Why don’t we save more: Encouraging Malaysian Financial Resilience

THE BEHAVIOURAL INSIGHTS TEAM

PIDM

Perbadanan Insurans Deposit Malaysia

Protecting Your Insurance And Deposits In Malaysia

Executive Summary

The Perbadanan Insurans Deposit Malaysia (PIDM) and the Behavioural Insights Team (BIT) collaborated to identify behavioural insights around savings behaviours in Malaysia. This report outlines the current state of savings behaviours, and recommendations for engaging Malaysians to build up their savings based on the findings of a behavioural economics experiment.

Research activities included an initial literature review on the behavioural barriers to saving, a survey to understand Malaysian participants' financial situation and their behavioural biases, and an online experiment to test potential interventions to encourage saving behaviour.

On the following page we present four key recommendations based on the findings of our research. Each recommendation references specific intervention ideas that we explored in response to our six BI principles for savings, and is covered in more detail in that section.

Our project involved three research activities:

Review: Reading the behavioural science literature to understand what influences savings

Survey: Surveying Malaysians to understand their current financial situation, and assess their biases.

Experiment: Testing whether biases identified in the literature affect Malaysians savings choices.

Our recommendations

What we found	Our recommendations
Setting the right default option - towards higher savings - had a strong influence on the amount people chose to save. This suggests that “smart defaults” can help people to save more.	Devise more products which can automate savings such as “Saving the change” or “sidecar accounts”, and make sure the default setting is that savings are enabled.
Lower income persons often have higher levels of present bias - especially those with the very least income. Present bias can influence us away from saving in favour of immediate needs. It is a significant behavioural obstacle to Malaysians savings.	Education and intention may not be enough if your brain is wired to direct you to the present. Products, services and policies should help us to visualise the future, commit to that future, and provide incentives now to encourage us to save for tomorrow.
Overconfidence is highest among those between 35 and 55 years of age. Confidence can be good if it encourages us to engage in financial planning and decision-making, but bad if we overestimate our own abilities and make mistakes.	Feedback is key; it allows us to adjust our confidence to match our actual ability. Policies and services should aim to provide Malaysians with more feedback on their finances and decision-making to help them improve.
There is high overlap between low-income and irregular income earners, in terms of who falls into these categories, and their reported and revealed savings behaviours. They lack savings, and confidence, which may discourage financial planning.	Devise more products that are designed for and appeal to these groups, such as prize-linked savings accounts; and write policy and regulation to protect them from extractive practices like payday lending which prey on a lack of attention.

Background

Context and Research Aims

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Malaysians aren’t saving; is the problem behavioural?

Low savings rate in Malaysia

PIDM is concerned that a growing population of Malaysians are taking on extra financial commitments while lacking liquidity, capital or both. This means that Malaysians are saving less than they can and should for unexpected life shocks, future plans, or retirement. Saving rates are low, with savings representing 1.2% of household income in 2015[1] - a rate which was much lower than many other upper middle income countries such as Mexico (15.4%) and Russia (9.2%).[2]

Saving rates are important because when people have savings, they are more resilient to unexpected life shocks. These shocks - such as hospital visits or job losses - can have lasting psychological, financial, and practical consequences for people. This is particularly true for those who already find it challenging to make ends meet.

Behavioural barriers to saving

The challenge of low savings is certainly not unique to Malaysia − this is a global issue. The question is whether the problem is simply a lack of funds, or otherwise. For example, providing farmers in India with envelopes to separate “savings” money from “regular” money helped them save more, especially when pictures of the farmers children were printed on the envelope.[3] This is an example of how our “mental accounting”-- the way we label money-- can influence how we spend it; this is a classic bias in financial behaviour.

To inform interventions to encourage saving behaviour in Malaysians, PIDM worked with BIT to **understand which behavioural biases are likely to affect savings**, and **what approaches are likely to be effective in combating these biases**.

[1] Department of Statistics Malaysia (2019). Social Accounting Matrix 2015.
[2] OECD (2020), Household savings (indicator). doi: 10.1787/cfc6f499-en (Accessed on 19 December 2020)
[3] The full academic paper can be found here: https://www-2.rotman.utoronto.ca/facbios/file/earmarking-jmrPP.pdf

Defining behavioural insights within behavioural science

What is behavioural science?

Behavioural science seeks to uncover the mechanisms of human decision-making. Drawing from social psychology, behavioural economics, and other cognitive science disciplines, we see that our decision-making is a complex process that can be influenced by key elements in the environment.

For example, the “cocktail party effect” describes our ability to focus our attention. Imagine you are in a crowded room full of chatter. You can nevertheless focus your attention on a single conversation, if you so choose. However, if somebody was to shout your name from across the room, that would divert your attention. This - our brain’s ability to re-allocate our attention to information that appears specifically relevant to us - is part of why so many marketing emails now start with your name!

What are behavioural insights?

A “behavioural insight” is knowledge about the way people make decisions. A behavioural insights (BI) approach involves taking findings from the science and using them to design better processes and policies. For example, once you know that people pay more attention to information that is specifically relevant to them, you can make smart decisions around what information to include: like someone’s name.

Project Overview & Research Aims

Our project involved three research activities:

Review: Investigating the behavioural science literature in the context of Malaysia and other countries with similar characteristics, to understand which behavioural biases are likely to affect savings, and what approaches are likely to be effective in combating these biases.

Survey: Surveying Malaysians to understand their current financial situation, and assess their behavioural biases, using validated measures.

Experiment: Testing whether biases identified in the literature affect Malaysians savings choices. Participants were randomly allocated to see slightly different information, followed by a set of questions that is the same for all.

Research Aims

To understand the impact of psychological biases on saving decisions, and how behavioural science might nudge more Malaysians to save more money, as demonstrated through a framed field experiment.

Savings principles

Behavioural principles applicable to savings

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Six BI principles for savings

Reviewing the behavioural science literature, we identified six behavioural principles that may influence the savings behaviour of Malaysians.

For each principle we explored the underlying biases, interventions that have tried to counter these biases, and their relevance for Malaysia. Although an emphasis is placed on emergency (rainy day) savings, we also reviewed literature on other savings behaviours where relevant. The following pages summarise our findings. For more details on the interventions and contextually relevant studies, refer to the main literature review report.

From the review, three of these principles were identified to be tested in the experiment for their potential use for interventions. Two behavioural principles were measured in the survey. One principle was covered only in the review.

Principle	Method of study
We focus on the present	Measured in SURVEY
We stick with the default	Tested in EXPERIMENT
We make decisions with reference points	Tested in EXPERIMENT
We are often overconfident	Measured in SURVEY
We don't treat all money equally	Reviewed in LITERATURE
We are influenced by how savings are framed	Tested in EXPERIMENT

Measured in SURVEY

Principle 1: We focus on the present

Behavioural Barrier: People tend to focus on the present ('present bias') and disproportionately discount the future, overvaluing immediate rewards at the expense of long-term intentions.[4] As a result, if the benefits of a behaviour or product are experienced in the present while the costs are deferred-- or vice-versa-- a consumer is likely to focus on the features that are more present and not fully weigh the more distant features.

Relevance: Present bias can **hinder saving** -

- People may fail to save early for the future in favour of spending in the present: this is especially an issue for pension and retirement products.
- Credit cards appeal to consumers, allowing them to enjoy immediate gratification, while deferring the costs (and the pain that comes with them) to a future date, resulting in over-consumption beyond their means.[5]
- Contactless payment methods may mean that it easier to overspend, because they minimise the 'pain of paying' in the moment of the transaction.
- Investor behaviour has been found to be driven more by the level of upfront fees, rather than the ongoing fees, indicating that consumers focused on what they would have to pay immediately.[6]

[4] Liebman, J.B. & Zeckhauser, R.J. (2004). Schmeduling. *Harvard University and NBER.*
[5] DellaVigna, S., & Malmendier, U. (2004). Contract design and self-control: Theory and evidence. The Quarterly Journal of Economics, 119(2), 353-402.
[6] Barber, B.M., Odean, T., & Zheng, L. (2005). Out of sight, out of mind : The effects of expenses on mutual fund flows. Journal of Business, 78(6),.2095–2119.

Measured in SURVEY

Principle 1: We focus on the present

Interventions:

- **Bring 'future me' to the present** - Make the future seem more salient by encouraging people to think about their future or visualising themselves in the future. After answering a set of questions about where young people see themselves in the future, the number of participants who want to raise their pension contributions increased by 11%.[7]
- **Save More Tomorrow™** - Encouraging people to pre-commit to saving in the future turns present bias into an advantage because the negative impact is only felt at a later date. For example, testing a product called "SEED", people who were offered to commit to future savings increased savings by 82 percent after one year, compared with a control group. Among the 28% of those offered who took the product, savings were 300 percent higher than the control group.[8]
- **Set future savings goals** - Getting people to imagine themselves achieving a future outcome, reflecting on current situation and creating detailed, concrete plans for achieving a specific goal: for example, in a 2014 study of plan-making interventions for savings accounts, the overall effect of the intervention was to increase savings by 37%.[9]
- **Build on COVID-19 lockdown savings** - There is now a unique opportunity to encourage those who saved during lockdown (when their activities were restricted) to convert savings into starter rainy day savings pots or other savings pots.

[7] Behavioural Insights Team. (2020, September 23). *The small nudges that could make young people £142,000 better off in retirement.*

[8] Ashraf, N., Karlan, D., & Yin, W. (2006). Tying Odysseus to the mast: Evidence from a commitment savings product in the Philippines. *The Quarterly Journal of Economics, 121*(2), 635-672.

[9] Fiorillo, A., Potok, L., Wright, J., Peachey, J., & Davies, K. (2014). Applying behavioral economics to improve microsavings outcomes. *Ideas42*.

Measured in SURVEY

Principle 1: We focus on the present

Interventions:

- **Remind people to save now and often** - Sending reminders to save can help keep saving 'front of mind': in a 2016 study of individuals across Philippines, Peru, and Bolivia - people who were sent monthly saving reminders (via letter or text message) were 3 percentage points more likely to achieve their savings goal and saved 6 percent more than those who did not receive reminders.[10]
- **Bring rewards into the present** - Encourage savings with more short-term rewards so that rewards can be felt more immediately. Some banks such as CIMB offer cash incentives for not spending, Tally Save app[11] and other institutions offer virtual reward points for good financial behaviours such as saving.
- **Gamify the process to make savings fun** - Make the savings process fun and rewarding in the moment. A pilot was conducted of Commonwealth's gamified savings app SavingsQuest.[12] Users could earn 'badges' by saving money and completing challenges. SavingsQuest users saved on average 25% more often than other cardholders, saving a total of almost US$3million.

[10] Karlan, D., McConnell, M., Mullainathan, S., & Zinman, J. (2016). Getting to the top of mind: How reminders increase saving. *Management Science, 62*(12), 3393-3411.
[11] Wiggers, K. (2019, May 30). Tally Save rewards you for saving money with points and gift cards. *VentureBeat.*
[12] D2D report 'SavingsQuest: Creating Savings Through Gamification'

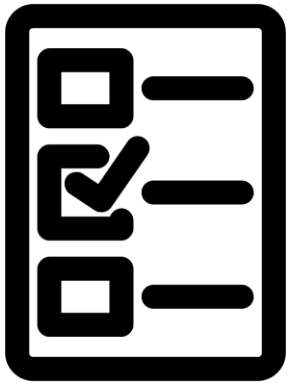
Tested in EXPERIMENT

Principle 2: We stick with the default

Behavioural Barrier: People tend to follow the path of least resistance and stick with the “default” or status quo option, even when there may be benefits to switching.[13]

Relevance: The design of initial choices can have a significant impact on how much an individual chooses to save, or whether to save at all -

- When it comes to retirement savings, people tend to overwhelmingly stick with the default contribution amounts and asset contributions. This means that people may save less than they should if they stick with a default contribution amount that is low.[14]
- Low-income employees tend to be affected more strongly by a default bias in pension choices, and are especially likely to stick to the default in their pension.[15]



[13] Samuelson, W., & Zeckhauser, R. (1988). Status quo bias in decision making. *Journal of risk and uncertainty*.
[14] Beshears, J., Choi, J. J., Laibson, D., & Madrian, B. C. (2009). The importance of default options for retirement saving outcomes: Evidence from the United States. In Social security policy in a changing environment (pp. 167-195). University of Chicago Press.
[15] Beshears, J., Choi, J. J., Laibson, D., Madrian, B. C. and Wang, S. (2015), Who Is Easier to Nudge? *NBER Working Paper, 401.*

Tested in EXPERIMENT

Principle 2: We stick with the default

Interventions:

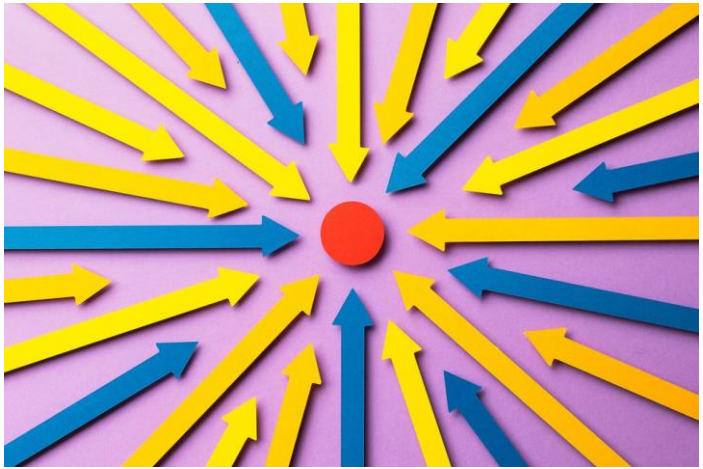
- **Default general savings with 'sidecar' accounts** - Savings account sit alongside workplace pension to build rainy day pot savings. This is currently being tested by NEST Insights, and if effective, could form part of the wider pensions default.[16]
- **Auto-escalate saving amounts** - Savings scheme where the proportion of income paid in automatically increases after every pay rise, for the purpose of retirements savings or to pay off debts directly from salary - inspired by Thaler and Benartzi's "Save More Tomorrow" programmes.[17]
- **Automatically save change** - Everyday card spending can be rounded to the nearest ringgit and deposited into a savings account. See for example Malaysia's Maybank 'Save the Change' option.[18]
- **Automatically adjust savings according to income** - Applications (such as Even[19]) that hold money back when income is higher than usual and provide extra when income is lower are especially helpful for persons with irregular income.

[16] NEST Insight. (2018, November 12). *NEST Insight launches its sidecar savings trial.* Press release. http://www.nestinsight.org.uk/nest-insight-launches-sidecar-trial/
[17] Find more information here: http://www.shlomobenartzi.com/save-more-tomorrow
[18] Maybank2u.com (Accessed 10 November 2020).
[19] Even.com (Accessed 12 November 2020). https://www.even.com/

Tested in EXPERIMENT

Principle 3: We make decisions with reference points

Behavioural Barrier: When we make decisions, particularly if the decision is unfamiliar or complicated, we look for shortcuts. Anchoring is one such shortcut. Anchoring is our tendency to be strongly influenced by the first figure we see, even if it is trivial or irrelevant like the spin of a “wheel of a fortune” - which, incidentally, comes from an experiment where the number the wheel produced influenced people’s responses to a totally unrelated question.[20]



Relevance: Savings behaviour is heavily influenced by reference points, such as ‘zero’ or ‘round’ figures -

- A minimum repayment amount on a credit card statement appears to act as a reference point,[21] with payments often clustering around this amount, suggesting that people are “anchored” by initial figures when it comes to saving.

[20] Tversky, A., & Kahneman, D. (1974). Judgment under uncertainty: Heuristics and biases. *Science*, *185*(4157), 1124-1131.
[21] Navarro-Martinez, D.,et al (2011). Minimum required payment and supplemental information disclosure effects on consumer debt repayment decisions. Journal of Marketing Research, 48(SPL), S60-S77.

Tested in EXPERIMENT

Principle 3: We make decisions with reference points

Interventions:

- **Provide anchors that encourage saving** - Presenting people with higher values can encourage them to save more. A large study in the US encouraged people to save a portion of their tax refunds by showing individuals different suggested saving amounts: either 25%, 50%, 75%, $100, or $250. Higher anchors (e.g. 50% and 75%) led to more money being deposited into savings at tax time and still being saved six months later.[22]
- **Communicate a range of credit card repayment amounts** - Mitigate anchoring bias by displaying a range of repayment amounts over time. Participants who were shown a sliding scale that either displayed a range of repayment values or displayed a time scale of repayment periods said they would make higher repayments than those in the control condition who were shown a box that was defaulted to the minimum repayment amount.[23]
- **Communicate what others save** - Communicating how much other people save can provide comparison points for people's own behaviour. For example, participants in a 2017 study who received an SMS message communicating the savings balances of 'super-savers' saved 11% more in the study period than those who received no message.[24]

[22] Roll, S. P., Russell, B. D., Perantie, D. C., & Grinstein-Weiss, M. (2019). Encouraging tax-time savings with a low-touch, large-scale intervention: Evidence from the refund to savings experiment. *Journal of Consumer Affairs*, *53*(1), 87-125.
[23] Money Advice Service, Behavioural Insights Team, & Ipsos MORI (2018). A behavioural approach to managing money: Ideas and results from the Financial Capability Lab. *London, UK*.
[24] CGAP (September 20 2017). *Want your customers to save more? Use Behavioural Economics.* https://www.cgap.org/blog/want-your-customers-save-more-use-behavioral-economics

Measured in SURVEY

Principle 4: We are often overconfident

Behavioural Barrier: People tend to overestimate their own abilities and knowledge, and are often, therefore, overconfident in their ability to make good decisions. This can lead them to **make riskier decisions than they would otherwise**.[25] People are also optimistic and often underestimate the chance of negative events happening to them.[26] This "optimism bias" means that **individuals do not always plan for unfortunate events**.

Relevance: If people are overconfident, they may make riskier financial decisions, and do not save enough for a rainy day -

- People may enter into financial commitments that are beyond their means if they are overly confident in their ability to pay.
- Optimism bias may reduce the likelihood that people will build an emergency savings buffer, because they see no need.

[25] Ho, C. M. (2011). Does overconfidence harm individual investors? An empirical analysis of the Taiwanese market. *Asia-Pacific Journal of Financial Studies*, *40*(5), 658-682.
[26] DeJoy, D. M. (1989). The optimism bias and traffic accident risk perception. Accident Analysis & Prevention, 21(4), 333-340.

Measured in SURVEY

Principle 4: We are often overconfident

Interventions:

- **Correct for over-optimism with feedback** - Communicate prompts to mitigate over-optimism. In a 2019 US study, people who received messages prompting them to check their credit score were less likely to have a past due account. They also saw an increase in their credit score relative to those in the control group. Effects persisted in a follow-up survey one year later.[27]
- **Set savings goals** - Optimism bias means that people may have trouble setting realistic expectations for themselves. Ensuring that savings goals are realistic and guiding people to consider obstacles in achieving goals is important for people to successfully meet them.
- **Leverage optimism with prize-linked savings** - People are drawn to lotteries by the high rewards on offer but also because they tend to overestimate their relatively low chance of winning. This can be leveraged by incentivising saving with lottery-style rewards. People do not treat changes in probability linearly and instead overweight very small probabilities, especially when extreme outcomes are involved.[28] Prize-linked savings accounts seem to appeal most to low-income individuals.[29]

[27] Homonoff, T., O'Brien, R., & Sussman, A. B. (2019). Does Knowing Your FICO Score Change Financial Behavior? Evidence from a Field Experiment with Student Loan Borrowers. *Review of Economics and Statistics*
[28] Kahneman, D. & Tversky, A. (1996). On the reality of cognitive illusions. *Psychological Review, 103*(3), 582–591; Tversky, A. & Kahneman, D., (1974). Judgement under uncertainty: Heuristics and biases. *Science*
[29] Tufano, P. (2008). Saving whilst gambling: An empirical analysis of UK premium bonds. *The American Economic Review, 98*(2)

Reviewed in LITERATURE

Principle 5: We don't treat all money equally

Behavioural Barrier: People have a tendency to think of money as not being fungible or interchangeable across categories; this is known as "mental accounting".[30] We may separate their money into different accounts based on objectively irrelevant subjective criteria, such as the source of the money and the intended use for each account.

Relevance: All debt is not treated equally, with people being more likely to repay some debts more than others. Depending on how they think about different type of debt, people may choose to repay them differently. This will then affect their ability to save-

- People were more likely to repay debt incurred on non-durable goods (air tickets and restaurants), than durable goods (clothing and furniture).[31]
- In Malaysia, the Lembaga Tabung Haji,[32] a product that allows Muslims to save for the Hajj, may lead Malaysians to think that this meets their savings needs and not put additional money away.
- People were likely to misuse their credit cards, thinking of them as long-term financing options, with some thinking they are "saving" money by having small payments over time[33]. Similarly, we see this among the latest "Buy Now Pay Later" solutions such as Fave and Atome that allow consumers to pay for items by instalments with low interest rates and credit scores.

[30] Shefrin, H. M., & Thaler, R. H. (2004). Mental accounting, saving, and self-control. *Advances in Behavioral Economics,* 395-428.
[31] Quispe-Torreblanca, E. G., Stewart, N., Gathergood, J., & Loewenstein, G. (2019). The red, the black, and the plastic: Paying down credit card debt for hotels, not sofas. Management Science, 65(11), 5392-5410.
[32] Ahmad, K., Mohammed, M. O., & Razak, D. A. (2012). Case of Pilgrimage Funds Management Board (Lembaga Urusan Tabung Haji). *IIUM Journal of Case Studies in Management*, *3*(2), 17-31.
[33] Zainudin, R., Mahdzan, N. S., & Yeap, M. Y. (2019). Determinants of credit card misuse among Gen Y consumers in urban Malaysia. International Journal of Bank Marketing.

Reviewed in LITERATURE

Principle 5: We don't treat all money equally

Interventions:

- **Earmark accounts for different goals** - Encouraging people to create a separate account to save money for a particular savings goal, i.e. 'earmark' money for it, may deter them from using it for another purpose. One study of low-income households in rural India helped people to earmark some of their wage for savings, with those dividing earmarked savings into two parts saving more than those who did not.[34]
- **Repay debt in chunks** - Leverage mental accounting biases through 'Repayment-by-purchase' to increase debt repayment rates, so that repaying feels easier as if people are "eliminating" purchases from their credit card debt.[35]
- **Introduce guilty pleasures boosters** - Encourage people to save every time they spend money in a particular category. Banks, such as Malaysia's Maybank, are helping people to save by encouraging them to set up transfer rules in which a small amount is automatically transferred to their savings every time they spend money in a particular category.[36]

[34] Soman, D., & Cheema, A. (2011). Earmarking and partitioning: Increasing saving by low-income households. *Journal of Marketing Research*, *48*(SPL), S14-S22.
[35] Ahmad, K., Mohammed, M. O., & Razak, D. A. (2012). Case of Pilgrimage Funds Management Board (Lembaga Urusan Tabung Haji). *IIUM Journal of Case Studies in Management*, *3*(2), 17-31.
[36] Maybank2u.com (Accessed 3 November 2020) www.maybank2u.com.my/maybank2u/malaysia/en/personal/services/digital_banking/mae_tabung.page

Tested in EXPERIMENT

Principle 6: We are influenced by how savings are framed

Behavioural Barrier: Our views about something change depending on how it is described. Adopting different frames can greatly affect how we perceive a problem, what we consider to be relevant, and as such, what decisions (if any) to take.[37]

Relevance: Framing effects occur in savings -

- Savings rates have been found to differ depending on the source of the income even though employees' base salary and their other income are both paid with identical frequency and timing (monthly).[38] This implies that the perception of where the money comes from influences how much we save.

- How we present information on interest earned is also likely to affect savings decisions. For example, people find it more difficult to understand numerical information when it is presented as a percentage than as a frequency.[39]

[37] Levin, I. P., Schneider, S. L., & Gaeth, G. J. (1998). All frames are not created equal: A typology and critical analysis of framing effects. Organizational behavior and human decision processes, 76(2), 149-188.

[38] Kooreman, P., Melenberg, B., Prast, H., & Vellekoop, N. (2013). Framing Effects in an Employee Saving Scheme: A Non-Parametric Analysis.

[39] Bertrand, M., & Morse, A. (2011). Information disclosure, cognitive biases, and payday borrowing. *The Journal of Finance*, *66*(6), 1865-1893.

Tested in EXPERIMENT

Principle 6: We are influenced by how savings are framed

Interventions:

- **Label savings in terms of what it gives people** - Labelling pension contribution amounts in realistic terms (e.g. ‘a 12% contribution would keep you above the poverty line’ and ‘a 15% contribution would allow for a comfortable retirement) doubled the number of young people who recommend increasing contributions from 8% (the minimum default in the UK) to 15%.[40]
- **Reframe savings as investments** - In the same trial above, reframing pension contributions as ‘investing’ instead of ‘saving’ was also effective, increasing the amount young people recommend someone puts aside for retirement by a third.
- **Present savings incentives as a matching bonus -** There is evidence to suggest that people are more likely to save when incentives are presented as a matching bonus rather than a tax credit.[41]
- **Use ringgit amounts instead of percentages to reduce use of short-term borrowing** - Presenting cost information for payday loans in currency amounts, instead of annual percentage rates, has been shown to reduce the incidence of repeat use of payday lending and reduce future borrowing amounts.[42]

[40] Behavioural Insights Team. (2020, September 23). *The small nudges that could make young people £142,000 better off in retirement.* www.bi.team/press-releases/the-small-nudges-that-could-make-young-people-142000-better-off-in-retirement/

[41] Duflo, E., Gale, W., Liebman, J., Orszag, P., & Saez, E. (2007). Savings incentives for low-and moderate-income families in the United States: why is the saver's credit not more effective?. *Journal of the European Economic Association*, *5*(2-3), 647-661.

[42] Bertrand, M., & Morse, A. (2011). Information disclosure, cognitive biases, and payday borrowing. *The Journal of Finance*, *66*(6), 1865-1893.

Survey and experiment

Measuring and testing out BI principles around savings

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We ran an online survey

We recruited 1,424 Malaysians from the general population to an online survey that took approximately 10 minutes to complete. We used survey questions to identify demographic characteristics, and also to measure two behavioural biases related to our six BI principles: present bias and overconfidence.

At the end of the survey, the same participants were then randomised into four different conditions: each group were presented with a short-term savings opportunity, with minor changes in the presentation of the opportunity. This experiment aimed to measure three further BI principles in action-- the effect of defaults, reference points, and framing.

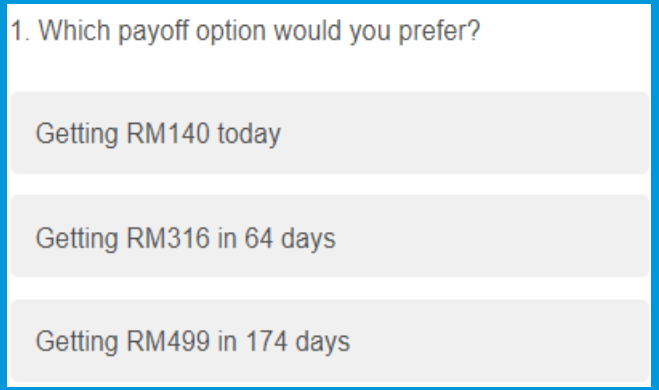
This enabled us to validate 5 of the 6 principles identified in our literature review with a Malaysian population.

Surveying biases

We would expect that savings behaviours would correlate strongly with demographics: people with less income will almost certainly be saving less. However, we also wanted to understand the relationship between savings behaviours and present bias, or savings and overconfidence.

For present bias, we used a validated instrument called ToaD that presents a series of options to receive money sooner or later. Over several iterations, this instrument calibrates a present bias measure based on reported preferences.

For overconfidence, we adapted a memory recall task; One's familiarity with common images could reveal a degree of general overconfidence. We asked people to estimate their ability to spot the correct logo of a financial institution among several fakes. Their estimates were compared with their actual success rate to compute a measure of their overconfidence.



Testing biases

We decided that some of the cognitive biases within the six BI principles we identified were best measured using a laboratory experiment using our survey participants.

As part of this experiment, at the end of the survey, participants were given a choice to either immediately receive RM 300, or to save a part, or all, of it for 20% extra interest in 2 months. If the respondent saves everything, they would receive RM 360 in 2 months. Every participant would give their preference, and then we would choose five by lottery to actually receive the extra income.

The three main experimental arms in the interventions are presented on the right, and detailed in subsequent pages.

Experimental Arm	Hypothesis
Control *Base condition*	This would capture the likelihood of saving in the absence of intervention, i.e. our experimental baseline.
Defaults *"We stick with the default"*	When the choice is a default, people are more likely to follow the path of least resistance, hence saving as per the pre-selected option.
Reference *"We make decisions with reference points"*	When presenting the opportunity as a loss, i.e. how much interest they would lose from taking the money immediately, people are likelier to save more.
Framing *"We are influenced by how savings are framed"*	People are likelier to save more when the savings opportunity is presented more relatably or tangible instead of the actual dollar values.

Our findings

Results from survey and experiment

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How can we better understand saving habits and influences across the population?

Behaviours and biases

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We surveyed 1,424 respondents across Malaysia

Participants were recruited through an online panel provider. We used quotas to approximate the demographics of the general population in Malaysia. Participation was paid and participants had an opportunity to earn some bonus income through our experiment.

We excluded a very small number of participants who completed the survey in under 2 minutes.

Gender	Participants
Male	51.2% (729)
Female	48.8% (695)

Age	Participants
18-24	13.2% (188)
25-34	30.1% (429)
35-44	29.7% (423)
45-54	15.9% (226)
55 and above	11.1% (158)

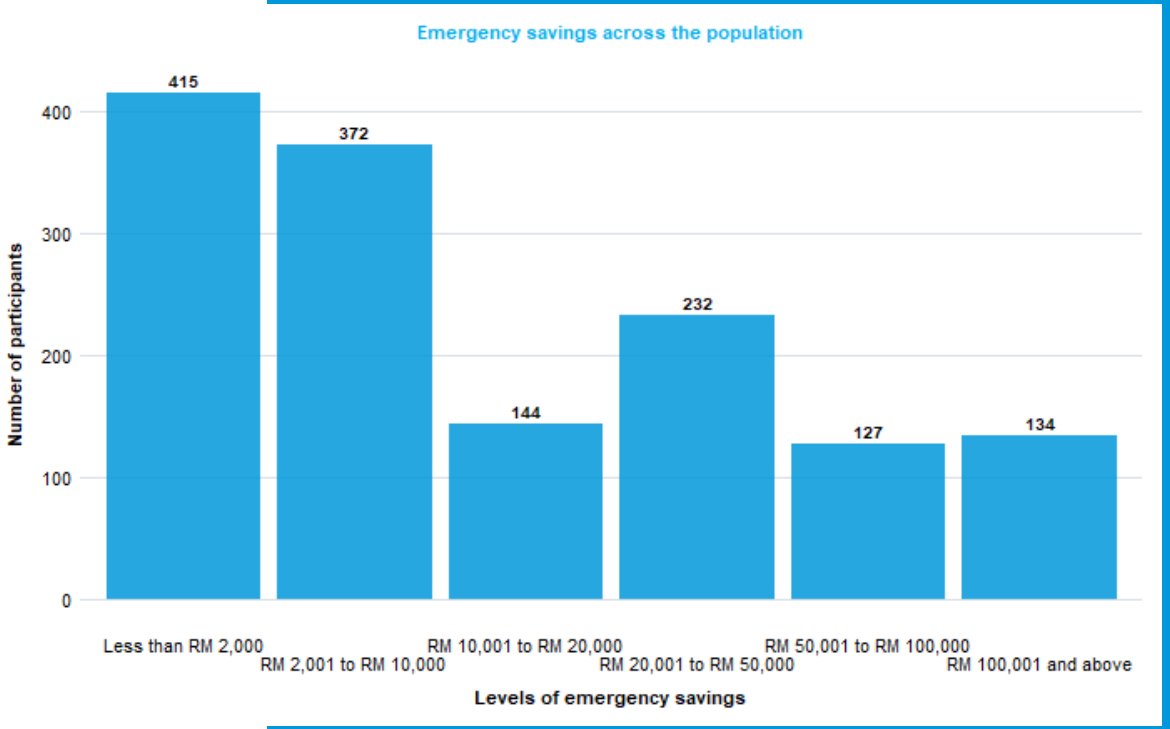
Ethnicity	Participants
Bumiputera/Malay	59.2% (843)
Chinese	29.5% (420)
Indian/Sri Lankan	8.3% (118)
Others	3.0% (43)

Region	Participants
Central	44.9% (639)
Northern	10.5% (149)
Southern	24.5% (349)
East Coast *(exc. Sabah, Sarawak)*	9.1% (129)
Sabah and Sarawak	11.1% (158)

We asked people about their savings behaviours

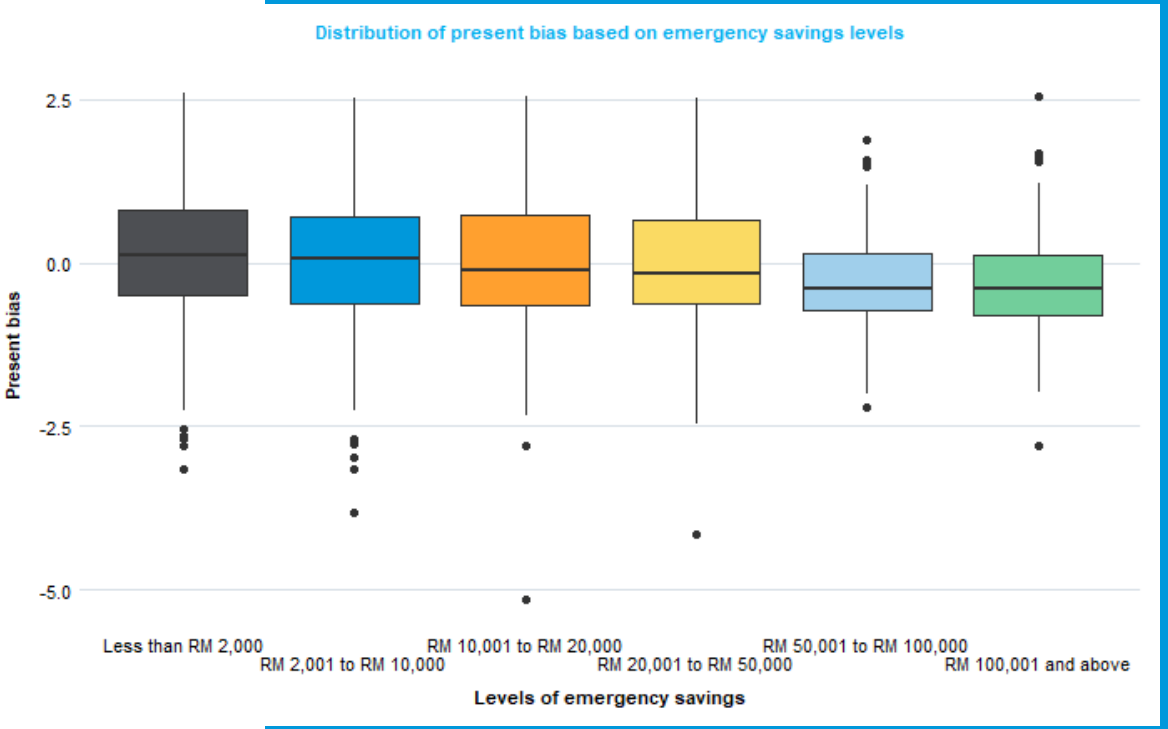
We asked participants to tell us about their savings behaviours. Whilst we should not assume all responses are entirely accurate, they provide a useful indication of Malaysians savings rates.

One of the key questions we asked was about the level of emergency savings that people maintained. Across the whole population, we see that the majority say they have less than RM10,000 available in funds to draw on in the event of an emergency. This presents important policy concerns, as it suggests that many Malaysians may not be adequately equipped to withstand financial shocks.



Does higher present bias lead to less saving?

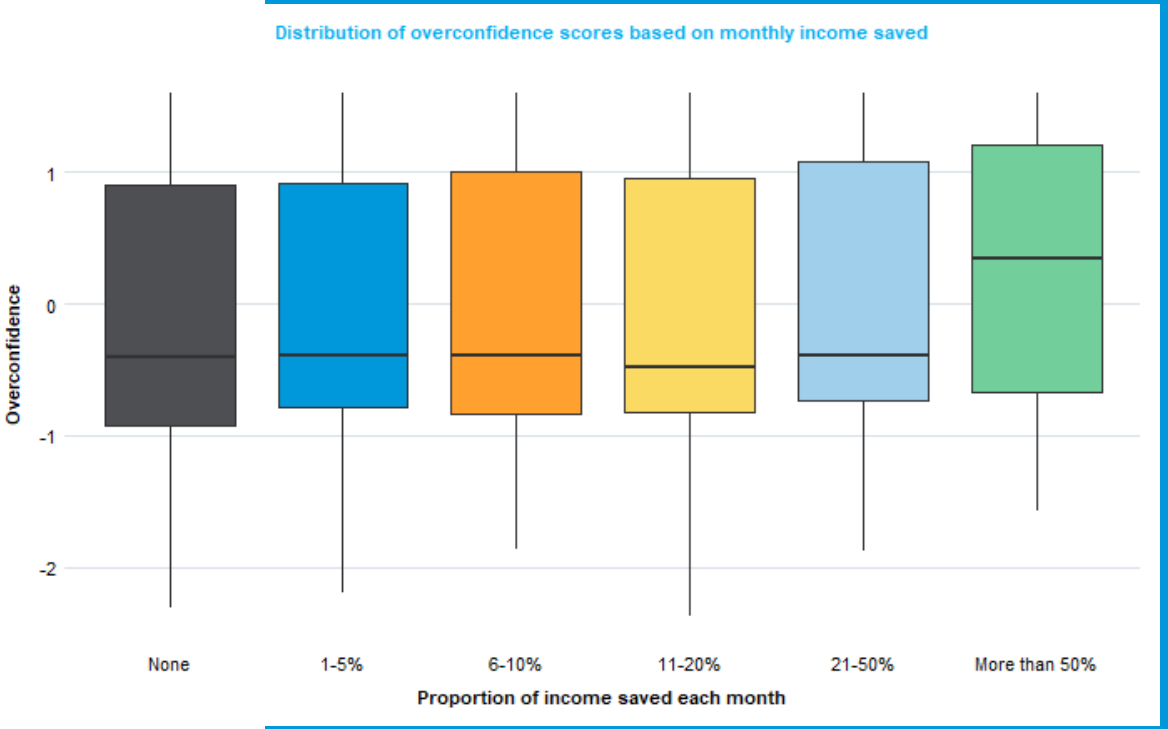
We graphed the relationship between reported savings behaviours and the biases that we measured in our survey. On the right, you can see the relationship between present bias - a measure of the degree of preference for rewards now rather than later - and emergency savings. As present bias decreases, and people are more willing to wait, the amount of emergency savings appears to go up. We see a similar relationship with monthly income saved. This is an expected result, but it is nevertheless interesting: it may suggest that there is a relationship between cognitive biases identified in the behavioural science literature, and real financial behaviours of Malaysians.



Overconfidence may rise as saving increases

We also compared the overconfidence scores we measured. Whilst we do not see any clear patterns with emergency savings, overconfidence does seem to trend upwards as proportion of monthly income saved increases.

However, we did not conduct significance testing on the relationships between biases and reported savings behaviours. As such, we must be cautious in our interpretation of these relationships: they could be due to chance. Nevertheless, we believe they lay the foundation for further research into which biases correlate with financial behaviours.

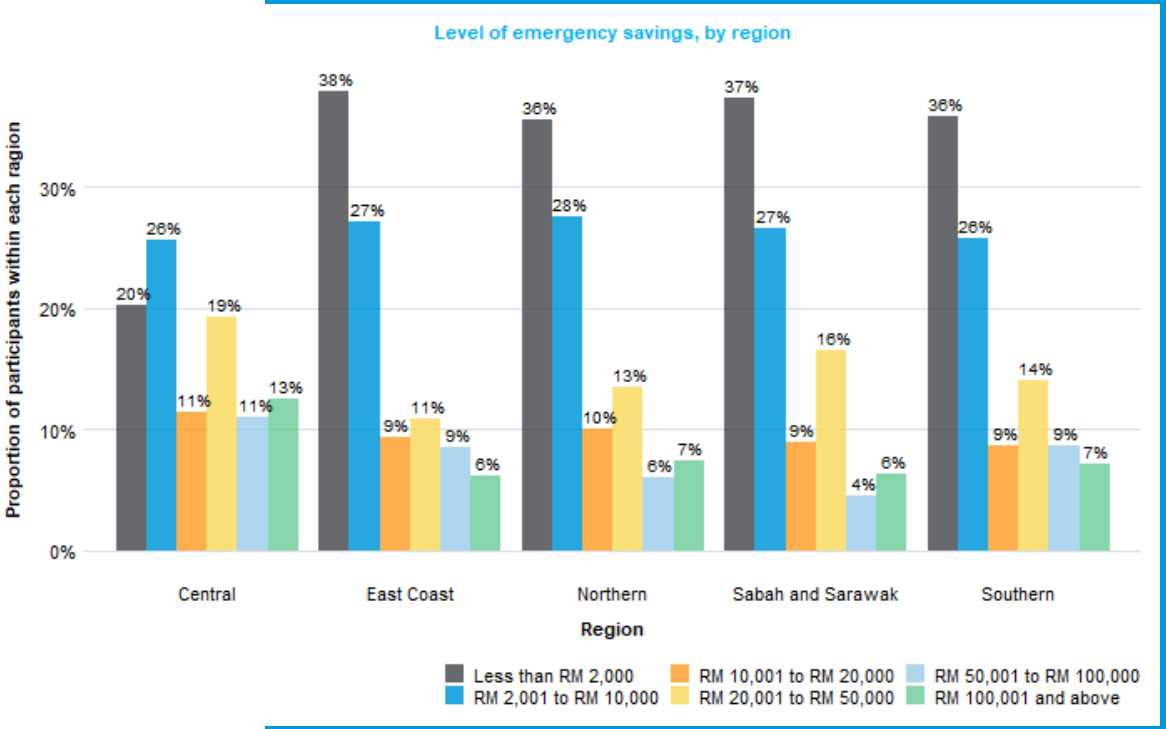


Low emergency savings were reported across regions

The Central region has the lowest proportion of respondents with low levels of emergency savings (< RM 2,500) compared to the other regions which had similarly high levels of ~37% respondents reporting as such.

Having said that, even though the lowest, the Central region had 20% of their respondents stating to have low emergency savings, which is still a concerning proportion of people whose livelihoods are vulnerable to financial shocks.

In fact, more than 50% of respondents across all regions reported having less than RM 10,000 in emergency savings; This is an area that could require further interventions to enhance individuals' financial stability and robustness.

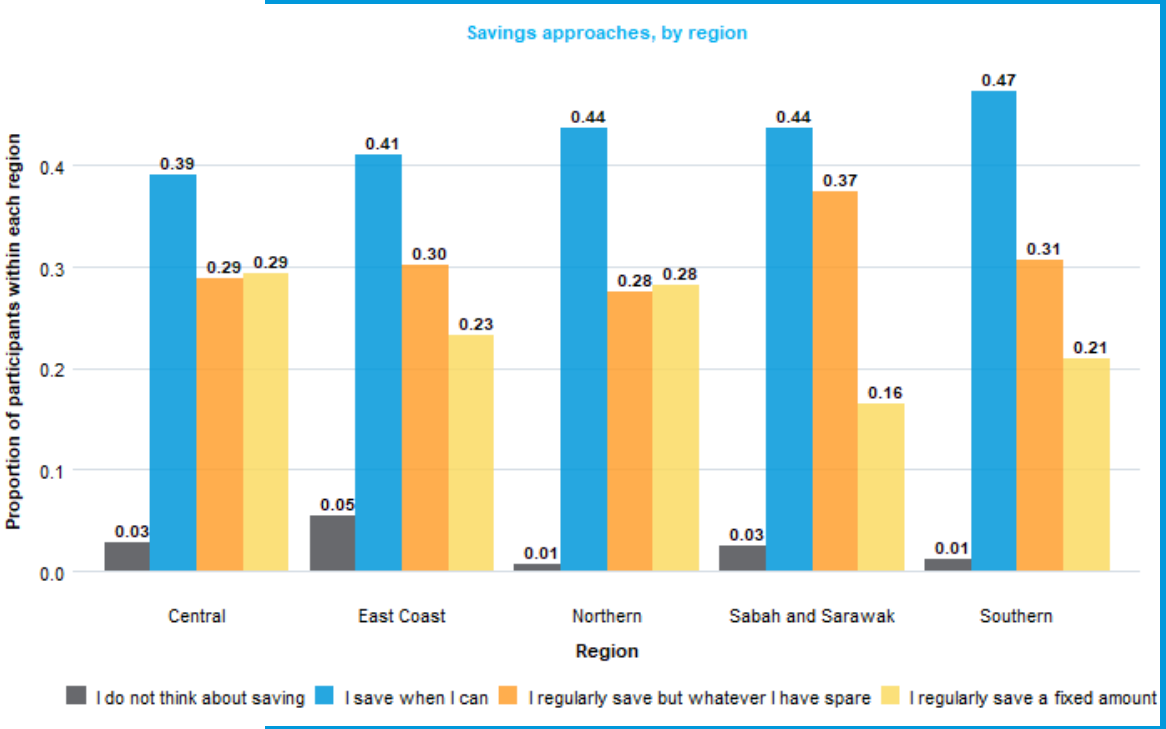


Savings approaches could be improved across the regions

Most respondents minimally save on an ad-hoc basis, while ~20% across the regions do regularly saving fixed amounts.

The Central and Northern regions had the highest proportion of respondents reporting they regularly save fixed amounts (29% and 28% respectively). The region with the lowest respondents reporting as such is Sabah and Sarawak (16%).

Interestingly, the Southern region, containing generally higher income states like Johor and Malacca, reported the highest proportion of respondents who save when they can (47%), and a lower proportion who regularly save fixed amounts (21%). This could warrant research in understanding other factors, apart from income, that contribute to these differences in saving approaches.



Which approaches are best for increasing uptake of a short-term savings opportunity?

Analysis for the experiment

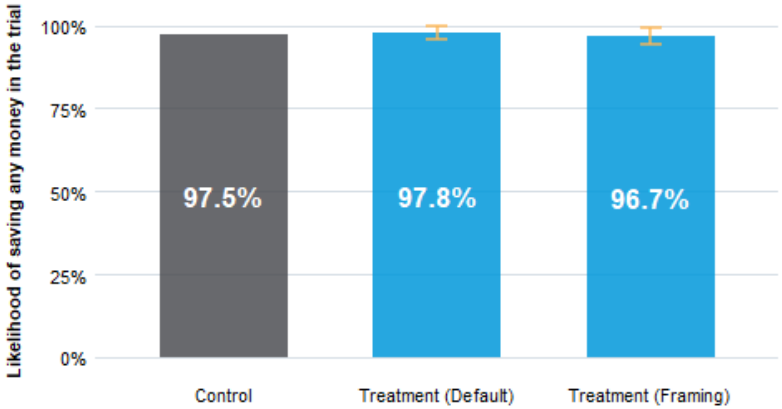
THE BEHAVIOURAL INSIGHTS TEAM

A coding error has invalidated one of our trial conditions

Our experiment had four conditions, with respondents randomly allocated to each. Unfortunately, the “reference” condition suffered from a coding error and as such, we were unable to report on the findings of this particular condition of the experiment. The other conditions of the experiment were not affected and are reported as normal.

No differences in uptake between the trial conditions

We did not detect statistically significant differences in the likelihood of saving money of participants who were exposed to the ‘ Defaults’ and ‘Framing’ treatment from those in ‘Control’. In other words, participants were just as likely to save money if they were exposed to any of these 3 treatments. See this presented below:

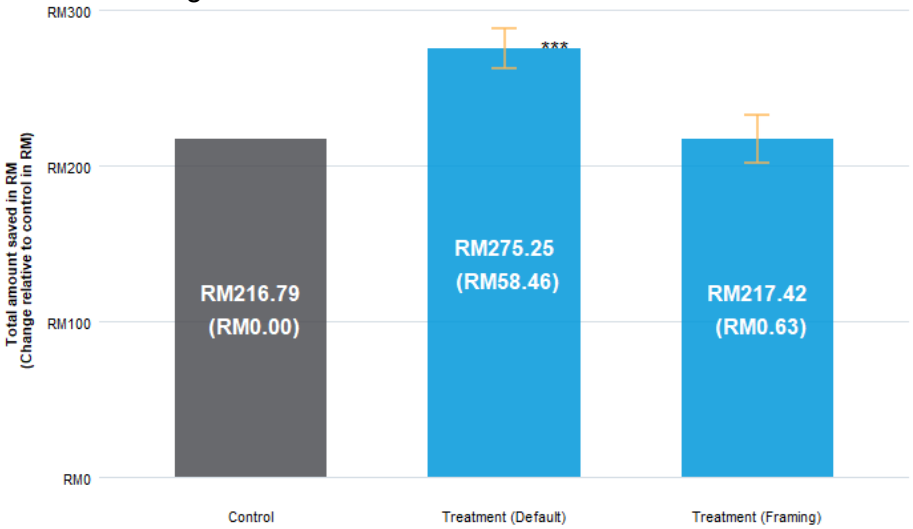


When we ran this same analysis to include other characteristics, such as demographics and cognitive biases, we did see some interesting correlations. For example, respondents from older age groups were slightly less likely to opt to save than from the youngest group. Equally, respondents of Chinese ethnicity were slightly more likely to save the money offered. Finally, those with higher measurements of present bias were marginally less likely to save. Given the large number of variables we analysed there is a chance that patterns we detected are caused purely by chance. We have corrected our analysis to account for this, which reduces the chances of spurious correlations, but the risk cannot be completely eliminated.

Our subsequent analyses of low-income participants and millennial participants aged 25-44 did not reveal any additional correlations of interest. In general these groups had similar levels of uptake as all other groups.

Defaults significantly affect the amounts that people save

When we look at the amounts saved by the different groups, those who were exposed to ‘Defaults’ were likely to save more money than those in ‘Control’. This outcome suggests that participants can be encouraged to increase the amount they save through clever use of ‘defaults’ and ‘anchor’ figures.



We ran a version of this analysis that included all demographic characteristics and cognitive biases, and we do see some correlations that are sufficiently significant to warrant consideration. For example, respondents who are ethnically Chinese on average save almost RM24 more; whereas the degree to which a respondent is present biased significantly decreases the amount they save. Both of these results are significant at a level greater than $p<0.01$ and therefore remain robust even when correcting for multiple comparisons.

The relationship between amount saved and present bias is gratifying, as this very much in line with what we would expect from the existing research. It confirms that, at least in this case, cognitive biases identified in other parts of the world may have some relevance for understanding savings behaviours in Malaysia.

Smart defaults are an effective policy tool

In general, we should strive to make the “right” option the easy option, and setting smart defaults are a way to do this. Our experiment demonstrates that defaults can affect Malaysian’s savings behaviour, but we should not be surprised: defaults are one of the most powerful behavioural science interventions ever measured.

In a financial behaviours context, a default combines a friction cost for switching, with an “anchoring” reference point. Little wonder, then, that for making decisions under uncertainty these can have a profound impact.

The problem to solve, though, is where defaults work against us: the “default” of only paying the minimum required on a credit card, or the default of being paid cash in hand and then independently putting this into savings. Defaults matter, and our policy thinking should reflect this.

How can we better understand saving habits and influences for different age groups?

Behaviours and biases for different age groups

THE BEHAVIOURAL INSIGHTS TEAM

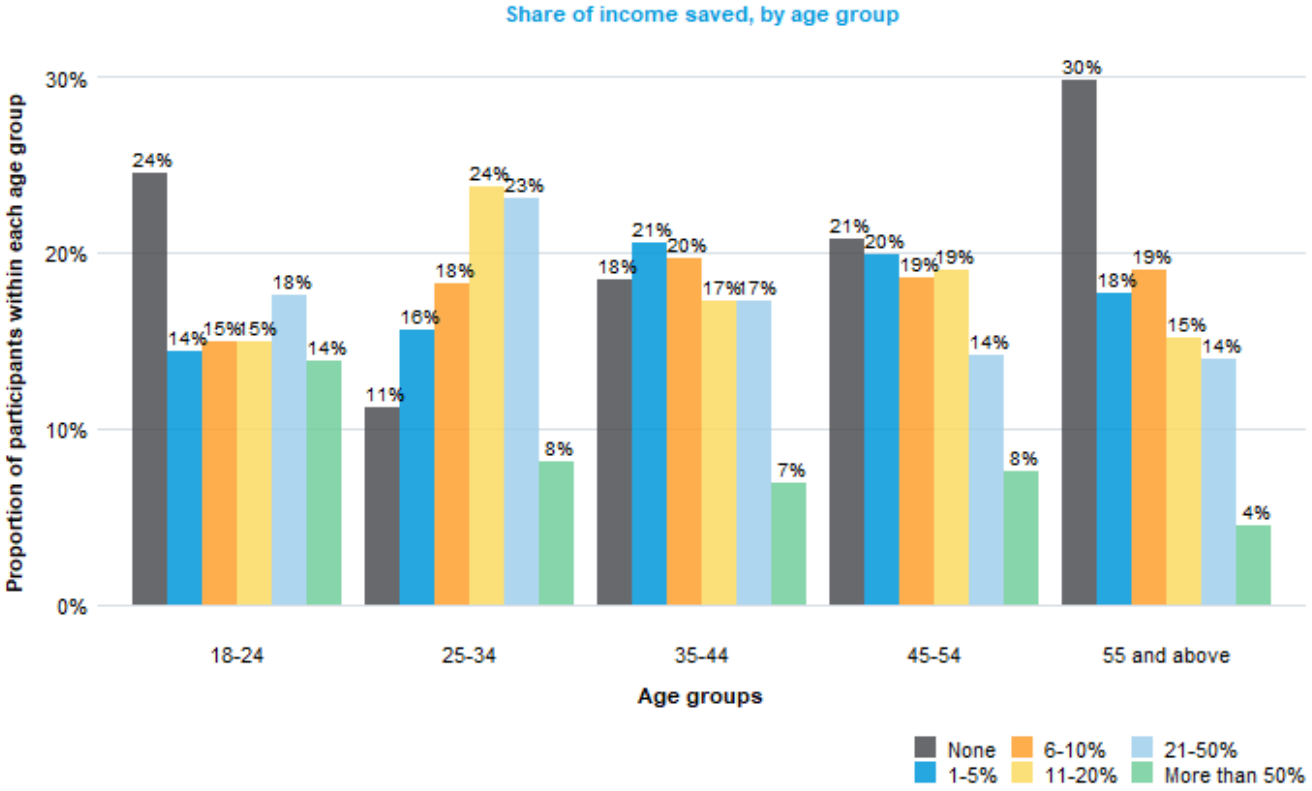
We ran specific analyses to look at age

We ran a series of analyses on the survey data looking at differences in responses for different age cohorts. PIDM were particularly interested in the behaviours of millennial Malaysians, categorised as those aged between 25 and 44 years old: were behaviours, or biases, different for this group? The findings can be found in the following few pages.

As a byproduct of looking at age cohorts, we did uncover some interesting findings around how certain behaviours and biases seem to vary by age. There is precedent in the existing evidence for this. For example, in terms of overconfidence, a study of Australian drivers found that confidence in driving ability increased steadily until age 40, as did confidence in their ability to drive under the influence of alcohol[43] -- confidence leading to overconfidence.

[43] Job, R. S. (1990). The application of learning theory to driving confidence: The effect of age and the impact of random breath testing. *Accident Analysis & Prevention*, 22(2), 97-107.

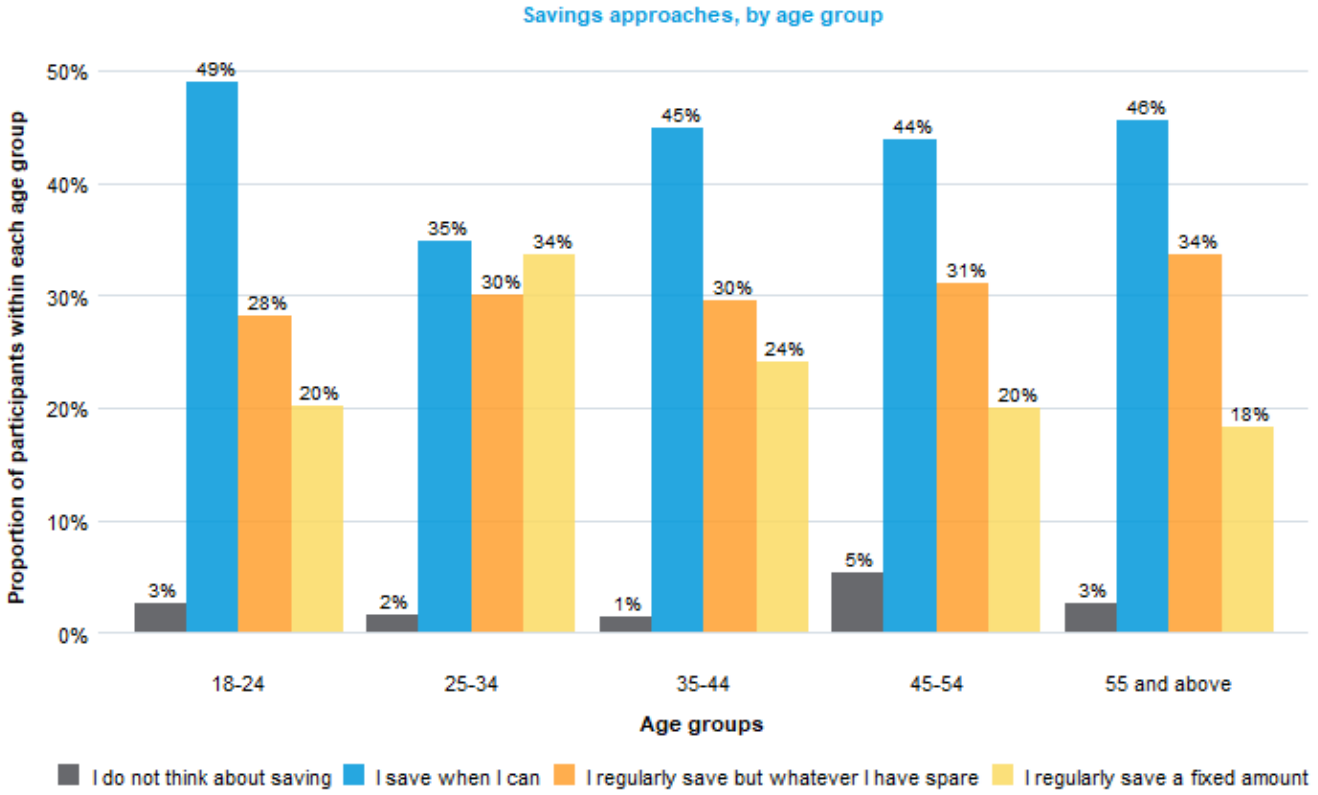
Most millennials reported saving between 6-20% of their income



Most millennials (aged 25-44) seem to save between 6-20% of their income. As can be seen on the right, this is mostly driven by the 25-34 age group, who were most likely to say they saved 11-20% of their income.

In fact, although we categorised those aged 35 to 44 as millennials, their income saved bore a closer resemblance to the 45-54 age group.

Younger millennials save fixed amounts more than other groups

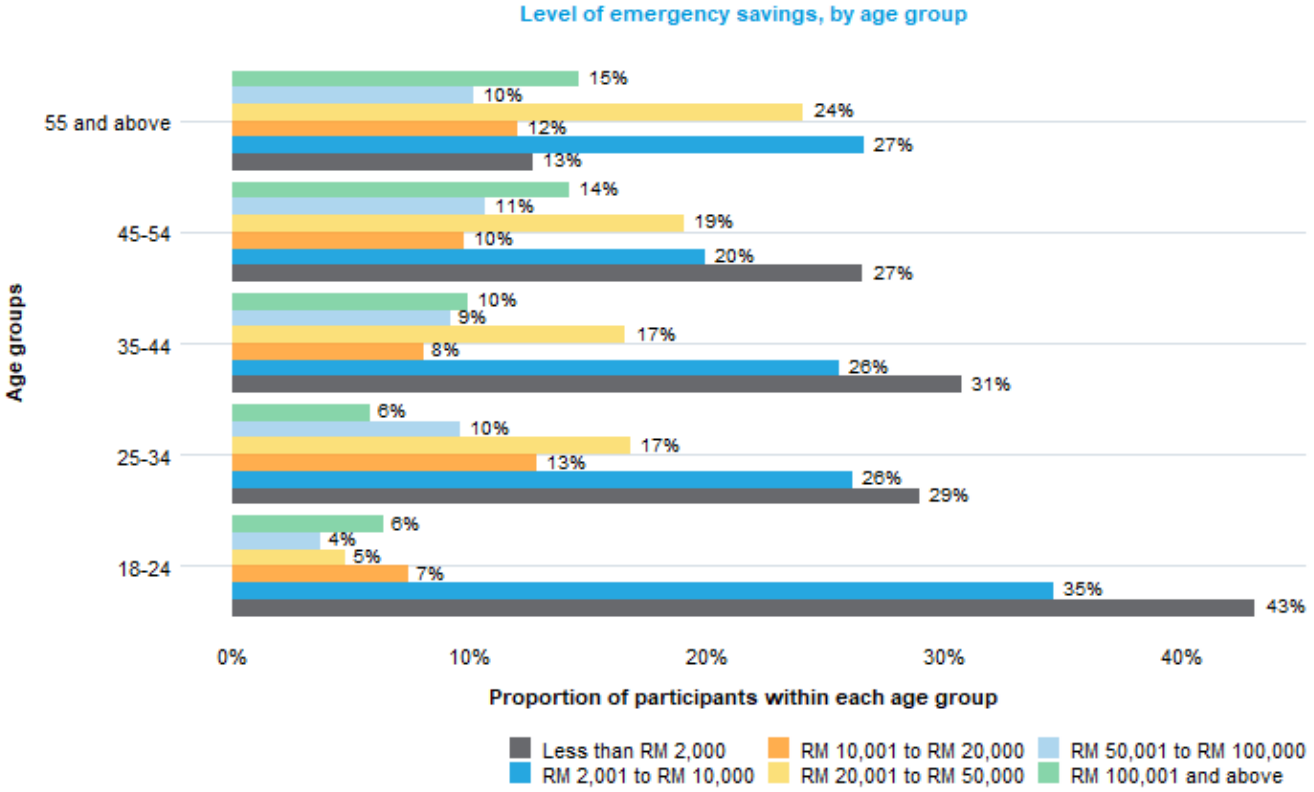


Younger millennials (aged 25-34) reported regularly saving fixed amounts (in yellow) more than any other age group.

In general, our findings suggest that when designing policy for savings, policymakers should perhaps consider four age-group categories:

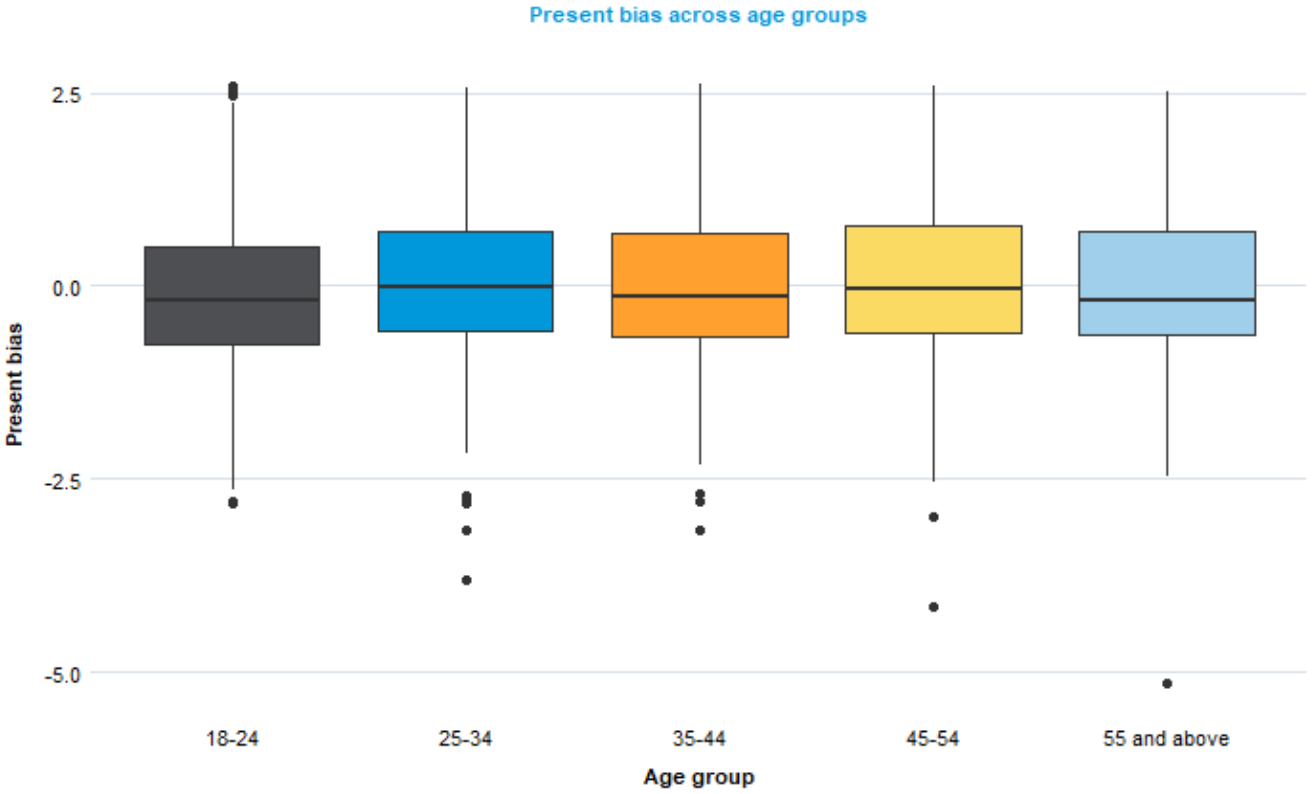
- *Youth (18-24)*
- *Early career (25-34)*
- *Mid career (35-54)*
- *Retirees (55+)*

No major differences in levels of emergency savings by age



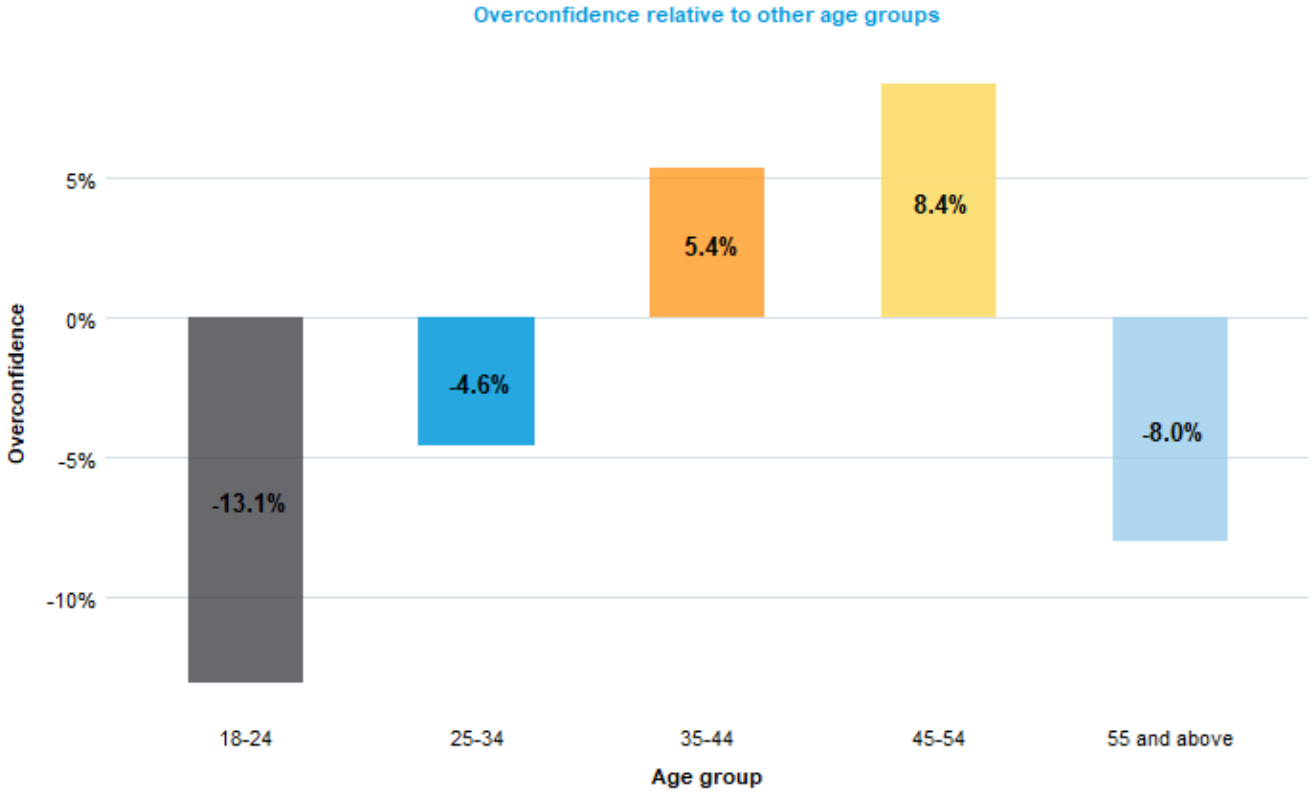
Millennials (aged 25-44) appear to have similar levels of emergency savings as those in other age groups, relative to their lifestage. We do see a high proportion of respondents with less than RM2,000 in the millennials category, but it does not appear much higher than in the 45-54 age group. We suggest that savings rates may be more driven by circumstances than they are by age. Policy direction should reflect this.

Younger millennials have slightly higher levels of present bias



As seen from the graph on the left, we do see very minor differences in present bias between age cohorts. In particular, the younger millennials (aged 25-34) tend to have slightly higher levels of present bias (>0), compared to other age groups. However these differences are very small - the variation within age cohorts is far bigger than the differences between cohorts.

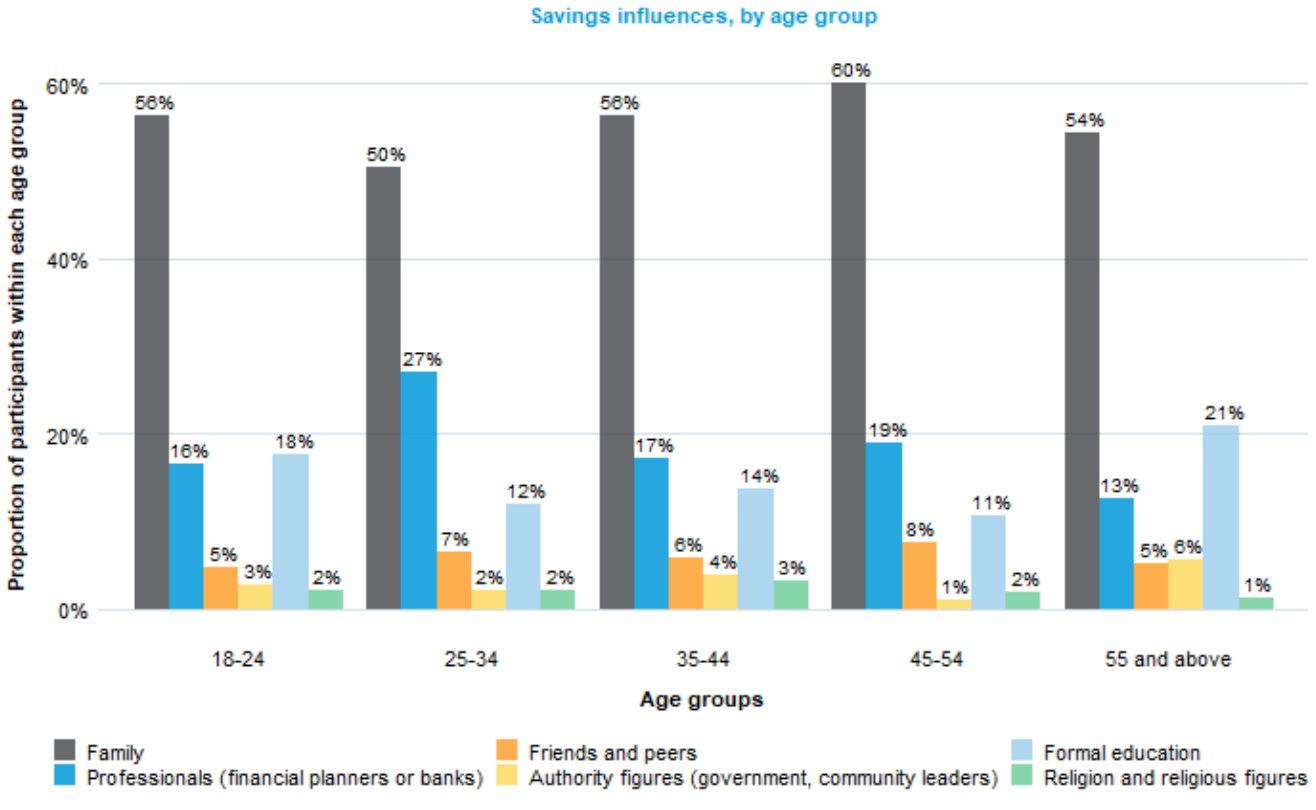
Overconfidence is highest in the 45-54 year olds



Unlike present bias, with overconfidence we see clear differences based on age group. The graph shows that older millennials (aged 35-44) tend to have higher levels of overconfidence than other age groups.

The younger millennials (aged 25-34) have slightly lower levels of overconfidence, but not as low as the youngest age group and those in ages 55-64.

Millennials seem to be more influenced by professionals



We asked people who they are most influenced by in their savings behaviours. Millennials report being most influenced by their families when it comes to their saving behaviours, like all other age groups. At the same time, there seem to be more younger millennials (aged 25-34) who say that professionals are a strong influence.

Key findings from our age-specific analyses

Looking at age groups was illuminating: we discovered that millennials do behave differently - but only younger millennials. This suggests that this group may benefit from being treated separately in policy and product design. Beyond this, there are three key takeaways from our specific analyses relating to age groups and millennials:

1. **We do not observe major differences in present bias between age groups**, but there is definitely a spread across the whole population. This is not hugely surprising - in fact, we think that present bias may be more strongly associated with circumstances than age. This is explored in the subsequent section.

2. **The higher levels of overconfidence among the 45-54 year olds is interesting**. Whilst some confidence may help people to engage in financial planning and decision-making, overconfidence can be harmful.[44]

3. **Finally, we see that family is a key influence on savings behaviours** for many different participants. However, young millennials may be more willing to speak to professionals to guide them.

[44] Tokar Asaad, C. (2015). Financial literacy and financial behavior: Assessing knowledge and confidence. Financial Services Review, 24(2).

How can we better understand the lower-income population's saving habits and influences?

Respondents with income under RM5000 per month

THE BEHAVIOURAL INSIGHTS TEAM

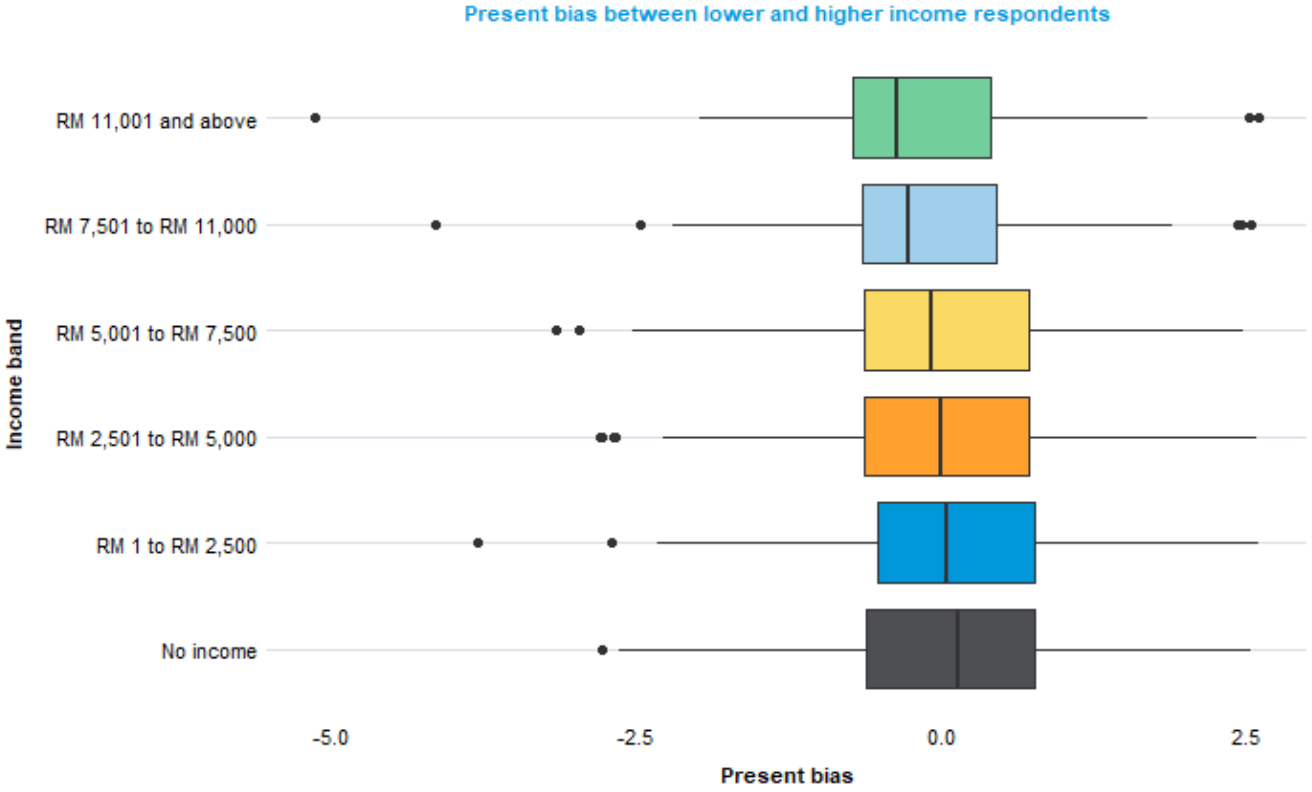
We analysed low-income respondents

PIDM and BIT agreed that we should also look at low-income respondents separately, to see what we could learn about more financially vulnerable persons. We here treat “low-income” to mean a reported income of less than RM5,000 per month - this was selected to align with past national census and surveying data.[45] The analyses we ran can be found over the next few pages.

As well as looking at low-income persons, we also looked at those with irregular incomes. We believe that, in many cases, these are the same persons; certainly, there is considerable overlap in these groups in our sample. Existing evidence suggests that persons with irregular income may face additional challenges around planning and smoothing their consumption that pose a serious obstacle to saving.[46]

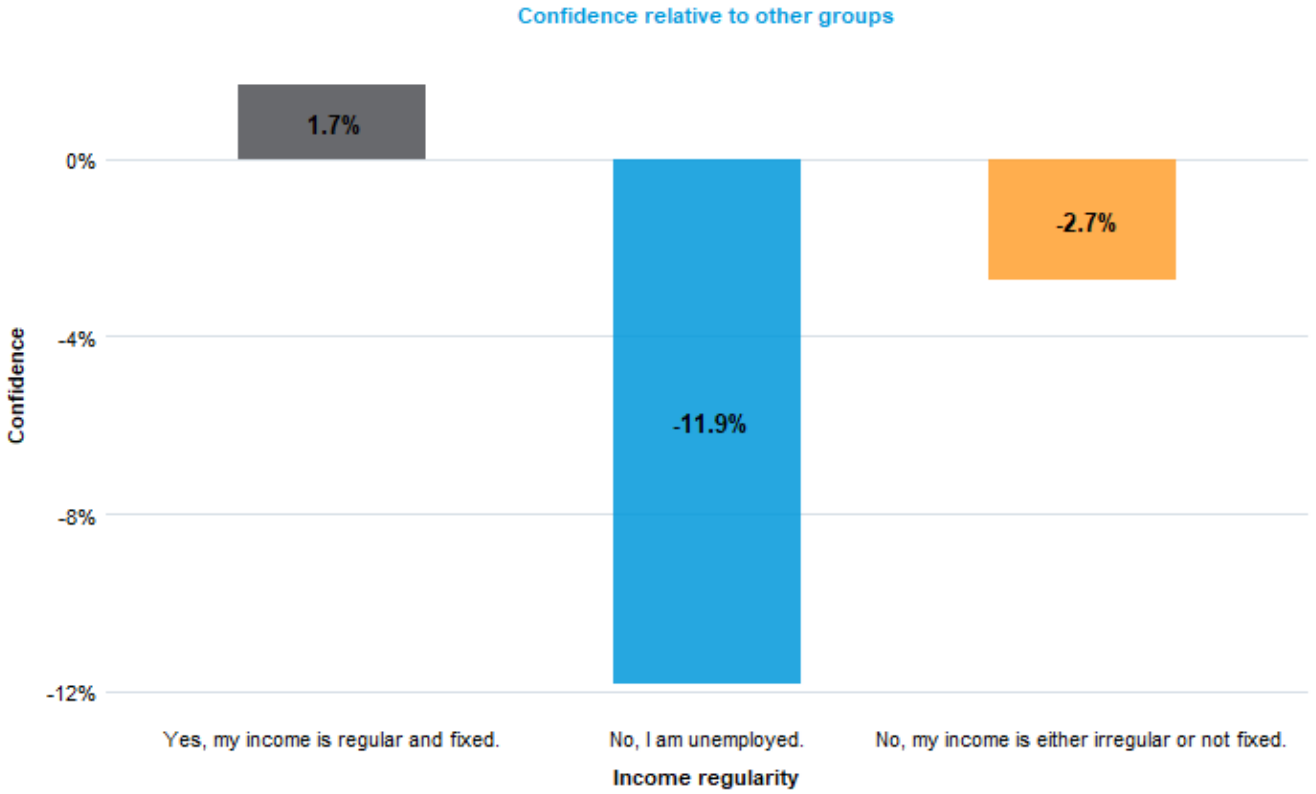
[45] Household Income and Basic Amenities Survey Report 2019, Department of Statistics Malaysia
[46] Stephens Jr, M. (2003). "3rd of tha month": Do social security recipients smooth consumption between checks?. American Economic Review, 93(1), 406-422.

We see higher present bias for those with lower incomes



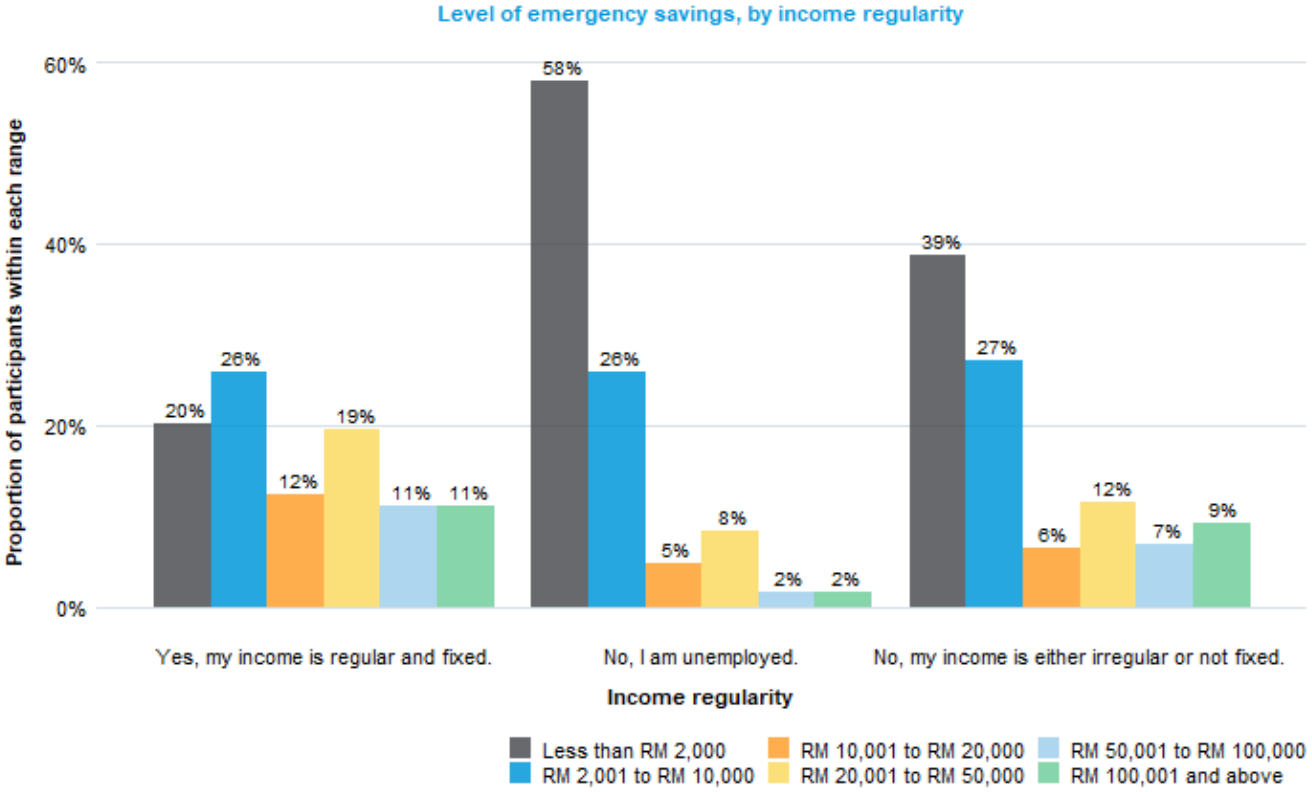
We observe slightly higher present bias among those with lower incomes compared to those in the higher income groups. We examined this relationship as part of our exploratory analyses: we saw that having less than RM 2,000 in savings is associated with having significantly higher present bias. It should be clear that the causality of this relationship is uncertain, but we would expect reduced income to increase present bias based on other studies.

Unemployed respondents displayed lower confidence



The chart on the right shows levels of confidence relative to other groups. Whilst overconfidence without merit is certainly problematic, we should also be worried about very low levels of confidence that may dissuade people from engaging actively in their own financial planning. Note that irregular income respondents also showed relatively lower confidence.

Persons with irregular income had little emergency savings



The chart on the left shows that those who are unemployed have low emergency savings, but the savings rates for those with irregular income is also low. We should note that there is a high degree of overlap between respondents with low-income, and respondents with irregular income: these are, collectively, a group that is financially vulnerable.

Does lower income lead to higher present bias?

The results of our research are hardly sufficient on their own to make such a bold claim. However, there is already a body of evidence that supports the argument that low income may be a cause, or at least a strong predictor, of present bias. For example, existing research demonstrates that our cognitive bandwidth and decision-making ability decrease when we are poorer, and lower cognitive bandwidth is associated with higher influence of biases in general.[47]

This is problematic when we are thinking about policies to encourage positive financial behaviours - the most vulnerably may be those most at risk of making irrational and short-term decisions, and hardest to help. A latest report by UNCDF looked at gig workers in China and Malaysia[48]; They identified a number of potentially effective methods that could overcome such present bias, such as encouraging people to immediately saving after receiving one's salary, and providing cheaper on-demand insurance for a shorter duration.

Overall, we think this supports an argument to augment more policymaking and regulation with findings from behavioural science. Only by incorporating what we know about cognitive biases, and the way they may present an obstacle to positive financial outcomes, can we seek to help those who are most in need.

[47] https://www.bi.team/blogs/poverty-and-decision-making-how-behavioural-science-can-improve-opportunity-in-the-uk/

[48] UNCDF. (2020). The Gig Economy and Financial Health: A snapshot of Malaysia and China.

Key Recommendations

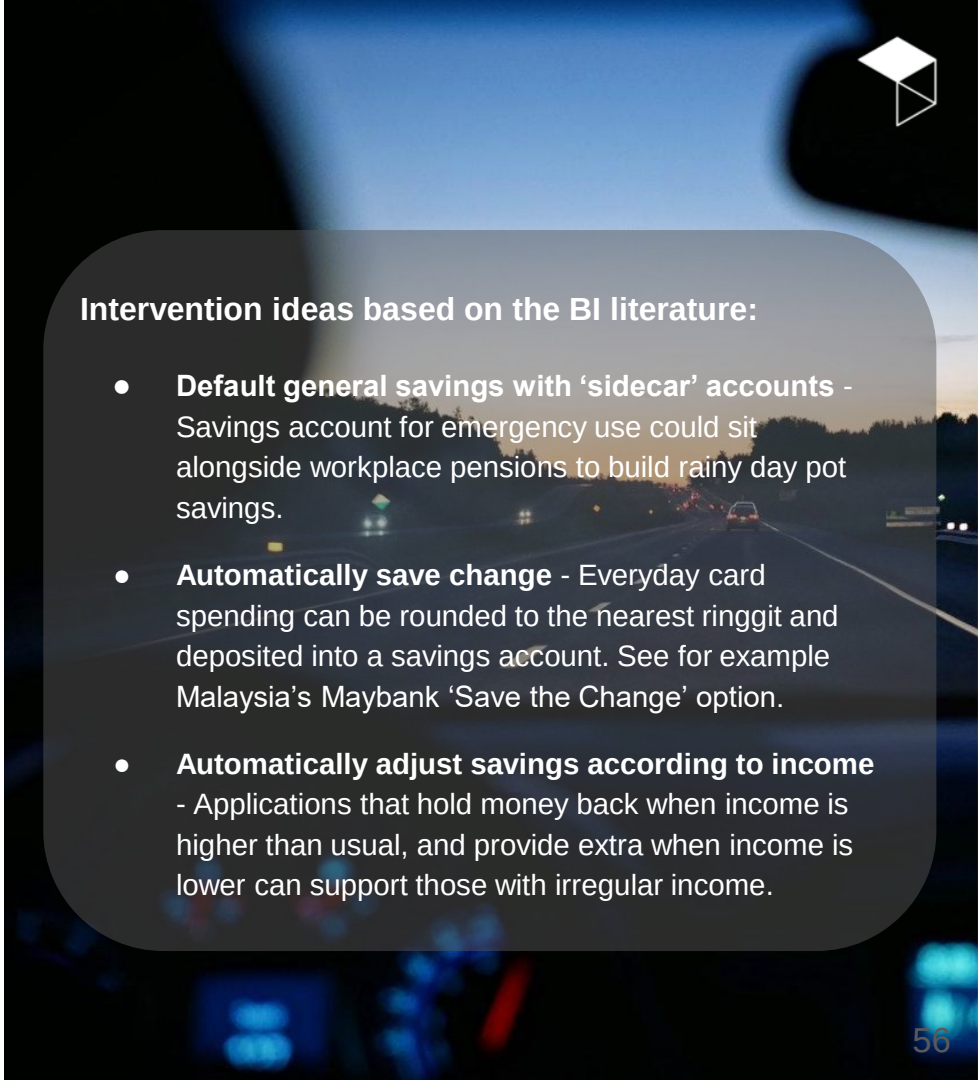
Insights from findings

THE BEHAVIOURAL INSIGHTS TEAM

1: Defaults and automation

We found that setting the right default option - towards higher savings - had a strong influence on the amount people chose to save. This suggests that “smart defaults” can help people to save more.

We need the industry to devise more products which can automate savings such as “Saving the change” or “sidecar accounts”, and make sure the default setting is that savings are enabled. We then need policy, especially pension policy, that support that.



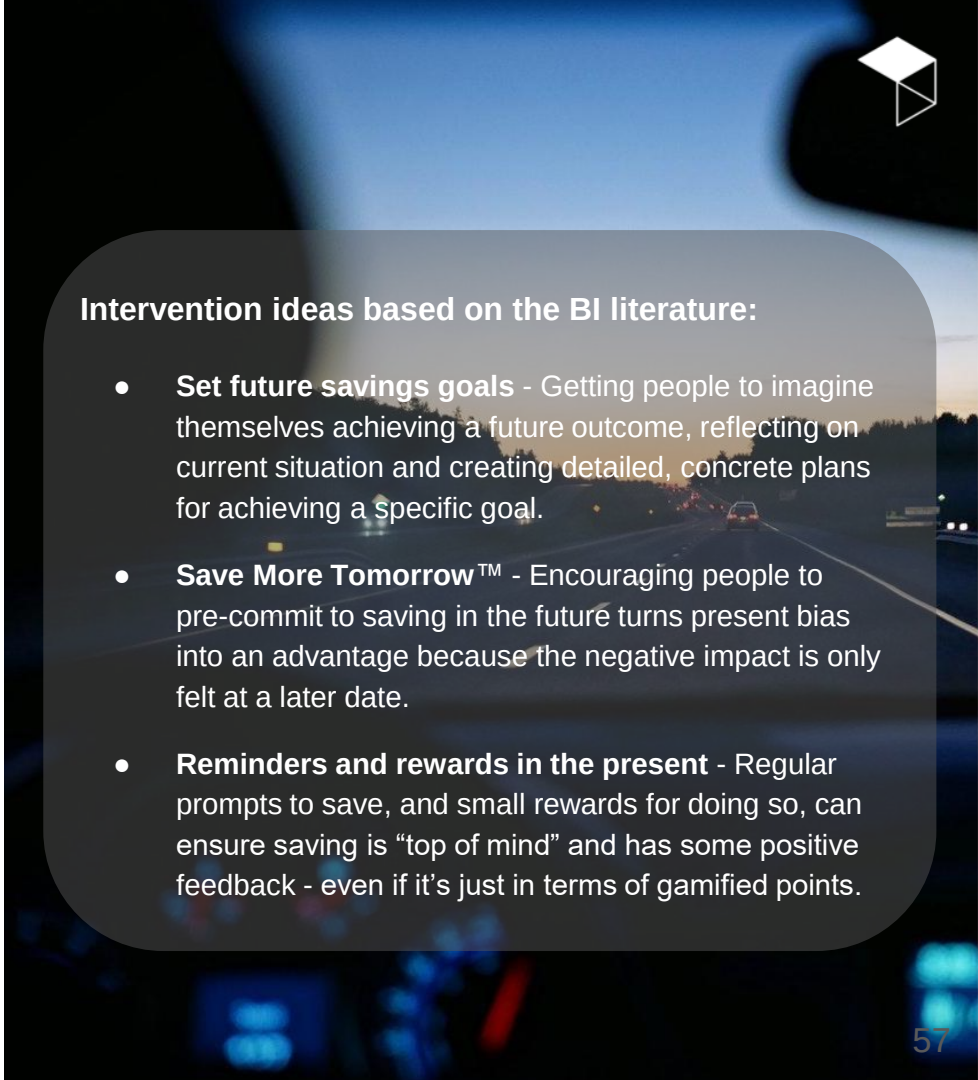
Intervention ideas based on the BI literature:

- **Default general savings with ‘sidecar’ accounts** - Savings account for emergency use could sit alongside workplace pensions to build rainy day pot savings.
- **Automatically save change** - Everyday card spending can be rounded to the nearest ringgit and deposited into a savings account. See for example Malaysia’s Maybank ‘Save the Change’ option.
- **Automatically adjust savings according to income** - Applications that hold money back when income is higher than usual, and provide extra when income is lower can support those with irregular income.

2: Tackling present bias

Lower income persons seem to have higher levels of present bias - especially those with the very least income. Present bias can influence us away from saving in favour of immediate needs. It is a significant behavioural obstacle to Malaysians savings.

Education and intention may not be enough if your brain is wired to direct you to the present. Products, services and policies should help us to visualise the future, commit to that future, and provide incentives now to encourage us to save for tomorrow.



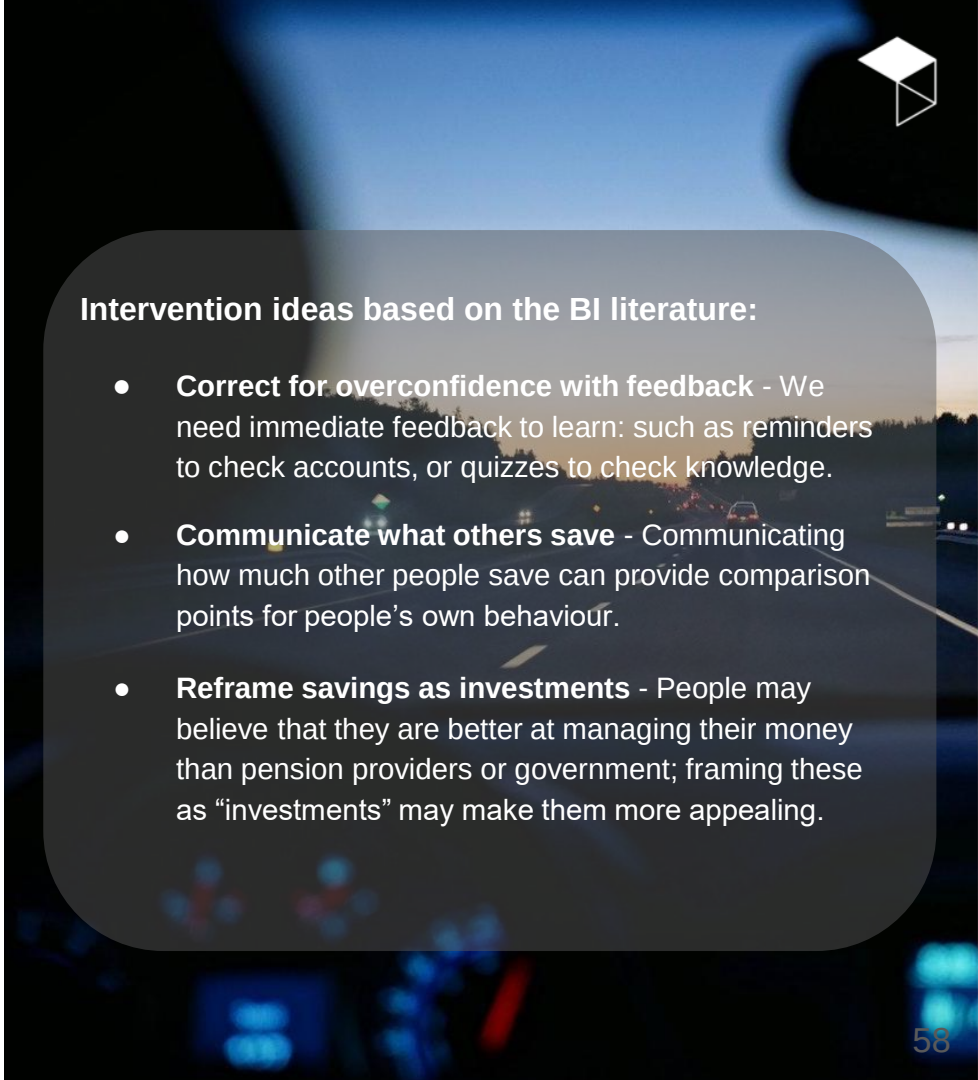
Intervention ideas based on the BI literature:

- **Set future savings goals** - Getting people to imagine themselves achieving a future outcome, reflecting on current situation and creating detailed, concrete plans for achieving a specific goal.
- **Save More Tomorrow™** - Encouraging people to pre-commit to saving in the future turns present bias into an advantage because the negative impact is only felt at a later date.
- **Reminders and rewards in the present** - Regular prompts to save, and small rewards for doing so, can ensure saving is “top of mind” and has some positive feedback - even if it’s just in terms of gamified points.

3: Managing confidence

Overconfidence was highest among those between 35 and 55 years of age. Confidence can be good if it encourages us to engage in financial planning and decision-making, but bad if we overestimate our own abilities and make mistakes.

Feedback is key; it allows us to adjust our confidence to match our actual ability. Policies and services should aim to provide Malaysians with more feedback on their finances and decision-making to help them improve.



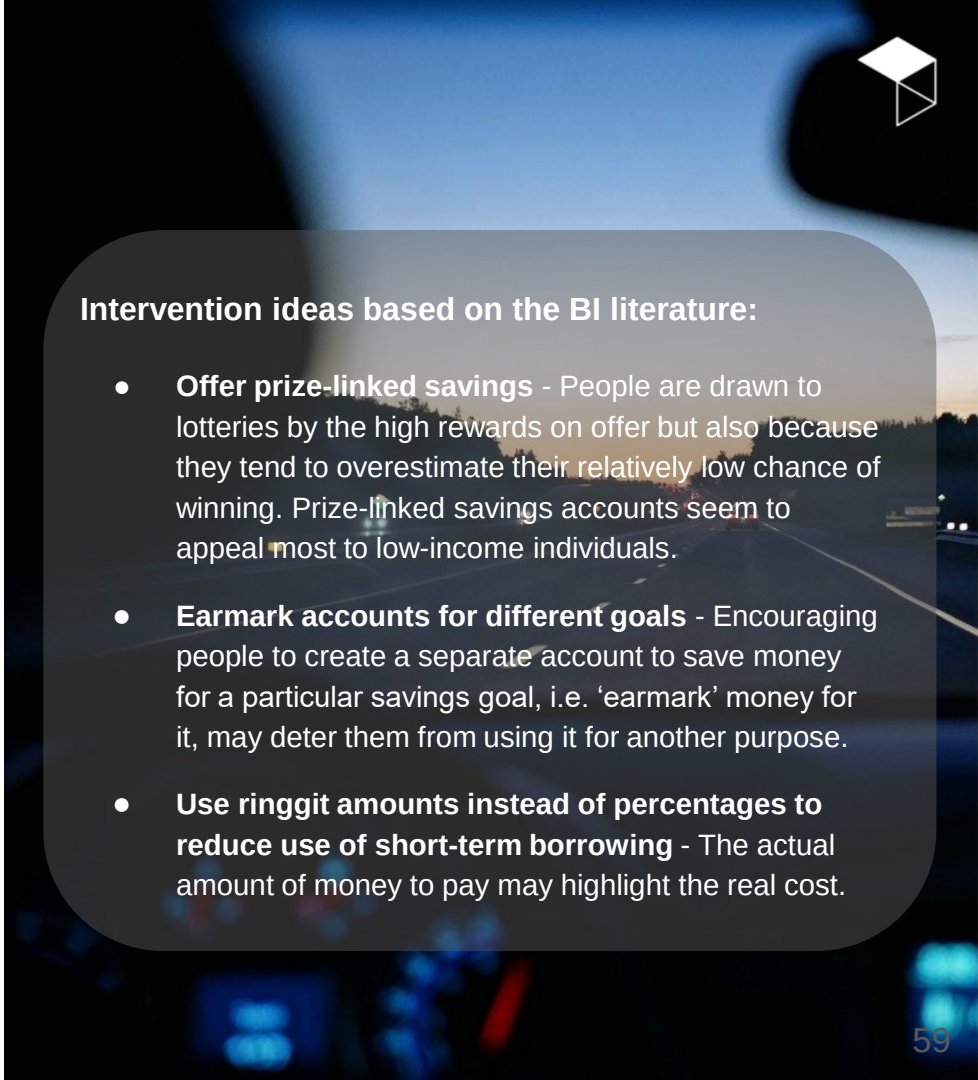
Intervention ideas based on the BI literature:

- **Correct for overconfidence with feedback** - We need immediate feedback to learn: such as reminders to check accounts, or quizzes to check knowledge.
- **Communicate what others save** - Communicating how much other people save can provide comparison points for people's own behaviour.
- **Reframe savings as investments** - People may believe that they are better at managing their money than pension providers or government; framing these as "investments" may make them more appealing.

4: Focus on those in need

We observed a high overlap between low-income and irregular income earners, in terms of who falls into these categories, and their reported and revealed savings behaviours. They lack savings, and confidence, which may discourage financial planning.

Devise more products that are designed for and appeal to these groups, such as prize-linked savings accounts; and write policy and regulation to protect them from extractive practices like payday lending which prey on a lack of attention.



Intervention ideas based on the BI literature:

- **Offer prize-linked savings** - People are drawn to lotteries by the high rewards on offer but also because they tend to overestimate their relatively low chance of winning. Prize-linked savings accounts seem to appeal most to low-income individuals.
- **Earmark accounts for different goals** - Encouraging people to create a separate account to save money for a particular savings goal, i.e. ‘earmark’ money for it, may deter them from using it for another purpose.
- **Use ringgit amounts instead of percentages to reduce use of short-term borrowing** - The actual amount of money to pay may highlight the real cost.

Conclusions for further consideration

Apart from the recommendations which were informed by our research findings and linked to the intervention ideas we devised in creating our BI principles for saving, we also have reached a few key conclusions on this topic:

1. **We need more policies and products that recognise impact of biases.** Our findings feed into a global body of evidence that cognitive biases matter for financial behaviours. It is important that our policies and regulation reflect the realities of financial decision-making, and that we promote products and services that work within the constraints of how people think.

2. **We need more products, policies and services for persons with low-income and irregular income.** Many traditional financial services and products, as well as policies around financial behaviour, may not be correctly tuned to best help those with low, irregular incomes, especially in the gig and shadow economy. Our research shows that this group may be at higher risk.

3. **We need further research.** This study only began to uncover some of the biases and behavioural insights relevant to financial behaviours and decision making. More work will need to be done.

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