

Final report

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British Embassy
Bangkok



THE
**BEHAVIOURAL
INSIGHTS
TEAM**



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BIT conducted behavioural insights (BI) research, and advised on the BI research conducted by BoT and BMA

BIT was commissioned by FCDO to support (i) Bank of Thailand in its goal to reduce household debt levels, and (ii) the Bangkok Metropolitan Authority in developing internal behavioural insights capability through a series of research pieces, consultations, and workshops. In this report, we summarise the following:

1. An online experiment to test behaviourally-informed loan comparison table that we conducted for the Bank of Thailand (BoT), along with recommendations that are relevant to the Responsible Lending regulation. This has directly informed the design of the new lending disclosure regime.
2. The desk research we conducted to support the consultations for Puey Ungphakorn Institute for Economic Research (PIER), along with recommendations for designing interventions and field experiments. Through these consultations, PIER will be able to conduct robust experiments that will help inform policies to tackle persistent farmer debt.
3. The discussions during the advisory sessions for the Bangkok Metropolitan Authority (BMA)'s waste segregation experiment consultations, along with recommendations for research design. These discussions will help inform experiments that BMA plans to run as part of policy development in the future.
4. A reflection on the benefits and challenges of taking a behaviourally-informed approach to policy-making, and how the partnership contributed to the project outcomes

BI research is about understanding how and why people make decisions, and designing better policy in response

What are “behavioural insights”?

Behavioural insights, or BI, are findings from the behavioural science literature that can be applied to enhance and improve public policy and public services.

For example, we have demonstrated - first in the UK, then all over the world - that [you can increase tax filing by informing taxpayers most people pay their taxes.](#)

This is based on the behavioural science literature of [‘descriptive social norms’](#) - or simply, “herd instinct”.

The BI approach is about using such behavioural science insights to design “behaviourally-informed” solutions that reflect both what the science tells us about how people behave, and also what the data tells us about the particular people we are trying to help.

Key elements of BI research

The BI research process is about gathering data on behavioural factors that may influence choices, and testing interventions that respond to these:



Gather insights

We use mixed-methods to learn about the context of decisions, identifying the factors affecting behaviour. We often focus on cognitive biases, and the seemingly irrelevant details around a decision. We describe this process as [“Explore” work](#).



Find what works

We design interventions that reflect the insights we gather, and test these rigorously with randomised controlled trials, or RCTs, to find out what works. We have run many hundreds of RCTs with governments around the world.

Our full process, TESTS, is described in [this handbook for simple BI projects](#).

Encouraging people to take shorter loans

A laboratory experiment

Overview: BIT worked with BoT to run a policy design experiment

The Behavioural Insights Team (BIT) and Bank of Thailand (BoT) worked together to understand consumer decision-making when considering loan repayment options.

The [Responsible Lending regulation](#), which has been launched by the BoT, stipulates guidelines on overseeing all stages of indebtedness and nudging customers' behaviour throughout an entire debt cycle. As such, BoT is particularly interested in how best to communicate loan terms of customers, and what information can help better inform loan decision-making.

We ran this laboratory experiment to understand the effectiveness of “nudges” in promoting early debt repayment.

A “nudge” is a change to the way options are presented “without significantly changing their economic incentives” (Congiu and Moscati, 2021).

Consumer lending policy staff at BoT had identified an opportunity to change loan product disclosure rules so that consumers are better informed about how different monthly repayments and repayment periods affect their debt. BIT conducted an experiment to investigate the effects of changing loan product disclosures.

Our project involved two research activities:



Survey: Surveying Thai residents to understand their current financial-related behaviours and beliefs



Experiment: Testing whether a behaviourally-informed loan comparison table affects Thai residents' loan tenure decision choices in a hypothetical loan uptake scenario.

We describe our sample, methodology, results, and recommendations in the subsequent slides.

We ran the survey and experiment among 1,000 individuals in Thailand, largely resembling the general population

Gender	%
Male	48.0%
Female	52.0%

Age	%
18-24	13.2%
25-34	21.2%
35-44	22.2%
45-54	19.2%
55-64	22.5%
65 and above	1.7%

Region	%
Central	27.6%
Greater Bangkok	14.1%
Northeastern (Isan)	21.4%
Northern	19.9%
Southern	17.0%

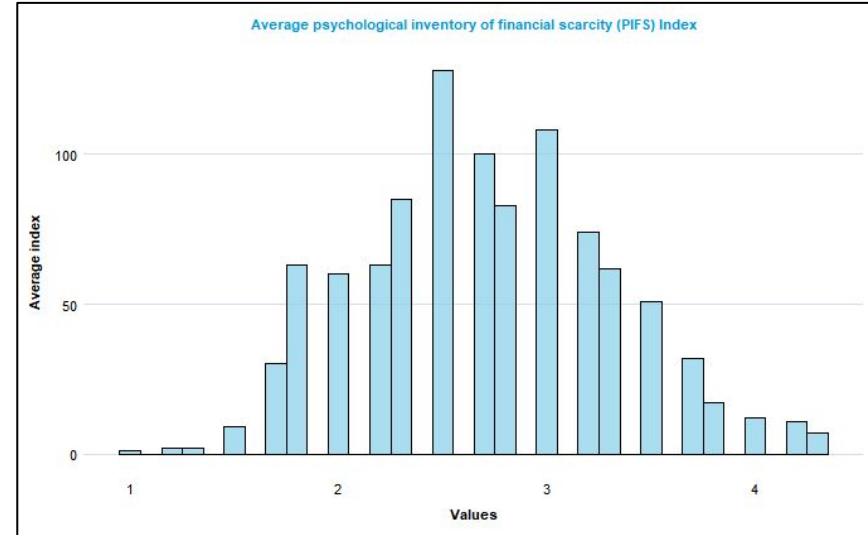
Education	%
No formal education	0.6%
Primary school / lower	1.8%
Lower secondary	12.1%
Higher secondary	30.9%
Diploma/higher vocational	8.0%
Bachelor's degree	37.7%
Master's degree & above	8.9%

The sample was generally representative by income and financial literacy, with a well distributed financial stress index

Monthly income	%
5,000 and below	6.2%
5,001 - 10,000	13.2%
10,001 - 15,000	7.9%
15,001 - 30,000	27.3%
30,001 - 50,000	30.2%
50,001 - 100,000	12.9%
More than 100,000	2.3%

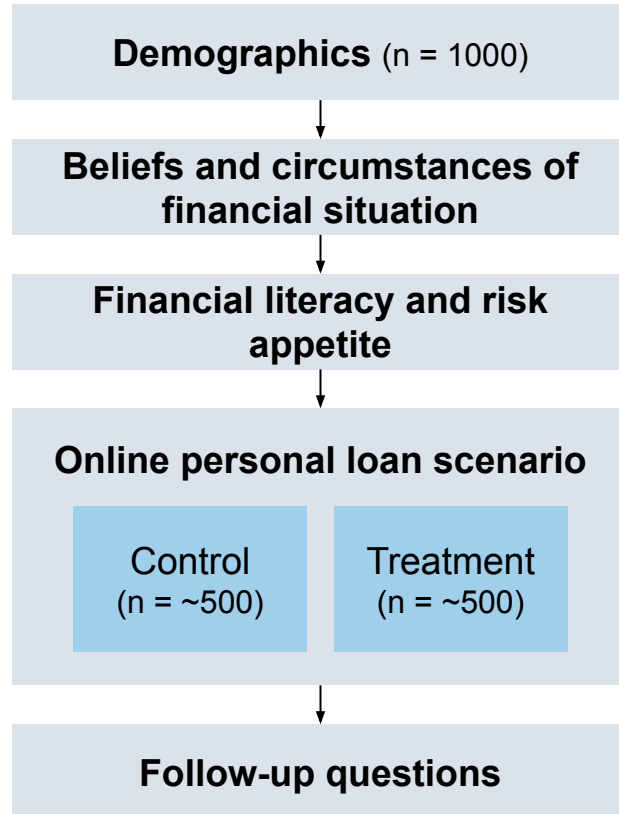
Financial literacy	%
0 questions correct	10.9%
1 question correct	24.2%
2 questions correct	36.6%
3 questions correct	28.3%

Financial literacy appears to be comparable to what has been observed in previous surveys. Approximately 64.9% of our survey participants scored at least 66% ($\frac{2}{3}$ questions correct) for financial literacy; as a benchmark, 67% of Thai adults scored the minimum target financial knowledge score (70/100 points) in the [OECD/INFE 2023 Survey of Adult Financial Literacy](#).



The [PIFS Index](#) is a measure of financial stress which we believe could be a factor influencing people's loan repayment period choices. In this survey we used 6 items from the PIFS index which participants had to rate from "Strongly disagree" to "Strongly agree". An example of an item is: "I am constantly wondering if I have enough money."

The experiment was embedded within the survey, focusing on understanding potential influences on loan tenure decisions



The study collected data from participants on characteristics we believe could influence people's loan tenure decisions in a hypothetical loan scenario. These include general items like demographics (e.g. income, education), as well as specific measures established to influence financial behaviours such as financial literacy and stress.

We then ran a randomised controlled trial, where we randomised half of the sample to see the original loan comparison table ("Control"), and another half to see the behaviourally informed loan comparison table ("Treatment"). The two versions can be seen on the next slide.

The Treatment version was designed with the hypothesis that people may not be aware of the additional costs incurred when taking on a longer loan repayment period, even if repayment amounts are smaller. By introducing this information, as well as focusing on **highlighting costs**, we wanted to test whether it would reduce people's chosen loan tenure.

Key question: *Which repayment period (in months) would you choose to take up for the 15,000 Baht loan?*

Control (n=497)

The interest rate is an estimated 25% per year, including the relevant fee charges.

Loan of 15,000 Baht and 25% interest rate per year			
Repayment period	24	36	48
Repayment amount per month (Baht)	800	600	500

Treatment (n=503)

The interest rate is an estimated 25% per year, including the relevant fee charges. **You are recommended to choose a shorter installment plan within your means to avoid paying more overall over a longer period of time.**

Loan of 15,000 Baht and 25% interest rate per year			
Repayment period (months)	24	36	48
Repayment amount per month (Baht)	800	600	500
Total interest incurred (Baht)	4,000	6,500 Pay 2,500 more Baht by repaying in 36 months	9,000 Pay 5,000 more Baht by repaying in 48 months

The full list of questions can be found in the appendix

Our main research question was how effective the ‘treatment’ was in encouraging shorter repayment period choices

Research question	Outcome measure
What is the effect of a BI-informed loan comparison table on choosing shorter loan repayment periods?	Primary outcome [Continuous] Average repayment periods chosen (in months)
	Secondary outcome [Binary] % of people who chose any number of months apart from the longest (48 months)

We also looked at descriptive statistics of **exploratory outcomes**

Research question	Outcome measure
What is individuals' understanding of the loan information provided to them?	For each comprehension question, % of people who get the answer correct
How much do individuals use the example repayment periods as reference points, i.e. evidence of anchoring?	Distribution of individuals' repayment period choices
How does the effect of a BI-informed loan comparison table on choosing shorter loan repayment periods differ across subgroups? Subgroups: • Age • Gender • Income • Education • Financial literacy • Comprehension (Individual questions) • Reported financial stress	Subgroup analysis for the primary outcome: Average repayment periods chosen (in months)

We also looked at descriptive statistics of **exploratory outcomes**

Research question	Outcome measure
How easy do individuals find the loan sheets to read?	Average rating given by individuals on the question which asks about ease of understanding
What are individuals' personal debt situation?	Percentage of individuals who report having past or current debt
What kinds of debts do individuals have?	Percentage of individuals who report having a particular type of debt

We analysed primary & secondary outcomes with **regression**, and visualised exploratory outcomes in **graphs**

For each **primary and secondary outcome**, we used a **regression** to calculate how likely the individual was to perform the behaviour (e.g. choose the shortest loan repayment option), given whether they saw the control letter or treatment letter. We used a linear regression for the primary outcome, and a logistic regression for the secondary outcome.

We performed each regression **twice** -

- once where we only indicated whether the individual received control and treatment; and,
- once where we also controlled for any factor (“covariates”) likely to affect the outcome, i.e. level of comprehension of the letter, reported financial stress, and any factors that were found to be imbalanced in the balance checks.

For each **exploratory outcome**, we plotted graphs and/or reported descriptive statistics.

For each regression, we will estimate a model of the form:

- (i) **Linear regression:** $y_i = \alpha + \beta \cdot \text{Treatment}_i + i$
- (ii) **Logistic regression:** $\log(1 + y_i) = \alpha + \beta \cdot \text{Treatment}_i + i$

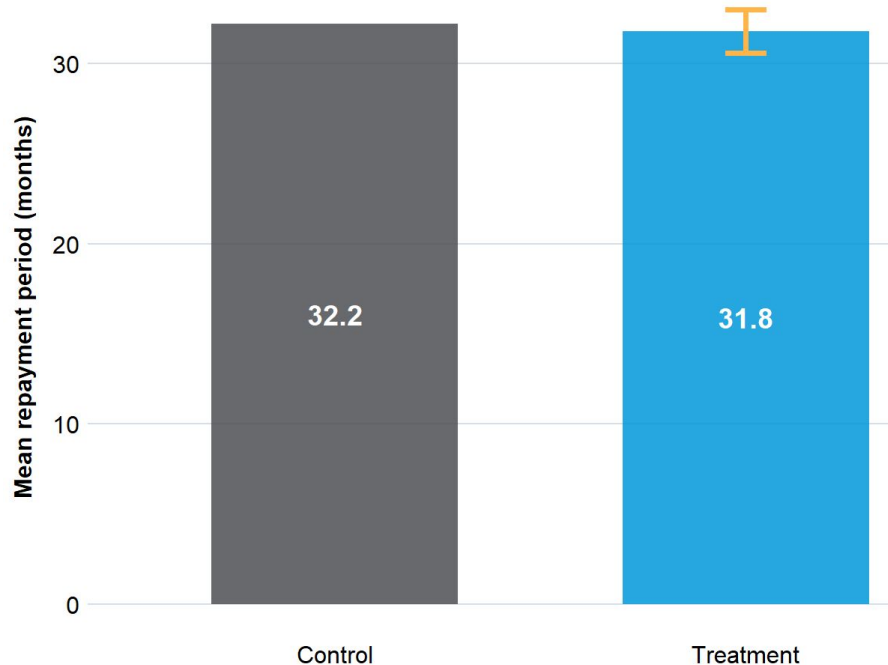
including the model with covariates likely to impact outcomes:

- (iii) **Linear regression:** $y_i = \alpha + \beta \cdot \text{Treatment}_i + \theta \cdot \text{Covariates}_i + i$
- (iv) **Logistic regression:** $\log(1 + y_i) = \alpha + \beta \cdot \text{Treatment}_i + \theta \cdot \text{Covariates}_i + i$

Where:

- i refers to the 'ith' participant.
- y is the outcome measure (primary or secondary outcome)
- Treatment is a dummy variable for each of the treatment groups.
- Covariates _{i} is the set of individual-level variables of interest that are gathered:
 - Age
 - Gender
 - Income
 - Education
 - Financial literacy
 - Comprehension (Individual questions)
 - Reported financial stress
- Θ the marginal effect of the variable on the outcome measure.
- i represents the model's independent and identically distributed error.
- α is the model intercept.

We found no significant difference between the two versions in their effect on the average loan tenure choice

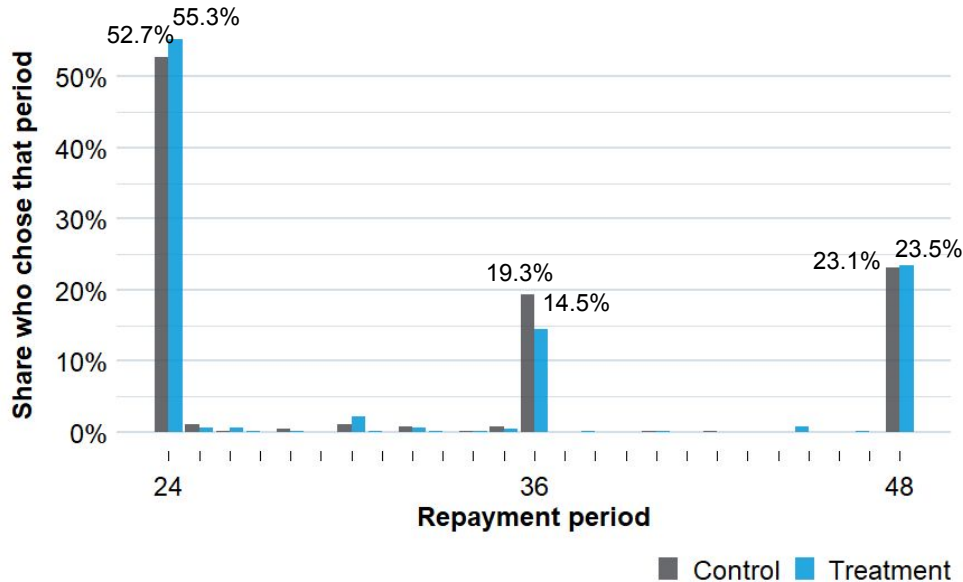


There was no clear significant difference between the Treatment and the Control loan comparison table when it came to the average length of the loan repayment period ($p = 0.52$, 95% CI: -1.58 to 0.80).

Further analyses revealed the following insights:

- Those aged 65 and over chose a repayment period that was, on average, 5.2 months shorter than those aged 18 to 24 years old ($p = 0.008$, 95% CI: -10.14 to -0.28);
- Men, on average, chose a repayment that was 1.6 months shorter than women ($p = 0.01$, 95% CI: -2.86 to -0.34);
- Every 1-point increase in the PIFS index (financial stress levels) reduced repayment period choices by 1.2 months on average ($p = 0.02$, 95% CI: -2.18 to -0.18). It is possible that greater financial stress leads people to choose loans that can be paid off faster. However, further research with a larger sample size is needed to understand this finding better.
- Other covariates (income, education level, financial literacy) had no significant effect on repayment period choice.

More than half of participants chose the shortest repayment period, and the vast majority were led by the example options



Anchoring is where individuals place disproportionate importance on the initial information they receive, using the information as reference points in their decision-making.

We first note the high uptake of the shorter repayment period, regardless of which table was seen: many people understand shorter is cheaper.

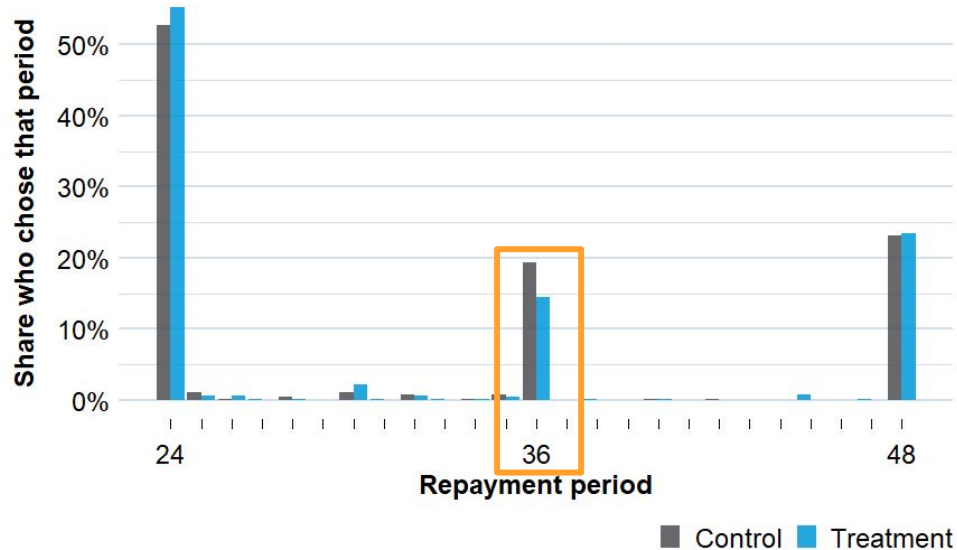
We also observe **anchoring** in the experiment, where the majority of participants simply choose one of the three example repayment periods, even though they were provided with an open-text field. This tells us that people strongly take cues from the environment when it comes to such decisions.

The examples presented are not treated as guidance, but as the only available choices.

These kinds of availability biases are more likely when people are uncertain about the decision.

When it comes to the actual policy design, we then need to be mindful of what we provide as examples in the loan comparison table guidelines.

Participants in the Treatment seemed to shift away from the middle option towards lower and higher repayment periods



Middle option bias is where individuals prefer options presented in the middle, perceiving them as more moderate and possibly overlooking better alternatives at the extremes.

We looked at participants who chose 36 months, which was the center example provided in the table. In this experiment, we see that those who picked the middle option had **lower comprehension scores** and **higher financial stress levels** than others. We think we are seeing **middle option bias**, where people tend to choose the middle option if they have high uncertainty.

We also note that the Treatment group was less likely to pick this option, and instead chose either higher or lower repayment periods in general. **It is possible the Treatment version of the table enabled clearer decisions**, whether to reduce repayment period and save on interest, or increase repayment period for lower monthly payments. We explore this further overleaf.

Examining individuals' characteristics, we theorise that the Treatment table may help people better consider their options

	Control			Treatment		
Repayment period choices	24	36	48	24	36	48
Average financial literacy scores	1.88	2.02	1.74	1.91	1.97	1.75
Average comprehension scores	2.87	2.67	2.76	2.78	2.55	2.83
Average financial stress levels	2.70	2.78	2.53	2.76	2.89	2.68

In both the Control and Treatment conditions, the participants who chose 36-months, compared to those who picked 24- or 48-months, tended to have higher levels of financial stress, worse comprehension, and be more financially literate.

We observe lower comprehension and higher financial stress among those who chose the middle-option, and this aligns with our understanding of the middle option bias. However, we also observe higher financial literacy, which is surprising. This could be due to random chance (considering that the differences are small) or lower comprehension cancelling out the effects of higher financial literacy or other factors. All of these observations are based on descriptive statistics, and therefore, more research is needed to better understand the relationship between these variables.

If people are choosing the middle-option because they do not know how to make the decision, it would make sense that the Treatment table encourages shifting away from the middle - it is presenting additional information that makes it easier for people to make an informed choice.

More Treatment participants chose a repayment period less than the middle option

Condition	Repayment period choices (months)			
	< 36	36	> 36	Total
Control	284 (57.1%)	96 (19.3%)	117 (23.5%)	497 (100%)
Treatment	305 (60.6%)	73 (14.5%)	125 (24.9%)	503 (100%)
p-value ¹	0.290	0.052	0.682	

Here we look at decisions in three 'buckets': Repayment choices smaller than the middle option, choices at the middle option, and choices larger than the middle option.

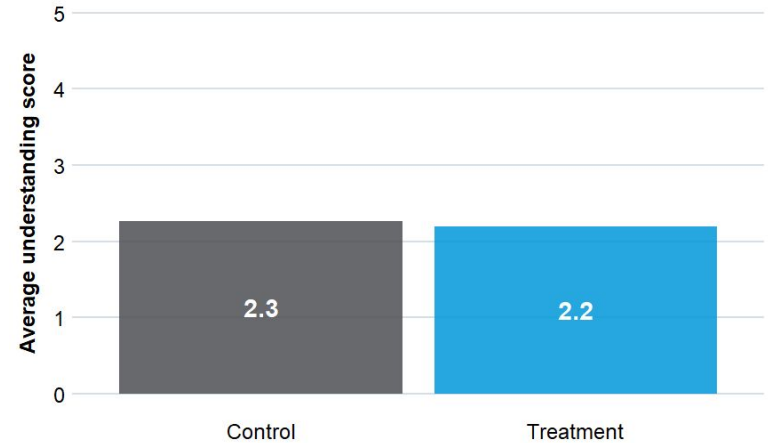
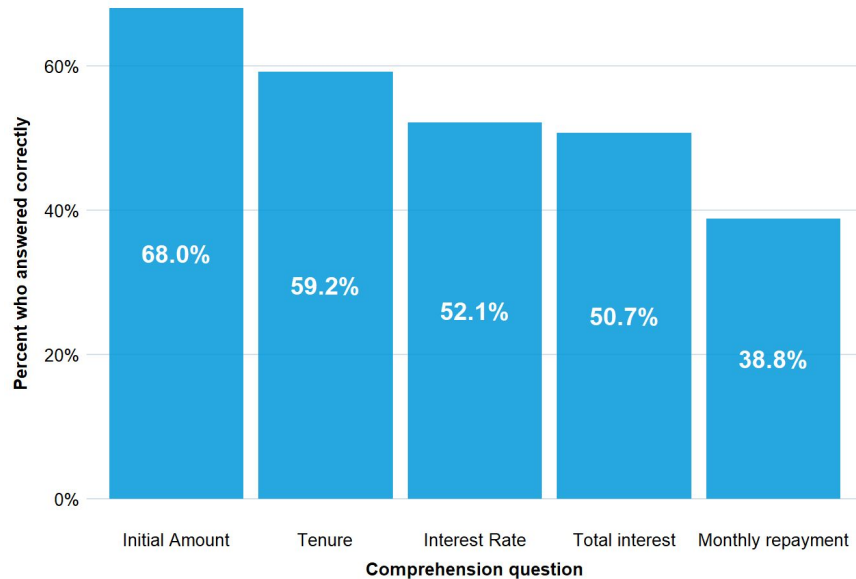
3.5% more Treatment participants chose a repayment period less than 36 months, compared to the Control group. Also 1.4% more Treatment participants chose a repayment period longer than 36 months. These were not statistically significant at the 5% level, however directionally it appears a larger proportion of the Treatment chose shorter repayment periods away from the middle option.

The Treatment table not only seems to help participants make a more informed choice, and at the same time we see an increase in participants' choosing smaller repayment periods.

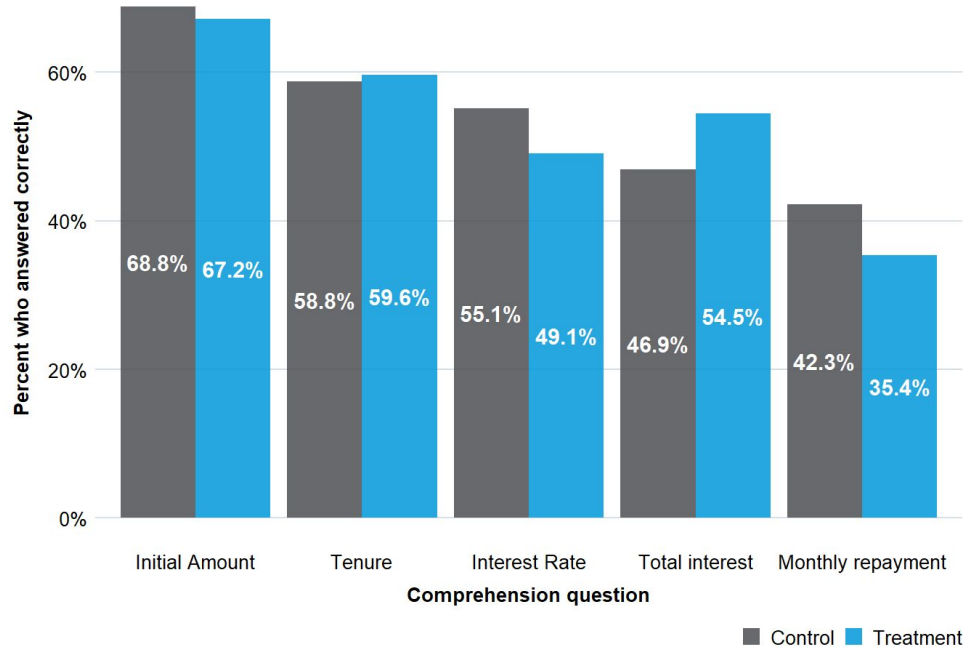
This supports the introduction of the new table, so that consumers are presented with total interest incurred when making a decision.

1. The p values were obtained from proportion tests, comparing the proportion of participants in Control and Treatment who selected (a) < 36 months , (b) 36 months , and (c) >36 months.

Overall, recall of the loan product terms was not high and both versions were similarly rated as difficult to understand



Control sample was more accurate for interest rates and on monthly repayment, Treatment was more accurate for total interest repayment



The Treatment sample was less accurate when it came to interest rates and monthly repayment amounts, yet were better able to provide the total interest to be paid. This is a helpful insight in understanding **attention spans**, where every additional information item provided reduces people's ability to pay attention to different details.

There are important policy implications: every additional piece of information 'cannibalises' attention paid to other pieces of information. We may want to be specific in informing firms on where the loan comparison table should be placed in the documents (e.g. front page), or that it should be worded and formatted as provided - with no additional information not prescribed by regulation.

Our findings suggest that behavioural biases affect loan decision-making

What we found

In our experiment, we see that the behaviourally-informed loan table version did not lead to significant reductions in the repayment period that participants chose, compared to the loan table from the 'control' condition.

We see evidence of anchoring - the hypothetical options presented strongly influence consumer choice - and middle option bias - a tendency to choose the middle option. We take this as indicating that behavioural biases are affecting loan tenure decisions, rather than purely rational factors.

Whilst the difference between 'control' and 'treatment' was not statistically significant, fewer participants shown the behaviourally-informed version chose the middle option. We see this as encouraging evidence to support a revised regulation around how loan tenure options are presented.

What we suggest

We recommend to proceed with the behaviourally-informed version as it appears to help counter some behavioural biases that may affect loan tenure decision-making. It also ensures that more consumers are aware of the total interest payable, which we expect to better inform choices.

To aid this, regulations should be specific about how the loan table is presented to people (e.g. choices of example repayment periods, formatting, and where the loan table is placed among other information) to better inform choices.

We recognise limitations to this study: our sample size may have been insufficient to detect a difference, and the demographics of those choosing the middle option suggest we have not yet fully understood what leads to this choice.

We recommend further testing of nudges for BoT.



Encouraging farmers to repay their debt

Desk research and consultations

Overview: BIT provided advice to the PIER team in BoT to develop and trial an intervention to reduce farmer debt

There is a widespread debt problem among Thai farmers: 90% of farmers are in debt, with 50% of them only repaying their interest,¹ thus perpetuating a cycle of persistent debt. In response, the government of Thailand has launched a debt moratorium to indebted farmers.² To support the implementation of the debt moratorium, PIER has been working on developing interventions to encourage Thai farmers to repay their debt, particularly their loan principal, and they aim to run a trial to test the effectiveness of these interventions.

The Behavioural Insights Team (BIT) conducted advisory sessions for the Farmer Debt project team from PIER to support their intervention development and trial design.

We outline the key points and recommendations from (i) the desk research on behaviourally informed interventions to encourage debt repayment that we conducted to support our consultations, and (ii) the trial design discussions in the subsequent slides.

1. Puey Ungphakorn Institute for Economic Research. (2023, November 7). *Materials for BIT consultation [PowerPoint Slides]*. Bangkok.
2. International Monetary Fund. (2024). *2023 Article IV Consultation—Press Release; Staff Report; and Statement By The Executive Director for Thailand (IMF Country Report No. 24/35)*. <https://www.imf.org/-/media/Files/Publications/CR/2024/English/1THAEA2024001.ashx>

Interventions to encourage debt repayment

We carried out a literature scan to understand the existing literature on behaviourally informed interventions to encourage financial behaviours, with the larger goal of providing recommendations for solution design. Below are our findings:

What we found	Recommendations for the project team
Timing plays an important role when designing interventions. A brief review of the literature shows that self-control and procrastination are some of the factors that influence financial decision-making. Thaler and Benartzi (2004) found that asking people to pre-commit to allocate their future salary to retirement savings was able to help those who wanted to save more but lacked the willpower. Similarly, Ashraf et al. (2006) found that individuals who pre-committed to not withdrawing funds before they reached a certain goal had a higher average savings balance after twelve months.	It is important to map the journey of loan take up and repayment among farmers, to identify the touchpoints (i.e. where in the journey we can intervene. For example, a good time to influence farmer behaviours might be during the loan enrollment (contract signing) meeting. PIER may consider to design interventions that involve asking farmers to pre-commit to paying in the future, e.g. pick a date and amount.

Interventions to encourage debt repayment (continued)

What we found	Recommendations for the project team
When developing communication-based interventions, it is important to consider the messenger. Karlan et al. (2016) found that sending text messages to remind individuals to repay their loan is effective when the messages include the account officer's name.	Bank branch officers are the people that farmers deal with the most when setting up and repaying their loan. As such, these officers might be the best messengers to encourage farmers to repay their loans. PIER may consider developing interventions that actively involve bank branch officers (e.g. guide that officers can use to talk to farmers).
Message framing also affects how people perceive the message that is being communicated. Fiorin et al. (2022) suggested that debt moratoriums may trigger a sense of reciprocity among borrowers. The study found that delinquent borrowers who were offered debt moratorium by their lenders were less likely to default.	It is important that farmers understand that the current farmer debt moratorium in Thailand is different from previous moratoriums. PIER may consider framings such as reciprocity (e.g. the government is helping you), and clarifying that farmers only get the benefit if they keep paying some amount.

Discussions on experiment design: Power

During the course of our project, PIER developed interventions to be tested in a field trial and sought BIT's advice on power calculations and other trial design aspects to support their trial development.

Power calculations are usually conducted to describe the relationship between the effect size, sample size, significance level and statistical power. This helps us to understand how many interventions we can test and the minimum difference in the outcome measure that we can expect to be able to identify between arms (MDES; minimum detectable effect size).

Conducting power calculations

- We suggested PIER to perform power calculations using the baseline rate of the primary outcome measure that is most relevant to the target behaviour (i.e. debt repayment). Along with other inputs such as the significance level and the statistical power we intend to achieve, we can determine the MDES that the proposed trial design can detect.
- Determining whether a specific MDES is realistic depends on the policy context. For instance, if farmers can realistically pay a certain amount of debt (X), then an intervention to increase debt repayment to the level of X may be reasonable.
- We assessed that PIER's trial falls under the [three-level multi-site cluster randomised trial design](#). The trial consists of three levels, i.e., provinces (as blocks), bank branches as randomisation clusters, and farmer/farmer groups. Using a two-level clustered randomised trial will provide a stricter estimate of the power calculation, whereas a three-level power calculation will provide less conservative but more accurate estimates.

Discussions on experiment design: Power and balance checks

Improving statistical power

We shared that one of the ways to improve power is to add more sample to the control group. Theoretically, everything else held constant, recruiting more samples for the control group improves power. However, the allocation of samples to the experimental conditions should still be performed at random, rather than adding more samples to the control post-randomisation.

Apart from power calculations, we also discussed about balance checks that sometimes conducted as part of trial design and analysis.

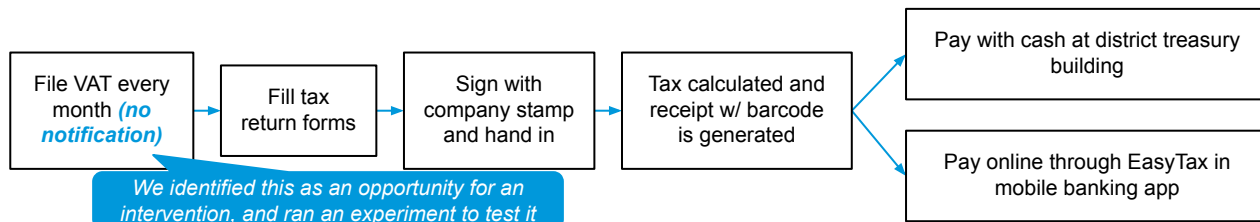
Balance checks

PIER was considering to conduct balance checks to see whether the randomisation works. We [advised against](#) using significance testing such as t.test to do a balance check because such tests seek to assess the probability of something to have occurred by chance when we already know that it did occur by chance. If PIER still wanted to conduct a balance check, we would recommend using [standardised mean difference](#).

PIER can, with support, run further behavioural economics experiments

Recommendations

PIER can use behavioural insights approaches to complement their existing approaches to understanding policy problems and identifying potential interventions. For instance, PIER should consider developing a journey map of debt repayment for farmers to understand potential touchpoints for future initiatives. See an example below from our work in Laos on SME VAT filing.



PIER should also consider continuing to conduct field experiments to test the effectiveness of interventions. Existing research expertise within PIER is formidable, and can be enhanced further by drawing on experts in experimental design and the logistics of implementing field trials to generate high-quality, rigorous evidence of policy impacts.

Building BI capacity within BMA

Technical assistance and workshop delivery

Overview: BIT supported BI capability building in BMA through consultation sessions and workshops

Consultation sessions. BIT consulted with CityLab to design an experiment to evaluate different policy designs for waste management fees. These consultations were useful for direct knowledge exchange on how to run behavioural insights experiments.

Image: City Lab trial design for waste management experiment



Workshops. BIT ran workshops for BMA participants during each field mission that BIT made to Bangkok, with the dual objectives of (i) identifying potential policy areas that would benefit from a BI approach and kickstarting projects within those areas; (ii) equipping BMA staff with the tools to surface and support BI projects in their respective domains.



We provided advice on BMA's waste segregation experiment design and helped build capability within BMA for BI

Waste management is one of BMA's key areas of concern. The waste management expenditure amounted to 7,127 million THB in 2021¹. However, BMA only collected 512 million THB in waste management fees, accounting for only 7.18% of all expenses. Consequently, BMA has been exploring ways to encourage waste segregation among households, such as a pay-as-you-throw policy, supported by behaviourally informed interventions.

To support policy development, BMA designed an experiment to test the effectiveness of the interventions. BIT provided advice on their experiment design through a series of advisory sessions.

We outline the discussion points and recommendations for research design discussed during the advisory sessions in the subsequent slides.

1. Sajjaviriyakul, P. (2023). *Behavioural economics research for a household waste separation in Bangkok: Joint project with Program Management Unit on Area Based Development and the Bangkok Metropolitan Administration (BMA)* [PowerPoint Slides]. Bangkok.

In our consultations on the segregation experiment, we discussed spillover and the practicality of data collection

Experiment design components/issues	Recommendations
Potential spillover. Given that some households that were going to be recruited are located close to each other, there is potential spillover. Spillover happens when an intervention received by households in a particular experimental arm also affects households in other experimental arms, affecting the experiment results.	BIT suggested BMA to consider using a cluster experiment design, which involves assigning districts (instead of households) to the different treatment arms. We also advised BMA to make sure that the districts were not situated in very close proximity to each other.
The practicality of data collection. The design of the experiment included asking households to individually weigh their waste and submit this information along with photos of their waste. However, in practice, taking a usable picture is not as simple as it appears to be. The greater the number of garbage bags, the more effortful the process of weighing the garbage bags becomes.	We suggested BMA to consider implementing a procedure to guide when and how households should take photos. This is to avoid a situation where people take different number of photos with varying quality across the trial period.

We also discussed ways that the experimental researchers could improve outcome measure reliability

Experiment design components/issues	Recommendations
Enhancing outcome measure reliability. Estimating the effectiveness of the intervention requires accurate outcome measures. Asking households to individually weigh their waste and submit this information along with photos of their waste is prone to error and the social desirability bias (i.e. the tendency for individuals to provide responses that are socially desirable).	We suggested BMA to consider incorporating an audit mechanism to enhance the reliability of the photo data. An effective audit would involve auditors taking out the waste from the bags and weighing each type of waste for all households. This data can be used to adjust the weight shown in the photo data, for instance, by excluding observations or using the weight of the properly segregated waste.
Estimating the effect size of the intervention. The design of the experiment involves using a lottery to incentivise participants to submit photos of their waste. While this helps ensure that the required data is obtained, the lottery component may affect the generalisability of the study when it is scaled up to the city level.	We advised BMA to note the implications of incorporating a lottery in their design. For instance, the effect of the intervention may be different if the lottery is not included in the scaled up intervention.

BIT helped build BI capacity within BMA through workshops and engagement with BMA management

We conducted a series of workshops to help build BI capacity within BMA, using our [TESTS methodology](#):

- Training workshop on Target during our in-person visits on 17 October 2023, 8 January 2024, and 18 March 2024 (problem identification workshop)
- Training workshop on Explore during in-person visits on 20 October 2023 and 8 January 2023
- Training workshop on Solution during the in-person visit on 9 January 2024

Through these workshops, participants:

- Learned how to identify problems and BI project scopes
- Participants were familiarised with the COM-B model of behaviour change, to identify behavioural barriers
- Participants learned how to apply behavioural principles to design interventions
- Participants learned how to design research experiments and measure outcomes independently.

BIT also engaged with BMA management to plot out how they can continue to incorporate BI into their approach for identifying and solving policy problems in Bangkok.

BMA has the foundations now to use BI to tackle policy issues

Recommendations

Through the consultation sessions and workshops, BIT worked with BMA staff and CityLab to build a strong foundation upon which to incorporate a behaviourally-informed approach to solve policy problems.

BMA should engage researchers, such as from City Lab and the BMA Strategy and Evaluation Department, on an ongoing basis to identify potential problems and obtain research support and expertise. With the BMA Governor's support for BI, the engagements with City Lab and the Research and Statistics Department, and BMA staff that are equipped to identify BI project scopes, BMA is in a good position to pursue a BI approach for city management even further.



Reflections

This partnership and a behavioural insights approach

Behavioural insights is broadly applicable across a wide range of contexts and policy areas

Many of the behavioural biases that have been surfaced over the course of this project have broad applicability -- for example, the timing of an intervention can make a large difference to its effectiveness, no matter whether the intervention is to reduce debt or remind people to wear helmets in traffic. This underscores the importance of taking a contextualised, behavioural approach to policy-making, by understanding the user journeys of the target audience in order to identify the right times and touchpoints to intervene.

Besides Thailand, BIT has also worked extensively with the governments of various other ASEAN countries including Singapore, Malaysia, and Indonesia, to apply BI approaches to policy. **The specific impacts that we have achieved as a direct result of this project are:**

1. An improved understanding of loan decision-making and behaviours in Thailand to inform the design of the new lending disclosure regime
2. Behaviourally-informed intervention design to support farmers to repay their debt in Thailand, as well as a robust methodology for evaluating the impact of the intervention
3. 40+ staff in BMA trained to identify and support behavioural insights projects. Plans to run BI projects in 3 policy areas (waste segregation, traffic safety, and nutrition) are progressing, following this project.

We can replicating this approach with other partners: we see interest across ASEAN, and a role for FCDO to coordinate

Interest from government partners. In Thailand as well as ASEAN more broadly, we have observed an increasing demand by government partners to be actively involved in the design and delivery of BI approaches for policy-making. We believe that combining BIT's extensive BI expertise with governments' deep policy knowledge is essential for a successful partnership.

Communication and coordination. With a multi-stakeholder partnership such as this project (FCDO, BIT, BMA, BoT), smooth and transparent communication will be essential to ensuring successful project delivery. BIT are grateful to our FCDO partners for the key roles that they have played in facilitating conversations between various different stakeholders, without which we would not have achieved our various project outcomes.

The increasing interest from government partners, coupled with the varying levels of capacity and capability, point to the future potential for replicating the approach that we have taken with this project -- where we have tailored our approaches to BMA and BoT according to their respective needs, in order to achieve very different but equally important objectives.



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