute to the reward. The amounts saved in prize-linked schemes appear to be slightly larger and represent higher net savings. They have also been shown to act as a gateway to other financial products but there are very few studies that have considered the wider benefits of saving in these schemes on financial wellbeing.

5. What are the pathways to improvement?

The premise of the Nation of Savers National goal, to get more people in lower-income households to save regularly, implies an underlying pattern of behaviour that needs changing. For some people on lower incomes, low, ad hoc and non-saving are their status quo and saving any money may be perceived as a loss of current spending power (e.g., Which?, 2016; Searle and Köppe, 2014). Encouraging someone to save may therefore mean overriding or shifting a natural focus on losses or a preference for short-term outcomes.

The levers that reward-based and prize-linked schemes use imply pathways to improvement that *sometimes* have their basis in the principles of psychological, economic and behavioural economic theory. The specific role of habit is discussed in the box immediately below. A glossary of terms from behavioural theory, psychology and economics relevant to reward-based schemes and prize-linked schemes is given in Appendix D.

Reward-based savings schemes: little research within the scope of this review has considered why reward-based schemes may be effective in improving saving behaviour. Perhaps the strongest evidence relates to the saving amount required to achieve the match in reward-based schemes as acting like an **anchor** or target for savers (MAS, 2016; Ratcliffe et al, 2020). In concluding their rigorous review, Ratcliffe et al (2020) note that the financial benefit of saving stops at the threshold for the match.

What is the role of habit in saving in reward-based and prize-linked schemes?
The objective of the Nation of Savers goal is to promote regular saving behaviour, and the UK Strategy for Financial Wellbeing emphasises a potentially important role in this for saving habits (MaPS, 2020).

Several commentators in the savings policy arena have suggested that design elements in the foremost UK schemes (such as the UK's Savings Gateway and Help To Save) have the potential to help people build a saving habit (e.g., Surtees, 2015). Habit, in this context, refers to the very routine or regularity of saving.

In the psychological literature, habit has a more specific meaning. It is characterised by automatic and non-conscious thought processes, as opposed to those thought process which are slow, deliberative and conscious (Hartfree et al, 2016). Habits are therefore learned sequences of behaviours which can be triggered automatically by specific environment cues (van't Riet, 2011).

Habit formation creates a new **status quo** (Loibl et al, 2011, see Section 4) and has been shown to powerfully predict behaviours such as food choice (van't Riet, 2011). It has been suggested that saving habits, by this definition, have the potential to complement more conscious and deliberate savings decisions (Loibl et al, 2011). However, there is only limited (and mixed) evidence on the role of habits in savings outcomes.

In US IDAs, habit was found to play a positive role in saving outcomes, but it took two years of participation for habit formation to peak (Loibl, 2011). A simulation of the Saving Gateway found that habit did not play a role in outcomes (Rablen, 2010).

van't Riet (2011) notes that the more often a behaviour is enacted the more likely it is to become habit. Consistent with this, researchers of the prize-linked scheme offered in a US homeless shelter, which encouraged frequent deposits, concluded that their findings were consistent with habit formation. The scheme nonetheless sustained short-term saving only (Linardi and Tanaka, 2013).

While the role of habits – as non-conscious and automatic behaviours – in saving outcomes remains uncertain, the case remains for focussing on the policy objective of encouraging routine and regular saving. Moreover, asset

accumulation may be the more critical goal, irrespective of how it arises (Gicheva, 2019).

Asset accumulation was the main objective, for example, in the US IDA schemes. Auto-enrolment and automatic contributions as well additional contextual cues to saving in the educational programme were key components in their design (Loibl, 2011). Indeed, features such as auto-enrolment and automatic contributions might capitalise on a habit of *not* saving (Gicheva, 2019). Making saving easy, as a means of reducing cognitive load, is also likely to be especially important for scheme design (see Section 7).

Greater traction in policy design may come, therefore, from distinguishing the particular goal of a scheme in terms of whether it is aimed at: creating a savings buffer; promoting (regular) saving behaviour; or encouraging a target group to instil a saving habit. Encouraging a saving habit may represent a third-tier objective which embeds saving behaviour into specific contexts by working very closely with beneficiaries. Second-tier objectives might focus on providing the right environmental cues to trigger and support regular or frequent saving behaviour. First-tier objectives, meanwhile, might focus more on the design elements which facilitate saving by largely bypassing the engagement of the saver, for example through auto-enrolment.

The ***salience*** of the match in IDAs and the Saving Gateway is also discussed in two robust reviews (Crossley et al, 2012; Ratcliffe et al, 2020). Matched-savings incentives may also provide a ***frame*** in which the financial rewards of saving are more readily understood (Ratcliffe et al, 2020; Surtees, 2015

In their rigorous field trial, Loibl et al (2016) suggested that the failure of 'improvements' to the baseline IDA design may have arisen more from liquidity constraints than cognitive or behavioural biases. However, studies have noted higher ***discounting*** rates (a greater present bias) among people with lower incomes (Gandy et al, 2016; Klawitter et al, 2013). In a survey of IDA members, those with high discounting rates had lower saving amounts in the first year of the scheme and were 40% less likely to complete it (Klawitter et al, 2013).

Time preference did not influence how long $aveUSA accounts were kept open (Manturuk et al, 2012), however this may be factored into the low take-up rates. It is hypothesised that discounting may reduce the effectiveness of the two-year Help To Save scheme (Surtees, 2016).

Prize-linked saving schemes: There is a greater volume of literature which explores the underlying pathways for prize-linked schemes. Perhaps the greatest weight of evidence relates to people's subjective probability weighting and optimism. The potential for people to ***overweight*** small probabilities of winning very large prizes has been observed in core studies (Kowalski, 2015; Loibl et al, 2016; Ratcliffe et al, 2020) and corroborating studies (Connolly, 2017; Filiz-Özbay et al, 2013). Kowalski (2015) suggest the findings indicate that large prizes increase decision utility (i.e., the decision to 'play') even though the experienced utility of small odds (i.e., the chance of winning) is low.

People are motivated to save in prize-linked schemes if they are ***optimistic*** about their chances of winning, and this can come from the ***salience*** (and corresponding excitement and anticipation) offered by large and life-changing prizes (Cole et al, 2014; Cole et al, 2017; Commonwealth, 2017; Connolly, 2017; Filiz-Özbay et al, 2013; Givecha, 2019; MAS, 2016; Pfiffelmann, 2013). Based on data simulations, Connolly (2017) go further to suggest that dynamic prizes may have

even more utility than fixed prize values, even for small savers.[4]

Apart from the chance of winning an attractive prize, the lottery element of prize-linked schemes may help to overcome **loss aversion** for those who see saving as a loss (Givecha, 2019; Kowalski, 2015). One lab-based study (albeit not specifically among people on low incomes) found that prize-linked saving schemes do evidence a shift in time preference to overcome **discounting** (Filiz-Özbay et al, 2013). The success of schemes which have allowed participants to pick their own lottery numbers or compete directly with others for prizes through their saving behaviour may derive at least in part from an **illusion of control** (Kowalski, 2015; Linardi and Tanaka, 2013). Other studies evidence a reinforcing effect of saving in prize-linked schemes, either from seeing savings accrue or early wins (Commonwealth & Earn, 2018; Hahnel, 2015). Announcing winners plays on the **availability bias** (Kowalski, 2015) and avoids fatigue (Pfiffelmann, 2013).

The capacity for schemes to make saving easy and effortless, through gamification, product ties, defaults and by linking saving to borrowing repayments may help to overcome **status quo** bias (Commonwealth, 2017; Gibbons, 2106; Gregory et al, 2016; MAS, 2018).

Finally, there is also evidence that adding a lottery to a saving product works to support saving by giving moral licence ('virtue') to gambling ('vice'; Atalay, 2019). In effect, prize-linked schemes may act as a substitute for gambling (Cole et al, 2017). In one, core, study the findings confirmed that it was the offer of the prize-linked schemes rather than expected returns which increased saving (Atalay et al, 2014). Notably, savings in this study were reduced when the odds of the domestic National Lottery jackpot were good, which the authors concluded indicate that prize-linked schemes are considered an alternative to both saving and lottery participation.

In summary, there is substantially more evidence on the underlying pathways to improved saving behaviour for prize-linked schemes. Regardless of which schemes are considered, however, there are underlying differences in people's preferences and how they respond to behavioural designs (Filiz-Özbay et al, 2013; Kowalski, 2015).

[4] In prospect theory, the largest increase in perceived odds in a fixed prize model occurs at the outset and then decreases with further saving. When someone increases their balance in a dynamic prize model, in which the prize is set as a percentage of the sums saved, the potential prize grows bigger, and with this, the perceived odds of winning also grow. A dynamic prize model is hypothesised to encourage savers to continually save more so that their prize keeps getting bigger (Connolly, 2017). However, it may be less salient and less clear to understand and may also contradict a preference among low-income households for 'fairness' identified in some of the corroborating literature.

6. Which groups benefit most?

Observational studies have considered the relative benefits for different groups of reward-based and prize-linked savings schemes. This has tended to be incidental to study findings, however, rather than an explicit objective of the research described.

Reward-based schemes. This review focusses explicitly on savings schemes designed to improve non-retirement savings among lower-income households. Within these parameters, studies are inconclusive about how income levels are related to the appeal or success of schemes (Klawitter et al, 2013). Indications are that the very poorest of households were poorly attracted by the UK's Saving Gateway (MAS, 2016; Rablen, 2010).

Canada's learn$ave savings outcomes were also not affected by income level or financial constraints (Leckie et al, 2010). Studies of the Saving Gateway and IDAs provide tentative evidence, however, of lower success for those with debt (Searle and Köppe, 2014) or credit-constraint (Rablen, 2010).

There is weak evidence that deposits in US IDA programmes were higher and account closures were lower among those who were already banked (Klawitter et al, 2013), and the findings of two studies suggest that people who are inclined to save but are not already doing so are attracted by matching schemes (Finney and Davies, 2011; Rablen, 2010). One review reports that most studies find greater savings in IDA programs for those with more education and greater financial literacy (Klawitter et al, 2013).

In relation to the socio-demographic characteristics of beneficiaries, there is no consistent evidence about the comparative impacts of reward-based schemes by age, gender or ethnicity. The UK's Save and Insure, whose target beneficiaries were social housing tenants, found that men and younger people were over-represented in the client base (Aynsley, 2011), but in IDA schemes men were more likely to drop out and younger people made less frequent deposits (Klawitter et al, 2013). Deposits were also less frequent for Black people in the US schemes, but they were higher for families in which one or more members did not have English as their first language (Klawitter et al, 2013).

There is slightly more consistent evidence that the reach and outcomes of reward-based schemes are poorer for families with children (Klawitter et al, 2013; Searle and Köppe, 2014; Surtees, 2015).

Prize-linked saving schemes: There is some evidence that lower-income households, as a whole, are attracted by prize-linked schemes, including UK Premium Bonds (Connolly, 2017; Kowalski, 2015). Conversely, the South African MaMA scheme has shown that it is those on moderate and average incomes and above who are more likely to open accounts (Cole et al, 2017; Searle and Köppe, 2014). Crucially, perhaps, MaMa was less sensitive to income than traditional savings accounts (Cole et al, 2017).

Robust evidence, albeit limited again to MaMa, shows that the **financially constrained**, those with high borrowing and feeling unable to repay debts were most likely of all to open prize-linked schemes (Cole et al, 2017; Givecha, 2019).

There is a clearer indication that prize-linked schemes are attractive to the financially excluded, whether the **unbanked**, underbanked or those without savings account, in evidence from the UK, US and South Africa (Boyd and Maynard, 2011; Cole et al, 2017; Connolly, 2017; Ratcliffe et al, 2020) and beyond (Givecha, 2019). Moreover, there is consistent evidence that non-savers, those with low or little **savings** and those without a savings habit are attracted to prize-linked schemes (Boyd and Maynard, 2011; Filiz-Ozbay et al. 2013, also reported in Givecha, 2019; Kearney et al, 2010; Ratcliffe et al, 2020; Searle and Köppe, 2014) and some, weaker, evidence that they experience better savings outcomes (Atalay et al, 2014; also reported in Ratcliffe et al, 2020).

In one, good quality study, prize-linked schemes take-up was not related to **financial literacy** (Cole et al, 2017). But the role of financial literacy and capability has not generally been studied explicitly.

We found very little evidence in the literature about the effectiveness of prize-linked schemes by **gender** and **ethnicity** and none by **age**. Studies in South Africa and the US have shown that men were more likely to be attracted to these schemes (Cole et al, 2017; Filiz-Ozbay et al 2013; Ratcliffe et al, 2020). People from minority groups and a Black background responded the best to a UK proof-of-concept study (Boyd and Maynard, 2011) and the prize-linked scheme in the US homeless shelter study (Linardi and Tanaka, 2013) respectively. In the same study, homeless shelter residents who did not have a partner were found to save less, and other prize-linked schemes have found that lone **parents** are prone to withdraw during school holidays (Hahnel, 2015).

A larger body of evidence from various prize-linked schemes in the US shows consistently that they attract **lottery players** (Filiz-Ozbay et al 2013; Givecha, 2019; Kearney et al, 2010; Kowalski, 2015; Ratcliffe et al, 2020). Indeed, the lottery elements in prize-linked savings schemes have been shown empirically to mimic gambling behaviour (Kowalski, 2015). Consistent with this, two corroborating studies cite research showing that people who are optimistic are attracted to prize-linked savings schemes (Givecha, 2019; Kearney et al, 2010).

In summary, there is little evidence that any particular socio-demographic or income groups – among the target group of lower-income households – benefit particularly strongly from either scheme type. Where there is clear evidence, this relates to the appeal of prize-linked schemes among the financially excluded, lottery players, and low and non-savers.

7. What works in effective product design?

Several studies have noted aspects of product design which are expected to be associated with improved outcomes and a few have systematically tested for the effects of different design elements, from the size of the incentive to specific aspects of a scheme's rules.

Reward-based schemes: Starting with **reward size and structure**, it is widely reported that match rates, expressed in cash terms, need to be attractive and above normal interest rates in order to counteract the potential loss aversion associated with saving among lower-income households (e.g., Which?, 2016). In qualitative, proof-of-concept research, one UK study found that a £1 or even 50p match was popular for a prospective matching scheme (Dolphin, 2011). This was in keeping with the comparatively greater success of the higher match rates offered in the Saving Gateway pilots (MAS, 2016; Which?, 2016).

It is notable, however, that IDAs have traditionally paid out match rates in excess of $1:1 matching and sometimes as high as $5:1, and a high match in US IDAs and Canada's learn$ave has been attributed to the programmes' successes in increasing saving behaviour (Leckie et al, 2010; MAS, 2016). In a rigorous review of mostly US research, however, Ratcliffe et al (2020) conclude that it is unclear how match rates affect someone's net savings.

Longer-term one-off matches are intended to disincentivise withdrawals, but arguments for matches based on the highest balance achieved (rather than other measures such as saving a set amount successfully every month) emphasise incentivising people to continue to build their savings even if withdrawals have been made (Surtees, 2016). For shorter schemes, a guaranteed reward of $10 against a $150 within three months was effective in encouraging prepaid debit card users to use the card's saving feature (Cooper et al, 2016).

Given the tendency for time discounting, however, reviews have also proposed that small (Gandy et al, 2016) and early or immediate (Gandy et al, 2016; Which?, 2016) reward-based schemes are reinforcing of saving. Rewards need not be purely financial and could include other more tangible rewards, such as cinema tickets or loyalty points (Dolphin, 2011; Which?, 2016).

A series of rewards should incentivise saving and reduce early closure and withdrawals and also disincentivise withdrawals (Manturuk et al, 2012; Surtees, 2016). Moreover, a robust field trial of IDAs found that increasing the match rate once an interim (midpoint) saving goal had been met resulted in increasing deposits (Loibl et al, 2016). Staggered match rates based on this design were popular among target beneficiaries of the Saving Gateway (Dolphin, 2011).

In relation to **scheme requirements and restrictions**, the application of both a monthly minimum deposit and total balance to qualify for incentives have been suggested as motivating saving in the Saving Gateway (Gandy et al, 2016; MAS, 2016). The qualifying period of two years has been proposed as being too long for the Help To Save scheme, given the financial pressures lower-income households face (Gregory et al, 2016; Surtees, 2016). Reducing the qualifying period for IDA matches qualified for matches impacted positively on saving regularity (though it had no influence on savings level; Leckie et al, 2010). However, it has already been noted that, in the limited empirical evidence available, two years may be the optimum period for habit formation (Loibl, 2011), if it develops at all.

Deposit minimums must be set carefully. A high minimum of $50 per month may have been the reason why not all families enrolled in a US IDA saved every month (Klawitter, 2013). Surtees (2016) suggests that allowing for an average of £50 per month in Help To Save may be more appropriate for lower-income households. Gregory et al (2016) support such flexibility and propose allowing for much smaller deposits; qualitative research found £25 per month was most attractive (Dolphin, 2011). Both Surtees and Gregory et al propose a lower maximum match threshold (than Help To Save, currently £2,400 over four years) to make it more

manageable and realistic to the needs and circumstances of lower-income savers; however, in empirical evidence, raising the cap in learn$ave positively affected saving amounts (Leckie et al, 2010).

We have already mentioned withdrawals; and there appears to be benefits to small savers to allow withdrawals every six months or to allow withdrawal after an interim goal is met (Surtees, 2016). Given the financial hardship experienced by the target group, penalties for withdrawal should not be onerous (Manturuk et al, 2012), and were not popular (Dolphin, 2011) and one suggestion is to allow withdrawals penalty-free so long as deposits are repaid within a certain period (MAS, 2016; noting that this is allowed in Help To Save).

Prize-linked saving schemes: In terms of **prize size and structure**, it has already been noted that large prizes are attractive (Boyd and Maynard, 2011; Filiz-Özbay et al, 2013; Kowalski, 2015; MAS et al, 2018). Modelling suggests that UK and Swedish Premium Bond grand prizes of around £1m should be larger than they are and that there is value in reducing the value of medium and small prizes. However, this applied across the income spectrum and may not be relevant to lower-income households specifically (Pfiffelmann, 2013).

Moderately large grand prizes of $50,000 and $100,000 in the US have been shown to be effective (Boyd and Maynard, 2011; Kearney et al, 2010; Surtees, 2015) and prizes of £100,000 and £250,000 in the UK are seen as 'life-changing' among lower-income households (Givecha, 2019). In MaMa, a grand prize of around $100,000 was also effective (Kearney et al, 2010) and there was no evidence that very large prizes improved on this Cole et al, 2017).

Consumers, and particularly lower-income consumers, appear to be willing to accept lower returns, however, depending on contexts and how the scheme is framed (Boyd and Maynard, 2011; Filiz-Özbay et al, 2013). In the US, a $1,000 prize against a $100 deposit was a popular option and generated new savers (Atalay et al, 2014; Ratcliffe et al, 2020) and in lab experiments a $200 prize returned modest increases in savings. Combining a small lottery element with a matched saving scheme in the complex field trial of one scheme was not effective (Loibl et al, 2016, core). Monthly prizes of between $15 and $1,500 were the most popular in one proof-of-concept study with people on lower incomes; moreover, monthly prizes were most popular overall (Boyd and Maynard, 2011).

The same study noted that variable monthly prizes may help to offset individual preferences for different prize levels, and the ability to choose options (such as lottery numbers) helps people feel they are in control (Kowalski, 2015). One study noted that frequent chances to win supported savers to maintain saving behaviour (Commonwealth & Earn, 2018).

Winning matters for subsequent saving outcomes, so this may further argue for smaller more frequent prizes (Commonwealth & Earn, 2018). The prospect of an instant prize wins is also reinforcing of saving behaviour (Boyd and Maynard, 2011), and several authors have observed that lower-income savers are more receptive to chances of winning that are based on deposit behaviour rather than amounts, and think this is fairer (Boyd and Maynard, 2011; Finney and Davies, 2011).

In relation to **scheme requirements**, the study of prize-linked schemes in a homeless shelter Linardi and Tanaka (2013) highlights that scheme duration should be appropriate to the saving objectives of both the scheme and participants' needs and circumstances. The ability to qualify for the chance to win prizes with small deposits is crucial according to several studies (Commonwealth & Earn, 2018; Boyd and Maynard, 2011; Hahnel, 2015; Surtees, 2016) and reducing the minimum purchase amount for Premium Bonds was intended to make the scheme accessible to more savers (MAS, 2016).

Where mentioned, a minimum deposit equivalent to $25 appears appropriate (Boyd and Maynard, 2011; Surtees, 2016). *Requiring*

monthly saving should be avoided as lower-income households struggle to commit to this (Givecha, 2019) and only circumspect use of withdrawal penalties should made (Boyd and Maynard, 2011; Hahnel, 2015; Givecha, 2019).

Searle and Köppe (2014) observe that people like prize-linked schemes to keep the deposits in in the long-term, using them as flexible savings for emergencies with the added chance of winning large amounts.

In summary, there are arguments for particular scheme and products designs, but these are not always supported by empirical evidence. Where there is the clearest evidence, this relates to the importance of frequent, substantial, and short-term financial incentives. Pairing incentives with other design features, such as goal setting and automation could support the outcomes of schemes.

8. What works in effective communication and delivery?

When compared with product design, there is rather less discussion in the available literature of what works in communicating and delivering reward-based and prize-linked schemes. **Information and messaging** is discussed the most, and this is reported separately by scheme type.

Reward-based schemes. When it comes to matched savings schemes, several studies emphasise the importance of clear and understandable information about the match; indeed, the simplicity of the match, expressed in cash terms, may be a particular advantage to matched-savings schemes over traditional savings (Crossley et al, 2012; Dolphin, 2011; Manturuk et al, 2012). Simple information reduces cognitive load (Crossley et al, 2012).

Some studies go further and propose that framing saving as relatable is important. This includes using messages that emphasise that saving small amounts is manageable and that saving into an account is safer than saving at home (Aynsley, 2011), and the particular return terminology (e.g., a 'match of 50%' or an equivalent 'rebate or 33%'; Crossley et al, 2012). Focussing on 'goals' and aspirations may be more useful than 'need' for rainy day funds for example (Gregory et al, 2016).

Prize-linked saving schemes: Much of the messaging around prize-linked schemes that is discussed in the literature focuses on engendering interest in and excitement at the prizes. This includes, headline grabbing prizes (Kearney et al, 2010), upfront advertising (Ratcliffe et al, 2020) and publicising winners widely (MAS et al, 2018) or locally (Cole et al, 2017). Consistent with the availability bias, the perception of the frequency of wins is determined by recollection of widely publicised wins (Kowalski, 2015).

However, Cooper et al (2016) caution against too many reminders sent by direct mailing as these were unpopular with and overwhelmed participants, suggesting a form of cognitive overload.

Information about the returns should also be simple and expressed in cash terms rather than percentages (Finney and Davies, 2011). More generally, prize-linked schemes may be effective because they reduce the cognitive load associated with achieving the same outcome from separate lottery and saving accounts with one single account (Atalay et al, 2014).

In terms of more specific messaging, framing the account as a 'saving account' is hypothesised to put off the financially excluded (Boyd and Maynard, 2011), but 'a chance to win is a chance to save more' and 'heads you win, tails you don't lose' have also been proposed as potential messages to help offset loss aversion (Givecha, 2019; Hahnel, 2015). 'Moral licensing' in prize-linked schemes, discussed above, can also be used to reassure the gambler that they are doing a good thing by saving (Atalay et al, 2019).

There is also conjecture in the literature (as opposed to good empirical evidence) about the appropriate providers of schemes. Several authors suggest that products delivered by and tied to trusted providers have particular 'value' attached to them. This includes supermarkets, credit unions and prepaid card providers (Commonwealth & Earn, 2018; Cooper et al, 2016; Dolphin, 2011; Surtees, 2016), but there are likely to be others.

Small savers emphasise security and peace of mind for their savings (Aynsley, 2011; Which?, 2016) and local providers may also be received well (Gregory et al, 2016), particularly where recruitment and the ability to ask questions can be done face to face (Aynsley, 2011). Expanding the provider base may be important for reaching a good range of participants (Boyd and Maynard, 2011), and private sector delivery has the potential for innovation in product design (Givecha, 2019).

Linked to this, incentives offered at opportune moments and natural contact points and signing people up face to face can work well for lower-income consumers (Aynsley, 2011; MAS et al, 2018). The tax refund windfall in the $aveUSA and $NYC schemes provided a unique and opportune moment to encourage savings and was the premise for the schemes (e.g., Tucker et al, 2014).

Outcomes in reward-based and prize-linked schemes might be supported through the simultaneous provision of financial education and training programmes and existing (pension) saving schemes (Loibl, 2010; MAS, 2016; Surtees, 2015) or tying saving to a desirable life outcome (as in the case of the homeless shelter prize-linked scheme; Linardi and Tanaka, 2013). Delivering savings through fun and engaging products is also important, and gamification offers potentially powerful ways to save (Commonwealth, 2017; Commonwealth, 2018; Dixon, 2020; Dolphin, 2011; Gregory et al, 2016; Kowalski, 2015; MAS et al, 2018).

In summary, simple, clear and positive messages which are relatable to lower-income households are important and well-evidenced starting points for communicating schemes. Providing fun and engaging methods for people to interact with their accounts may also be helpful. However, the evidence is as yet scant and approaches to communication and delivery are likely to need testing within the context of new scheme design.

9. Conclusions

There is promising evidence of the popularity and effectiveness of reward-based and prize-linked savings schemes for encouraging saving and other financial wellbeing outcomes.

It is not an extensive evidence base, and it is not always conclusive or consistent in its findings. This inconsistency is likely to reflect the design and context of different schemes as well as their ability to resonate with the needs, preferences and circumstances of different target groups. It also reflects the adequacy of study design and the quality of the evidence itself.

For instance, most of the field trials of schemes covered by the review did not include a counterfactual (e.g., a comparison group of people who met the eligibility criteria for the scheme but were not invited to take part). In the absence of this, it is difficult to know what would have happened to people's savings and saving behaviour if they had not taken part in the scheme.

Moreover, the take up of accounts in both scheme types varies, but it is often low. Crucially, participation in schemes is also normally self-selecting (within the eligibility criteria for the scheme). This is an important consideration when interpreting the findings that relate to subsequent outcomes, because individuals may self-select into schemes based on their ability or willingness to save in a particular way and over a particular time frame. This will tend to skew the picture positively wherever it is assumed that all of a target beneficiary group will benefit equally.

9.1.1. While there is mostly consistent and generalisable evidence that prize-linked schemes are effective in encouraging saving behaviour among lower-income households for short-term needs, the evidence on the effectiveness of reward-based schemes in this context remains inconclusive.

There is, on balance, a greater volume of evidence which tentatively supports the effectiveness of prize-linked saving schemes in promoting saving behaviour, and this is generally consistent in its findings. There is robust evidence of the effectiveness of reward-based schemes, but it is less extensive particularly in relation to saving for short-term and emergency goals.

Previous reviews, including expert reviews, assert that reward-based schemes involving bonuses and matched funding offer the best incentives to save. North American IDA schemes do evidence strong and positive outcomes from matched-savings schemes.

However, those schemes are structured towards longer-term (and tied) savings goals rather than the short-term goals and emergency savings buffer of the Nation of Savers goal. The schemes also incorporate other interventions (such as financial education) which makes attribution of any benefits to the reward difficult.

Moreover, the evidence base on reward-based schemes is overstated by repeat reporting of the same, limited findings and the *assumption* that it is effective in (and transferable to) the current context. In practice, the evidence for the effectiveness of reward-based schemes on saving behaviour remains inconclusive.

9.1.2. The amounts saved in schemes are generally modest and for reward-based schemes do not appear to represent new savings.

The amounts saved in reward-based schemes are generally modest, in the order of a few £100s, even after several months or a few years of saving. It is reasonable to expect this given the lower-income target beneficiaries targeted by the schemes covered here, and it is commensurate with building a savings buffer.

Prize-linked schemes appear to result in slightly larger (modest to moderate balances), though the available evidence on the amounts saved

within schemes is limited overall and to US and laboratory contexts.

Research conflicts on the question of whether reward-based schemes lead to greater total assets, and the clearest picture is of at least some reduction in other savings in order to take advantage of the schemes, including in the Saving Gateway pilots. This is corroborated by the poor reach of the Saving Gateway observed among non-savers. In other words, the scheme was more attractive among existing savers who had simply transferred their savings from elsewhere.

The effect of prize-linked schemes, in contrast, appears to be one of higher net savings, with comparatively small negative impacts on other accounts. There is strong evidence to show that the additional savings in these schemes come from reductions in expenditure (whether or not these are sustainable in the long term) and reduced spending on lotteries in particular.

9.1.3. The impacts of schemes on long-term saving outcomes are inconclusive. Reward-based schemes appear to be more effective, but this may reflect that participation in the schemes is largely self-selecting. There is as yet no clear evidence that saving habits play a role.

In terms of long-term saving behaviour, the limited evidence which exists is unclear. There is some indication that the benefits of savings schemes can be sustained but it is not guaranteed. The evidence tentatively suggests that reward-based savings schemes may be more effective in this respect. However, this appears to materialise only after several months or years of persistent saving in such schemes; and the reward alone may not be sufficient to nurture this.

There is no clear evidence that habit, when defined in psychological terms, plays a role in saving behaviour or other saving outcomes. By this definition, habits are the automatic and largely unthinking behaviours which occur separately from the more considered, planned and conscious decision-based behaviours. Habit when defined in lay or policy terms – the enactment of regular or routine saving – remains important, however, and can be supported by the features of scheme design which increase the appeal of saving, remind and trigger the behaviour and then facilitate it by making saving easy.

Features such as automatic contributions, which largely bypass behaviour, might therefore reflect a first-tier objective of helping people to create a savings buffer. Scheme designs which focus on providing environmental triggers might be best supporting a second-tier objective of promoting regular saving behaviour. As such, encouraging people to develop a saving habit per se might be best distinguished as a third-tier objective, appropriate only for schemes have the capacity to embed saving behaviour into specific contexts by working very closely with their target beneficiaries.

Where permissible, accounts – and a large share of the balance – are often maintained some months and years beyond the award of a match in reward-based schemes. We found some evidence relating to the persistence of saving in prize-linked schemes, although this was limited and mixed.

Where evidence points to the positive impacts of schemes on individuals' financial and personal wellbeing are observed these are largely limited to reward-based schemes which also involved financial education programmes. This makes conclusions about the effectiveness of the incentives per se on these outcomes difficult.

9.1.4. There is little evidence that any particular socio-demographic or income groups – among the target group of lower-income households – benefit particularly strongly from either scheme type.

Overall, there is little evidence that particular groups benefit more from reward-based or prize-linked saving schemes, although there is an

indication that families (and especially lone parents) with children appear to benefit less well. There is also no obvious link to income within the target base of lower-income households. Individuals' and households' experiences and preferences are also diverse and transect the more noticeable measures of group membership.

The clearest evidence is perhaps that prize-linked schemes are attractive to the financially excluded, lottery players, and low and non-savers. This suggests that prize-linked schemes may be comparatively more effective in enabling people who are less able and less inclined to save to start saving.

9.1.5. Capitalising on behavioural and cognitive biases in scheme design offers promise in helping lower-income households overcome barriers to saving. There is unlikely to be a one-size-fits-all solution and market testing for a particular target group in a specific context will be critical.

There is substantially more evidence in support of prize-linked than reward-based schemes in relation to the underlying processes which help bring about saving behaviour. This includes people's tendencies to overweight the small potential probabilities of wins and of the salience of wins. This offers providers greater confidence and insight to the specific design elements of the prize-linked schemes.

Nonetheless, the assumptions and arguments for particular scheme and products designs are not always backed by empirical evidence. Additional differences in people's underlying preferences for behavioural designs means that not all schemes will serve the needs of all target beneficiaries.

Where there is the clearest evidence about scheme design, this relates in both scheme types to a substantial financial incentive. A high reward or prize should draw attention because it is salient, and generous incentives (and particularly high match rates) appear to be associated with higher take-up rates regardless of scheme type. Given the available evidence, high incentives are not necessarily causally related to saving outcomes, however. Moreover, they may not be realistic within the financial constraints of many scheme providers, particularly given the low rates of saving and low amounts saved among people on low incomes. As such, other design features may become more important than the incentives themselves, and optimal incentive levels may need to be tested within the context of the overall scheme design.

In this context, it is helpful that frequent and short-term incentives also appear to be important for low-income savers, specifically, because they reinforce ongoing saving and help to offset the costs of saving on people's spending capacity. Lower-income savers also need flexibility from scheme rules, such as the ability to withdraw cash in an emergency without suffering punitive penalties. Simple product design should provide a frame for decision-making and help anchor desirable saving behaviour.

Pairing rewards and prizes with other design features, such as goal setting, attractive products, financial capability training and gamification could support the outcomes of schemes; however, the existing evidence to support this is weak. Automatic contributions have been suggested as a way to enhance the benefits of both scheme types, by helping to kick-start saving and then maintain the status quo of saving after the incentive has been withdrawn.

While existing research is inconclusive about which providers are best, scheme developers should be mindful of a need for clear and positive messages which are relatable to lower-income households; these factors are well-evidenced in the effective communication of schemes. Timeliness of the offer and the exploitation of 'opportune' moments is likely to help the reach of schemes. Publicising of wins, and potentially other measures of success, are also potentially important ingredients.

Overall, individual scheme design will need to factor in the prevailing needs and preferences of particular groups in specific contexts, as well as the objectives of the scheme. Given the lack of consistent evidence to date about what works and when, each element of a new scheme's product, communication and delivery design will need be considered carefully and tested, individually and in combination, in the specific context in which they are intended for implementation.

10. Appendix A: The main schemes by scheme type

Scheme	Country	Details	References
Reward-based savings			
American Express	US	American Express Serve is a prepaid card with a savings feature. A scheme offered one-time $10 incentive if they set up and used the card's savings feature to save $150 in three months.	Cooper et al (2016) Ratcliffe et al (2020)
Help To Save	UK	Help to Save is a government-backed savings account for people entitled to Working Tax Credit or receiving Universal Credit to get a bonus of 50p for every £1 they save over four years. Savers can save a maximum of £50 each calendar month with no monthly obligation and no limit on the number of payments within the month. Withdrawals from the Help to Save account are permitted, into the saver's bank account. Two tax-free bonuses are paid: after two years the bonus is 50% of the highest balance saved; those continuing to save receive a final bonus after four years. The second bonus is 50% of the difference between the highest amount in the first two years and the final balance. A saver who deposited £50 every month and did not make any withdrawals will receive a maximum bonus of £1,200 on a savings deposit of £2,400. This would result in total savings of £3,600 over the four years. The account can be closed by the saver at any time and is closed by default after four years. Savers cannot reopen a closed account or open another Help to Save account. Saving into a Help to Save does not impact benefits received as long it is the only savings account the saver has open. Total savings accrued up to £6,000 do not currently affect Universal Credit.	MAS et al (2018) Clark (2020) Surtees (2016) Gandy et al (2016) Gregory et al (2016)
Individual Development Accounts	US	An IDA is a savings account designed to help low-income individuals build assets for long-term financial stability. Accounts are means-tested and offer matching on all deposits made by an account holder if the account holder uses the savings for any of three qualifying purposes (home ownership, education, small business). The match is effectively a withdrawal match. Match cap, commitment length, eligibility criteria and monthly savings targets/commitments vary depending on the scheme. The IDA programme also involves a substantial financial education package. SEED IDAs (Saving for Education, Entrepreneurship, and Down payment): Deposits in IDA accounts are matched both to encourage saving and on withdrawals. They involve input from community organisations. Again, they are limited to use for qualifying purposes and there is substantial educational and administrative support involved. ADD IDAs (American Dream Policy Demonstration): targeted at the 'working poor' (with most beneficiaries below 200 per cent of the poverty line,, again offering match funding and financial education.	MAS (2016) Leckie et al (2010) Crossley et al (2012) Loibl et al (2011) Grinstein-Wiess et al (2011) Tufano and Schneider (2008) Searle and Köppe (2014) Ratcliffe et al (2020) Surtees (2015)

learn$ave	CAN	Learn$ave was demonstration project IDA launched in 2000 by Human Resources Development and Skills Development Canada. It promoted adult learning among low-income Canadians and eligibility was means-tested (household income could be no more than 120% of the 'Low-income Cut-off', and households could have no more than $3,000 in assets) and were restricted to those not already engaged in full-time studies. The match was effectively a withdrawal match, with matching credits between $2:1 and $5:1 made on all deposits made by an accountholder up to $1,500 over a three-year period. This meant they could accumulate a maximum of $6,000 in their restricted IDA savings accounts. Participants were more likely than the low-income population as a whole to be university degree holders, new immigrants and employed.	Leckie et al (2010)
Saver Plus	AUS	Saver Plus is an Australian matched-savings programme which has been supported by the Australian Government since 2009. The account matches dollar for dollar up to a maximum amount of $500 over 10 months but the money has to be used for the saver's own, or their children's, education. Participants open a savings account and, following discussion with a Saver Plus worker, decide on fixed regular deposit amounts. They also participate in at least 10 hours of the MoneyMinded financial education programme offered as part of Saver Plus. Eligibility rules for the program include savers being over the age of 18, having a child in school or being in vocational education themselves, being in a household with a regular employment income and being in receipt of some means tested benefits.	Russell et al (2015) Russell et al (2018)

$aveNYC & $aveUSA	US	$aveNYC was a tax-time savings programme based in New York City that targeted tax-filers with less than $18,000 adjusted gross income (AGI), or $50,000 AGI for those with children. During the 2008-2010 tax seasons filers at Volunteer Income Tax Assistance sites were offered the opportunity to take part in the scheme. Participants had to deposit at least $200 of their tax refund into a limited access savings account for a year and could then receive a 50% matching incentive. The maximum match amount was $500, based on savers depositing $1000. Filers with a refund lower than $200 weren't eligible to take part. It aimed to create short-term savings to help improve individuals' longer-term savings and financial stability, enabling low-income tax-filers to rely on their precautionary savings to get by rather than engaging in risky financial behaviours (such as borrowing money or skipping payments). Accountholders could add to or withdraw from their accounts but required a telling assistant to do so. $aveUSA replicated $aveNYC. It ran during the tax seasons of 2011 through 2013 in four U.S. cities (New York City, NY; Newark, NJ; San Antonio, TX; and Tulsa, OK). Similarly, to $aveNYC, it was aimed at low-income tax filers who received a minimum of $200 in their tax return from their federal, state and/or city tax returns. They were offered a 50% match up to a maximum amount of $500 if they deposited the $200 minimum tax refund into a $aveUSA Account and maintained this amount for approximately a year.	Tucker et al (2014) Key et al (2015) Ratcliffe et al (2020)

Saving Gateway	UK	The Saving Gateway was a government-backed UK matched-savings scheme, which was piloted twice (in 2004 and 2006). It was due to be rolled out in 2010 but was withdrawn at short notice by the incoming UK government in the same year. The scheme was targeted at people on lower incomes and both pilots were run in localised areas. In the first pilot, people were eligible to participate if they were either of working age, in work and entitled to Working Tax Credit or were not in paid work and were receiving a qualifying means-tested benefit. Matched funding of £1 for every £1 saved was offered up to £25 per month and an overall cap over 18 months of £375 (equivalent to saving in 15 months at the maximum contribution rate). The qualifying balance was the highest balance occurring during the account term. In some areas, financial education or training was provided alongside the account offer. The second pilot trialled different match-rates from 20 pence up to £1 and different maximum monthly contribution limits from £25/month up to £125/month. It also had a maximum government match of 16 months of full contributions over 18 months (to allow two months in which to catch up on any withdrawals, subject to the maximum monthly contribution limit, before the end of the scheme to still receive the maximum match). Any money withdrawn and replaced within the same calendar month did not count as a withdrawal for the purposes of the match. Optional financial education courses were also built into the SG2 pilot, and eligible individuals had to be aged 16 to 65, with individual earnings up to £25,000 and in a family with earnings below £50,000, or in receipt of a main out-of-work qualifying benefit. The aims of the Saving Gateway were to 'kick-start' a saving habit and promote financial inclusion. In both cases, the match was awarded on account maturation and no interest was paid.	MAS (2016) Crossley et al (2012) Surtees (2015) Searle and Köppe (2014) Which? (2016)
Prize-linked savings			
Million A Month Account	South Africa	First National Bank (FNB) of South Africa created a program called the Million a Month Account (MaMa), which aimed to increase savings accounts among unbanked people. A 32-day notice account offered no interest and instead offered randomised, lottery-like pay-outs to individual account holders with qualifying minimum balances of R100 . There were 114 monetary prizes a month to savers which ranged from R1,000 to £1million. The scheme ran for 14 months but was closed following a court ruling on the grounds that it contravened the National Lotteries Act.	Kowalski (2015) Cole et al (2017) Gicheva (2019) Searle and Köppe (2014)

Save to Win	US	Save to Win was a prize-linked savings scheme pioneered by Michigan Credit Unions (2009). It ran for six years. Members of participating credit unions had the opportunity to open a qualifying share certificate account to enable them to enter a saving raffle at any point during the scheme. The certificate was a 12-month deposit account and required $25 to open. Interest was paid at an annual rate of 1 - 1.5%. Each $25 deposit qualified an entry to the raffle (up to 10 entries per month). Prizes involved a single, annual $100,000 prize and smaller prizes ranging from $15-$400, varying in number, per month. One withdrawal was allowed during the 12-month period, and standard certificate early-withdrawal fees applied ($25). Participants could remain enrolled beyond the 12-month term by depositing small amounts. Due to its popularity, Save to Win spread to 62 Credit unions over four states and gained 40,000 more members, continuing to focus on lower income families. Around 8 to 9 in 10 account holders were 'financially vulnerable', i.e., non-regular savers, asset poor, on low to moderate income, with high debt or no emergency savings.	Kearney et al (2010) Hahnel (2015) Boyd and Maynard (2011) Commonwealth (2020) Surtees (2016) Gibbons (2016) Masters and Farchy (2011) MAS (2016)
Scratch & Save	US	SaverLife is a not-for-profit online financial capability tool. SaverLife partnered with Commonwealth (a national non-profit building financial security and opportunity for financially vulnerable people through innovation and partnerships to change systems) to develop and test Scratch & Save, digital prize-linked saving campaign intended to motivate weekly small-dollar savings on the SaverLife platform. Emails were sent to every SaverLife member (not dependent on their savings activity) offering the opportunity to win $5 through a digital “instant win” scratch card if they saved a minimum amount of $5 a week. A free scratch card was given to the members in the first week and in each consecutive week over the ten-week programme. 100 $5 prizes were randomly awarded.	Commonwealth & Earn (2018)
Walmart’s MoneyCard	US	Walmart's MoneyCard is a reloadable prepaid debit card. It has a savings feature called the Vault, which was underutilized. A prize savings program was designed in partnership with Green Dot Bank and Commonwealth. It offered the chance to win cash prizes to make saving fun and to engage people in a large-scale, sustainable way. Each dollar saved in the Vault earned the user automatic entry into monthly drawings for one of 499 prizes of $25 or one $1,000 grand prize.	Commonwealth (2017) Ratcliffe et al (2020) Dixon (2020)

12. Appendix B: Review methodology

The review methodology used a rigorous, methodological but flexible approach based on the rapid evidence assessment approach. Appropriate search terms for a search and sources were agreed with MaPS. These allowed for some flexibility within the search process.

Research was in scope if it was published since 2010 and was undertaken in the UK or another developed, English-speaking nation (principally Australia, New Zealand and the US) or South Africa. Some reviews deemed in scope also reported research from other countries, including Mexico, Nigeria and Sweden; these are reference in passing only where pertinent.

Research considered in scope needed to carry some empirical element, whether evaluation or insight (the latter including literature reviews). There was a primary focus on research which covered the Nation of Savers target group (working age, struggling, squeezed) and a focus on saving for short- and medium-term goals.

Search terms used the stems of the following words:

- Low income, poor, poverty, small savers
- Savings, save, investing, assets
- Win, lottery, prizes, chance, draw, jackpot, gamification, games, incentives, reward, bonus, premiums, guarantees, match, loyalty.

Sources comprised MaPS publication listings, UK and international organisational research listings, ResearchGate, Web of Science and Google. Snowballing was also permitted with overlapping and repeating evidence between sources were noted.

The literature identified in the search was sifted during the search process for potential relevance, returning an initial 89 items. Subsequent, more detailed screening for relevance and quality reduced the number of items to 54 (including some which were of useful background relevance only).

All 54 items were then summarised individually using a bespoke data extraction proforma, agreed with MaPS. This captured the scope, methodology and findings of the study as well as a quality assessment and further assessment of relevance to the current review. Once the individual summaries were complete, thematic codes were applied to the summaries to enable sorting, filtering and further processing as a starting point for synthesis and reporting.

The findings in this report are based primarily on the 43 items deemed to be substantively relevant to the research questions and to be based on good or adequate quality empirical research (core and corroborating; see classification in Appendix C). Not all background and peripheral literature has been used in this report but is all given in the bibliography, along with additional background references which were included during the drafting phase only of the report. Two reports, from 2008 and 2009 respectively, were included because they provided some useful (and potentially unique) insights; one was classed as peripheral and the other provided background only.

13. Appendix C: Classification of the literature

In synthesising and reporting the evidence base, the literature has been classified to reflect the degree of relevance and quality in addressing the research questions. The classification of the items is summarised in the table. A dark tick indicates that the item must address the criterion; a light tick that it may address it.

Classification	Relevant to the Nation of Savers population	Reports a robust study methodology	The context is relevant to the UK context	Addresses effectiveness on saving behaviour	Addresses ancillary benefits or pathways	References
Core	✓	✓	✓	✓	✓	Atalay et al (2014); Boyd and Maynard (2011); Commonwealth (2017); Commonwealth & Earn (2018); Cooper et al (2016); Crossley et al (2012); Kowalski (2015); Leckie et al (2010); Linardi and Tanaka (2013); Loibl et al (2016); MAS et al (2018); Ratcliffe et al (2020); Russell et al (2015)
Supplementary	✓	✓	✓		✓	Cole et al (2017); Grinstein-Wiess et al (2011); Manturuk et al (2012); Pfiffelmann (2013); Tucker et al (2014)
Corroborating	✓	✓	✓	✓	✓	Atalay et al (2019); Aynsley (2011); Commonwealth (2020); Connolly (2017); Dixon (2020); Dolphin (2011); Jindapon et al (2019); Filiz-Özbay et al (2013); Finney and Davies (2011); Gandy et al (2016); Gicheva (2019); Gregory et al (2016); Hahnel (2015); Kearney et al (2010); Key et al (2015); Klawitter et al (2013); Loibl et al (2011); MAS (2016); MAS et al (2018); Rablen (2010); Russell et al (2018); Searle and Köppe (2014); Surtees (2015); Surtees (2016); Which? (2016)
Peripheral				✓	✓	Bayuk and Altobello (2019); Broughton et al (2020); Financial Advice Working Group (2017); Gibbons (2016); Masters and Farchy (2011); Tufano and Schneider (2008)

A reference is classified as "core" literature if it provides the *best* evidence of impacts on saving behaviour amongst working-age low-income households in contexts similar to that of the UK. Core literature is the most relevant and robust evidence available, although it may still have some limitations in its methodology or generalisability (see for example, the box on IDAs in Section 2). Literature is classed as "supplementary" if it falls short of the criteria for core literature but nonetheless provides robust evidence of the impacts of schemes on supporting measures of saving behaviour (such as account opening and sums saved), the ancillary benefits of financial inclusion and wellbeing, or the explanatory mechanisms or pathways by which savings outcomes are improved.

Evidence is classed as "corroborating" if it lacks the quality of the core or supplementary literature or does not carry substantial relevance to the context of saving in working-age lower-income households in the UK. It nonetheless offers sufficient insight from which to draw reasonable inferences about the central research question. Finally, literature is classed as being of "peripheral" relevance if it references reward-based and prize-linked savings schemes but does not address the central research question adequately. This might be because it gives only brief consideration to these schemes as part of a broader research study; does not evaluate the primary evidence it reports for quality; considers evidence which does not generalise well to the current context; or lacks sufficient rigour and robustness to enable inferences to be drawn. This includes items that refer solely or principally to policy proposals or hypothetical revisions to schemes that are unsupported by empirical evidence.

14. Appendix D: Influencing behaviour: relevant terms from behavioural theory, psychology & economics

Anchoring effect. A tendency for people to focus too heavily on one piece of information or reference point (Hartfree et al, 2016).

Availability heuristic. Using whatever information is readily available (The Building Society Association, 2009).

Cognitive overload. Also known as choice overload bias. The more information there is, or the more complex a decision is, the more likely someone is to defer their decision-making (Dolan et al, 2010).

Crowding out. Where one outcome or decision dominates someone's attention (Lupton et al, 2015).

Temporal discounting. Also referred to as time preference and including present bias, future discounting, and hyperbolic discounting. A tendency to value immediate rewards or benefits or prioritise short-term needs over future rewards or needs (Hartfree et al, 2016; Lupton et al, 2015).

Framing. The way information is presented and the context in which is presented can be a powerful influence on people's choices (Hartfree et al, 2016). Defaults can be effective and loss aversion can come into play because of the effects of framing (Dolan et al, 2010). Gamification is an example of framing (Lupton et al, 2015).

Illusion of control. A tendency to deny the role of chance even in situations that are entirely determined by chance (Kowalski, 2015).

Loss aversion. A tendency to overvalue things we already have or think we have and undervalue things we do not yet have. Results in a tendency to subjectively dislike losses more than their objectively equivalent gains (Hartfree et al, 2016). Saving may be perceived as a form of loss (of spending power; Which?, 2016)

Overweighting. A principle of cumulative prospect theory, which describes decision-making under uncertainty. A tendency for people to place more subjective weight on small probabilities and extreme events (such as 'winning the jackpot') and underweight the likelihood of common or average events (Dolan et al, 2010; Lupton et al, 2015). People are poor generally at assessing probability or of applying it to their situation. Relates to over-optimism bias, the belief that everything will be fine in the future (Lupton et al, 2015).

Self-efficacy. A belief in one's ability to succeed. Best acquired through a succession of smaller, manageable tasks rather than fewer big ones. Success provides pleasure and motivates next steps (Hartfree et al, 2016).

Salience. Information that is novel, familiar or relevant is more likely to draw our attention and be remembered. Salience can help re-frame information or decision-making (Dolan et al, 2010). Identity salience relates a prospective event to the possibility that 'it could be you' (Kowalski, 2015).

Status quo bias. The tendency to go with what has been done (or known) before, to go with defaults. It can relate to an aversion to risk as well as a tendency to procrastinate ('do nothing') (Hartfree et al, 2016).

Utility. Traditional economic theory. Includes Rational Choice Theory (also called Expected Utility Theory). People behave in a way that maximises their expected benefits (Hartfree et al, 2016). Perceived and expected (objective) utility may not correspond and result in biases such as loss aversion and overweighting.

15. Bibliography

Atalay, K., Bakhtiar, F., Cheung, S. and Slonim, R. (2014), 'Savings and Prize-Linked Savings Accounts'. *Journal of Economic Behavior & Organization Volume 107, Part A, Pages 86-106.* https://www.sciencedirect.com/science/article/pii/S0167268114002194

Atalay, K., Garbarino, E. and Slonim, R. (2019), "Prize-linked savings accounts: combining virtue and vice to make savings more enticing", Journal of Consumer Marketing, Vol. 37 No. 2, pp. 180-190. https://doi.org/10.1108/JCM-03-2019-3109

Aynsley, H. (2011) Saving Money, Insuring the Future: A partnership between Prince Bishops Community Bank, Derwentside Homes and RSA Insurance. London: Toynbee Hall. http://financialhealthexchange.org.uk/wp-content/uploads/2015/11/Saving-Money-Insuring-the-Future.pdf

Bayuk, J. and Altobello, S. (2019) Can gamification improve financial behavior? The moderating role of app expertise. *International Journal of Bank Marketing*. https://www.researchgate.net/profile/Suzanne-Altobello/publication/331415336_Can_gamification_improve_financial_behavior_The_moderating_role_of_app_expertise/links/603bb703299bf1cc26fbb2e0/Can-gamification-improve-financial-behavior-The-moderating-role-of-app-expertise.pdf

Boyd, H. and Maynard, N. (2011) *Prize-Linked Savings and Financially Vulnerable Americans: Insights from a Five-State Study*. Allston MA: Doorways to Dreams. https://buildcommonwealth.org/assets/downloads/D2D_5StateStudy_FINAL.pdf

Broughton, N. Costa, L. Halpern, D. Lohmann, L, O'Brien, R. Solomon, P., Schultheis, S, Shakhina, N. and Wu, H (2020) *The Behavioural Economy: A 10 point plan to upgrade economic policy*. London: Behavioural Insights Team: https://www.bi.team/wp-content/uploads/2020/11/The-Behavioural-Economy-1.pdf

Clark, D. (2020) 'Get a 50% bonus on savings with the Government's Help to Save scheme', Moneyfacts.co.uk, [online]. https://moneyfacts.co.uk/news/savings/get-a-50-per-cent-bonus-on-savings-with-the-government-s-help-to-save-scheme/

Cole, SA., Iverson, BC. and Tufano, P (2017) 'Can Gambling Increase Savings? Empirical Evidence on Prize-Linked Savings Accounts'. Saïd Business School WP 2014-10. *https://ssrn.com/abstract=2441286 or http://dx.doi.org/10.2139/ssrn.2441286*

Commonwealth (2017) Walmart MoneyCard Prize Savings: One Year Anniversary Brief. Boston MA: Commonwealth. https://buildcommonwealth.org/assets/downloads/Prize_Savings_Anniversary_Brief.pdf

Commonwealth (2018) *Scratch & Save: Engaging Digital Experiences Build Financial Security.* Boston MA: Commonwealth. https://buildcommonwealth.org/assets/downloads/Scratch__Save.pdf

Commonwealth (2020) *Prize-Linked Savings in Credit Unions in 2019*. Boston MA: Commonwealth. https://buildcommonwealth.org/assets/downloads/PLS_2019_Scorecard.pdf

Connolly, O (2017) Dynamic Prize Linked Savings: Maximizing Savings and Managing Risk. Quantitative Finance: Statistical Finance, Corner University: 1-19. https://arxiv.org/ftp/arxiv/papers/1701/1701.05176.pdf

Cooper, C., Knoll, M., Sieminski, D. and Zimmerman, D. (2016) Tools for saving: Using prepaid accounts to set aside funds. Consumer Finance Protection Bureau: Washington, D.C: . https://www.bankingtech.com/files/2016/10/092016_cfpb_ToolsForSavingPrepaidAccounts.pdf

Crossley, T., Emmerson, C., & Leicester, A. (2012). Raising household saving. London: British Academy Policy Centre. https://www.thebritishacademy.ac.uk/documents/256/Raising-household-saving.pdf

Dixon, A. (2020) Gamification: How mobile games can help you reach your financial goals. Bankrate online article. https://www.bankrate.com/banking/savings/gamification-helps-people-save-more-money-savings/

Dolphin, T. (2011) Designing a Life-Course Savings Account:How to help low-to-middle income families save more. London: Institute for Public Policy Research. http://financialhealthexchange.org.uk/wp-content/uploads/2015/11/Designing-a-Life-course-savings-account.pdf

FCA (2015) 'Cash savings market study report: Part I: Final findings Part II: Proposed remedies'. *Market Study MS14/2.3* London: Financial Conduct Authority https://www.fca.org.uk/publication/market-studies/cash-savings-market-study-final-findings.pdf

Filiz-Özbay, E., Guryan, J., Hyndman, K., Kearney, M. and Ozbay E. (2013) Do Lottery Payments Induce Savings Behaviour? Evidence from the Lab, *NBER Working Paper 19130*.

Financial Advice Working Group (2017). *Rules of Thumb and Nudges: Improving the financial well-being of UK consumers*. London: Financial Conduct Authority. fca.org.uk/publication/research/fawg-rules-of-thumb-nudges.pdf

Finney A. and Davies, S. (2011) *Towards a nation of savers Understanding and overcoming the challenges to saving on a lower income*. Bristol: Personal Finance Research Centre. http://www.bristol.ac.uk/media-library/sites/geography/migrated/documents/pfrc1105.pdf

Gandy, K., King, K, Streeter Hurle, P., Bustin, C. and Glazebrook, K. (2016) *Poverty and decision-making: How behavioural science can improve opportunity in the UK*. York: Joseph Rowntree Foundation. http://38r8om2xjhhl25mw24492dir.wpengine.netdna-cdn.com/wp-content/uploads/2017/02/JRF-poverty-and-decision-making.pdf

Gibbons, D. (2016) *Using insight and innovation to benefit low income households*. London: Centre for Responsible Credit. https://responsible-credit.org.uk/wp-content/uploads/2016/05/US-UK-Exchange-report.pdf

Gicheva, N. (2019) *Win & Save – Exploring the potential of a lottery savings scheme in the UK.* London: Social Market Foundation https://www.smf.co.uk/publications/win-save-exploring-potential-lottery-savings-scheme-uk/

Gregory, J., Rowlingson, K. and Lymer, A. (2016) *Savings for All: A Manifesto for an Inclusive Savings Agenda.* Birmingham: University of Birmingham. https://www.birmingham.ac.uk/Documents/college-social-sciences/social-policy/CHASM/2016/Saving-for-All-Manifesto-vfinal.pdf

Grinstein-Weiss, M., Sherraden, M. W., Gale, W. G., Rohe, W., Schreiner, M. J., & Key, C. (2011). The Ten-Year Impacts of Individual Development Accounts on Homeownership: Evidence from a Randomized Experiment. *SSRN Electronic Journal.* https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.405.9872&rep=rep1&type=pdf

Hahnel, A. (2015) *Creating Financial Confidence and Opportunity*. Allston MA: Doorways To Dreams. https://buildcommonwealth.org/assets/downloads/FinancialConfidenceandPLS_1.pdf

Jindapon, P., Sujarittanonta, P., Viriyavipart, A. (2019) *Prize-Linked Savings Games: Theory and Experiment.* CBEE Chulalongkorn University. https://www.uts.edu.au/sites/default/files/2019-08/Paan%20Jindapon.pdf

Kearney, M., Tufano, P. Guryan, J. and Hurst, E. (2010) 'Making Savers Winners: An Overview of Prize-Linked Savings Products'. *NBER Working Paper 16433*. https://www.nber.org/papers/w16433

Key, C., Tucker, JN., Grinstein-Weiss, M. and Comber, K. (2015) Tax-Time Savings among Low-Income Households in the $aveNYC Program. *Journal of Consumer Affairs 49*(3). https://onlinelibrary.wiley.com/doi/full/10.1111/joca.12070. DOI: 10.1111/joca.12070

Klawitter, MM., Anderson, CL. and Gugerty, MK. (2013) Savings and personal discount rates in a matched savings program for low-income families. *Contemporary Economic Policy, Volume:31*, Issue:3, Page(s):468-485. DOI: 10.1111/j.1465-7287.2012.00325.x. https://apps.webofknowledge.com/full_record.do?product=WOS&search_mode=AdvancedSearch&qid=89&SID=E5XgV8JgiphLUjikcPZ&page=2&doc=78&cacheurlFromRightClick=no

Kowalski, J. (2015) 'Prize-linked savings products: An innovative tool for increasing savings among low-income households?' MPA Class of 2014, London School of Economics and Political Science. *The Public Sphere 2015. https://osf.io/xhsvj/download*

Leckie, N., Taylor Shek-Wai Hui, T.., Tattrie, D., Robson, J., & Voyer, J.-P. (2010*). Learning to save, saving to learn - learn$ave Individual Development Accounts Project - Final Report*. Ottawa, Ontario: SRDC/SRSA. srdc.org/uploads/learnsave_final_en.pdf

Lin, X., Baker, DJ., Assefa, S. and Tarkhnishvili, N. (2018) *Beyond Age and Income: Encouraging saving behaviours.* London: Toynbee Hall

Linardi, S. and Tanaka, T. (2013) Competition as a savings incentive: A field experiment at a homeless shelter. Journal of Economic Behavior & Organization: 95 p:240-251. DOI: 10.1016/j.jebo.2012.10.012. https://apps.webofknowledge.com/full_record.do?product=WOS&search_mode=AdvancedSearch&qid=40&SID=E5XgV8JgiphLUjikcPZ&page=9&doc=405&cacheurlFromRightClick=no

Loibl, C Eden Jones, L. Haisley, E. and Loewenstein, G. (2016) Testing Strategies to Increase Saving and Retention in Individual Development Account Programs (February 20, 2016). Available at SSRN: https://ssrn.com/abstract=2735625 or http://dx.doi.org/10.2139/ssrn.2735625 http://npc.umich.edu/publications/u/2016-1-loibl-jones-haisley-loewenstein.pdf

Loibl, C., Kraybill, DS., & DeMay, SW. (2011) Accounting for the role of habit in regular saving. *Journal of Economic Psychology, 32*(4), 581–592. https://doi.org/10.1016/j.joep.2011.04.004. https://www.sciencedirect.com/science/article/pii/S0167487011000626

Lupton, B, Rowe, A. and Whittle, R. (2015) *Show me the money! The behavioural science of reward*. London: CIPD. https://www.cipd.co.uk/Images/show-me-the-money_2015-behavioural-science-of-reward_tcm18-9560.pdf

Manturuk, K., Dorrance, J. and Riley, S. (2012) Factors affecting completion of a matched savings program: Impacts of time preference, discount rate, and financial hardship. *Journal of Socio-Economics Volume: 41* Issue: 6 Pages: 836-842 Special Issue: SI. DOI: 10.1016/j.socec.2012.08.006. https://apps.webofknowledge.com/full_record.do?product=WOS&search_mode=AdvancedSearch&qid=89&SID=E5XgV8JgiphLUjikcPZ&page=2&doc=82&cacheurlFromRightClick=no

MAS (2016) *Savings evidence review*. London: Money advice Service. http://www.bristol.ac.uk/media-library/sites/geography/pfrc/pfrc1706-savings-evidence-review.pdf

MAS, Ecorys, PFRC and CHASM (2018) *Improving money management in working age adults: A Review of the Evidence* London: Money Advice Service. https://masassets.blob.core.windows.net/cms/files/000/001/139/original/Managing_Money_Evidence_Review_Final.pdf

MAS, The Behavioural Insights Team and Ipsos MORI (2018) *A behavioural approach to managing money: Ideas and results from the Financial Capability Lab*. London: Behavioural Insights Team. https://fincap-two.cdn.prismic.io/fincap-two%2Fd5312602-e0b0-4d6e-890b-249d408b608c_financial-capability-lab-report-may18.pdf

Masters, J. and Farchy, E. (2011) *Savings on a Shoestring: A whole new approach to savings policy*. London: Social Market Foundation. https://www.smf.co.uk/wp-content/uploads/2011/07/Publication-Savings-on-a-shoestring-A-whole-new-approach-to-savings-policy.pdf

Pfiffelmann, M. (2013) What is the optimal design for lottery-linked savings programmes?, *Applied Economics, 4*5:35, 4861-4871, DOI: 10.1080/00036846.2013.804168. https://ideas.repec.org/a/taf/applec/v45y2013i35p4861-4871.html

Rablen, MD. (2010) The Saving Gateway: Implications for Optimal Saving. *Fiscal Studies, 31* (2): 203-225 DOI: 10.1111/j.1475-5890.2010.00112.x https://apps.webofknowledge.com/full_record.do?product=WOS&search_mode=AdvancedSearch&qid=40&SID=E5XgV8JgiphLUjikcPZ&page=11&doc=519&cacheurlFromRightClick=no

Ratcliffe, C., Burke, J., Gardner, J. and Knoll, M. (2020) *Evidence-Based Strategies to Build Emergency Savings*. Washington, DC: CFPB Office of Research. https://files.consumerfinance.gov/f/documents/cfpb_evidence-based-strategies-build-emergency-savings_report_2020-07.pdf.

Russell, R., Kutin, J. and Stewart, M. (2018) *Saver Plus : Pathways to Wellbeing*. Melbourne VIC: RMIT University. https://www.anz.com.au/content/dam/anzcomau/documents/pdf/saver-plus-2018.pdf

Russell, R., Stewart, M. and Cull,F. (2015) 'Saver Plus: a decade of impact', Melbourne VIC: RMIT University. http://library.bsl.org.au/showitem.php?handle=1/6070

Searle, B., & Köppe, S. (2014). Assets, savings and wealth, and poverty: a review of evidence – final report to the Joseph Rowntree Foundation. Personal Finance Research Centre, University of Bristol. bristol.ac.uk/media-library/sites/geography/pfrc/pfrc1405-assets-savings-wealth-poverty.pdf

Surtees, J. (2015) *Becoming a nation of savers: Keeping families out of debt by helping them prepare for a rainy day - A Discussion Paper*. London: StepChange. http://financialhealthexchange.org.uk/wp-content/uploads/2015/11/BecominganationofsaversStepChangeDebtCharityreport.pdf

Surtees, J. (2016) *Boosting Lower Income Saving*. London: StepChange. Available at https://www.stepchange.org/Portals/0/img/policy-research/StepChange-Boosting-lower-income-saving-report.pdf

The Building Societies Association (2009) *The individual's saving decision*. London: The Building Societies Association. https://www.bsa.org.uk/BSA/files/67/67b51ed7-e1e1-4bd3-81fb-c146ac70625f.pdf

Tucker, JN., Key, CC. and Grinstein-Weiss, M (2014) The benefits of saving at tax time: Evidence from the $aveNYC evaluation. *Journal of Socio-economics 48*; 50-61. DOI: 10.1016/j.socec.2013.08.011. https://apps.webofknowledge.com/full_record.do?product=WOS&search_mode=AdvancedSearch&qid=40&SID=E5XgV8JgiphLUjikcPZ&page=8&doc=389&cacheurlFromRightClick=no

Tufano, P. and Schneider, D. (2008) Using Financial Innovation to Support Savers: From Coercion to Excitement. *Harvard Business School Finance Working Paper No. 08*-075 https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1120382. DOI: http://dx.doi.org/10.2139/ssrn.1120382

van't Riet, J., Sijtsema, SJ., Dagevos, H. and De Bruijn, JG.(2011) The importance of habits in eating behaviour. An overview and recommendations for future research. *Appetite, 57*: 585-596 https://www.sciencedirect.com/science/article/pii/S0195666311005265

Which? (2016) *The three habits of successful savers: How learning from their behaviour could get the UK saving.* London: Which? https://financialhealthexchange.org.uk/wp-content/uploads/2015/11/Which_the-three-habits-of-successful-savers-how-learning-from-their-behaviour-could-get-the-uk-saving_Aug-2014.pdf

Dolan, P., Hallsworth, M., Halpern, D., King, D. and Vlaev, I. (2010) *MINDSPACE: Influencing behaviour through public policy*. London: Institute for Government Office and Cabinet Office

Hartfree, Y., Evans, J., Kempson, E., and Finney, A. (2016) *Personal current account switching: why don't more people switch and what would encourage them to do so?* Bristol: University of Bristol

MaPS (2020) *UK Strategy for Financial Wellbeing*. London: Money and Pensions Service. https://moneyandpensionsservice.org.uk/wp-content/uploads/2020/01/UK-Strategy-for-Financial-Wellbeing-2020-2030-Money-and-Pensions-Service.pdf

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