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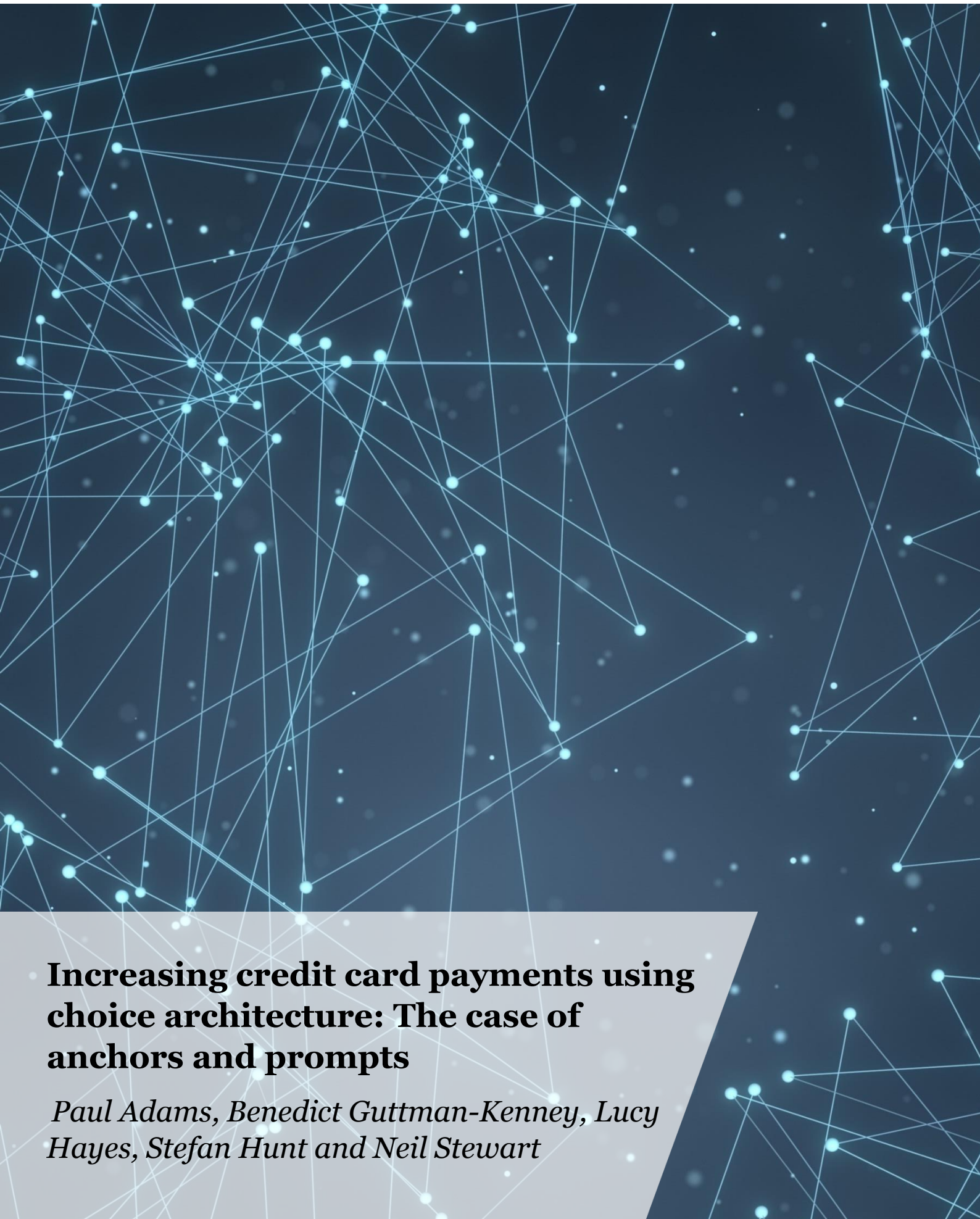

Increasing credit card payments using choice architecture: The case of anchors and prompts

Paul Adams, Benedict Guttman-Kenney, Lucy Hayes, Stefan Hunt and Neil Stewart

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Contents

1 Abstract

We investigate ways to encourage consumers to repay more of their credit card debt, which would lead to earlier full repayment, lower interest costs and reduced risks to credit scores, which can be affected by carrying long-term debt. Previous academic research has shown that consumers are strongly influenced by the inclusion of the minimum payment amount on their credit card bill, leading some consumers to pay less than they otherwise would. Through an online experiment, we replicate results from previous research, that removing the minimum payment amount from bills causes an upward shift in repayments - away from the minimum and towards the full amount. This lends further support to the theory that the minimum amount acts as an 'anchor' or 'target value', biasing payments downwards. We also find that including a prompt to pay the balance in full causes a large increase in the probability of paying in full. For those who choose to pay the minimum amount or close to it, prompting them to choose higher payments which would clear the debt in 1, 2 or 3 years results in many choosing to increase their repayment, with none choosing to decrease it. All 3 effects resulted in large changes to the distribution of repayments, with fewer people choosing to pay the minimum, more people choosing to pay the full amount and an increase in average repayments.

2 Introduction

Credit card debt in the UK now stands at £70 billion[1], which is just over a third of total consumer credit debt. The repayment choices made by consumers have a direct impact on this debt.

Unlike most other credit products, credit cards do not have fixed monthly payments defined by the lender. So the consumer is required to decide how much of their bill to pay, subject to meeting the contractual minimum payment. The majority of credit card payments in the UK are made manually (mainly online, but also in branch or over the phone) by the consumer (FCA Credit Card Market Study 2016), rather than through automated payments via direct debit, so consumers have to choose a payment amount each month. What is the 'right' payment amount? This choice isn't straightforward, but given the high interest costs, higher repayments would lead to lower debt and potentially large welfare gains for many consumers, resulting in lower interest costs and therefore an increased ability to consume Holding high levels of debt can also impact credit scores and credit limits and therefore the future ability to borrow.

Credit card consumers are required to pay a contractual minimum amount of their debt every month, which covers interest, any fees incurred and at least one percent of their balance, or £5, whichever is lowest. This ensures that interest does not compound and that debt will eventually amortize (conditional on no further spending on the card). However, amortization times when paying the minimum can be very long, with high associated interest costs – interest rates on credit cards are typically close to 20%.

Payment patterns tend to be bimodal - approximately 1 in 4 credit card payments in the UK is at the contractual minimum and another 1 in 4 is for the full amount (Financial Conduct Authority, 2016), though full payment rates vary greatly across providers.

Credit card companies usually include the minimum amount on the online payment screen and are required to do so on paper statements. Stewart (2009) showed that presenting the minimum amount to consumers when making their payment decision biases their payments downwards. This result has been replicated elsewhere (Navarro-Martinez et al., 2011; Jiang & Dunn, 2013). Thaler and Sunstein (2008) and Stewart (2009) suggested the minimum payment amount acts as a psychological 'anchor' - a mechanism whereby people's decisions are biased towards values that are initially presented to them, even when these numbers are irrelevant (Tversky & Kahneman, 1974). Alternatively, the minimum amount may be acting as a 'target value', where people make an effort to pay at least that amount but then make less of an effort to pay higher amounts (Bartels & Sussman, 2016). In any case, the research indicates that the inclusion of the minimum amount leads to decreased payments and at least in part explains the bimodal distribution of payments observed.

Here we conduct a direct replication of the study by Stewart (2009), by testing the removal of the minimum payment amount at the point of payment, in a hypothetical bill payment experiment. In this study, we use a larger sample size.

[1] www.bankofengland.co.uk/-/media/boe/files/statistics/money-and-credit/2018/february-2018.pdf

Previous attempts by regulators to mitigate the effect of the minimum payment amount have had limited success. An analysis of the US 2009 Card Act showed that disclosing information about the time to pay off debt, and the interest costs associated with paying only the minimum was not effective at removing this anchoring effect (Keys & Wang 2016). Other studies also show minimal effects from disclosures in the credit card market in other countries (Seira, Elizondo & Laguna-Müggenburg, 2017).

Removing the minimum payment option is an example of changing the presentation of options to influence choice, or *choice architecture* (Thaler & Sunstein, 2008). Changes to choice architecture can be more effective than simply disclosing information. This has been shown through the success of automatic enrolment into retirement savings plans to increase savings (Benartzi, Peleg & Thaler, 2007; Benartzi & Thaler, 2013). In addition to omitting the minimum payment option, we also tested the presence of a full repayment prompt, and prompted those paying at or near the minimum to revise their payment and pay more. In the full repayment prompt manipulation, we required participants to confirm whether they wish to pay the balance in full, only explicitly offering other repayment options to those who decline to pay in full. We did this by including the full payment amount as the only option on the payment screen, with the aim of making the full payment choice easy and more salient.

The prompts to revise payments upwards for those making payments at or near the minimum (from here on called the 'scenario prompt') worked by offering options to make a payment consistent with 1, 2, or 3 year paydown schedules (as well as an option to leave their payment unchanged, or to revise their payments to any other amount). There is evidence that credit card users misunderstand the minimum payment amount, believing that it would allow them to repay their debt in a timely manner (Guttman-Kenney, Leary, & Stewart, 2018; Soll, Keeney, & Larrick, 2013), or that it is a recommendation or norm (McKenzie, Liersch & Finkelstein 2006; Wansink, Kent & Hoch 1998). By prompting people making payments at or near the minimum to revise their choice, we are using Gricean (1975) conversational norms to break this recommendation interpretation - offering alternative higher payments suggests to the card user that his or her initial offering was too low. Previous research has shown that increasing the salience of specific payment scenarios increases the likelihood of making exactly that payment, with some consumers increasing repayments to match the scenario repayment. However, this also has the unintended side effect of other consumers decreasing repayments to match the scenario repayment (Agarwal, Chomsisengphet, Mahoney & Stroebel, 2015; Navarro-Martinez et al., 2011; Keys & Wang, 2016; Salisbury, 2014). Previous research has found that prompting people to pay the full balance before other payment scenarios can reduce this effect (Hershfield & Roese, 2015). By only offering scenarios to those making lower repayments it seems we can avoid the side effects of those making high payments reducing their repayments.

3 Research design

We tested the effect of removing minimum payment information and including a full payment prompt in an online randomised experiment.

Participants were presented with a hypothetical bill, were asked to think about how much money they had at the time and to decide how much of the bill they would pay. The value of the bill was £977.17 for all participants (the median balance from UK data in Navarro-Martinez et al., 2011) and the minimum amount was £23.97 (the median minimum for consumers with a balance of £977.17).

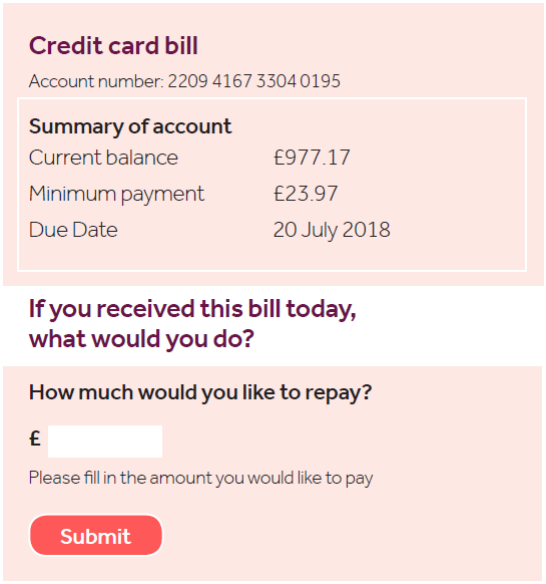
We used a 2 by 2 factorial design, which allowed us to simultaneously test the main effects and interactions between the treatments. We did not have a theoretical reason to expect a particular interaction pattern, but an interaction between the treatments could have important implications for policy design. For example, if one treatment enhanced the effect of the other there could be a stronger case for the implementation of both. Participants were randomly allocated to 1 of 4 treatment conditions (Table 1). Stylised treatment designs can be seen in Figure 1.

Table 1: Experimental treatments

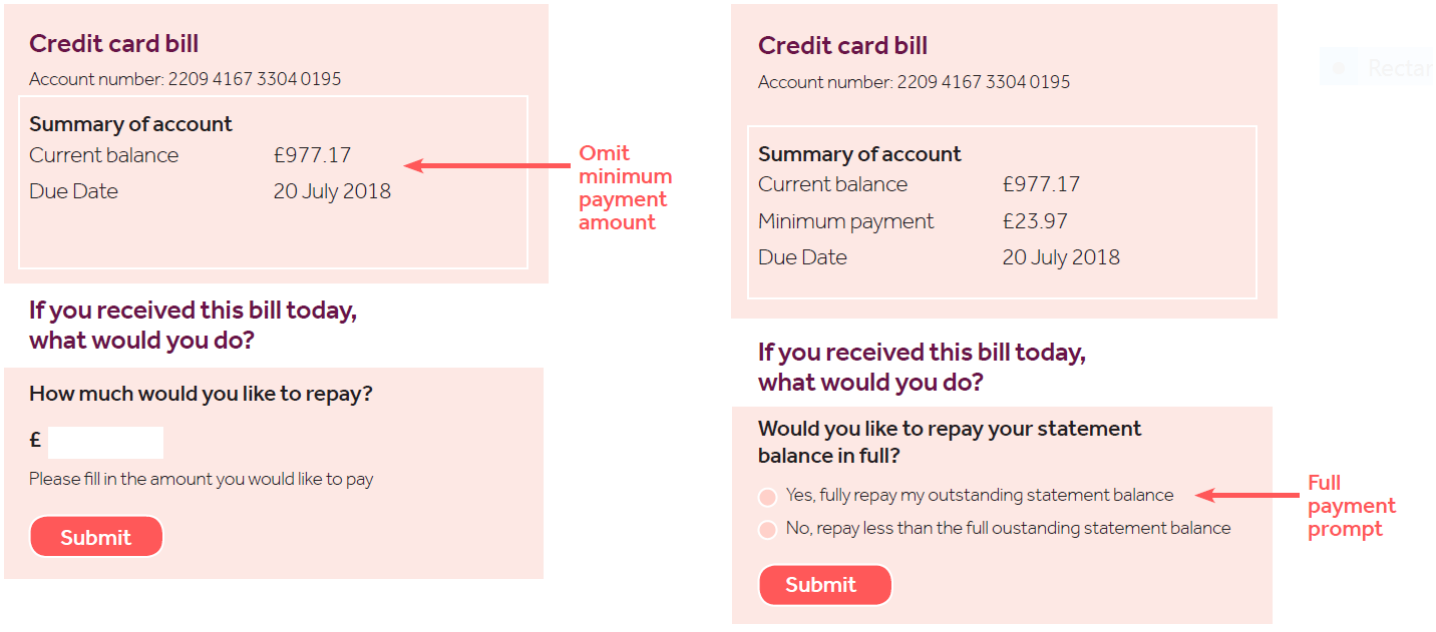
	Include minimum payment amount	Omit minimum payment amount
Exclude prompt to pay in full	Control: (Minimum payment amount, not prompted to pay in full)	Treatment 1: Omit minimum (Omit minimum payment amount, not prompted to pay in full)
Include prompt to pay in full	Treatment 2: Full pay prompt (Minimum payment amount included, prompted to pay in full)	Treatment 3: Both (Omit minimum payment amount, prompted to pay in full)

Figure 1: Panel A - Control (with minimum payment amount present and no full payment prompt). Panel B - Treatments (minimum payment amount omitted and full payment prompt.)

Panel A – Control condition



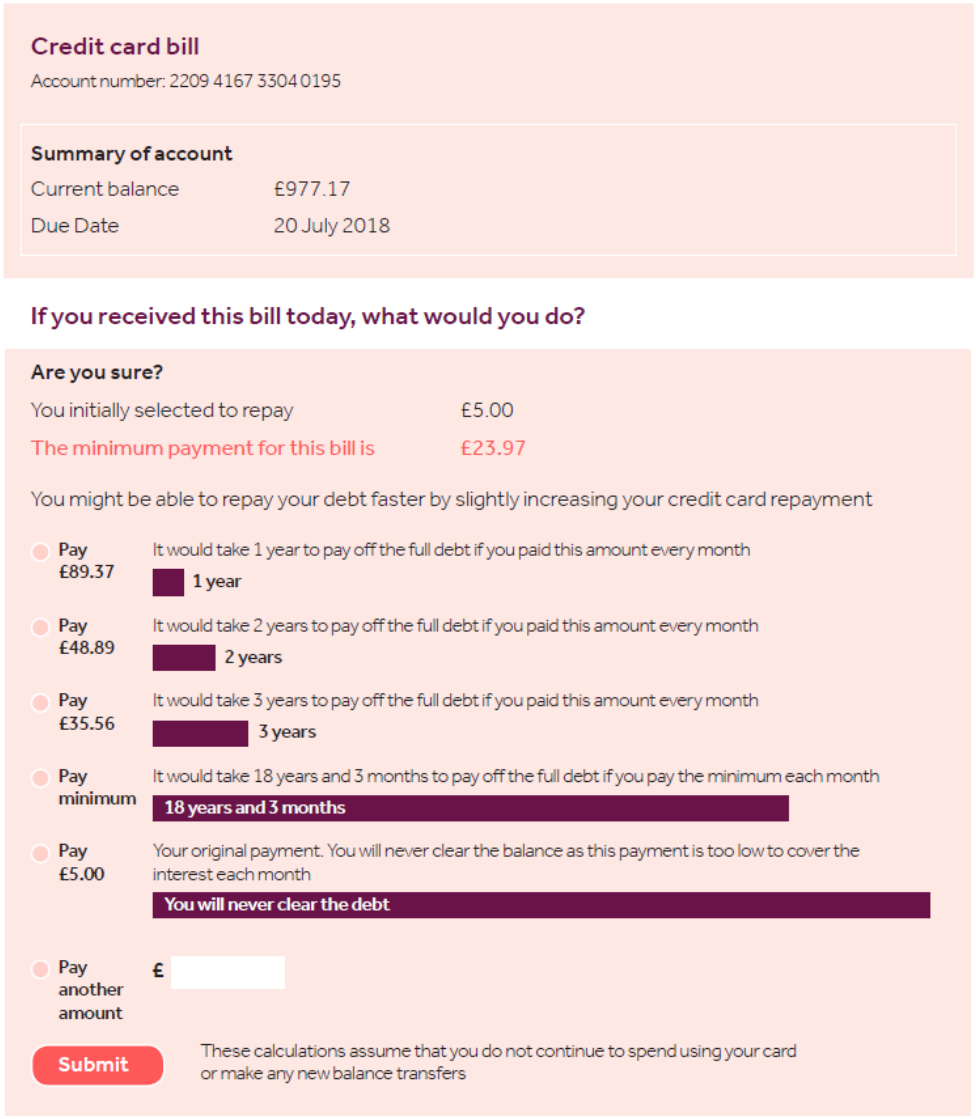
Panel B - Treatments



In the control and treatment 1 (with no prompt to pay in full), participants were asked to type their chosen amount in a box at the bottom of the page. For treatments 2 and 3 (with a prompt to pay in full) the prompt asked them to choose whether they wanted to pay in full or not by selecting a radio button. If they chose not to pay the full amount, they were required to write their payment choice in a box.

Each participant made just 1 choice. However we tested additional prompts for low payments. If a participant in any of the groups chose an amount that was at or lower than the minimum payment amount, they were shown a scenario prompt (Figure 2) and given the option to revise their initial choice. The prompt presented 6 options; scenarios to repay debt in 1, 2, and 3 years, the minimum payment amount, the amount they had initially chosen to pay or another amount of their choice.

Figure 2: Scenario prompt shown to participants who initially choose the minimum amount or less



Also, if participants chose a payment (defined as higher than the minimum amount, but less than 1.5 times the minimum amount) were also shown the scenario prompt as in Figure 2, but with the minimum payment option removed.

As these low payment prompts were only seen by participants who had initially chosen a low repayment amount, they were not part of the randomised experiment. However, we recorded changes in the repayment amount choice before and after receiving the prompt.

Participants

One thousand participants were recruited through an online crowdsourcing platform[2], all of whom were employed and lived in the UK at the time of the experiment. Seven participants failed to complete the experiment. We had also decided in advance to apply the following exclusion criteria to avoid participants who had not taken the task seriously:

a) 112 duplicate submissions
b) 35 submissions from the same IP address as another submission;
c) 54 submissions for participants who didn't answer yes to a question asking them to confirm if they had answered honestly (indicative of limited attention paid by the participant)
d) 93 participants who gave the top fastest 5% of responses (also indicative of limited attention paid by the participant, Leiner (2013)).

Following the exclusions, 699 participants remained. After randomisation, there were close to 175 participants in each group (Table A2). Summary statistics for this group are in Table A3.

Randomisation checks

To check the effectiveness of our randomisation, we conducted t-tests to test for any difference in the observed demographic characteristics between the 4 treatment groups. Table A4 presents the outcomes from these tests. We find no significant differences between groups and conclude that the randomisation was successful.

Outcome measures

We recorded 4 outcome measures:

- the payment amount chosen by the participant (continuous)
- whether participants chose to pay in full (binary)
- whether participants chose to pay the minimum amount (or less than the minimum) (binary)

We also observe whether those choosing the minimum or close to it revise their choice after receiving the low payment prompt.

Empirical approach

To assess the impact of the 2 treatments on the 3 outcome measures, we estimate the following regression for each of our outcome variables. In the case of our binary outcomes, we estimate linear probability regressions, as well as binary logistic

[2] Prolific Academic: www.prolific.ac/

regressions and for the payment amount, we estimate an ordinary least squares regression

$$y = \alpha_0 + \beta_1 Tmin + \beta_2 Tprompt + \beta_3 Tprompt\ Tmin\ + \varepsilon$$

where y is a dummy variable indicating paying in full or paying the minimum (or less), or is a continuous payment amount. $Tmin$ is a dummy equal to 1 if the minimum payment amount is included and 0 where it is omitted and $Tprompt$ is a dummy equal to 1 where the full payment prompt is included and 0 when not included. We use this model to assess whether there was an interaction between our treatments. To pre-empt the results, we did not find an interaction and, as we had no theoretical reason to expect one, we instead estimated a simpler model without the interaction. That is, we estimate the main effect with the following equation, where the interaction term between our treatments is removed.

$$y = \alpha_0 + \beta_1 Tmin + \beta_2 Tprompt + \varepsilon$$

We used this model to make estimations of the probability of full and minimum repayment, and the mean repayment for the control condition and the 2 treatments. We also used this model to estimate the main effects of prompting for full repayment and removing the minimum repayment. That is, the mean for all participants receiving the minimum payment treatment aggregated across the full payment prompt treatment, and the mean for all participants receiving the full payment treatment aggregated across the minimum payment treatment. As randomisation was successful, we do not include any controls in our regressions.

4 Results

We find a significant positive effect from removing the minimum payment amount, with participants making higher mean payments and being less likely to pay the minimum or less.

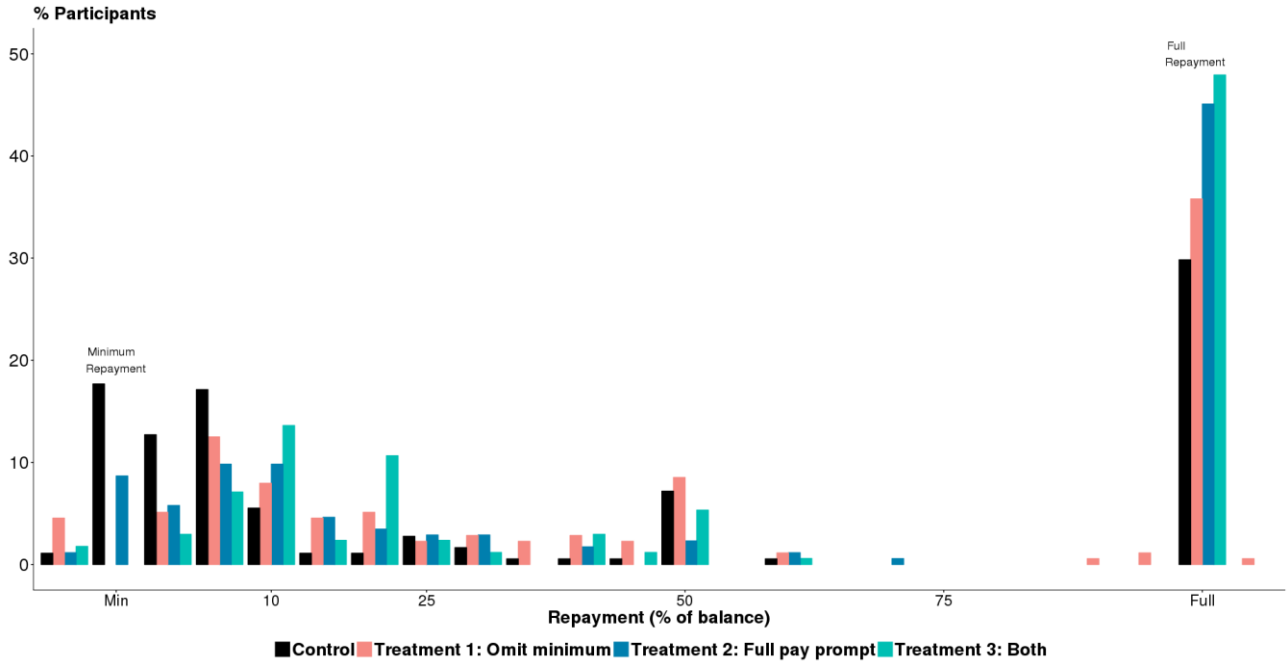
We see a significant positive effect from the full payment prompt across all outcome measures, with participants making higher mean payments, being less likely to pay the minimum amount (or less) and more likely to choose to pay the balance in full.

We do not find any interaction effect between the 2 treatments for any of the outcomes, and so the treatment effects appear to be additive.

Choice of payment amounts

Figure 3 shows the full distribution of payment amounts chosen, by treatment group, as a % of the balance. The distribution of payments is shifted upwards, compared to the control, in each treatment group. Treatment 3 (both) causes the largest increase in payments. Omitting the minimum amount results in no repayments made exactly at the minimum.

Figure 3: Distribution of repayment choices, as a % of balance



The interaction between the 2 treatments was not significant t (695) = -1.184, p= .24 (Table A5 contains the regression coefficients and table A6 contains the estimated mean repayment amount per treatment group). For ease of interpretation we report estimates from a linear regression for the main effects of omitting minimum payment information, and including a full payment prompt, that is, the mean for all participants receiving the

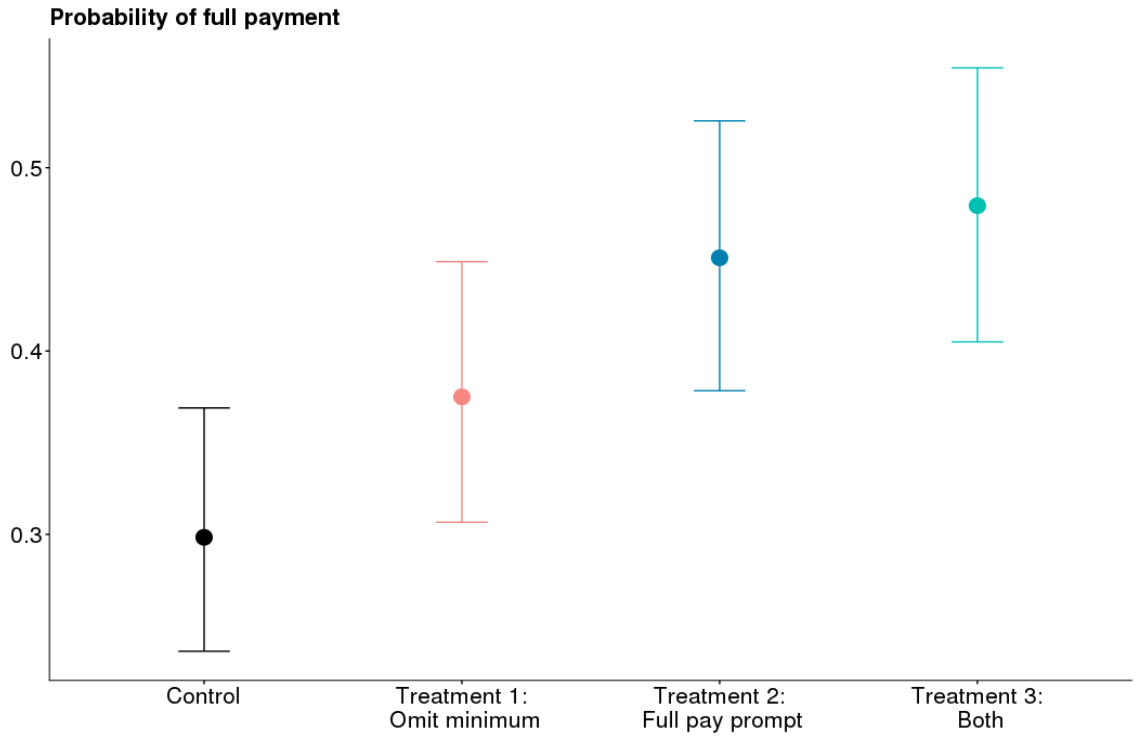
minimum payment treatment aggregated across the full payment prompt treatment, and the mean for all participants receiving the full payment treatment aggregated across the minimum payment treatment. We use the empirical specification explained above (outcomes are reported in Table A7). Omitting minimum payment information raises mean repayments from £447.00 95% CI [£404.2 – £490.40] to £535.10 95% CI [£491.40 – £578.90]. This is a significant increase of £87.70 95% CI [£26.20 – £149.80], t (696) =- 2.79, p = 0.005. Including a full payment prompt raises mean payments from £437.80 95% CI [£394.80 – £480.80] to £544.70 95% CI [£500.80 – £588.60]. This is a significant increase of £106.90 95% CI [£45.20 – £168.90], t(694) = -3.40, p =< 0.001.

Because the distribution of payments has so much mass close to the minimum and at the full amount, we complement our above analysis of mean payments with analyses of the probability of making a full payment and the probability of making a minimum payment (or less than the minimum).

Probability of paying in full

Figure 4 shows the estimated probability of paying in full under the 4 treatments (see Table A9 for numerical values).

Figure 4: Probability of paying the full balance for all four treatment groups



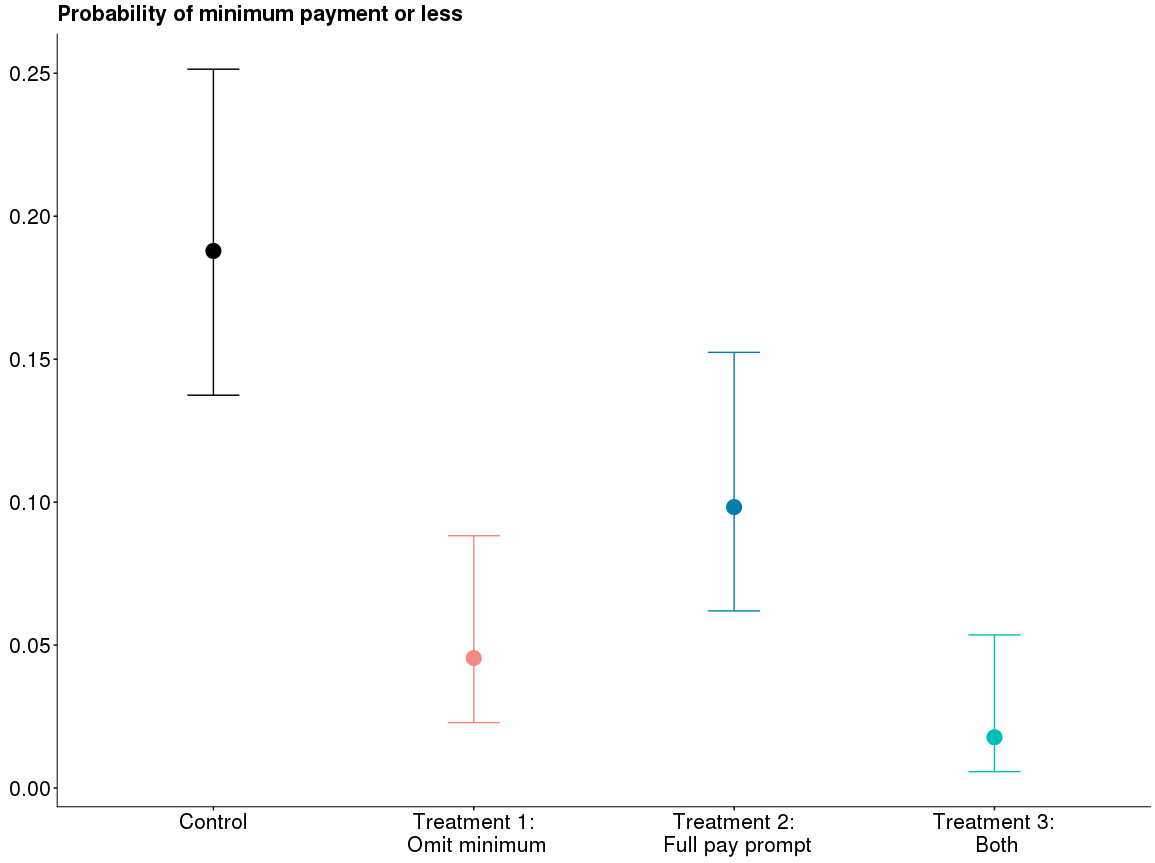
We used linear and logistic regressions as described in the empirical approach above, to estimate the effects of omitting minimum payment information, including the full payment prompt, and their interaction. For ease of interpretation, we present the results for the linear regression, but odds ratios from the logistic regression are also included in

Table A8. The interaction between omitting minimum payment information and including a full repayment prompt was not significant, t (695) = -0.048, p= 0.512. We did not have a theoretical reason to expect one, so we now present the main effects of omitting the minimum, averaging over the full repayment prompt treatments, and vice versa, as described in the empirical specification. Values are presented in Table A10. The effect of omitting minimum payment information is to increase the probability of paying in full from .372 95% CI [.323 – .425] to .426 95% CI [.376 – .478]. This is a non-significant absolute increase of .054, t(696) = 1.444, p =0.149. The effect of including the full payment prompt is to increase the probability of a full payment from .336 95% CI [.286 – .387] to .465 95% CI [.413 – .517]. This is a significant increase of an absolute 0.129, t(696) =3.502, p= <0.001.

Probability of making the minimum payment (or less)

Figure 5 shows the estimated probability of paying at or below the minimum in the 4 treatments (see Table A12 in the appendix for numerical values).

Figure 5: Estimated probability of making the minimum payment for all four treatment groups



We used linear and logistic regressions to estimate the marginal effects of omitting minimum payment information, including the full payment prompt, and their interaction. For ease of interpretation we present the results from the linear regression, but odds ratios from the logistic regression are also included in Table A11). As with estimating the

effect on full repayments, the interaction between omitting minimum payment information and including a full repayment prompt was not significant, t(695) = 1.47, p = 0.141, and we did not have a theoretical reason to expect one, so we now present the marginal effects of omitting the minimum averaging over the full repayment prompt treatments, and vice versa (values are presented in Table A13). The effect of omitting minimum payment information is to reduce the probability of paying at or below the minimum from .143 95% CI [.114 – .172] to .031 95% CI [.0019 – .060]. This is a significant absolute decrease of .113, t(695) =- 5.34, p = <0.001. The effect of including the full payment prompt is to decrease the probability of a minimum payment from .117 95% CI [.087 – .146] to .057 95% CI [.028 – .087]. This is a significant decrease of an absolute .037, t(695)= 2.81, p = < 0.005

Effectiveness of prompts following low payments

The prompts to increase payments (for people who initially chose to pay below the minimum, the minimum or up to 1.5 times the minimum) had a large effect on the 106 participants who saw them. Figure 6 plots the revised payments as a function of the original payments. 72% of people who saw the prompts revised their payments upwards with the remainder (28%) leaving their payments unchanged. Table 13 shows the revised payment choices made by those who received the prompt following low payments. 59% chose one of the repayment scenarios offered to them. No one decreased their payments. In fact, participants were 2.53 95% CI [1.68 – 3.92] times more likely to increase their payment than leave it unchanged. We also include regression estimates for repayment choices following the low payment prompt for all participants in all treatments. These are presented in tables A5 to A13 alongside estimates for repayment choices before the low payment prompts.

Figure 6: Payment choices made by those who originally chose to pay less than the minimum, the minimum or up to 1.5 times the value of the minimum. Point size is proportional to counts of participants choosing those amounts

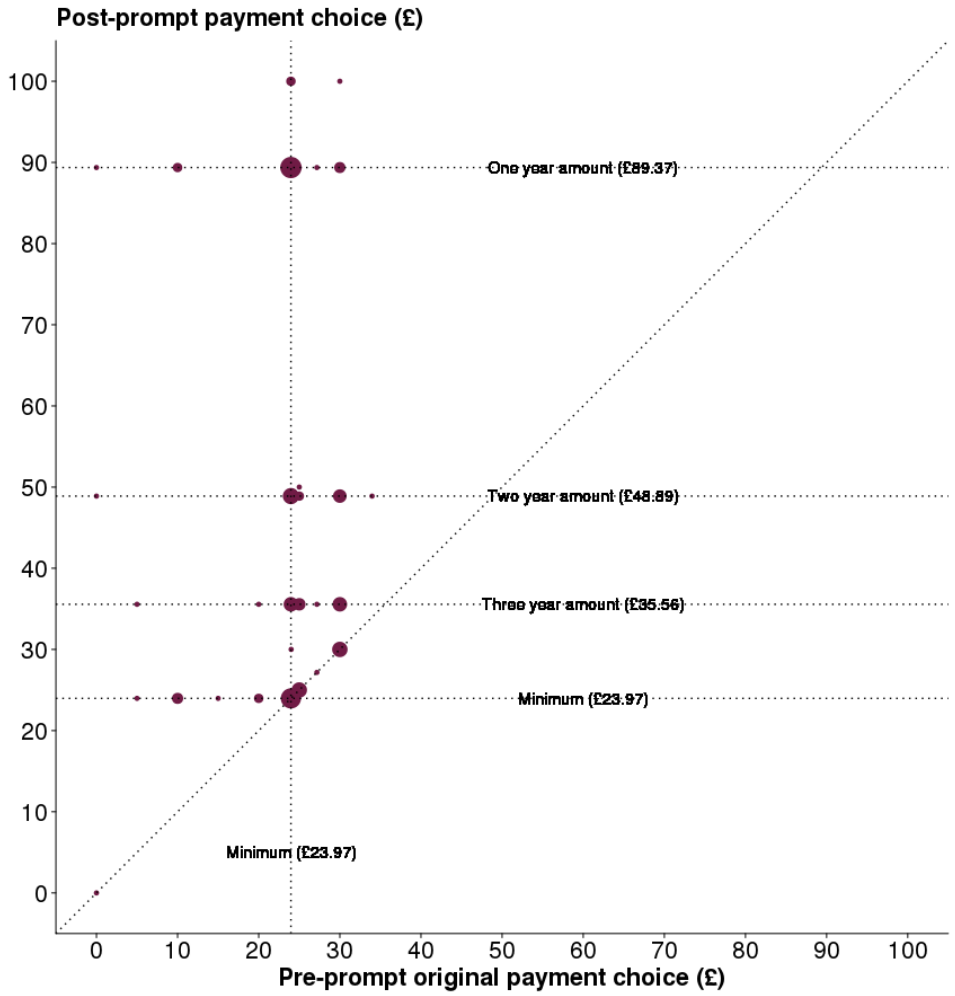


Table 13: Revised payment choices made by those who received the prompt following initial low payments

Revised Choice	% of participants (n=106)
Kept original choice	28
Minimum	7
Other (increase)	7
Other (decrease)	0
3 year repayment path	20
2 year repayment path	16
1 year repayment path	23

Table 14 contains the counts per treatment group initially choosing to pay less than the minimum amount (which would put them into arrears in real life). After receiving the prompts following low payments, only 1 participant out of 699 kept their choice to pay less than the minimum.

Table 14: Counts of participants paying less than the minimum

Treatment	Paying below the minimum before low payment prompt (counts)	Paying below the minimum following low payment prompt (counts)
Control	2	0
Treatment 1: Omit minimum	8	1
Treatment 2: Full pay prompt	2	0
Treatment 3: Both	2	0

5 Conclusions

We find that omitting minimum payment information from a hypothetical credit card payment task greatly increases the payments made by participants towards their credit card debt. This finding replicates earlier studies (Stewart, 2009; Navarro-Martinez et al., 2011; Jiang & Dunn, 2013). We also find that a second, new choice architecture manipulation - prompting people first to repay their debt in full - also has a large effect, increasing hypothetical payments. Finally, we find that prompting those who first choose a payment at or near the minimum with scenarios for 1, 2, and 3 year repayment times, leads to the majority increasing their payments to match 1 of these scenarios. Previous studies that have examined the disclosure of a 3-year repayment scenario found only small effects (Hershfield & Roese, 2015; Agarwal et al, 2015; Keys & Wang 2014; Navarro-Martinez et. al, 2011). Here we believe our intervention was successful because we targeted those making only small repayments with the scenarios, offering them a chance to revise their original decision. Also, the very fact of presenting these customers with another choice may have signalled that their original choice was 'wrong'.

Of course, these studies are about hypothetical credit card repayments, where participants were offered fake bills, asked to imagine that they really had received the bill, consider their actual finances right now, and decide upon what repayment they would make. In the experiment, participants could not know or infer the experimental manipulations as they only experienced 1 condition. So, we do not think our effect of omitting minimum payment information and including a full repayment prompt are just due to demand characteristics.

Gathergood, Sakaguchi, Stewart and Weber (2018) present evidence that most low repayments are due to neglect rather than financial constraints, so we would expect our treatments to also be effective in the field. This hypothetical repayment task (and previous studies: Stewart, 2009; Navarro-Martinez et al., 2011; Jiang & Dunn, 2013), combined with other evidence on the effect of anchoring from the analysis of historic credit card data (Keys & Wang 2016; Medina, 2017; Navarro-Martinez et al, 2011) provides a strong foundation of evidence about the effects of removing minimum payment information, and prompting people to pay in full with regards to manual payments.

Increasing payments has the potential to increase consumer welfare by reducing borrowing costs and the risk to credit ratings associated with carrying credit card debt. These results show that carefully designed choice environments can help consumers make better repayment decisions.

Annex 1: Data and results

Summary statistics

Table A2: Number of respondents included in the analysis

Treatment	Number of observations
Control	181
Treatment 1: Omit minimum	176
Treatment 2: Full pay prompt	173
Treatment 3: Both	169
All	699

Table A3: Summary statistics for participants included in the analysis

	Age	Gender (% male)	Credit card user (%)	Made full payment last month (%)
Mean	34	39	72	56
Min	18	-	-	-
Max	68	-	-	-
N	695	690	693	550

Note: Data was collected after the experiment and participants weren't obliged to answer, so N varies between columns

Randomisation checks

Table A4: Comparison of means between treatment and control groups

Variable	Treatment	Mean (Control)	Mean (Treatment)	Mean Difference (Treatment -Control)	Percentage Difference (Treatment - Control	Lower CI (Treatment – Control)	Upper CI (Treatment –Control)	P-Value	T-Statistic	Observations
Age (years)	**Treatment 1: Omit minimum**	33.61	33.86	0.25	0.74	-2.60	2.11	0.837	-0.205	695
Gender (% male)		41.81	38.51	-3.30	-7.89	-7.01	13.61	0.529	-0.629	690
Credit card user (%)		71.35	72.41	1.06	1.49	-10.51	8.38	0.824	- 0.222	693
Made full payment last month (%)		52.48	51.41	-1.07	-2.04	-10.66	12.81	0.857	0.180	550
Age (years)	**Treatment 2: Full pay prompt**	33.61	35.35	1.74	5.18	-4.03	0.56	0.138	-1.486	695
Gender (% male)		41.81	39.53	-2.28	-5.45	-8.10	12.64	0.666	0.431	690
Credit card user (%)		71.35	70.93	- 0.42	-0.59	-9.13	9.97	0.932	0.086	693
Made full payment last month (%)		52.48	59.69	7.21	13.74	-11.91	4.71	0.234	-1.191	550
Age (years)	**Treatment 3: Both**	33.61	34.28	0.67	2.00	-2.86	1.53	0.550	-0.598	695
Gender (% male)		41.81	35.33	-6.48	-15.50	-38.52	16.81	0.218	1.234	690
Credit card user (%)		71.35	76.92	5.57	7.81	-14.82	3.67	0.237	-1.185	693
Made full payment last month (%)		52.48	61.59	9.11	17.36	-20.77	2.54	0.125	-1.53	550

Outcome: Repayment amount (£)

Table A5: Coefficient estimates from linear regressions on repayment amount (£)

	Pre-low repayment prompt			Post-low repayment prompt		
Treatment	**Coefficient (standard error)**	**t-statistic**	**p-value**	**Coefficient (standard error)**	**t-statistic**	**p-value**
Intercept	376.03 (30.70)	12.231	<0.001 ***	385.56 (30.46)	12.658	<0.001***
Treatment 1: Omit minimum	143.50 (43.98)	2.833	0.001**	116.34 (43.38)	2.682	0.008**
Treatment 2: Full pay prompt	124.05 (43.97)	3.263	0.004**	136.70 (43.57)	3.137	0.002**
Treatment 1*Treatment 2	-74.12 (62.60)	-1.184	0.236	-66.69 (62.02)	-1.075	0.283
R -squared	0.0292	-	-	0.0275	-	-

Observations = 699. P-value ***<0.005, **<0.01, *<0.05.

Table A6: Estimated mean repayment amount (£) per treatment group. Estimated from linear regressions

	Pre-low payment prompt		Post-low payment prompt	
Treatment	**Estimated mean repayment amount (standard error)**	**95% confidence interval**	**Estimated mean repayment amount (standard error)**	**95% confidence interval**
Control	376.02 (30.74)	[315.67 – 436.39]	385.56 (30.45)	[325.76 - 445.37]
Treatment 1: Omit minimum	500.08 (31.80)	[438.86 – 561.29]	501.90 (30.89)	[441.26 - 562.55]
Treatment 2: Full pay prompt	519.52 (31.45)	[475.78 – 581.26]	522.26 (31.16)	[461.10 - 583.43]
Treatment 3: Both	596.45 (31.81)	[506.98 – 631.91]	571.92 (31.52)	[510.03 - 633.81]

Observations = 699

Table A7: Estimated mean payment amount (£) – main effects for omitting the minimum amount and prompting the full payment amount. Predicted means from linear regressions

	Pre-low payment prompt				Post-low payment prompt			
Treatment condition	**Estimated Mean payment (£) (standard error)**	**95% Confidence interval**	**t-statistic**	**p-value**	**Estimated Mean payment (£) (standard error)**	**95% Confidence interval**	**t-statistic**	**p-value**
Minimum included	447.36 (21.99)	[404.18 - 490.45]	-	-	453.54 (21.78)	[410.77 - 496.31]	-	-
Minimum omitted	535.15 (22.27)	[491.41 - 578.88]	-2.789	0.005***	537.25 (22.067)	[493.93 - 580.58]	-2.700	<0.001***
No full payment prompt	437.80 (21.89)	[394.80 - 480.79]	-	-	443.50 (21.69)	[400.92 - 486.09]	-	-
Full payment prompt	544.71 (22.37)	[500.78 - 588.64]	-3.400	<0.001***	547.29 (22.16)	[503.78 - 590.80]	-3.347	0.0071**
R-squared	0.027	-	-	-	0.026	-	-	-

Observations = 699. P-value ***<0.005, **<0.01, *<0.05.

Outcome: probability of paying in full

Table A8: Coefficients and standard errors from linear models and odds ratio estimates from logistic regression and 95% confidence intervals are presented for the probability of paying in full

	Linear regression: pre-low payment prompt			Logistic regression: pre-low payment prompt				Linear regression: post-low payment prompt		
Treatment	**Coefficient (standard error)**	**t-statistic**	**p-value**	**Odds ratio**	**95% confidence interval**	**z-value**	**p-value**	**Coefficient (standard error)**	**t-statistic**	**p-value**
Intercept	0.30 (0.04)	8.259	<0.001 ***	0.43	[0.31 - 0.58]	-5.264	<0.001 ***	0.30 (0.04)	8.259	<0.001 ***
Treatment 1: Omit minimum	0.07 (0.05)	1.490	0.136	1.41	[0.91 - 2.20]	1.530	0.126	0.07 (0.05)	1.490	0.136
Treatment 2: Full pay prompt	0.15 (0.05)	2.952	0.003**	1.93	[1.25 - 3.00]	2.951	0.003**	0.15 (0.05)	2.952	0.003**
Treatment 1*Treatment 2	-0.05 (0.07)	-0.656	0.512	0.79	[0.43 - 1.47]	-0.736	0.462	-0.05 (0.07)	-0.656	0.512
	R-Squared = 0.02	-	-	AIC = 940.38	-	-	-	R-Squared = 0.02	-	-

Observations = 699. P-value ***<0.005, **<0.01, *<0.05.

Table A9: Estimated probability of paying the full amount – Cell means estimated from linear regressions (numbers are repeated in figure 5) and binary logistic regression

	Linear regression: pre-low payment prompt		Logistic regression: pre-low payment prompt		Linear regression: post-low payment prompt	
Treatment	**Probability of making full payment (standard error)**	**95% confidence interval**	**Probability of making full payment (standard error)**	**95% confidence interval**	**Probability of making full payment (standard error)**	**95% confidence interval**
Control	0.30 (0.03)	[0.23 - 0.37]	0.30 (0.03)	[0.24 - 0.37]	0.30 (0.03)	[0.23 - 0.37]
Treatment 1: Omit minimum	0.38 (0.03)	[0.30 – 0.45]	0.38 (0.04)	[0.31 – 0.45]	0.38 (0.03)	[0.30 – 0.45]
Treatment 2: Full pay prompt	0.45 (0.04)	[0.38 – 0.52]	0.45 (0.04)	[0.38 – 0.53]	0.45 (0.04)	[0.38 – 0.52]
Treatment 3: Both	0.48 (0.04)	[0.41 – 0.55]	0.48 (0.04)	[0.40 – 0.55]	0.48 (0.04)	[0.41 – 0.55]

Observations = 699. p-value ***<0.005, **<0.01, *<0.05.

Table A10: Estimated probability of paying the full amount– main effects for omitting the minimum amount and prompting the full payment amount. Predicted means from linear regressions and binary logistic regression

	Linear regression: pre-low payment prompt				Logistic regression: pre-low payment prompt		Linear regression: post-low payment prompt			
Treatment condition	**Probability of full payment (standard error)**	**95% confidence interval**	**t-statistic**	**p-value**	**Probability of full payment (standard error)**	**95% confidence interval**	**Probability of full payment (standard error)**	**95% confidence interval**	**t-statistic**	**p-value**
Minimum included	0.37 (0.03)	[0.32 – 0.43]	-	-	0.37 (0.03)	[0.32 – 0.42]	0.37 (0.03)	[0.32 – 0.43]	-	-
Minimum omitted	0.43 (0.03)	[0.38 – 0.48]	1.444	0.149	0.43 (0.03)	[0.37 – 0.48]	0.43 (0.03)	[0.38 – 0.48]	1.444	0.149
No full payment prompt	0.34 (0.03)	[0.29 – 0.39]	-	-	0.34 (0.03)	[0.29 – 0.39]	0.34 (0.03)	[0.29 – 0.39]	-	-
Full payment prompt	0.47 (0.03)	[0.41 – 0.52]	3.502	<0.001 ***	0.47 (0.03)	[0.41 – 0.52]	0.47 (0.03)	[0.41 – 0.52]	3.502	0.00049 ***

. Observations = 699. p-value ***<0.005, **<0.01, *<0.05.

Outcome: probability of paying the minimum or less

Table A11: Coefficients and standard errors from linear regressions and odds ratio estimates from logistic regression and 95% confidence intervals are presented for the probability of paying the minimum amount or less

	Linear regression: pre-low payment prompt			Logistic regression: pre-low payment prompt				Linear regression: post-low payment prompt		
Treatment	**Coefficient (standard error)**	**t-statistic**	**p-value**	**Odds ratio**	**95% confidence interval**	**z-value**	**p-value**	**Coefficient (standard error)**	**t-statistic**	**p-value**
Intercept	0.18 (0.02)	9.106	<0.001 ***	0.23	[0.15 - 0.33]	-7.693	<0.001 ***	0.04 (0.01)	2.983	0.003 **
Treatment 1: Omit minimum	-0.14 (0.03)	-4.847	<0.001 ***	0.21	[0.09 - 0.44]	-3.866	<0.001 ***	-0.02 (0.02)	-0.864	0.388
Treatment 2: Full pay prompt	-0.09 (0.03)	-3.036	0.002**	0.47	[0.25 - 0.87]	-2.363	<0.018*	0.01 (0.02)	0.720	0.472
Treatment 1*Treatment 2	0.06 (0.04)	1.473	0.141	0.81	[0.16 - 3.31]	-0.286	0.773	-0.02 (0.03)	-0.918	0.359
	R-Squared = 0.05	-	-	AIC = 381.25	-	-	-	R-squared= 0.008	-	-

Observations = 699. p-value ***<0.005, **<0.01, *<0.05.

Table A12: Estimated probability of paying the minimum amount or less – Cell means estimated from linear regressions (numbers are repeated in figure 6) and binary logistic regression

	Linear regression: pre-full payment prompt		Linear regression: pre-full payment prompt		Linear regression: post-low payment prompt	
Treatment	**Probability of making minimum payment or less (standard error)**	**95% confidence interval**	**Probability of making minimum payment or less (standard error)**	**95% confidence interval**	**Probability of making minimum payment or less (standard error)**	**95% confidence interval**
Control	0.19 (0.02)	[0.15 - 0.23]	0.19 (0.03)	[0.14 - 0.25]	0.045 (0.01)	[0.02 - 0.07]
Treatment 1: Omit minimum	0.05 (0.02)	[0.004 – 0.09]	0.05 (0.02)	[0.02 - 0.09]	0.02 (0.01)	[-0.01 - 0.04]
Treatment 2: Full pay prompt	0.10 (0.02)	[0.06 – 0.14]	0.10 (0.02)	[0.06 - 0.15]	0.05 (0.01)	[0.02 - 0.07]
Treatment 3: Both	0.02 (0.02)	[-0.02 – 0.06]	0.02 (0.01)	[0.01 – 0.05]	0.02 (0.01)	[-0.004 - 0.04]

Observations = 699. P value ***<0.005, **<0.01, *<0.05

Table A13: Estimated probability of paying the minimum amount or less – main effects for omitting the minimum amount and prompting the full payment amount. Predicted means from linear regressions and binary logistic regression

	Linear regression: pre-low payment prompt				Logistic regression: pre-low payment prompt		Linear regression: post-low payment prompt			
Treatment condition	**Probability of minimum payment or less (standard error)**	**95% confidence interval**	**T-statistic**	**P-value**	**Probability of minimum payment or less (standard error)**	**95% confidence interval**	**Probability of minimum payment or less (standard error)**	**95% confidence interval**	**T-statistic**	**P-value**
Minimum included	0.14 (0.01)	[0.11 – 0.17]	-	-	0.14 (0.02)	[0.10 - 0.18]	0.05 (0.01)	[0.03 - 0.06]	-	
Minimum omitted	0.03 (0.01)	[0.002 – 0.06]	-5.336	<0.001***	0.03 (0.01)	[0.02 - 0.05]	0.02 (0.01)	[-0.001- 0.04]	2.121	0.034
No full payment prompt	0.12 (0.01)	[0.09 – 0.15]	-	-	0.09 (0.02)	[0.07 - 0.13]	0.03 (0.01)	[0.01 - 0.05]	-	-
Full payment prompt	0.06 (0.02)	[0.03 – 0.09]	-2.809	0.005 **	0.05 (0.01)	[0.027 - 0.07]	0.03 (0.01)	[0.01 - 0.05]	-0.102	0.919

Observations = 699. p-value ***<0.005, **<0.01, *<0.05.

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